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SOCIAL POLICY BUREAUCRATS' DESERVINGNESS PERCEPTIONS
Factors Influencing Brazilian INSS Officials

ABSTRACT

Welfare States' settings and social policies' design are linked to people's welfare attitudes: their ideas on distributive justice, often translated in survey studies across different dimensions of deservingness perceptions. Scores across deservingness perceptions' dimensions are expected to tell how respondents believe social policies should be implemented: which social groups should be targeted, and on what grounds.

Research across European countries has traced relevant connections between different individual and institutional factors and people's deservingness perceptions, and hint at how these are linked to support for different social policy designs. These suggested significant impacts in both forthcoming social policy reforms and present social policy outcomes – for their implementation is often operated by street-level bureaucrats, who can channel their own perceptions through the policy's instruments, effectively shaping its delivery.

Street-level bureaucrats' deservingness perceptions were still not quantitatively studied in the South American countries, whose welfare States carry very distinct characteristics. Drawing on the existing European research's survey designs and latest qualitative findings on the topic, we apply an adapted and updated survey to a sample of Brazilian social security street-level officials and relate it to available administrative data. Ordered regression analysis gauge how social work academic background, direct contact with the public and socioeconomic status are linked to shifts in the officials' perceptions about social assistance beneficiaries under seven different deservingness criteria.

We found that social work academic background strongly contributes to the odds of higher overall deservingness perceptions, while frequent contact with the public can reduce them under the control deservingness criterion. Middle-class socioeconomic status, both objectively our subjectively measured, can be connected to increased odds that beneficiaries are seen as undeserving under the criteria of control and reciprocity.

The research takes a new step on the deservingness perceptions survey studies' trail and opens up avenues for the formulation of new analytical frameworks. For practitioners, it raises the awareness of the importance of understanding the factors driving bureaucracy decision-making, being it in the street, screen, or system-level.

Keywords: deservingness perceptions; social policy implementation; street-level bureaucrats; Brazil

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

Abbreviation	Definition
AC	Brazilian federated State of *Acre*
AI	Artificial Intelligence
AL	Brazilian federated State of *Alagoas*
AM	Brazilian federated State of *Amazonas*
AP	Brazilian federated State of *Amapá*
APS	*Agência da Previdência Social*, INSS local service offices
BA	Brazilian federated State of *Bahia*
CARIN	Acronym for the traditional five deservingness criteria (Control, Attitude, Reciprocity, Identity, Need)
CE	Brazilian federated State of *Ceará*
CGU	*Controladoria-Geral da União*, the centralised Brazilian Federal Government internal control and compliance agency
COVID-19	Coronavirus Disease of 2019, the syndrome responsible for the 2020-2021 pandemic
DAS	*Funções de Direção e Assessoramento Superiores*, standardised Brazilian Federal Government upper management position code
DF	Brazilian federated State of *Distrito Federal*
ES	Brazilian federated State of *Espírito Santo*
EU	European Union
FCPE	*Funções Comissionadas do Poder Executivo*, identification code for standardised Brazilian Federal Government upper management post, held exclusively by career public servants
FCT	*Funções Comissionadas Técnicas*, identification code for standardised Brazilian Federal Government technical support post, held exclusively by career public servants
FG	*Funções Gratificadas*, identification code for standardized Brazilian Federal Government lower management/support post, held exclusively by career public servants
FJP	*Fundação João Pinheiro*, an education and research institute for public administration, in the Brazilian State of *Minas Gerais*
GDP	Gross domestic product
GEX	*Gerência-Executiva*, INSS regional support and management structure, responsible for service offices in a particular municipality or group of municipalities

GO	Brazilian federated State of *Goiás*
HDI	Human Development Index
IBGE	*Instituto Brasileiro de Geografia e Estatística*, the Federal Government Agency resposible for official demographic statistics and geography studies
IDHM	Index based on the Human Development Index framework, to measure Brazilian municipalities' human development levels
INSS	*Instituto Nacional do Seguro Social*, the national Brazilian social security implementation agency
IPEA	*Instituto de Pesquisa Econômica Aplicada*, Brazilian Federal Government applied economy research think tank
MA	Brazilian federated State of *Maranhão*
ME	*Ministério da Economia*, Brazilian Ministry of the Economy, which INSS is linked to
MG	Brazilian federated State of *Minas Gerais*
ML	Machine Learning
MS	Brazilian federated State of *Mato Grosso do Sul*
MT	Brazilian federated State of *Mato Grosso*
NPM	New Public Management
OR	Odds ratio
PA	Brazilian federated State of *Pará*
PB	Brazilian federated State of *Paraíba*
PE	Brazilian federated State of *Pernambuco*
PI	Brazilian federated State of *Piauí*
PNAD	*Pesquisa Nacional por Amostra de Domicílios*, survey conducted by IBGE every quarter of year, compiling estimated demographic and economic data
PR	Brazilian federated State of *Paraná*
PSDB	*Partido Social Democrata Brasileiro*, Brazilian traditional liberal right-wing party
PSL	*Partido Social Liberal*, Brazilian conservative right-wing party
PT	*Partido dos Trabalhadores*, Brazilian traditional left-wing party
RJ	Brazilian federated State of *Rio de Janeiro*
RN	Brazilian federated State of *Rio Grande do Norte*
RO	Brazilian federated State of *Rondônia*
RR	Brazilian federated State of *Roraima*

RS	Brazilian federated State of *Rio Grande do Sul*
SC	Brazilian federated State of *Santa Catarina*
SE	Brazilian federated State of *Sergipe*
SP	Brazilian federated State of *São Paulo*
SR	*Superintendência Regional*, INSS upper regional administrative offices, responsible for managing GEXs and service offices (APS) in their macro-regions
SUCARIN	Acronym for the updated seven deservingness criteria (Social investment, Universalism, Control, Attitude, Reciprocity, Identity, Need)
TO	Brazilian federated State of *Tocantins*
TSE	*Tribunal Superior Eleitoral*, the Brazilian national superior electoral court, responsible for both organising and deciding on election-based conflicts and crimes
UBI	Universal Basic Income
VIF	Variance Inflation Factor, which measure multicollinearity across regression variables
UK	United Kingdom
UN	United Nations
US	United States

FOREWORD

Social Policy Bureaucrats' Deservingness Perceptions: Factors Influencing Brazilian INSS Officials

1. INTRODUCTION

People's perspectives on distributive justice vary along with their moral convictions, often shaped by religious and political ideas. The topic is thorny and usually ends up hitting walls of complicated philosophical issues, like that of justice between generations, utilitarianism, and even divine justice – as well as seemingly unsolvable human condition questions, like the extent or the very existence of free will (Kangas, 2003; Rawls, 1999). As intricate as their construction can be, under the welfare state machine, distributive justice perspectives are translatable to more objective opinions on whether and on what grounds social security policies should target one particular group – that is, if a social group *deserves* the help of the welfare State's hand. These are defined in the literature as *welfare attitudes* or *deservingness perceptions*, the key concept in this study.

Deservingness perceptions can be described as an individual's ideas on the fair distribution of social welfare provision among different social groups. By measuring these ideas through surveys, quantitative studies about the public's perceptions on social policy deservingness grew to become a trend in the last twenty years, in the wake of van Oorschot's (2000) seminal work, and parallel to research on welfare attitudes (Larsen, 2008; Svallfors, 2012).

In the aggregate level, deservingness perceptions and welfare attitudes' trends can be related not only to the societies' support for different social policy designs but to the welfare States' development and legitimacy too (Korpi, 1980; Larsen, 2008). In this sense, quantitative studies are usually undertaken in the political science and sociology fields, targeting the wide public opinion (Pfeifer, 2009; Staerklé et al., 2012; van Oorschot, 2000, 2006, 2010). The same is true for the latest qualitative studies on the theme (Heuer & Zimmermann, 2020; Nielsen et al., 2020).

Nonetheless, two Finnish studies on deservingness perceptions (Blomberg et al., 2017; Kallio & Kouvo, 2015) aimed at, as we argue, a critical target: the very social policy operators – Lipsky's (2010) street-level bureaucrats, often the effective gatekeepers for social welfare provision. First, Johanna Kallio and Antti Kouvo (2015) found deservingness perceptions varying significantly between different groups of social assistance-operating bureaucrats, and between those and other

citizens in Finland. Then, Blomberg et al. (2017) confirmed that these differences said a lot about the groups' support to more generous welfare interventions: those perceiving targets as more deserving tend to agree with social assistance improvement policies. Both Kallio & Kouvo (2015) and Blomberg et al. (2017) also found that individual background factors played significant, and often different roles across the different studied groups.

This research line, by taking the deservingness perceptions discussion to the welfare street-level bureaucracy realm, reveals underrated issues in the fields of public administration, social policy design and policy implementation. Because, in effect, this is where the welfare State is fabricated on a daily basis, and, given enough discretion, street- (or screen-) level operators' deservingness perceptions can shape (or distort) social policy outcomes (Bovens & Zouridis, 2002; Breit et al., 2016; Rothstein, 1998).

The present study aims to expand the Finnish endeavour to a further complex welfare State scenario, the Brazilian social security. The colossal size and the complex, diverse settings included in the different Brazilian states provide rich soil for both testing and deepening existing theory. Drawing on rich administrative data and the latest qualitative developments in the discussions about deservingness perceptions, we conducted a wide survey on Brazilian National Social Security Agency (*Instituto Nacional do Seguro Social* – INSS) street-level bureaucrats, to understand which factors are linked to narrower or wider deservingness standards across different contexts.

Concerning practitioners, it shall help to raise awareness to the importance of discussing deservingness perceptions in social policy design, to take into consideration their potential effects when deciding whether to reduce, expand, or better channel the street-level bureaucrats' discretion spaces according to the policy's objectives.

I expect also to add to discussions on street-level bureaucracy discretion, which interact with the conflicts lurking in the welfare States' selectivity-universality continuum, as more selectivity typically asks for wider discretionary spaces (Breit et al., 2016; Kallio & Kouvo, 2015). These conflicts are at the core of disruptions caused by efficiency-based reforms related to the New Public Management movement (NPM). Besides, the results might add to the discussion on automatic selectivity versus cash transfer universalism, regarding their effects on recipient stigmatization, interpersonal trust, and broader societal impacts coming from policy implementation design (Calnitsky, 2016).

2. THEORETICAL BACKGROUND

2.1 Welfare State, Welfare Attitudes and Deservingness Perceptions

Welfare regimes are, ultimately, expressions of institutional imperatives, born from consensus built over past clashes and political conditions, which shaped not only formal rules but also societal values, determining what is regarded as collective identity (Rothstein, 1998). These values establish belongingness and solidarity parameters, translated as micro-level *welfare attitudes*: people's orientations about resource distribution and assistance targeting, legitimating one State's particular social policy models (Larsen, 2008; Svallfors, 2012). As long as legacy welfare attitudes' consensus endure, legacy social policy models are expected to remain legitimate.

Institutional shifts, arising from new societal clashes, political and economic conditions, can impact welfare attitudes. For instance, the strong societal shifts provoked by global economic pressures, labour market disruptions, demographic changes, and the rise of new political agendas in Europe are likely connected with changes in aggregate welfare attitudes (Chung et al., 2018; Pfeifer, 2009; Staerklé et al., 2012; van Oorschot, 2010). These changes can then threaten current social policies' legitimacy, and, by drawing on the society's new welfare attitudes' equilibria, political forces might reshape them appropriately, adjusting the welfare state enterprise.

Besides these major structural and institutional fields' shifts, welfare attitudes are also influenced by softer pressures, as "Individually held, but socially shared, values, perceptions and expectations [can] provide normative support for welfare attitudes" (Staerklé et al., 2012, p. 72). The discussion on welfare attitudes can involve thus also normative, moral dimensions – rooted in whatever belief structures influence individual people. All these factors – institutional, structural and individual – dictate how people see particular social groups as more or less *deserving* of different kinds and levels of solidarity.

Ideas on the *deservingness* of social support, that is, how people think collective, State-based assistance should be distributed between different social groups, provide useful heuristics to help translate peoples' welfare attitudes into more operational terms. These are people's *deservingness perceptions*, or "the public's answer to 'who should get what, and why?'" (Larsen, 2008; van Oorschot, 2000, p. 34). As van Oorschot (2000) idealised, these can be expressed through a composite measure, across a specific set of dimensions:

> [T]he evidence on deservingness criteria suggests the following five dimensions:

1. control: poor people's control over their neediness, or their responsibility for it: the less control, the more deserving;

2. need: the greater the level of need, the more deserving;

3. identity: the identity of the poor, ie their proximity to the rich or their 'pleasantness'; the closer to 'us', the more deserving;

4. attitude: poor people's attitude towards support, or their docility or gratefulness: the more compliant, the more deserving;

5. reciprocity: the degree of reciprocation by the poor, or having earned support: the more reciprocation, the more deserving. (p. 36)

These dimensions/criteria are often called by the CARIN acronym, standing for *Control*, *Attitude*, *Reciprocity*, *Identity*, and *Need* (Blomberg et al., 2017; Heuer & Zimmermann, 2020; Laenen & Meuleman, 2017; Nielsen et al., 2020). Social impressions on them should determine to what extent each welfare target group deserves State support. Thus, groups which are understood by a given society as 1) having more control on their objective material wellness; 2) suffering less deprivation; 3) sharing less identity; 4) showing less docility; 5) being less expected to pay back support – are less exposed to solidarity. Therefore, for this particular society's average welfare attitudes, selective social policies that exclude those free-riding groups tend to be bestowed with legitimacy and thus carried out successfully (Esping-Andersen, 1990; Rothstein, 1998; Svallfors, 2012; van Oorschot, 2000).

The seminal van Oorschot's (2000) article launched the deservingness criteria discussion by referring to the relativisation of citizens' objective needs as the entry criteria for social policy support, a vision prevailing since the rise of neoliberal ideologies in the 1980s. So, the level of need (the *need* deservingness dimension) became institutionally weighted according to the perceived *control* the needy have over their condition. In this sense, in a recent qualitative exploration on deservingness perceptions toward immigrants, Nielsen et al. (2020) verified that objective needs across European countries were often perceived according to assumed levels of control over neediness that different immigrant profiles had.

Likewise, many of the recent survey research papers' theory reviews depart from the acknowledgement of the strong role of control over all the other deservingness criteria (Kangas, 2003; Larsen, 2008; van Oorschot, 2000). Resorting to the grasshopper and the ants Æsopian fable, Olli Kangas (2003) gets into the moral structure's roots of the *control* deservingness criterion, and how these are connected to a strong belief in free will, and thus in typical religious moral and meritocracy. Commonplace in most western philosophical and religious traditions, the belief in free

will is the backbone for moral judgment: immoral actions are deemed reproachable only if the agents had, in their hands, the chance to act differently[1]. It is thus expectable that those understanding social benefit claimants as more in control of their own situation will also see them as less deserving of social support. For instance, disabled people would regularly be seen as more deserving than the typical unemployed.

Despite the unavoidable overlap with control, Van Oorschot survey studies' approaches often connect perceptions towards immigrants to the *identity* criterion (Larsen, 2008; van Oorschot, 2000, 2006, 2008). As the author argues, this is in line with a general negative prejudice towards immigrants in Europe, 'based on an "us versus them" identity differentiation mechanism"' (van Oorschot, 2008, p. 6). Yet, in the one study quantitatively gauging deservingness perceptions across all CARIN criteria over one specific social group (recipients of social assistance benefits in Finland), Kallio & Kouvo (2015) traced identity-based higher deservingness perceptions in those survey participants who had once *also* relied on social assistance. That is, identification is not necessarily connected to nationality or ethnicity, and the fact that the observer once shared the situation of the observed was enough to drive empathy.

For its sake, *attitude* as a deservingness dimension is often dropped out in survey studies, as it seems hard to derive its measurement from pre-existing survey data (Blomberg et al., 2017; Larsen, 2008; van Oorschot, 2000, 2006, 2008). Besides, in a latter qualitative exploration, Heuer & Zimmerman's (2020) focus groups discussion coding results show few references to judgments based on the attitude criterion, suggesting that these should be embedded in other deservingness criteria, or its meaning extended to address a broader range of gratefulness manifestations.

Van Oorschot (2000) and Larsen (2008) suggest that the attitude criterion can also be understood as pertaining to a softer reciprocity dimension. Docility, gratitude, and generally desirable behaviour could be regarded as expected, symbolic compensations for received benefits. Nielsen et al. (2020) agree, suggesting that reciprocity should include both material and immaterial contributions to society – in their focus groups, it was perceived through three different forms of expression. First, it can be manifested in monetary means, for instance, taxes paid to support the social security system. Second, it can be expressed through functionality, that is, the social policy target being expected to

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[1] Under different metaphysical axioms, for instance, those preconized by Spinoza's (1667) Ethics, free will is deemed as an illusion, produced by the limited human capacity to be aware of the whole causal chains driving 'free' decisions. Building over the Dutch philosopher's foundations, or at least relativizing the supremacy of free will, the control criteria would likely have a minor role on deservingness, as it would be impossible or very unlikely to connect one's poor socioeconomic situation to his or her unbound decisions.

reciprocate social benefits by being useful to society or, put it simply, by working (Nielsen et al., 2020; van Oorschot, 2000). Third, reciprocation can happen through behaviour: one is more deserving of social protection the more he or she demonstrates the 'right' behaviour. This last manifestation, being of a symbolic nature, overlaps with the attitude criterion (Larsen, 2008; Nielsen et al., 2020; van Oorschot, 2000).

> Showing good behavior thereby functions as an immaterial means of reciprocating to society, just as monetary means and usefulness does. Attitude, in this regard, is not primarily about being "docile" or "compliant", but about actively paying back to society in the symbolic currency of "respect," "willingness," and "having the right intentions." (Nielsen et al., 2020, p. 121)

Getting further into the reciprocity dimension, Heuer & Zimmerman (2020, p. 396) propose that the expectation of a posteriori reciprocation should be a separate deservingness criterion, which they call '*social investment*'. The researchers noted that the rationale for reciprocity-based deservingness was often grounded in an investment approach, that is, the idea that resources spent on a target social group would likely return as larger benefits to society (Heuer & Zimmermann, 2020). This finding highlighted a fundamental difference between standard reciprocity and social investment, as the latter 'highlights potentiality instead of conditionality of public support' (Heuer & Zimmermann, 2020, p. 399)

Furthermore, deservingness perceptions' heuristics embed the premise that people *have* welfare preferences towards different social groups. However, as van Oorschot (2000) verified, often individual deservingness perceptions' scores across the different dimensions covary, suggesting the existence of overall 'selectivists' and 'universalists'. Accordingly, the Finnish survey datasets used in both Kallio & Kouvo (2015) and Blomberg et al (2017) studies show too often respondents hitting the middle in the Likert scales, neither agreeing nor disagreeing with deservingness-related statements. Supposing respondents connected the dots between the survey statements and the right for social benefits, the phenomenon could be a sign roughly in line with what Nielsen et al. (2020) found when uncovering alternative moral logics in focus groups participants' statements, and translated as *universalism*:

> The universalist logic, found in all four countries, rejects deservingness criteria as unimportant—occasionally even unethical—because they rely on human differences instead of unity and equality. The moral language of universalism refuses to recognize the importance of deservingness criteria because everyone should receive in equal measure. (p. 122)

Thus, to the extent that someone agrees with the universalist logic in opposition to a selectivist one, deservingness as explained by van Oorschot's (2000) criteria could play a lesser role. For

'universalists', everybody is entitled to (at least basic) social protection, independently of their past or potential contribution to society, their control over their neediness, their identification with the respondent's social group, or the adequacy of their attitudes. One's objective *level of need* could still play a role under a universalist perspective, though (Nielsen et al., 2020).

Overall, recent qualitative studies' findings (Heuer & Zimmermann, 2020; Nielsen et al., 2020) are to be considered in this and forthcoming survey studies, as they might help to fill some of the earlier research gaps, such as the difficulty to measure attitude and the often neutral responses in Likert scales.

2.2 Street-level Bureaucrats' Deservingness Perceptions

As critical as aggregate deservingness perceptions can be in the political arena and overall policy design, their expression can be further exacerbated at the policy instrumentation level. By policy instrumentation, we understand the machinery – instruments, techniques, and tools – that produce state policies – and do not hold 'perfect axiological neutrality, [nor are] equally available: on the contrary, they are bearers of values, fuelled by one interpretation of the social and by precise notions of the mode of regulation envisaged' (Lascoumes & Le Gales, 2007, p. 4). That is, instrumentation can modulate a social policy's pre-designed outcomes, and thus shape selectivity – and the more complex the machinery involved, the higher the potential for modulation.

As often the instrumentation involves some level of human discretion, not only complexity increases but deservingness perceptions find a shortcut into policy implementation. This is because street-level bureaucrats, effectively the social policy deliverers, unless tightly tied to divergent principles through organisational culture or profession, are also bound to the public's average welfare attitudes (Breit et al., 2016; Kallio & Kouvo, 2015). Their deservingness can thus adjust welfare policies' unwritten rules and expectations, differentiating clients and slipping their distributive justice ideas into policy outcomes (Bovens & Zouridis, 2002; Eiró, 2017; Kallio & Kouvo, 2015; Lipsky, 2010; Pires, 2017a; Rice, 2013; Rothstein, 1998).

The nature of these human discretion gaps and the policy distortions they enable leads Rothstein (1998, p. 80) to the label 'black hole of democracy', because of the difficulty to gauge them and 'hold the administrators and officials who decide about the welfare of citizens in any way responsible for their actions'. Despite the dysfunctionality implied in the black hole metaphor, suggesting ideas of both stigmatizing and clientelist practices, street-level discretion spaces may otherwise allow the necessary flexibility for 'greasing the wheels' of policy implementation, or

even become a key asset on the collaborative construction of service systems (Breit et al., 2016; Osborne & Strokosch, 2013; Pestoff et al., 2006; Virtanen et al., 2018).

So, there is a chance that street-level bureaucrats' activity could also buffer or adjust the application of inadequate or biased policy instruments, helping social policies to be delivered more smoothly – the human discretion's greasing mechanisms might round up deservingness standards embedded in these instruments. The black hole might also work as a desirable policy update buffer, by embedding the public's average deservingness perceptions' shifts into policy implementation without the need to update its formal rules or design. This might be an efficient way to marginally contain the need for reforms whenever the aggregate welfare attitudes' equilibrium swings.

It is also argued that the link from welfare attitudes to welfare policies is two-way: social policies are not only founded over aggregate deservingness standards but can also contribute to shaping them. For instance, stricter levels of selectivity, born either from policy design or implementation, can generate what Walter Korpi (1980) called *welfare backlash* – the reinforcement of boundaries between different social groups, which, by weakening the odds of coalition formation across them, spiral up support for more selectivity, thus even stronger boundaries, etc. Further, deeper moats between who benefits from the welfare state (those who pay little or no tax and receive targeted benefits) and who loses on the welfare state (those who pay tax but do not receive any benefits)' will drive deeper deservingness perceptions, as 'the reciprocity of the system will be perceived as very low, which increases the importance of grateful, docile, and compliant attitudes among those who receive the targeted benefits or services' (Larsen, 2008, p. 152).

This reverse pathway further increases street-level bureaucrats' deservingness perceptions criticality. The influence of social policy operators' convictions in the welfare state not only can impact social policy outcomes but, by adjusting selectivity standards, can also have an additional effect on society-wide deservingness perceptions. Despite that, little quantitative research was dedicated to understanding deservingness perceptions of street-level social policy operators: two Finnish studies assessed the factors driving deservingness perceptions across different groups of social policy street-level bureaucrats. The first, by Johanna Kallio and Antti Kouvo (2015), compared the differences in average deservingness perceptions and traced the background factors' influence across Kela's (The Finnish Social Security Institute) benefit officials, municipality social workers, church deacons and the general public. The second one, by Blomberg et al. (2017), included public managers and local politicians among the compared groups, and also related their overall deservingness scores to attitudes towards social assistance policies' reforms.

2.3 Individual Factors Influencing Deservingness Perceptions

As many factors can help explain people's individual empathy and solidarity standards, the same naturally goes on regarding deservingness perceptions. Among individual-level factors, social class could be expected critical: though often survey studies show no connection whatsoever between income and how deserving different groups are perceived to be (van Oorschot, 2000, 2006, 2010). There might be a linkage, though not straightforward, and overly dependent on one country's income distribution and institutional welfare environment. Among Australian respondents, Kangas (2003) found that those lying in the two middle income quartiles tended to see the unemployed under a harsher deservingness lens than the poorest and the richest did. This resonates to Heuer and Zimmermann's findings, showing that the 'middle class assesses deservingness especially with reference to the criteria reciprocity and control, whereas working-class people primarily emphasize need and identity' (Heuer & Zimmermann, 2020, p. 400). On studies on the more general welfare attitudes' perspective, though, higher classes seem to show less regard for state-backed cash transfer policies, as show Staerklé et al (2012) and Pfeifer (2009), a perception that might be connected to how these policies' beneficiaries are pictured.

This ambivalence is marginally present regarding education attainment level, which can be seen as a component of social status. Van Oorschot (2000) found higher education to play only a small role across deservingness perceptions, though is linked to more universalistic perspectives. Later, in another model trying to measure the support for welfare policy in the Netherlands, the author verified that any effects connected to educational attainment vanished if controlled for 'ideational' factors: higher education might be connected to 'more left-leaning political stance, and [thus] more favourable perceptions of the deservingness of target groups' (van Oorschot, 2010, p. 25). Moreover, Roosma et al. (2014) found that people with higher educational degrees tend to disagree that social policies are abused by benefit receivers, a finding in line with Kallio & Kouvo's (2015) measurements on factors influencing bureaucrats' deservingness perceptions. However, Blomberg et al. (2017), even partially sharing Kallio & Kouvo's dataset, found that this influence was restricted to the deservingness dimension of *control*.

Higher educational attainments however cannot be deemed all the same, and formation area should tell a lot about individuals' normative perspectives. As could be expected, there is evidence that formation in the field of social work is strongly linked to more benevolent perceptions of social policy beneficiaries' deservingness, as, in general, related programmes assume structural factors as the ultimate causes for poverty, reducing the role of self-directed individual behaviour (Blomberg et al., 2017; Kallio & Kouvo, 2015; Sun, 2001; Weiss, 2003). Social work formation involves, at its

very core, the legitimacy of social policies as State matters. This could either set a selection bias, that is, those willing to become social workers already carry views compatible with the profession, or the studies forge those principles into the social work students.

As it should be also expected, existing evidence on the influence of individuals' political preferences are linked to deservingness perceptions' standards. Generally, left-leaning people, often supporting State-backed social interventions, are expected to either hold more generous deservingness principles or universality-related ideas (Blomberg et al., 2017; Kallio & Kouvo, 2015; Kangas, 2003; Nielsen et al., 2020; Roosma et al., 2014; Staerklé et al., 2012). In some study settings, though, these differences were negligible: this is the case for van Oorschot's (2000) Dutch scenario, where only people specifically identified with the religious right party had slightly stricter deservingness perceptions, and the Finnish side of the comparative Olli Kangas' (2003) study, where no significant differences were found.

Besides, in most studies, age and gender also had relevant impacts on deservingness perceptions, though in different directions across diverse settings. Van Oorschot (2000, 2010) found that Dutch elders often had narrower deservingness lenses, and female gender played no role in the year 2000, though was associated with pessimism towards the consequences to the Dutch welfare system ten years later. On the other hand, Staerklé et al. (2012) found both elders and women showing significantly stronger welfare attitudes, being more sympathetic towards government responsibility on welfare provision. Kallio & Kouvo's (2015) analysis agreed with broader women's deservingness perspectives under the reciprocity criterion but found no difference at all among street-level bureaucrats from different institutions. The authors also found that elders showed significantly more benevolent deservingness perceptions under most criteria, both among bureaucrats and the general public (Kallio & Kouvo, 2015). The same effect was observed by Blomberg et al. (2017), who, however, did not find relevant differences across gender, except under the control criterion: men tend to see more laziness in social assistance recipients. Under a more intricate analysis, Kangas (2003) found that middle-aged women are those seeing more deservingness across different categories of social policy beneficiaries. Finally, Roosma et al. (2014) did not found relevant differences coming from gender or age regarding perceptions of abuse (and thus undeservingness) of social benefits.

In sum, translated to deservingness perceptions heuristics, the literature suggests the following links between individual-level factors and the traditional deservingness perceptions criteria:

- Socioeconomic status:
  - No significant influence across deservingness perceptions criteria.
  - Higher socioeconomic status is linked to overall decreased deservingness perceptions across criteria.
  - Working class status is linked to increased deservingness perceptions in the *identity* and *need* criteria.
  - Middle class status is linked to reduced deservingness perceptions in *control* and *reciprocity* criteria.
- Education and formation:
  - No significant influence across deservingness perceptions criteria.
  - Higher education in general is linked to increased deservingness perceptions in the *control* criterion, and to more *universalistic* perspectives.
  - Social work formation is linked to increased deservingness perceptions across deservingness perceptions overall criteria.
- Political preferences:
  - No significant influence across deservingness perceptions criteria.
  - Left-leaning ideology is linked to overall increased deservingness perceptions across criteria.
  - Left-leaning ideology is linked to more *universalistic* perspectives.
- Age and gender:
  - No significant influence across deservingness perceptions criteria.
  - Elders show overall decreased deservingness perceptions across criteria.
  - Elders show overall increased deservingness perceptions across criteria.
  - Women show overall decreased deservingness perceptions across criteria.
  - Women show overall increased deservingness perceptions across criteria.
  - Women show increased deservingness perceptions under *control* and *reciprocity* criteria.

2.4 Institutional Influence on Deservingness Perceptions

Going from individual to institutional level factors, Kangas (2003) found substantial differences between the publics' deservingness perceptions towards the 'voluntarily' unemployed in Finland and Australia. Those living in a Nordic, more universalistic welfare state setting, saw those people under a softer perspective than those in a selective policy setting. In a similar conclusion, Oorschot (2008) found small variations between people's solidarity towards immigrants in European welfare States: mainly slightly harsher perceptions in the liberal UK, in Ireland and eastern Europe 'residual' welfare states. Larsen (2008) has achieved compatible results, where people living in social-democratic welfare States scored significantly more benevolent deservingness perceptions under a general *control* criterion, followed by those living in conservative and then those in liberal welfare States.

Either confronting or complementing these Esping-Andersen (1990) 'welfare State types'-related findings, both Pfeifer (2009) and Staerklé et al. (2012) detected that overall support for cash welfare policies went lower when relative State social expenditures were higher, but higher when unemployment levels are up – likewise, Larsen (2008) himself found that off-track variations across States were often linked to unemployment trends. The rationale for this could be rather simple: 'the popular image of unemployed people tends to be more positive when unemployment is high' (van Oorschot, 2006, p. 32), 'suggesting that the prevalence of unemployment attenuates the negative influence of perceived welfare dependency on welfare support' (Staerklé et al., 2012, p. 94). As unemployed people are typically among the least deserving categories, given their supposed control over their situation and being fit for work (van Oorschot, 2000), this effect might spill to the other, not so 'undeserving' categories, like the disabled and the old.

Those conclusions suggested a connection between economic trends and welfare attitudes, later addressed in a longitudinal Dutch study by Jeene et al. (2014), which found out more specific effects. While unemployment rises were connected to increased solidarity towards the unemployed and social assistance recipients, GDP growth cycles were also linked to more solidarity towards the disabled and the elders, and periods of more leftist national political climate drove general solidarity towards all the needy groups (see also Roosma et al. (2014)).

These findings are in line with Maassen and De Goede's (1991, p. 184) *Theory of Identification*:

> Understanding the structural causes which edge high numbers of people out of work, the public will to a degree excuse the unemployed for being jobless. A growing awareness of the structural causes of unemployment may result in a less negative public opinion on the unemployed.

However, as the authors explain in their conclusion, identification is often a phase in socioeconomic shifts' processes, preceded by another one. In this preceding phase, the public

> becomes acquainted with stories concerning people who feel no compulsion to seek work, about employers who cannot hire the kind of expertise they need, or about numerous companies forced to close their shops, about personnel dismissed en masse. (Maassen & de Goede, 1991, p. 193)

This preceding phase is expected to draw public reactions connected to the *Theory of Competition*, where the people's fear of losing their jobs can drive reproach towards those who are currently perceived as 'abusing' social policy protection, needlessly spending State's resources which might not be available when those who want to work need them (Maassen & de Goede, 1991). Therefore, the relationship between the general economic situation and people's ideas on social protection deservingness might not be so straightforward. In the case of bureaucrats (our research object), fears of job-losing might not have the same effect as they would have in the general public, as government jobs are usually more stable. However, there might be some degree of perceived competition, as both their salaries and social benefits are paid by the same entity, the State.

It is important also to account for the closer institutional pressures surrounding the bureaucrats' daily activity – often more the consequence of bureaucracy's inherent micro social networks than hierarchy or formal organisational directives (Keiser, 2010). As Lipsky (2010) explains,

> All too often such [broader institutional] perspectives fail to take account of the influence of street-level bureaucrats' work on their attitudes. It is apparent that street-level bureaucrats change their attitudes from the time they are recruited to the time when they begin to experience work problems. Differences in the class backgrounds of recruits tend to disappear in training and trainee socialization.

This explanation suggests that street-level bureaucrats end up trapped in a kind of 'institutional bubble', something also acknowledged by Kallio & Kouvo (2015), when suggesting that Kela officials suffer a quick contagion by the 'attitudinal climate' of the organisation. Blomberg et al.'s (2017) findings also corroborate this idea, as Kela officials, compared to the general public and social workers, saw less deservingness in social assistance recipients.

Further, the differences between Kela officials' and social workers' deservingness perceptions in both studies were credited not only to the social worker background per se but also to their usually

stronger contact experience with social assistance recipients (Blomberg et al., 2017; Kallio & Kouvo, 2015). This is likely to entail a distinctive institutional environment than the one restricted to the daily life shared only with the other organisation dwellers: Kallio & Kouvo (2015) explains that officials who are not working in the front line tend to be more susceptible to imagined stereotypes, strengthening the influence of pre-built deservingness ideas. This hypothesis is challengeable, though, as Ferreira & Medeiros (2016) claim that relationships between bureaucrats and policy targets are still there in system-mediated interactions, and the lack of face-to-face contact should not drive substantial differences.

On another take, Keiser (2010) found a disconnection between United States' screen-level bureaucracy's benefit denial rates and their trust in disability benefit claimants. The author suggests then that 'in bureaucracies without physical interactions with clients, client assessment may be less important than in more traditional street-level bureaucracies' (Keiser, 2010, p. 254). That is, it is possible that stereotypical client images, hence deservingness perceptions, could have actually *less* influence on screen-level bureaucrats' decision-making.

Translated to deservingness perceptions heuristics, the literature suggests the following links between institutional-level factors and the traditional deservingness perceptions criteria:

- Living in a social-democratic welfare State:
    - Overall increased deservingness perceptions across criteria.
    - Increased deservingness perceptions in the *control* criteria.
    - No significant influence under the *identity* criterion.
- State's socioeconomic situation:
    - Increased social expenditure is linked to overall decreased deservingness perceptions across criteria.
    - Increased unemployment is linked to overall increased deservingness perceptions across criteria.
    - GDP growth is linked to overall increased deservingness perceptions across criteria.
- Agency-level institutional environment:
    - Influence across deservingness perceptions criteria not known.
    - Increased face-to-face contact with clients is linked to overall increased deservingness perceptions across criteria.
    - Increased face-to-face contact with clients is linked to no significant influence across deservingness perceptions criteria.

3. BRIEF CONTEXTUALISATION – BRAZIL AND ITS NATIONAL SOCIAL SECURITY IMPLEMENTATION

Most of the previously referred survey studies on deservingness perceptions or welfare attitudes were conducted in or across EU countries. Despite conclusions often being presented as generalisable, it is worthy to have a grasp of the particularities of the Brazilian context, the target of this work. Brazil's demographic and geographic figures are quite impressive. It is the sixth most populous country in the world, with about 213 million people living in its huge 8.5 million km² territory – more than double the entire European Union area (CIA, 2021; UN, 2020; Worldometers.info, 2021). As the country is organised as a federative republic, this territory is divided between 27 different States, which have some degree of political autonomy.

Even after being hit by a strong recession from 2014 to 2016, Brazil still owns a huge – though unequal – economy (United Nations, 2020). The latest GDP figures amount to almost two trillion US dollars, being the country owner of the world's ninth-largest economic output, whilst paradoxically ranking as the ninth most unequal country in the world (The World Bank, 2020).

So, distributive social policy (or the lack of it) is critical there. As in most Latin-American countries, the Brazilian welfare system does not easily fit in Esping-Andersen's (1990) typology, and thus difficult to be compared with those of central capitalist countries. Brazil operates under an ambiguous, hybrid welfare state setting, which includes both comprehensive social policies and strong neoliberal pressures. After the end of more than two decades of military dictatorship, both universality-ingrained policy undertakings and neoliberal reforms took over the country since the late 80s. Consequently, de-commodification processes through welfare provision are usually restricted by selectivity instruments of both 'hard' (formal access-selection instruments, like means-testing and conditionalities) and 'soft' nature (lack of State capacities/resources, compromising access through deficient territorial coverage or service delivery).

Class stratification is then also deepened by formality versus informality dynamics: a too large share of the labour force is employed under informal settings, being invisible to most contributory social policies and, thus, likely to rely on the selective, focused social assistance policies (F. F. de Andrade, 2012; Polonio, 2015). To further increase complexity, the large Brazilian territory also houses many regional discrepancies and development inequalities, being legitimate to say that there are 'different Brazils' (IBGE, 2020a; Santos & Silveira, 2001; Silveira, 2011). Then, the diverse political trends of the different federated States help take these discrepancies one step further (TSE, 2018).

INSS, the largest federal government agency, plays a main role in this stage. It is responsible for most of the Brazilian cash social policies' implementation, managing not only the country's federal contributory benefits social security system but also the largest share of social assistance-based spending and part of unemployment benefits (CGU, 2021c; L. H. A. de Andrade, 2020a; Ministério da Economia, 2020). Apart from the latest initiatives towards the adoption of e-services and benefit granting automation (L. H. A. de Andrade, 2020b), most of the agency's operation relies upon its army of 14,726 social policy street-level operators – the object of this research (INSS, 2020a).

In the highly unequal Brazilian scenario, social policy street-level bureaucrats' deservingness perceptions effects on policy implementation might take Korpi's (1980) welfare backlash to overdrive. This is what Roberto Pires (2017b) explains: social policy implementation is also a place for the reinforcement and stabilisation of inequality-stamped social relationships – public agents operating them might be actually contributing to the continuity and consolidation of existing social exclusion practices.

Even the positive effects of social worker background on deservingness perceptions proposed by Kallio & Kouvo (2015) and Blomberg et al. (2017) might not entirely hold in the Brazilian scenario. There, deep-rooted, institutional-level caritative perspectives rule social assistance in general: instead of equality- or rights-based rationale, the semantics underlying them is of a colonialist, favour-based mediation between the rich and the poor (Koga, 2006). Likewise, when the findings of Maria Cristina de Souza (2009) on São Paulo social workers' perceptions are translated into the deservingness heuristics, poor people's reciprocity is downplayed, and they are in general assumed to be guilty for, or in control of their situation. As the author suggests, Brazilian professional social workers are often infused in more conservative discourses, facing their job as a 'favour' to the policy recipients, and asking for more discretion so they can better select the deserving poor among the others (Eiró, 2017; M. C. de Souza, 2009). Flávio Eiró (2017) explains that the phenomenon unfolds to harsher views, like the establishment of a fraudulent benefit claimant stereotype, based on anecdotic evidence and prejudice, which asks for an audit-like posture from the social workers – thus reinforcing their stricter deservingness perceptions.

Further, despite not facing the issues connected with immigration waves in Europe[2], Brazil, similarly to the United States, is home to strong race-based identity segregation (J. Souza, 2017; van Oorschot, 2008). Jessé de Souza (2017) explains it through the expressive upper classes'

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[2] Most immigrants reaching the country during the last significant migration waves were apparently received with much more praise than the existing local black population, egressed from slavery, and often blocked their access to semi-specialized workforce positions (J. Souza, 2017).

whitewashed contempt to what is referred to as the 'Brazilian riffraff' (*ralé Brasileira*): the pool of atomised, marginalised, mostly black and mixed-race people. For the author, this contempt, often evolving into class hate, is a direct consequence of the recent, centuries-long colonialist slavery past, which legacy persists in both structural and institutional fields, and is both caused and strengthened by the gaping inequality (J. Souza, 2017). This, combined with the prevalence of selective policies, deepening 'us versus them' discourses, is expected to fertilise *identity*-backed deservingness views in the Brazilian welfare State.

So, to our research, it is relevant to consider the Brazilian social work formation peculiarities, which lead us to the following alternative links between it and deservingness perceptions criteria:

- Brazilian social work formation:
    - Leads to increased deservingness perceptions only under *reciprocity* and *need* criteria.

4. RESEARCH QUESTION AND HYPOTHESES

Aiming at understanding the different pressures driving deservingness perceptions in Brazilian INSS street-level operators, given the role these might play in the shaping of social policy outcomes, our research question is *Which factors affect how INSS officials perceive the deservingness of social assistance-related benefit recipients?*

Deservingness perceptions, our dependent variable, is assessed across the traditional CARIN deservingness criteria (Blomberg et al., 2017; Kallio & Kouvo, 2015; van Oorschot, 2000), though adapted with the addition of two dimensions, *social investment* and *universalism*, as suggested in the late qualitative studies by Heuer & Zimmermann (2020) and Nielsen et al. (2020), adding up to form the 'SUCARIN' acronym.

Figure 1 and **Figure 2** show the possible links from individual or institutional factors to people's deservingness perceptions under the SUCARIN criteria, as suggested by the literature discussed in the previous sections. The plus signs mean the link increases deservingness, implying more solidarity under the connected criterion; the minus signs mean a link to decreased deservingness; zero means there is no significant effect.

Figure 1: Possible links between individual-level factors and the individuals' deservingness perceptions criteria
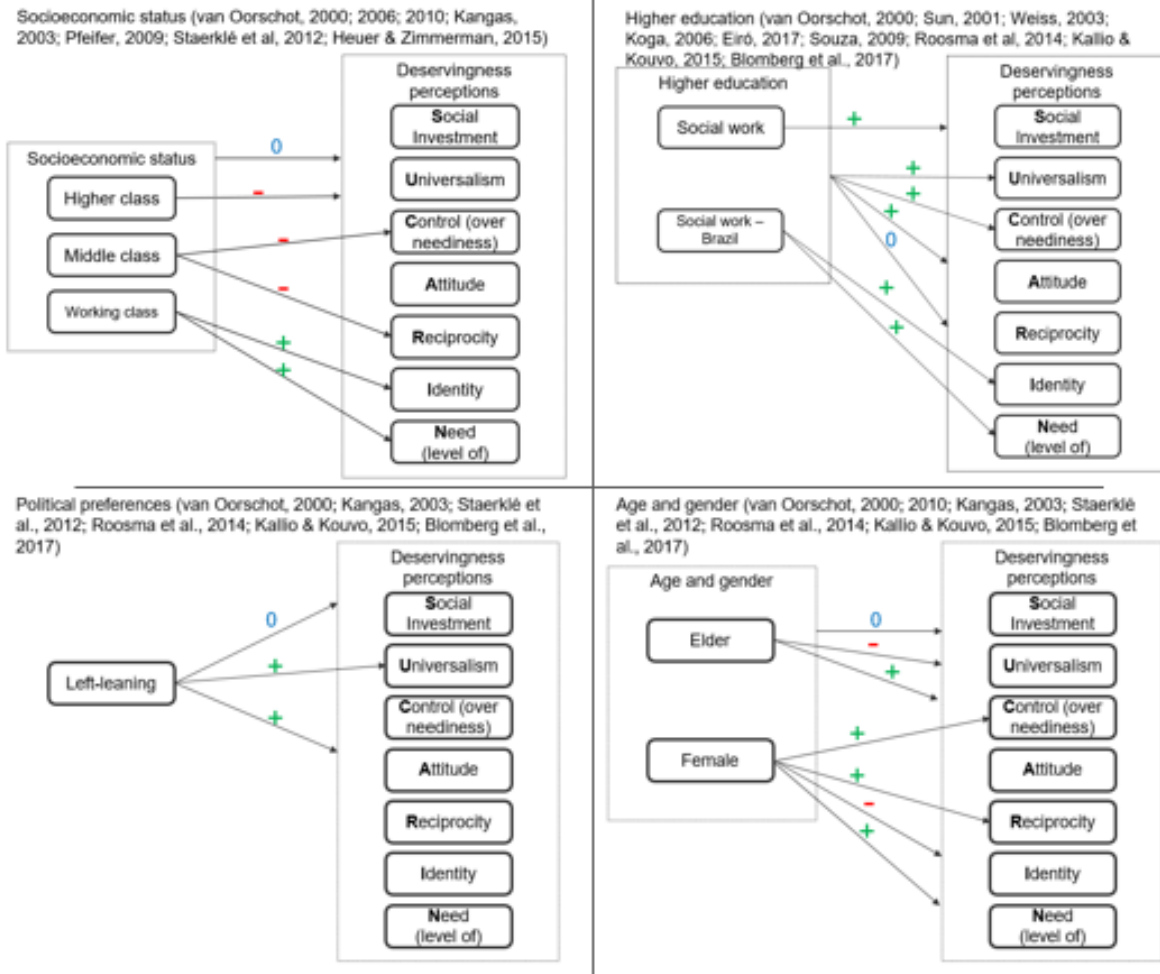
Figure 2: Possible links between institutional level factors and the individuals' deservingness perceptions criteria
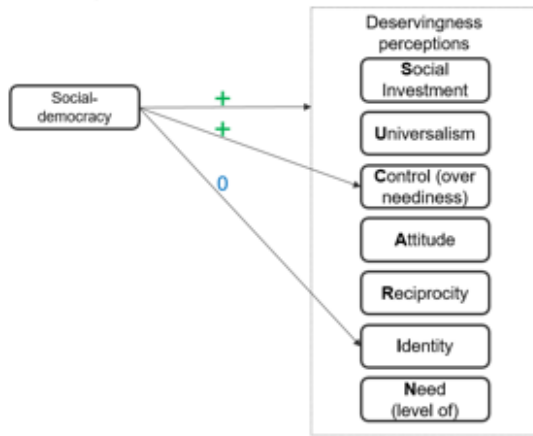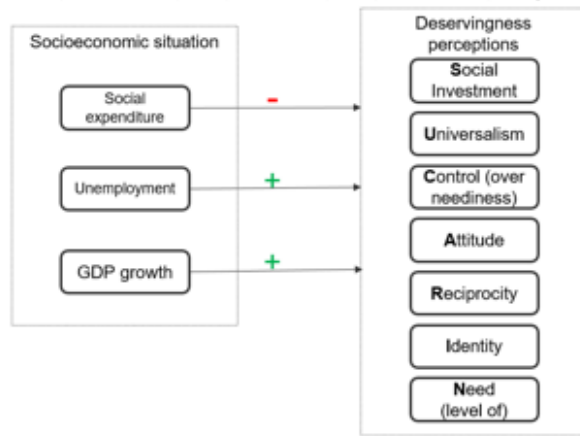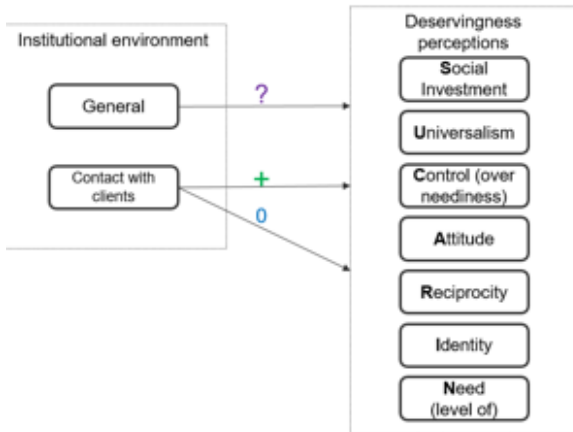
Among these, the study tests three different institutional and individual factors' links to INSS officials' self-reported deservingness perceptions: social work academic background, face-to-face client contact, and socioeconomic status. Hence, based on late deservingness perceptions' and welfare attitudes' theories, and the Brazilian context specifics, we propose the following hypotheses, (also represented in **Figure 3**):

- **H1.** Social work academic background is linked to:
    - **H1.1.** *Generally increased deservingness perceptions across all SUCARIN criteria*, based on the Finnish street-level bureaucracy's deservingness perceptions studies' results, and on social work students' perspectives on structural over individual causes for poverty (Blomberg et al., 2017; Kallio & Kouvo, 2015; Sun, 2001; Weiss, 2003).
    - **H1.2.** *Increased deservingness perceptions only under identity and need criteria*, given the caritative social policy perspective of street-level social workers in Brazil (Eiró, 2017; Koga, 2006; M. C. de Souza, 2009).
- **H2.** Increased face-to-face client contact is linked to:
    - **H2.2.** *Generally increased deservingness perceptions across SUCARIN criteria*, based on the rationale presented in Finnish street-level bureaucracy studies, linking increased face-to-face contact with clients to higher deservingness perceptions towards them (Blomberg et al., 2017; Kallio & Kouvo, 2015).
    - **H2.2.** *No relevant shifts towards increased deservingness perceptions across SUCARIN criteria*, based on the Ferreira & Medeiros' (2016) argument on the preservation of relationships between clients and bureaucrats in system-mediated interactions.
- **H3**: Higher socioeconomic status is linked to:
    - **H3.1.** *Generally decreased deservingness perceptions across SUCARIN criteria, especially under the control and reciprocity dimensions* (Heuer & Zimmermann, 2020; Pfeifer, 2009; Staerklé et al., 2012)
    - **H3.2.** *No relevant shifts across SUCARIN criteria*, in line with van Oorschot (2000, 2006, 2010) findings across time.

Figure 3: Research hypotheses
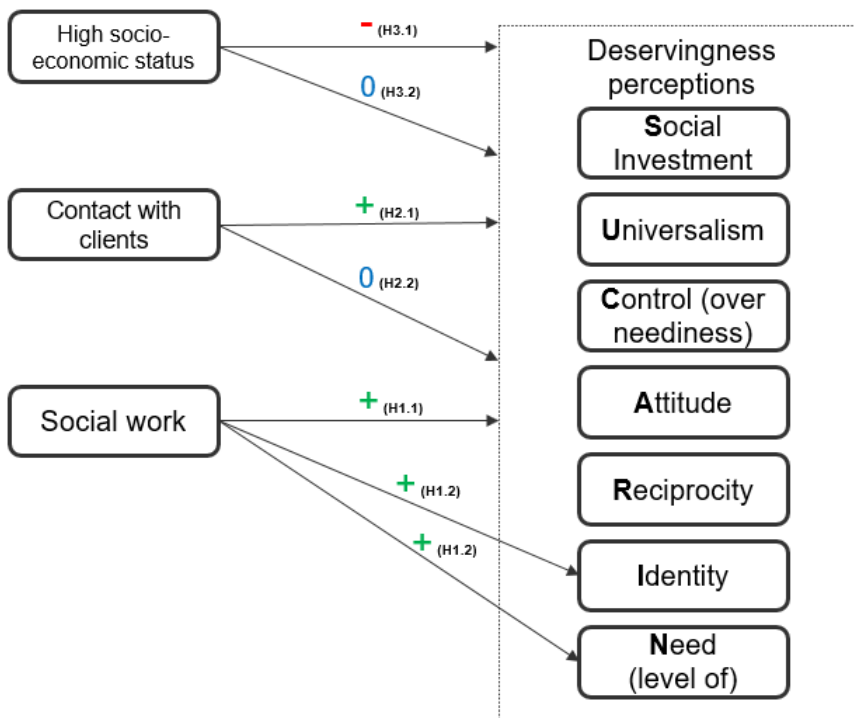
We remark that given an overall consistency across INSS officials' incomes (see 5.3. Population – People in the INSS Universe), socioeconomic influences in deservingness perceptions might be marginal, and very dependent on regional cultural and economic settings. As their wages generally are contained in the middle-class band, INSS officials' deservingness perceptions might be, as a whole, harsher than those of the general population, especially under the *social investment*, *control*, and *reciprocity* criteria (Heuer & Zimmermann, 2020; Kangas, 2003). Despite being out of the scope of this research to compare INSS officials' perceptions with those from the overall population, results tend to middle-class perspective.

Also out of the scope of this research is the influence of the agency's institutional environment on officials' deservingness perceptions (Lipsky, 2010). Street-level bureaucrats in Brazil might be especially prone to it, given the Brazilian federal public service regime's characteristics, especially permanent employment contracts. That is, it is likely that INSS officials never quit their job, and so do their colleagues, keeping a highly stable and enveloping institutional environment[3].

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[3] Most of the time, the frail Brazilian social safety net also contributes to this effect, as deciding to leave a federal public service position can be too risky. Besides, the permanent nature of their position might drive low levels of competition, and, as the colleague micro-networks tend to be the same across time, relationships born out of the agency's environment tend to be stronger, spiralling up institutional influence.

Lastly, it is important to reiterate that the deservingness criteria do not only overlap but often co-function, as explained regarding *need* and *control*, or *control* and *identity* (Nielsen et al., 2020), and a relevant degree of correlation among them is expected.

5. RESEARCH DESIGN AND METHODS

The research follows a quantitative, correlational design, drawing on cross-sectional survey data. INSS administrative registry data was gathered from the open data section in the agency's website (INSS, 2020a) and through petitions to the Brazilian federal government open data system, *Fala.br* (CGU, 2020, 2021a, 2021b, 2021d, 2021e, 2021f). Then, a previously authorised structured e-mail *Google Forms* survey was sent to a sample of officials, balanced according to available administrative data.

Finally, both survey results and registry data are analysed through ordered logistic regressions (cumulative odds ordinal logistic regressions). We applied the same model, in which a Likert scale score measures the deservingness perception, to each of the dependent variables (seven models, one per criterion). Each model includes all the independent variables connected to our hypotheses, and all the control variables deemed relevant according to the literature and available data.

The following sections explain the survey design[4], and how gathered data is connected to each of the variables in the model. Afterwards, we analyse the study's population (INSS officials), develop a method for clustering the different Brazilian federated states for accurate sampling and explain the methods used for sample selection and detail control variables used.

Details on data preparation for the regression models are provided in **6.2 Data preparation for modelling**.

5.1 Dependent variables

Previous quantitative, survey-based deservingness perceptions studies used answers from existing surveys as proxy variables for von Oorschot's (2000) CARIN deservingness criteria. **Table 1** shows survey questions used in each of these studies, their answer options, the mechanisms for gauging results from them and the corresponding operational definitions, or how the measurements translate the respondent's deservingness perceptions.

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[4] In this endeavour, we often go back to or dive deeper into the research theoretical background and the Brazilian social policy context for the sake of clarity.

Table 1: Deservingness perceptions definitions, instrument questions, and measurement in survey research

Author(s)	Criterion	Criterion conceptual definition	Question (or approximate question)	Answers	Measuring mechanism	Operational definition
Van Oorschot, 2000	control	'poor people's control over their neediness, or their responsibility for it: the less control, the more deserving' (p. 36)	'If we cut back on benefits, the question of who has a greater or lesser right to financial support from society will become more important. We will mention a number of groups. Would you like to say to what degree each group, on a scale from 1 (no right at all) to 10 (complete right), should have a right to financial support from society?' (p. 37)	'Not able to work X not willing to work; Disabled as a result of work X disabled as a result of own behaviour; Weak health X strong health' (p. 39)	differences between contrasting categories as proxies for relative levels of deservingness	difference in respondents' levels of solidarity between pairs of opposed categories in the corresponding deservingness criterion continuum
	reciprocity	'the degree of reciprocation by the poor, or having earned support: the more reciprocation, the more deserving' (p. 36)		Pensioners X young people; Extended work history X short work history		
	identity	'the identity of the poor, i.e., their proximity to the rich or their 'pleasantness'; the closer to 'us', the more deserving' (p. 36)		Average X ethnic minority groups; Average X asylum seekers; Average X illegal foreigners		
	need	'the greater the level of need, the more deserving' (p. 36)		Jobless people X people with a job; Single income X double income; Families with children X families without children; Beneficiaries with children X beneficiaries without children; Low education X high education		
Kangas, 2003	control	'If the need is seen as unavoidable, such that the sufferer cannot remove it through his or her own actions, the rendering of help is generally supported' (p. 723)	'Two questions about the wished-for levels of benefits paid to persons who (q1) have lost their job through no fault of their own and (q2) to persons who are physically handicapped and, therefore, are unable to work; wished-for benefit levels (q3) to persons who quit their job because they did not like it and (q4) to a healthy person who has never had a steady job' (p. 732)	Six alternatives, from nothing to the total Average Industrial Wage.	supposed fair benefit amount for needy people with different backgrounds	level of solidarity towards social benefit claimants who could have been deemed guilty of their situation compared to solidarity towards those who have not
Larsen, 2008	control	'the less in control of neediness, the higher the degree of deservingness' (p. 149)	'why there are people in this country who live in need' (p. 159)	Four alternatives: one of them straitly connected to the control criterion: "because of laziness and lack of willpower".	answer related to control criterion as proxy for control-backed deservingness	if the control criterion-backed answer is chosen, the respondent understand that poor people are generally in control of their situation, and thus guilty for it
Van Oorschot, 2006, 2008	control	'people who are seen as being personally responsible for their neediness are seen as less deserving' (p. 26)	'To what extent do you feel concerned about the living conditions of: 1. elderly people in your country; 2. unemployed people in your country; 3. immigrants in your country; 4. sick and disabled people in your country?' (p. 29)	5-point Likert scale (Not at all - very much)	different categories as proxies for different levels of deservingness (unemployed x old age, sick/disabled, immigrants)	respondent levels of solidarity towards unemployed compared to solidarity towards other categories
	identity	'needy people who are closer to 'us' are seen as more deserving' (p. 26)			different categories as proxies for different levels of deservingness (immigrants x old age, sick/disabled, unemployed)	level of solidarity towards immigrants compared to solidarity towards other categories
Kallio & Kouvo, 2015; Blomberg et al., 2017	control	'degree that those in need are seen as personally responsible for their life situation. The more control the person has over his or her personal situation, the less deserving he or she is thought to be' (p. 317)	'Most of those who receive social assistance are lazy and they lack the willpower to solve their problems' (p. 324)	5-point Likert scale (Strongly agree - strongly disagree)	respondents' perceptions on a single category's deservingness (social assistance beneficiaries)	frequency of beneficiaries' guilt for their needy situation
	attitude	'docility or gratefulness of the needy. The more compliant they are, the more deserving the needy are viewed as being' (p. 317)	'Recipients of social assistance should be grateful to society for the benefits they receive' (p. 324)			level of demand for beneficiaries' gratitude regarding the benefits they receive
	reciprocity	'how the group to be helped has or will contribute to society. The more reciprocating it is, the more deserving the group is seen to be' (p. 317)	'Most of those who receive social assistance have participated in, or will participate in financing the welfare state' (p. 324)			level of belief that beneficiaries have or will pay for the benefits received
	identity	'the proximity of those who provide support to those who need to be supported. Those belonging to the in-group are often seen as more deserving than the members of the out-group' (p. 317)	'The recipient of social assistance can be any one of us whose economic situation has unexpectedly weakened' (p. 324)			level of subjective identification with beneficiaries' profile
	need	'degree of neediness, [...] the greater the need, the higher the level of deservingness' (p. 317)	'Most of those who receive social assistance are really in need of it' (p. 324)			frequency of effective need among beneficiaries

The survey data mechanisms used can be grouped into two different general approaches, graphically explained in **Figure 4**. In the first (Kangas, 2003; van Oorschot, 2000, 2006, 2008), respondents' deservingness perceptions can be indirectly induced from their answers concerning solidarity towards different social groups or *vignette* characters (that is, characters in small stories which highlight their supposedly typical traits). According to a group or character's traits, survey answers can be read as proxies for the respondent's perception under one or more of the CARIN criteria. For instance, if the respondent understands that immigrants are entitled to a certain level of social provision, that level could tell how the respondent scores mainly in the *identity* criterion, assuming it as the prominent deservingness factor connected to the immigrant 'label'. Often, results reveal the analysed population's preference rank order among the different groups or characters (van Oorschot, 2006, 2008) – from where one could induce the relative weight of the different CARIN criteria.

Figure 4: Two approaches on survey-based deservingness perceptions studies
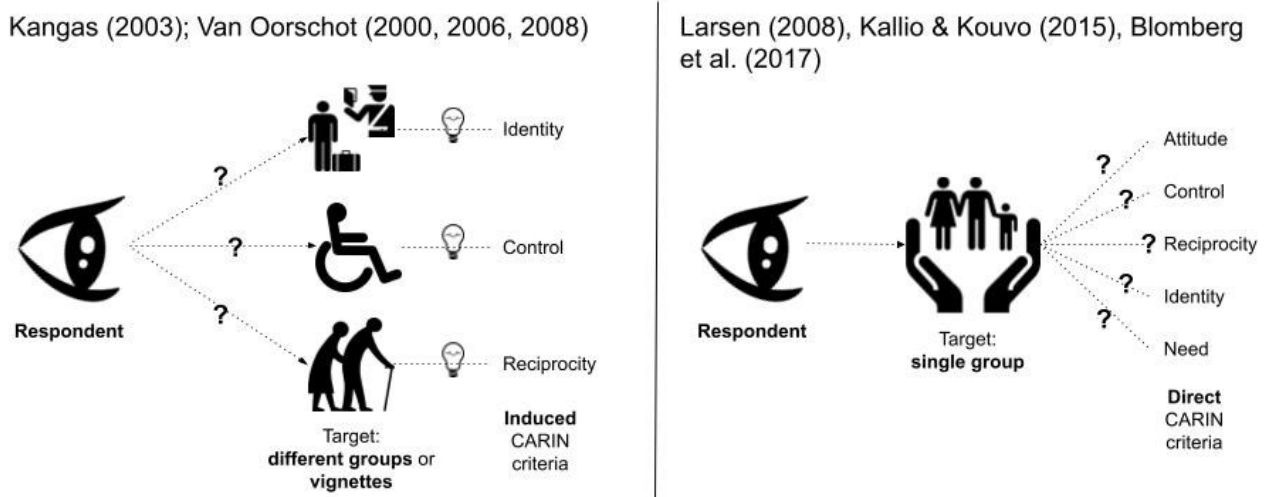
In the other studies (Blomberg et al., 2017; Kallio & Kouvo, 2015; Larsen, 2008), one group (the poor, the recipients of social assistance) is assessed by the respondent through a set of questions, each corresponding to one of the CARIN criteria. In this sense, when agreeing with a statement saying that, generally, the unemployed are lazy, the respondent scores a stricter deservingness perception under the criteria of *control*. For this research, three main arguments support the application of this single group approach. First, as Kallio & Kouvo (2015) explain, this mechanism measures the respondent's perspective towards members of the target group across the different deservingness criteria directly, in opposition to the approach based on induction from respondents' perception towards different social groups or vignette characters.

Second, the approaches based on the perception towards different social groups or vignette characters can conceal mixed deservingness criteria. Heuer & Zimmerman (2020) show, in a recent qualitative study on deservingness, that focus group participants' perceptions on particular groups often overlap different CARIN criteria. For instance, immigrants were seen as undeserving under the criteria of identity and reciprocity, as participants understood that this group often did not contribute enough to society yet to justify social protection at the same levels as other groups (Heuer & Zimmermann, 2020). This issue is acknowledged (van Oorschot, 2006), though the criteria blend is assumed to weigh more on the simpler, intuitive heuristic links: immigrants been less deserving because of weaker identity links, elders more deserving because of assumed reciprocity, disabled more deserving because of less control over neediness. Conversely, the direct questions approach inherently assumes criteria overlapping, allowing a better grasp of the perceived deservingness blend of the target group.

Third, as Nielsen et al. (2020, p. 123) argue, based on the rationale presented by focus groups' participants, deservingness perceptions, instead of a heuristic set of evaluative criteria,

> function both as tools for constructing images of the (non-)deserving and as normative yardsticks, applied by citizens explicitly to back up and justify their judgment.
>
> (…) deservingness criteria are not detached instruments, but part of a complexity-reducing sense-making process where people construct and classify images of needy groups that allow them to justify a particular judgement about deservingness.

This reasoning raises a special concern on social group/vignette character proxy approaches. Respondents might project preconceived images on a specific group, which might embed different rationales than those implied by the proxied deservingness criteria. As an example, respondents' answers could consider elderly people as undeserving not because reciprocity is a less concerning criterion, but because the perceived stereotypical elder opposes their political views. Despite the same issue being present in the single group approach, that is, deservingness criteria could be influenced by common stereotype-based judgments about the target group, these likely have a constant influence on all of the CARIN criteria – or at least the influence is fuzzy across them. That is, as there is no inter-group comparison, group-related judgments independent of deservingness criteria do not affect relative specific criterion scores and cross-criteria analyses.

Besides, the studies conducted by Kallio & Kouvo (2015) and Blomberg et al. (2017) targeted street-level bureaucrats' deservingness perceptions. These studies are thus proper benchmarks for our endeavour, that is, to assess the factors shaping INSS officials' deservingness perceptions towards recipients of benefits of social assistance nature. Further, among the previously referred

survey studies, Kallio & Kouvo's (2015) approach was the only one expressly addressing all of the CARIN criteria, respondents being asked to, in a 5-point Likert scale, agree or disagree with statements related to each of them (see **Table 1**). Their design will therefore be the starting point for the survey's statements used to address our dependent variables.

Before getting into each of the statements, we shall go through some general considerations. First, one can notice that the statements target *recipients* of social assistance, and not *applicants*. So, results in both studies already exclude those people who might have applied for social assistance but were denied the benefit in a first assessment. This is a relevant cut: those bureaucrats directly dealing with social assistance granting could believe that most undeserving applicants were already excluded from the study.

This problem could be solved by reframing the statements, so they would address the applicants, instead of the recipients of social assistance. However, this would swing bias way to the other side, as, potentially, anyone could apply for social assistance, regardless of if they fit its legal requisites. With the applicants' group in the crosshairs, deservingness perceptions' standards would not only shift towards a much stricter, and maybe unrealistic level but also too much extra noise would be added to an already complex topic. Therefore, we shall replicate the recipient category in our statements, though aware of the narrower framing it implies.

Second, there is a fundamental difference between the countries' cash-based social assistance portfolios. In Finland, social assistance is a straight category: 'a means-tested benefit for individuals who cannot provide income for themselves' (Kallio & Kouvo, 2015, p. 318). It is a clear selective exception in the Finnish typical Nordic universalistic model welfare state system (Esping-Andersen, 1990; Kangas, 2003). On the other hand, Brazil shows a rather complex social cash benefits portfolio. Limits between what is to be understood as social assistance or insurance-based policies are blurry, while means-testing is present in benefits' mechanisms in both systems. The rural social security scheme and the fishermen closed season benefit are both representative examples of this hybridity: both are insurance-based, though their granting does not depend necessarily on duly paid contributions (Caetano et al., 2015; Campos & Chaves, 2014; Schwarzer & Querino, 2002).

Brazil has else laid a significant symbolic milestone in the way to universalistic cash benefits in 2004, with the enactment of the Law n. 10,835, creating the Basic Income for Citizenship, the Brazilian UBI program (Lei n. 10.835, de 8 de Janeiro de 2004: Institui a Renda Básica de Cidadania, 2004). However, as established by this law, the program would be 'phased in by stages at the discretion of the Executive Branch' (Suplicy, 2007, p. 1623). To this day, it has not yet

advanced beyond the first step: Bolsa-família, a well-regarded, means-tested policy. It pays cash allowances to poor families as long as they comply with citizenship-related conditionalities, like their kids' frequency to school, vaccination and primary healthcare attendance. Besides, new automatic granting systems are beginning to expand beyond the insurance-based schemes and reach social assistance-like benefits, as shows the recent COVID-19-related emergency aid. This policy stands between universality and means-testing, being a form of 'guaranteed minimum income', paid to circa 50 million people (Cardoso, 2020; Gentilini et al., 2019).

So, to account for the complex Brazilian social assistance cash benefits' universe, the category 'social assistance' in Kallio & Kouvo's (2015, p. 324) statements is reframed to *benefits of social assistance nature*. The expression is also explained in the survey questionnaire, clarifying that it includes every kind of benefit bearing some degree of social assistance, being it formally defined this way or not, and complemented with examples[5].

The following items briefly discuss each of the statements used and their adaptations to this research, under the light of previous empirical studies' findings on deservingness perceptions. Following the reasoning exposed in sections **2.1 Welfare State, Welfare Attitudes and Deservingness Perceptions** and **4. Research Question and Hypotheses**, two new statements are also added, regarding 1) *social investment*, a subdivision of reciprocity (Heuer & Zimmermann, 2020), and 2) *universalism*, which score can change the meaning of the scores in the other dimensions, by implying the negation of the deservingness rhetoric (Nielsen et al., 2020). This way, we propose a shift from 'CARIN' to 'SUCARIN' criteria. For each statement, respondents answer if they agree or disagree on a 5-point Likert scale, from 'Strongly disagree' to 'Strongly agree'[6].

5.1.1 Need (Level of)

As explained before[7], while the level of need is arguably the primal, objective criterion for the standard means-tested selective policy, and thus would be expected to be the natural main deservingness criterion, it might be often subjectively defined *in function of* control. 'Need and control appear to be mutually and hierarchically defined, so that only needs without control are [deemed as] truly needs' (Nielsen et al., 2020, p. 124). That is, if one's needy situation can be regarded as contingent on one's choices, his or her objective level of need might be relativised by the typical evaluator.

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[5] See **Annex I – Survey Instrument**.
[6] Idem.
[7] See **2.1 Welfare State, Welfare Attitudes and Deservingness Perceptions**.

This can generate some concern regarding control and need criteria, as both statements could be measuring the same entity, being conceptually redundant. It could be also the case that the level of need is just mediated by the perceived control over neediness, and there would be no apparent problem in keeping both criteria, as long as we are aware of possible relationships between them when analysing survey results. In any case, to mitigate these interactions, we move the level of need statement to the last position among the CARIN criteria in the survey and rephrase it: *Despite the causes of their situation, most of those who receive benefits of social assistance nature are really in need of it.*

5.1.2 Control (over neediness)

To assess to which level the respondent perceives the targets' deservingness under the control criterion is to assess to which level the respondent perceives the targets' poor socioeconomic situation as caused by one's choices[8]. However, the statement used by Kallio & Kouvo (2015, p. 324) for the control criterion is rather indirect: respondents agreeing that the targets are mostly 'lazy' or 'lack willpower' are assumed to perceive them as having more control over their neediness, and, thus, less deserving of social protection. The issue is that the formulation does not account for other possible assumed free-willing, deliberate behaviours. For instance, drawing on the fable as did Kangas (2003), the ants' reproach on the grasshopper's behaviour might be based not on a laziness argument – as it spent the whole summer on effortfully singing – but to a lack of prudence, or simple egoism.

Therefore, we reshaped the statement to the following: *Most of those who receive benefits of social assistance nature is to blame for their economic situation*. This way, we clarify the moral component of the statement, while opening it to other possibilities of deliberate behaviour causing economic upheaval, hoping to straighten the connection between the respondents' answers and the clear rationale of the control criterion.

5.1.3 Identity

Perceived low deservingness under the identity criterion is not reserved to immigrants, and, in the Brazilian case, racial alterity, a heritage from Brazil's slavery-based recent economic past, lingers on and is deemed as one important cause backing current societal division and its deep income gap[9]. So, despite the seemingly low alterity towards immigrants, the 'us versus them' logic might be even stronger in Brazil than the one found in European countries. Moreover, other non-racial or ethnic

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[8] Idem.
[9] See **3. Brief Contextualisation – Brazil and Its National Social Security Implementation.**

sociological factors can also drive alterity: signs of social class differences connected with accents, and even distinct physical traits could do the job[10]. In this sense, Kallio & Kouvo's (2015) statement used for measuring identity-backed deservingness is framed in a quite general way, fitting well in the Brazilian setting too. We use it almost as it is: *The recipient of benefits of social assistance nature can be any one of us whose economic situation has unexpectedly weakened* (Kallio & Kouvo, 2015, p. 324).

5.1.4 Attitude

Attitude is the one dimension in which most research faced shortcomings, and most survey studies just dropped it[11]. Besides, it can be understood as a softer component of a broader reciprocity concept, hence overlap with the other reciprocity criteria, in a similar relationship as that between *level of need* and *control over neediness* criteria. Nevertheless, given the advantage of applying a survey specifically designed for deservingness perception measuring purposes, there is no need to drop the attitude criterion, but to be aware of these potential issues when analysing the survey results.

Kallio & Kouvo's undertaking was an exception, for the authors measured attitude-based deservingness perceptions, and did it in an almost direct way. Yet, they remark that the statement used to assess attitude 'is problematic, as it includes the notion that recipients *should* be grateful' and 'differs from other statements' (2015, p. 332). The formulation implies a strong deontological perspective, making the assessment rather indirect – that is, if the respondent agrees with it, probably sees the deservingness target as undeserving given a lack of 'adequate' attitude (that is, docility, gratitude, or other soft reciprocity expressions).

To deal with this formulation problem – the 'should' issue – and to broaden the scope of the attitude criterion so as to better align it with the deservingness theories (Larsen, 2008; Nielsen et al., 2020; van Oorschot, 2000), our survey addresses it through the following statement: *Most of those who receive benefits of social assistance nature do behave, show gratefulness or respect towards society*.

5.1.5 Reciprocity

Besides the symbolic, 'soft' dimension of reciprocity-based deservingness under the attitude criterion statement, the 'hard reciprocity' was addressed by Kallio & Kouvo (2015, p. 324) through

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[10] Some traits could mark people as pertaining to the Brazilian riffraff (J. Souza, 2017). See **3. Brief Contextualisation – Brazil and Its National Social Security Implementation**.

[11] See **2.1 Welfare State, Welfare Attitudes and Deservingness Perceptions**.

their last survey statement, which restricts possible reciprocation to welfare state financing-based giveback. Despite the triad of possible reciprocation paths (Nielsen et al., 2020), there is no critical argument for the separation of functionality-based and monetary-based reciprocation, at least in our specific research design.

As the original statement suggests, reciprocation could happen a priori or a posteriori: 'most of those who receive social assistance have participated in, or will participate in financing the welfare state' (Kallio & Kouvo, 2015, p. 324). Following Heuer and Zimmerman's (2020, p. 396) suggestion[12], we reserve a posteriori reciprocity to a separate deservingness criterion, *social investment*, and *reciprocity* will refer only to the aprioristic contribution accomplished by the target group.

Having in mind possible misinterpretation arising from the legal framework operated by social security officials, we also qualified the target group's reciprocation, by introducing the idea of 'significant contribution'. Through this modification, we aim at avoiding literal responses, which could make the smallest imaginable contribution (that is, a single month of work in a lifetime, or marginal taxes paid through consumption) elevate the deservingness measurement, while not corresponding to the actual official's perception. Therefore, hard, or general reciprocity is addressed through the following reframed statement: *Most of those who receive benefits of social assistance nature have significantly contributed to society before, either through taxes or through work efforts, paid or not*.

Deservingness perceptions under the hard reciprocity dimension, by being partly bound to external economic conditions, could however conceal alternative rationales depending on how they are assessed. Respondents could score low in both reciprocity and social investment criteria not as a function of a higher solidarity bar, but rather by believing that the *environment* did not or will not provide the chances for the target group to compensate for the benefits received. That would be a reasonable explanation in a continuous economic depression scenario, thus should be considered in the analysis – despite the statement remark that compensation efforts could be unpaid.

5.1.6 Social investment

As explained before[13], the social investment dimension addresses an embedded promise in social policies that these could, at least in the long run, promote economic development. So, as the motivations that drive people's deservingness perceptions under the reciprocity and the social

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[12] Idem.
[13] Idem.

investment criteria can be distinct, a new statement is added to the survey: *Most of those who receive benefits of social assistance nature will retribute it to society at some point, either through taxes or work efforts, paid or not*.

5.1.7 Universalism

The survey questions aim to get targets' scores on perceptions which *theoretically* translate their deservingness across different criteria, but not directly if they *deserve*, or *should receive* social benefits or not. Drawing on the Nielsen et al. (2020) findings exposed before[14], the assumptions connecting the statement-based survey questions with respondents' actual deservingness perceptions may not hold if respondents believe that social protection should be available independently of any meritocratic concerns, that is, it should not be part of a moral bargain. Respondents could have low scores on every deservingness perception criterion and yet believe that the most undeserving benefit recipient under their scrutiny should still have strong social protection.

Despite believing that most recipients in the target group did not and will not compensate for their benefits, the respondent could understand that they should receive them anyway, for example. In other words, it could be the case that a respondent understands benefit recipients as being in control of their neediness; not actually needy; not expected to have contributed or to be willing to contribute; not expected to be grateful – but should be entitled to social assistance cash benefits anyway. So, scores across deservingness criteria would only make sense while the respondent agrees with or advocates for *selective* policies to some degree, in opposition to a radically universalistic mindset. In the last case, *social investment*, *control*, *attitude*, *reciprocity*, *identity*, and possibly *need* tend to lose their role as proxies for distributive justice ideas.

As suggested by Nielsen et al. (2020) findings, to account for this particular moral logic, we include it along the other deservingness dimensions, and call it *universalism*. It is assessed through the following statement in the questionnaire: *Benefits of social assistance nature should be paid regardless of their recipients' contributions to society, background, or causes of their situation.* The level of agreement with this statement is expected to tell how *universalistic* the respondents' views on social benefit granting are and help interpret the degree that the scores on the other statements can be actual proxies for deservingness perceptions.

On the other side, if respondents express their views regarding *universalism* in a 'politically correct' way, the scores on other criteria may reveal their actual preferences. For instance, one could explain

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[14] Idem.

that everybody *deserves* social protection, though, given other economic pressures, like government budget, or the fundamental scarcity of resources, a priority rank is needed anyway, based on one or more of the traditional deservingness criteria.

So, *universalism* scores should be interpreted with care, as its logic operates on a different level. There are likely more complex relationships working between universalism and the other criteria, though these are out of this study's scope.

5.2 Independent variables

Under our set of hypotheses, the following items show and explain how data related to the research's independent variables, that is, the hypothesised factors shaping street-level bureaucrats' deservingness perceptions towards recipients of benefits of social assistance nature, were gathered.

5.2.1 Social work academic background

Given there is no publicly available administrative data on INSS officials' education[15], social work academic background is assessed by a survey question. As explained in **4. Research Question and Hypotheses**, although previous studies addressed only the influence of social work academic background on deservingness perceptions, the survey will assess other background groups too. This is expected to avoid drawing specific connections to social work when the relationship could hold to broader categories, for instance, the whole humanities' area.

Hence, the corresponding question is framed this way: *If you have completed at least college-level education, select the course area most representative of your last degree.* Possible answers are:

1) *I have not completed higher education.*
2) *Medicine.*
3) *Law.*
4) *Social work.*
5) *Communication.*
6) *Economy.*
7) *Psychology.*
8) *Exact sciences (engineering, industrial design, mathematics, etc.).*
9) *Other biological sciences (biochemistry, physiotherapy, dentistry, physical education, etc.).*
10) *Other humanities (anthropology, geography, history, political science, social sciences).*

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[15] See **5.3.4 Job titles and admission year**.

The categories were designed according to both the most common higher education backgrounds and those courses with a stronger connection to the social security work – This is why medicine, law, social work, communication, economy and psychology are separated from their respective academic areas. This is also expected to show possible paths for further exploration of relationships not addressed in this research.

5.2.2 Face-to-face contact

As a result of a recent thorough digital transformation process, INSS benefit application and granting processes were deeply transformed. E-services were adopted, paper files abolished, and administrative casework activities were segregated from the front-line services (L. H. A. de Andrade, 2020b). Since then, many INSS officials enact decisions without close contact with their clientele, while a significant number still work in the front line, providing enough data to support testing hypotheses **3.1** and **3.2**[16].

Administrative data on face-to-face contact was made available in response to a petition to *Fala.br* (CGU, 2021d). The dataset includes both totals of over-the-counter encounters and total time spent by each INSS official, per month, from the years 2017 to 2020[17].

5.2.3 Socioeconomic status

Officials' socioeconomic status will be addressed in two, concurrent ways. The first is indirect, induced from administrative data. Drawing on the fact that INSS officials' wages are standardised across the territory, regardless of discrepant regional economic scenarios, it is reasonable to infer their relative socioeconomic status based on the States' average incomes.

INSS officials' basic wages vary basically according to the three different jobs titles' education levels and total years working for the agency. For each year of work, officials achieve a new 'class', increasing their salary (see **Table 2**).

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[16] See **4. Research Question and Hypotheses**, **5.3.2 Participation in core activities**, and **5.5 Sample selection**.
[17] See **Annex II – Data treatment log**.

Table 2: INSS civil servants' wage variation (*Decreto n. 84,669, de 29 de Abril de 1980*, 1980; ME, 2020)

	Job title's educational level		
	Elementary school	High school	Higher education
Initial gross salary	R$ 2,759.97	R$ 5,447.79	R$ 8,357.07
Final gross salary	R$ 3,006.19	R$ 9,099.25	R$ 13,033.79
Years of work until final salary	19	16	16
Average yearly gross salary increment	R$ 12.96	R$ 228.22	R$ 292.30
Increment ratio between initial and final salaries	9%	67%	56%

Over these, managers receive an additional according to their position. Service office managers received in 2020 an additional R$ 1,620.89; supervisors and benefit managers receive an average R$ 423,05 additional (Brasil, 2016; Lei Nº 11.526, de 4 de Outubro de 2007, 2007, p. 11; Decreto n. 9.746, de 8 de Abril de 2019, 2019). Hence, officials' hypothetical wage values, compared to the mean average wage in their State[18], can provide an objective measure of the officials' relative individual economic power in their region.

The second way is done through a *self-socioeconomic assessment*, repeating the question used in Kangas' (2003) instrument, aiming to facilitate future combination with international survey data. The wording is as follows: '*In our society there are some social groups which are higher and some which are lower. Where do you think you are on this scale: 1. High. . . . . . 10. Low?*' (Kangas, 2003, p. 740)[19].

5.3. Population – People in the INSS Universe

This section provides a general overview of INSS's overall civil servant population and explains some of the main traits of the population under study, that is, civil servants working in INSS service offices. The information will help understand the criteria used for both the federated state clustering and sample selection procedures, detailed in the next two sections.

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[18] We use states' average income per domicile, provided by the most recent Brazilian PNAD survey data, representing values in the last quarter of 2020 (IBGE, 2020b).
[19] Though the scale goes in the opposite direction in our study (that is, 10 = high and 1 = low), so to avoid confusion for respondents.

5.3.1 Gender and age

Currently (10/2020), INSS activities are performed by 19,985 civil servants (INSS, 2020a). This number concerns only the public career servants, who hold permanent public service positions, and thus excludes:

1. Private service contractors' employees (mainly cleaning, security, and call centre services).
2. Interns.
3. Outsider officials working as managers and advisors, that is, not belonging to INSS personnel, but appointed by top-level bureaucrats and ministers. Usually, those officials are politically bound, as their positions are connected to elected officials' mandates, and thus precarious.
4. Medical experts who, despite acting on benefit granting, are not subordinate to INSS, but to an outside secretariat, the *Subsecretaria de Perícia Médica Federal*, since January 2019 (*Medida Provisória n. 871, de 18 de Janeiro de 2019*, 2019).
5. Retired civil and military servants, which were, by presidential decree, invited to support INSS in-person customer service provision (*Decreto n. 10.210, de 23 de Janeiro de 2020*, 2020; INSS, 2020b). Their incorporation is still too recent for them to be part of this study.

The INSS civil servants' population is fairly gender-balanced (**Table 3**). This might be connected to the fact that INSS officials, as most Brazilian federal government personnel, are hired by public tender. Since the enactment of the 1988's Brazilian Constitution, public tender contests usually take the form of national standardised written exams (Brasil, 1988), which helps to offset gender biases. Further, whereas women might have lower wages elsewhere, civil service career salaries are standardised, being more attractive to them.

Table 3: INSS officials according to gender (INSS, 2020a)

	Frequency	Percent
Female	10,205	51.06
Male	9,780	48.94
Total	19,985	100.0

Regarding age, distribution among INSS civil servants is bimodal (**Figure 5**), showing major hills roughly between 34-43 and 55-64 years, and a mean average of 47 years.

Figure 5: INSS officials according to age in 10/2020 (INSS, 2020a)
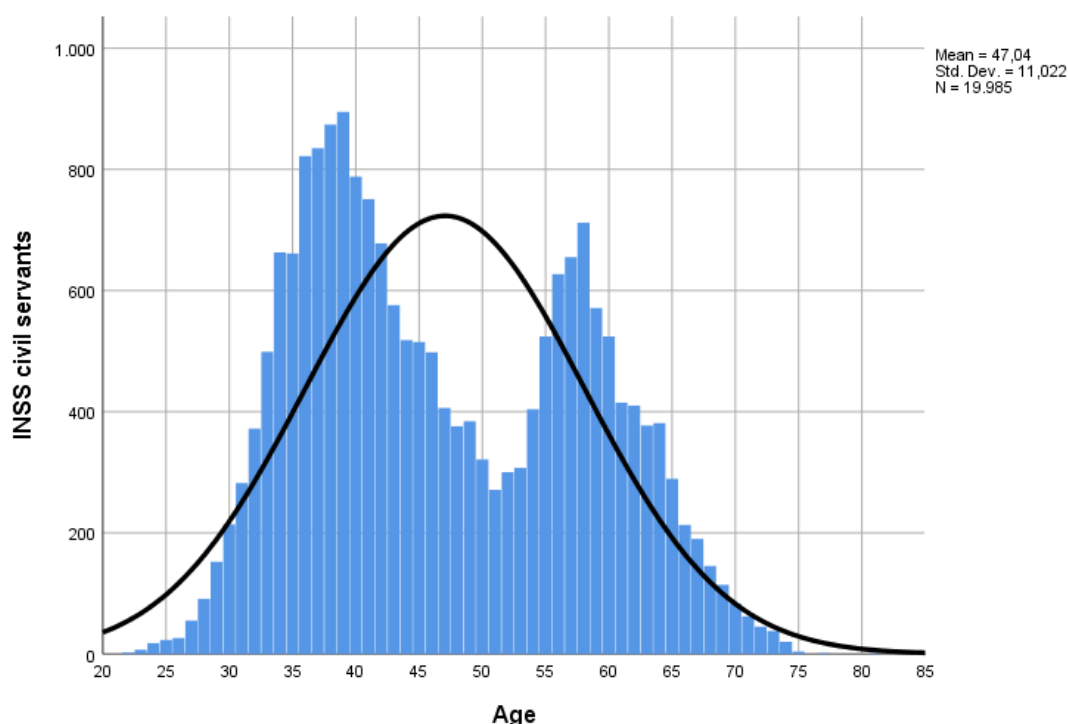
Among the 19,985 civil servants, nearly 14,726 act in service offices – INSS's frontline service provision sites, where teams of officials provide customer service and benefit granting (**Table 4**). Both gender balance and age distribution there are similar to the overall INSS's, with a small increase in the proportion of female officials (**Table 5** and **Figure 6**).

Table 4: INSS officials working in service offices (INSS, 2020a)

	Officials	Percentage
Service offices	14,726	73,7
Other workplaces	5,259	26,3
Total	19,985	100,0

Table 5: INSS officials acting in service offices, according to gender in 10/2020 (CGU, 2021f)

	Frequency	Percent
Female	7,690	52.20
Male	7,037	47.80
Total	14,727[20]	100.0

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[20] The data provided by INSS through the *Controladoria-Geral da União* (CGU), the agency which manages government transparency policies, in consultation n. 03005.049882/2021-92 (14,727 entries) had a minor discrepancy compared to the data provided directly by INSS on its website (14,726 entries) (CGU, 2021f; INSS, 2020a). The difference of one registry is negligible, though.

Figure 6: INSS officials acting in service offices, according to age in 10/2020 (CGU, 2021f)
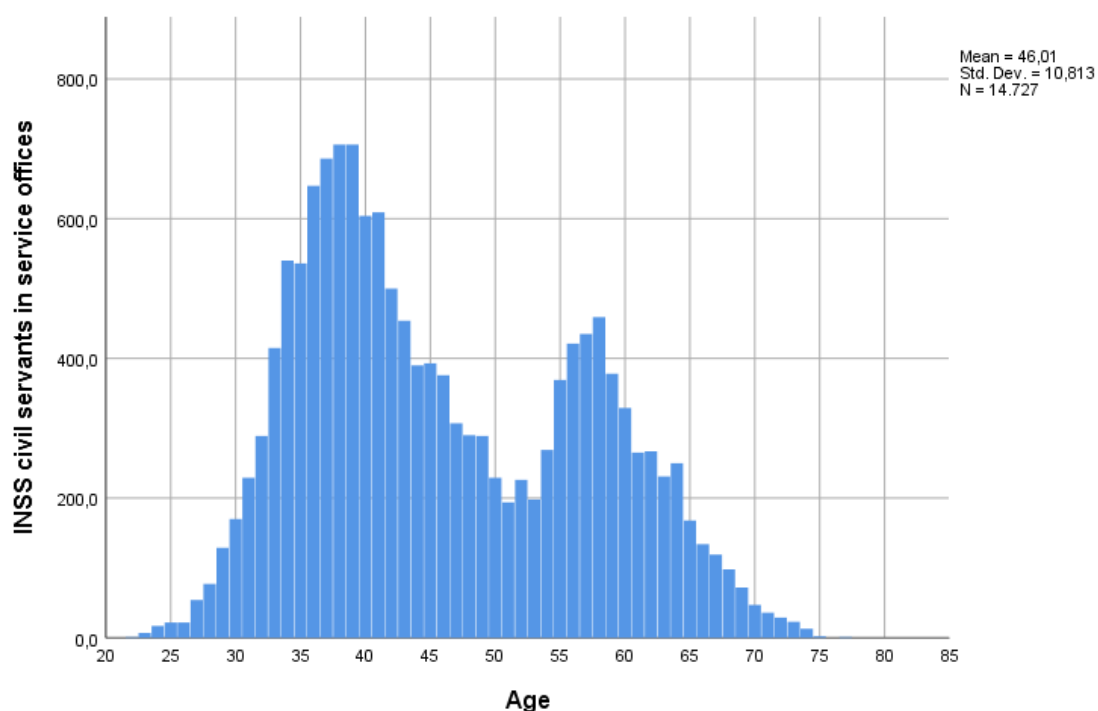
5.3.2 Participation in core activities

Officials in service offices are expected to carry out most of INSS core activities, that is, in-person service provision and benefits application processing ('casework'), and comprise the actual population being studied. Accordingly, 94.5% (12,813) of officials who faced more than an average of 2h a month of encounters from 2017 to 2020, and 94.8% (5,898) of those who analysed more than an average of 10 cases per month act on service offices (**Table 6**).

Table 6: Officials per in-person encounters and casework, in service offices and other workplaces (CGU, 2021d, 2021e; INSS, 2020a)

	In service offices	In other workplaces
Faced more than 96h in-person encounters from 2017 to 2020	12,813 (94.5%)	746 (5.5%)
Analysed more than 120 cases in 2020	5,898 (94.8%)	322 (5.2%)

Considered those attending the 2h/month minimum criterion, the distribution of time spent in in-person encounters among officials in service offices is roughly normal, as shown in **Figure 7**. In most cases, the time spent by officials does not go beyond 1,500h (roughly under one standard deviation, amounting to 61% of cases), or between averages of 2h to 31.25h per month.

Figure 7: Time spent (in hours) in in-person encounters by INSS civil servants (who spent at least 96h in in-person encounters) in service offices from 2017 to 2020 (CGU, 2021d; INSS, 2020a)
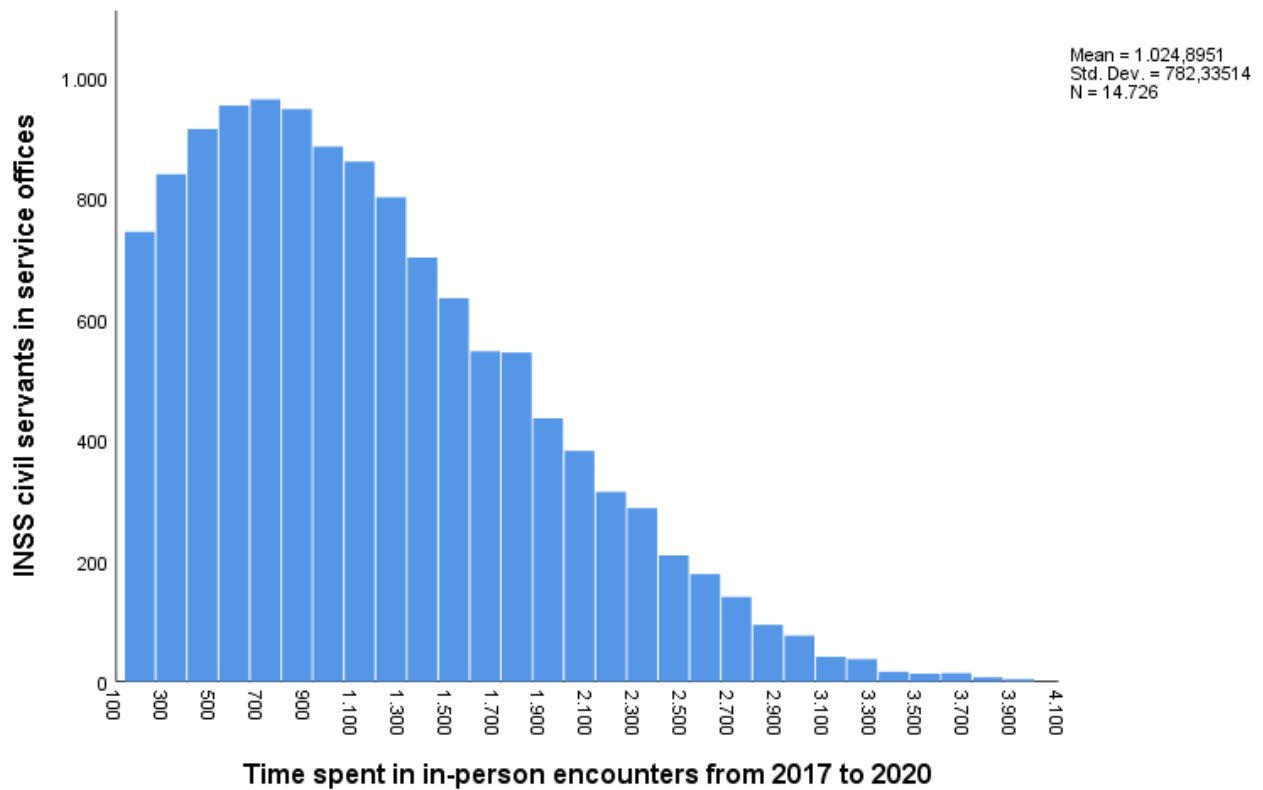
Regarding case analysis, productivity distribution follows a somewhat accidented line (**Figure 8**), with an average of almost 388 cases, or circa 32 cases a month.

Figure 8: Total cases analysed by INSS civil servants (who analysed at least 120 cases) in service offices in 2020 (CGU, 2021e; INSS, 2020a)
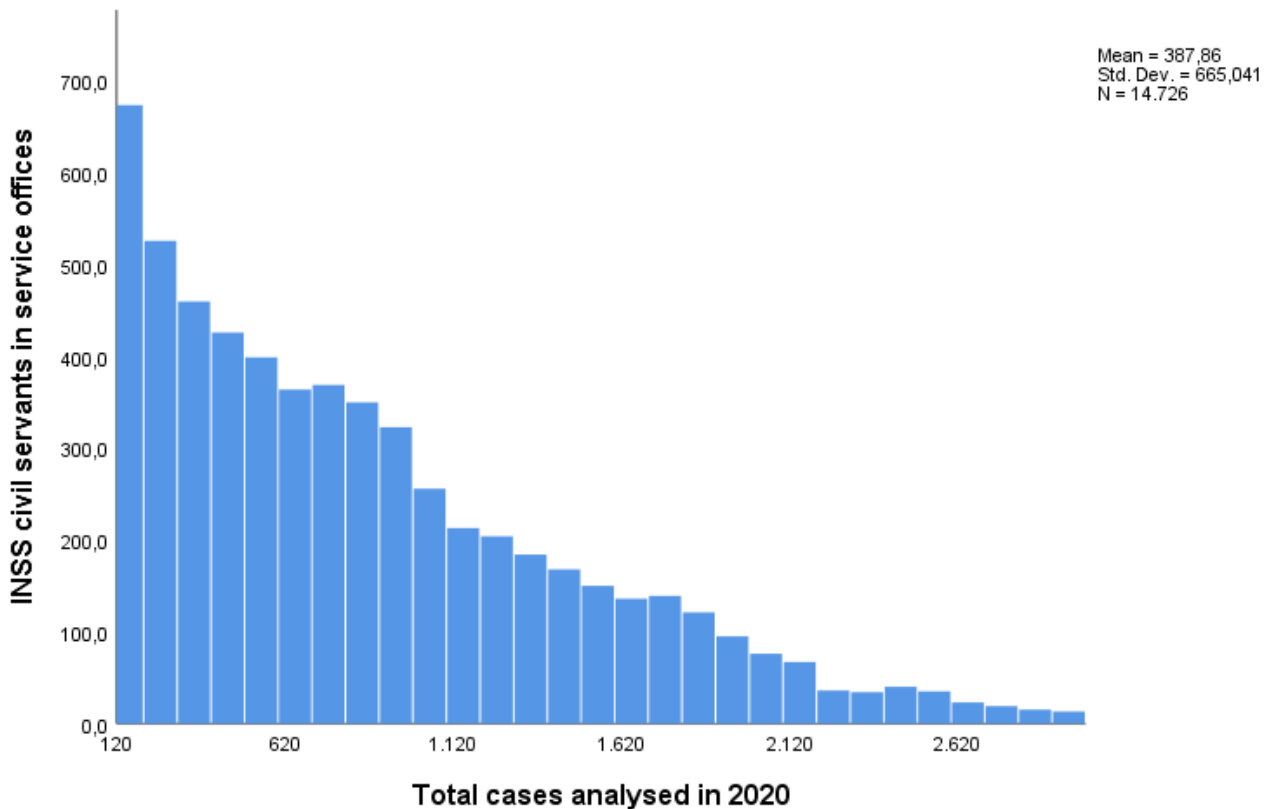
Of the 14,726 service office officials, 10% of the officials (1,467) did not act in INSS core activities significantly, according to our criteria (**Table 7**). Those might act in other functions, such as managing, supervision, support, compliance, archive maintenance, and are still of interest to this study.

Table 7: Officials in service offices and other workplaces, acting in core activities (CGU, 2021d, 2021e; INSS, 2020a)

	Act in core activities	Do not act in core activities
In service offices	13,259 (90.0%)	1,467 (10.0%)
In other workplaces	904 (17.2%)	4,355 (82.8%)

5.3.3 Territorial distribution

There are 1,676 INSS service offices (*Agências da Previdência Social* – APS), scattered throughout Brazil's huge territory[21]. As they are spread all over the Brazilian territory, the distribution of core activity officials between the Federated States is roughly proportional to their population, as shown in **Figure 9** and **Figure 10**:

Figure 9: Population by Federation State – map (IBGE, 2019a)
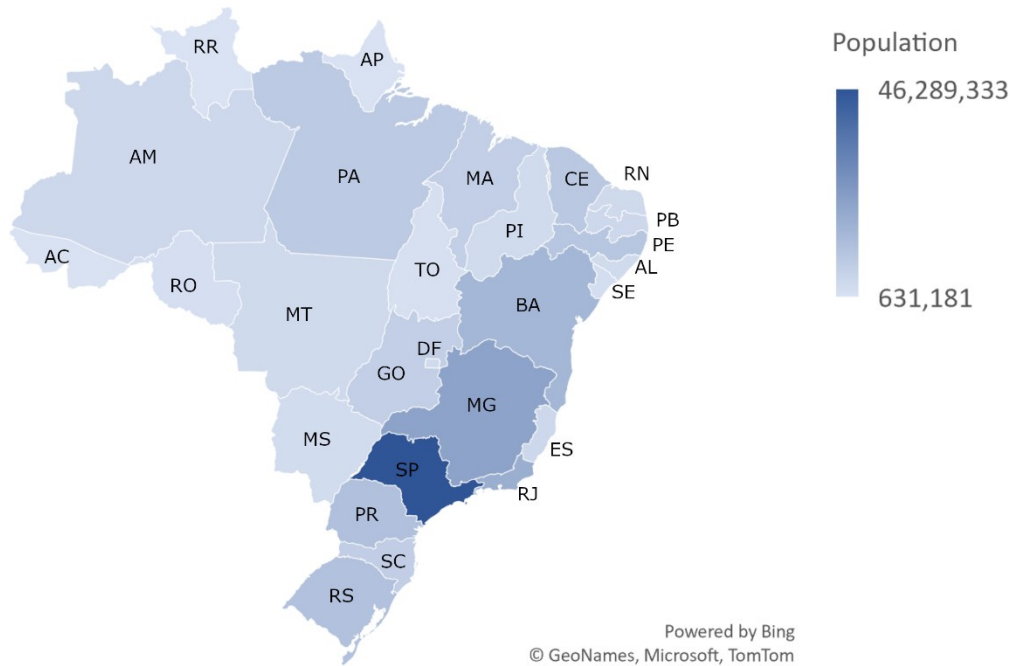
Figure 10: Civil servants acting on service offices by Federation State – map (INSS, 2020a)
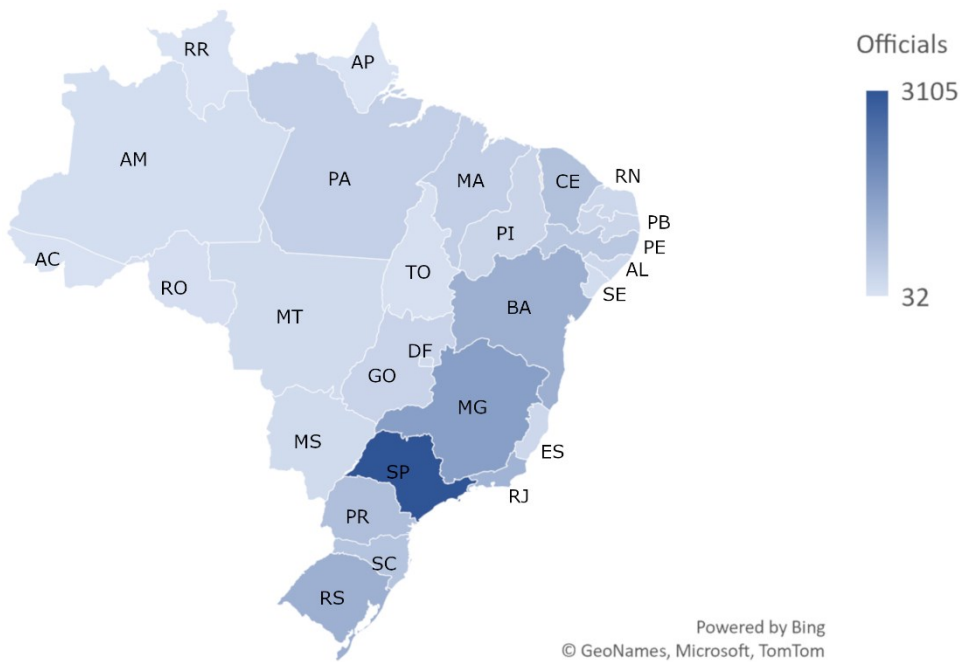
Given the Brazilian territory's dimensions and its historically uneven regional development (Santos & Silveira, 2001), the geographical locations of INSS offices are expected to play a significant role in their agents' behaviour, particularly regarding the object of this research. However, the agency's workforce concentration differences across states are often too big: while São Paulo (SP) counts 3,105 officials, Roraima (RR) counts only 32 (**Figure 11**).

Figure 11: Officials in service offices per Federated State – histogram
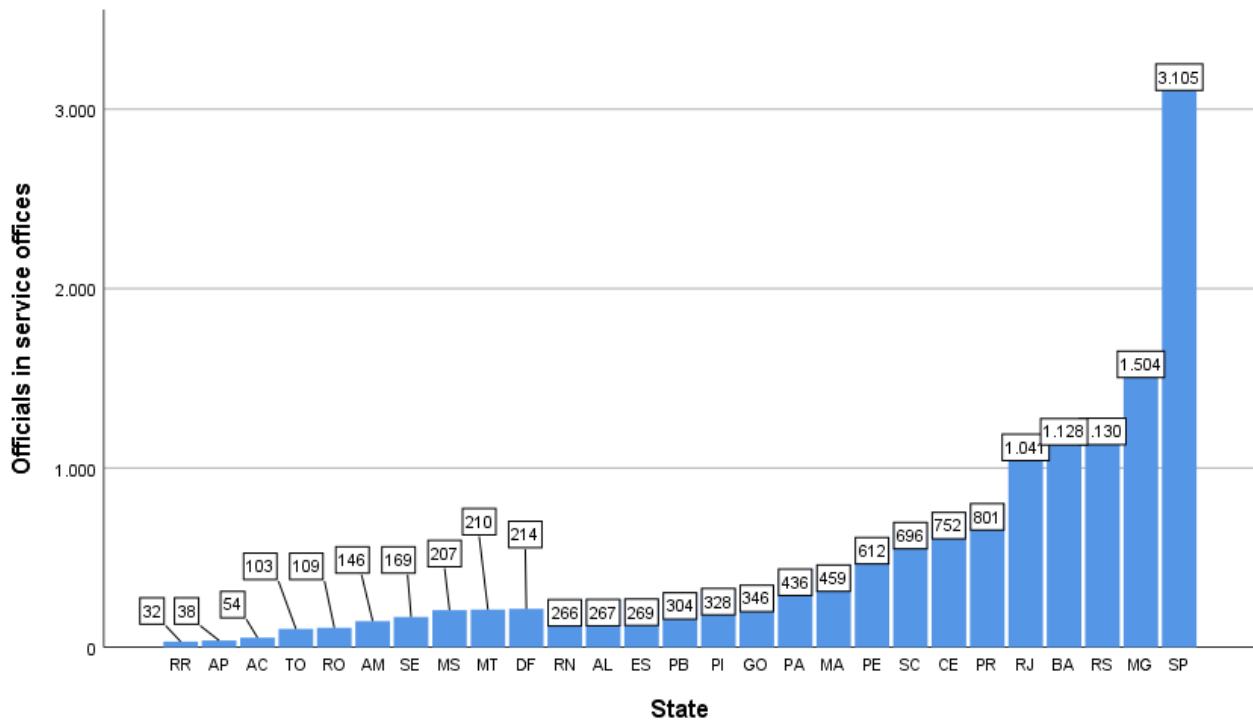
States with too small populations can make it hard to account for regional differences in the survey. To manage this issue and facilitate sampling, we applied the cluster solution described in detail in section **5.4 Federated State clustering**.

Further, service offices' structures themselves vary and reflect local communities' populations and traits. In this sense, local civil servant teams vary a lot in size, as shown in **Figure 12.** Most teams have between 1 and 10 officials, but some service offices count more than 50, and even 80.

Figure 12: Number of service offices by number of civil servants working in them (INSS, 2020a)
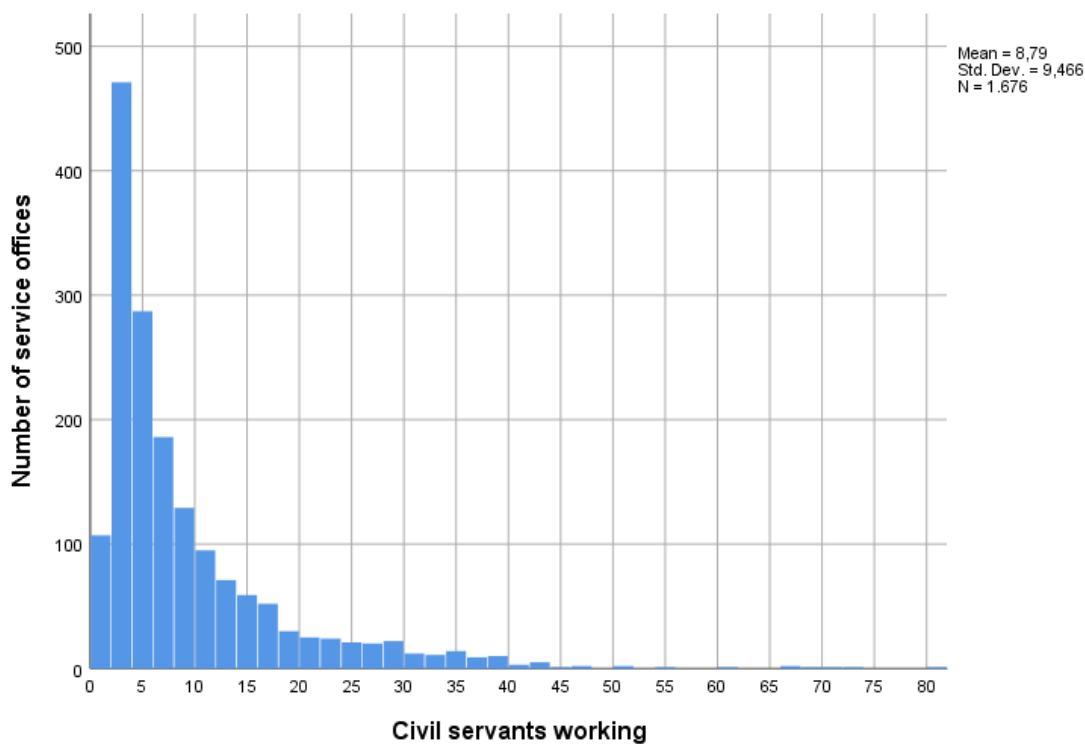
Furthermore, since December 20th of 2018, INSS civil servants doing casework can also work from home. This modality only became fully implemented during the COVID-19 pandemic, though – and nowadays there are 2,693 of those agents granting and denying benefits from their homes, despite still formally located in service offices (CGU, 2021a; INSS, 2018).

5.3.4 Job titles and admission year

Service office teams are not homogenous. Officials' job titles vary and so do their corresponding educational level – there are currently 61 different job titles among active officials (INSS, 2020a). This happens for many reasons, according to the circumstances of the official's admission: 1) officials were hired for specific activities, demanding specific job titles; 2) job titles sometimes were changed in new civil servant contracting tenders, but those already holding positions inside INSS did not have their job titles readapted; 3) During the early 90s' administrative reforms, INSS incorporated officials from dismantled public agencies, who often maintained their original job titles. Job titles can be grouped by affinity towards INSS's core activities **Table 8**.

Table 8: Job title types according to affinity towards INSS's core (INSS, 2020a)

Type	Description	Job titles
Typical	Job titles specific to INSS core activities	Social Insurance Analyst; Social Insurance Technician
Related	Job titles which can be related to INSS core activities	Administrative Agent, Assistance Program Agent, Information Analyst, Manager, Social Assistant, Auditor, Economist, etc.
Unrelated	Job titles unrelated or difficult to relate to INSS core activities	Bread Baker, Car Driver, Children Entertainer, Engineer, Security Agent, Typist, etc.

These groups were counted, along with the job title's corresponding educational level, among officials working in service offices (**Table 9**). Job titles and their demanded educational levels do not necessarily express effectively pursued activities, but **Table 9** shows that most of the officials (92.3%) working in service offices hold typical INSS core activity job titles, and that 74.7% work in high school positions – in fact, these hold the same job title, *Técnico do Seguro Social*, or 'Social Security Technician'.

Table 9: INSS civil servants working in service offices per job title and educational level (INSS, 2020a)

			Corresponding educational level			
			Elementary school	High school	Higher education	Total
Job title type	Unrelated	Count	20	935	36	991
		% of Total	0.1%	6.3%	0.2%	6.7%
	Typical	Count	0	10,999	2,600	13,599
		% of Total	0.0%	74.7%	17.7%	92.3%
	Related	Count	0	24	112	136
		% of Total	0.0%	0.2%	0.8%	0.9%
Total		Count	20	11,958	2,748	14,726
		% of Total	0.1%	81.2%	18.7%	100.0%

Nevertheless, a considerable amount (991, or 6.7%) hold unrelated job titles. Yet, as they act in service offices, they might perform activities on front line customer service, or even casework. Likewise, officials on different educational level job titles might perform similar activities in service offices. Further, job title-related educational levels do not prevent the pursuit of higher degrees – though this would not change the job titles, since these can only be attained by selection in a public tender (Brasil, 1988).

Decisions on launching public tenders for civil servant contracting depend not on posts' vacancy, but on political choices about budgetary distribution and restrictions, as well as 'pork barrel' dynamics. Given that, the histogram in **Figure 13**, based on the admission years of the officials in INSS service offices, draws 'hiring waves' along the years:

Figure 13: INSS civil servants working in service offices by admission year (INSS, 2020a)
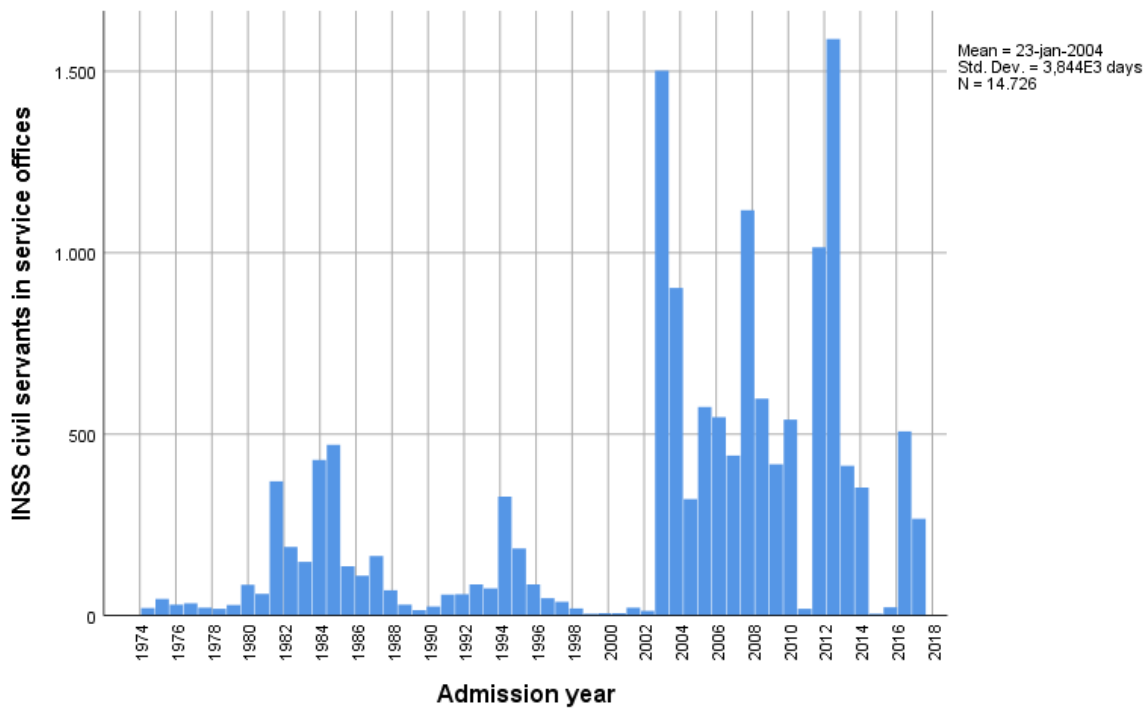
Admission dates reveal for how long officials have been working in INSS, the political conjuncture in which they were admitted, and the ones they have lived in while working for the federal government. For instance, personnel hired in the smaller hill between 1979 and 1985 (**Figure 13**) started their civil service during the Brazilian right-wing dictatorship period (1964-1985), while the peaks of 2004-2006, and 2011-2013 all happened during a sequence of leftist governments (Luiz Inácio Lula da Silva, 2003-2010, and Dilma Roussef, 2011-2016). Also, the bimodality verified in **Figure 6**'s age distribution might be connected to the different admission waves, supposing that its smaller over-50 age hill is mostly composed of officials hired before 2000, and the higher under-50 age hill of officials hired after 2000.

5.3.5 Officials on management positions in service offices

Management positions in INSS are nominated by its President or superior authorities and usually appointed for approval by upper managers or political players. Most of the higher-level positions, including directors, coordinators, regional superintendents and executive managers, have no

nomination restrictions. Lower management positions, though, which comprise more than 95,8% of the management structure, can only be occupied by INSS career officials (Portaria n. 414, de 28 de Setembro de 2017, 2017). More than half of management posts are allocated in service offices, and all of these are restricted to career civil servants (**Table 10**).

Table 10: INSS management positions in service offices and other offices (INSS, 2020a)

		In service offices	In other offices	Total
Directors, coordinators, superintendents, and executive managers	Count	0	144	144
	% of Total	0.0%	4.2%	4.2%
Service, division, and service office managers	Count	1,525	367	1,892
	% of Total	44.5%	10.7%	55.2%
Headquarters support staff, advisors, benefit managers, and supervisors	Count	488	906	1.394
	% of Total	14.2%	26.4%	40.6%
Total	Count	2,013	1,417	3,430
	% of Total	58.7%	41.3%	100.0%

Service offices are usually run by one service office manager (*Gerente de APS*), and up to three servants occupying management-related posts, in the form of 1) benefit managers (*Chefe de Benefícios*), responsible for technical social security matters and 2) supervisors, responsible for service provision overseeing (Portaria n. 414, de 28 de Setembro de 2017, 2017). So, these offices can have from zero to four formal managers. Most of them (59.9%) have a ratio ranging from one to six civil servants per manager (manager included), though 30% of them have ratios of more than 30 civil servants per managers, increasing the average to 6.38 civil servants per manager (**Figure 14**).

Figure 14: Number of service offices by ratio of civil servants per (INSS, 2020a)
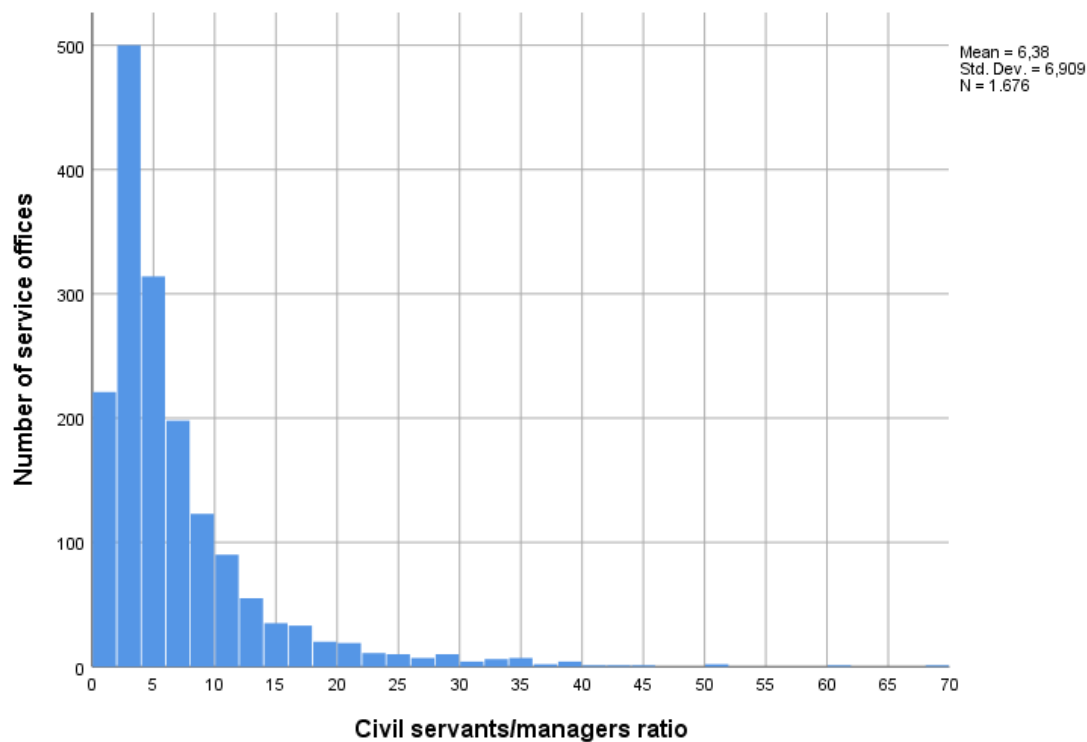
5.4 Federated State clustering

As explained before[22], the Brazilian territorial heterogeneity's influence on the research's variables makes it useful to consider the INSS officials' federated States when selecting our sample. However, reduced personnel in some of these can hamper the sampling endeavour, being helpful to cluster similar Brazilian States. In this section, we detail the procedures used to create the federated State clustering solution on which our sample selection is based.

5.4.1 Existing clustering standards

Several contextual factors ask for regional characteristics to be considered in the research's population sampling. Brazil's huge territory, the uneven development across its regions, federated States' relative political autonomy, and the heterogeneous ethnic diversity distribution provide a myriad of different 'Brazils'.

In this regard, the Brazilian State's geographical authority, IBGE (*Instituto Brasileiro de Geografia e Estatística)* designed different regional divisions throughout its history, in different aggregation levels. Their last effort was a thorough revision of microregional divisions (see **Figure 15**, where each coloured extension is a continuous immediate region), based on pole-cities and their

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[22] See **5.3.3 Territorial distribution**.

influenced municipalities, approaching territory dynamics both under a zoning and a network perspective (IBGE, 2017). Despite its accuracy and comprehensiveness, the microregion units ('immediate regions' and 'intermediate regions', as referred to in the agency's publication) are situated below the Federated State level, thus not useful for our clustering objectives. Yet, it is valuable to have in mind how complex can be the task of accurately demarcating developmental/socioeconomic traits throughout Brazil's huge, diverse, and complex territory.

Figure 15: Brazilian Geographical Microregions (immediate regions) (IBGE, 2017)
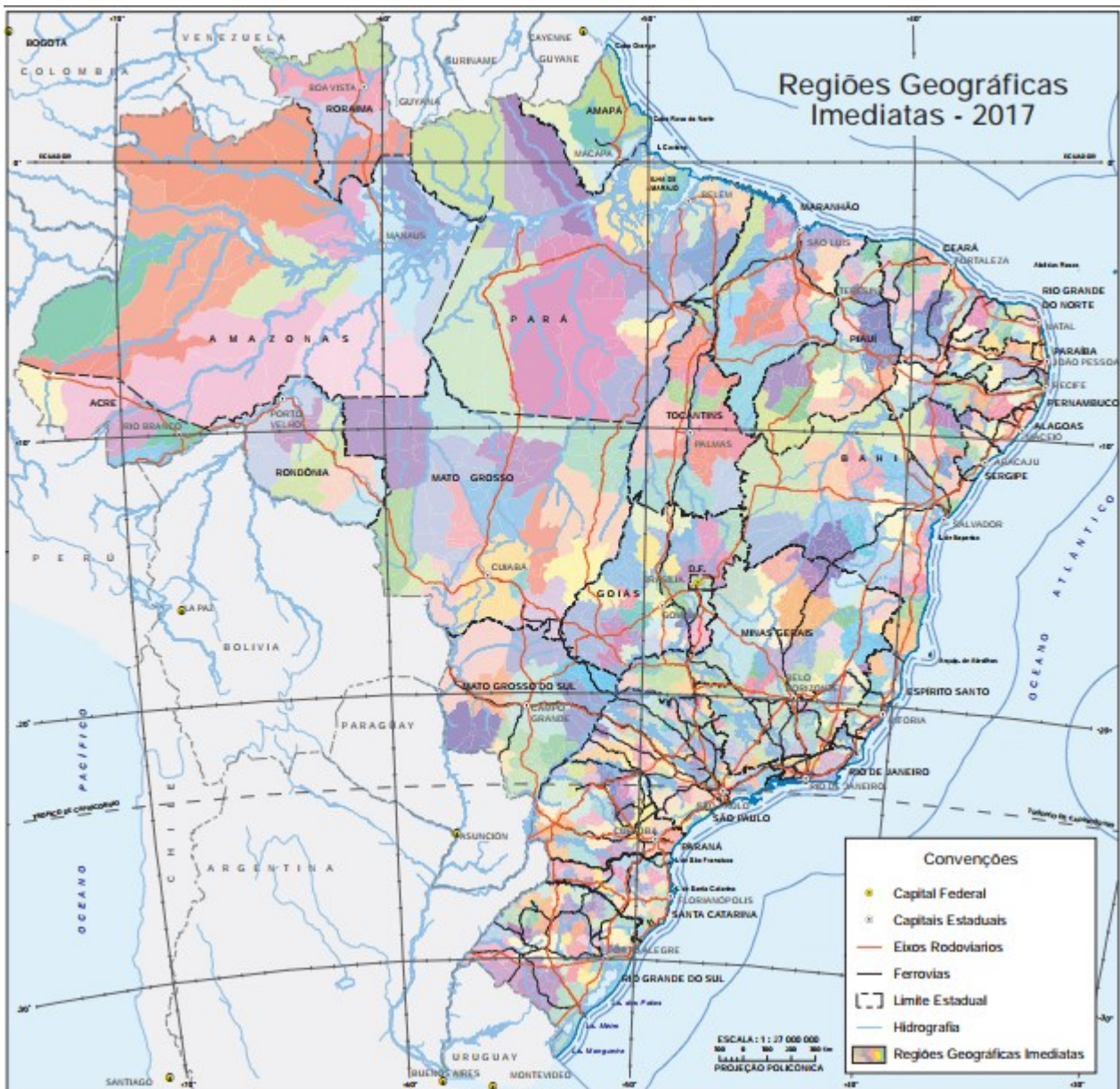
Concerning divisions above the federated state level, the one established by IBGE in 1970 still endures (IBGE, 2019b). It divided the territory into five macro-regions (**Figure 16**), extensive territorial clusters of federated states sharing common physical, human, economic, and social traits:

Centre-west, North, Northeast, South, and Southeast. This is the official division, and, as establishes the Brazilian constitution, the standard reference for the federal administration projects and activities, particularly the ones related to the reduction of regional development inequalities (Brasil, 1988, sec. IV).

Figure 16: Brazilian macro-regions (IBGE, 2019b)
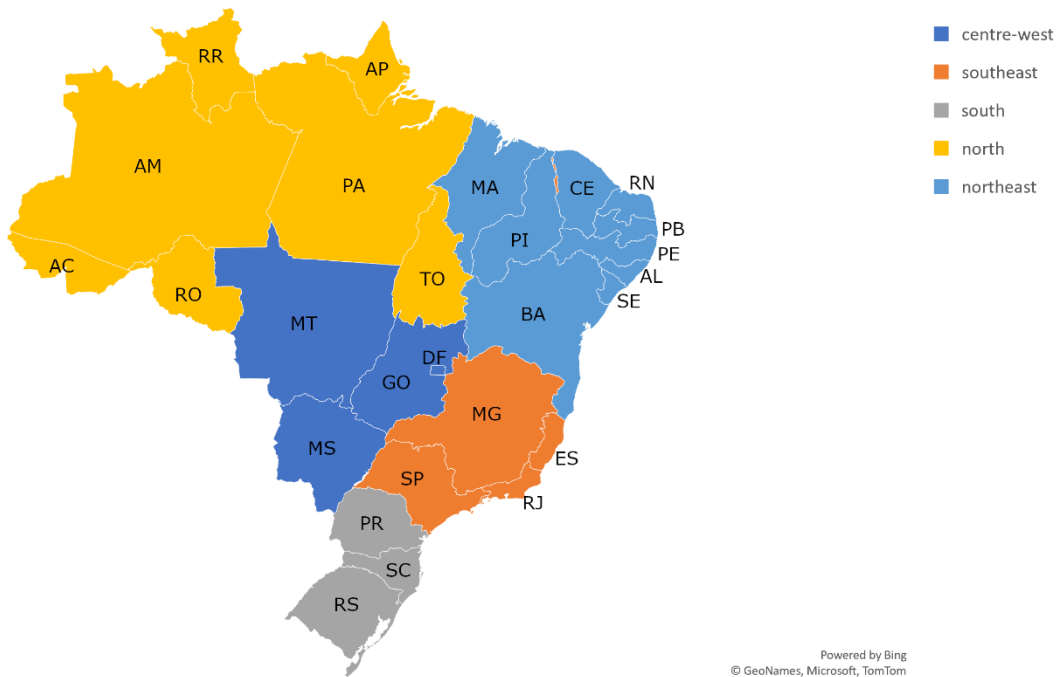
Attempting to update this division, reputed Brazilian geographers Milton Santos, María Laura Silveira and their teams established a new macro-regional division in 2001, based on what they call technic-scientific-informational criteria. They introduced new categories for clustering the federated states, based on the general idea of assessing the used, live territories (Santos & Silveira, 2001). Among those categories, the interaction between current flows, that is, every entity providing movement and life to the territory, and fixed entities, which are the product of past/heritage flows, constituted/crystallized entities, is of particular importance. The analyses based on this interaction resulted in a hierarchical structure among regions, a division between the 'commanding spaces' and the 'obeying spaces', and also account for the level of globalisation influence (Santos & Silveira, 2001).

As a result, the authors advocate for a simpler division, in what they call the 'four Brazils': the Amazon region, northeast, centre-west, and the concentrated region (Santos & Silveira, 2001). As **Figure 17** shows, the differences from IBGE's macro-regions are basically the merging of southeast and south, and the inclusion of Tocantins (TO) in the centre-west region.

Figure 17: Brazilian regions according to Santos & Silveira's (2001) technic-scientific-informational criteria
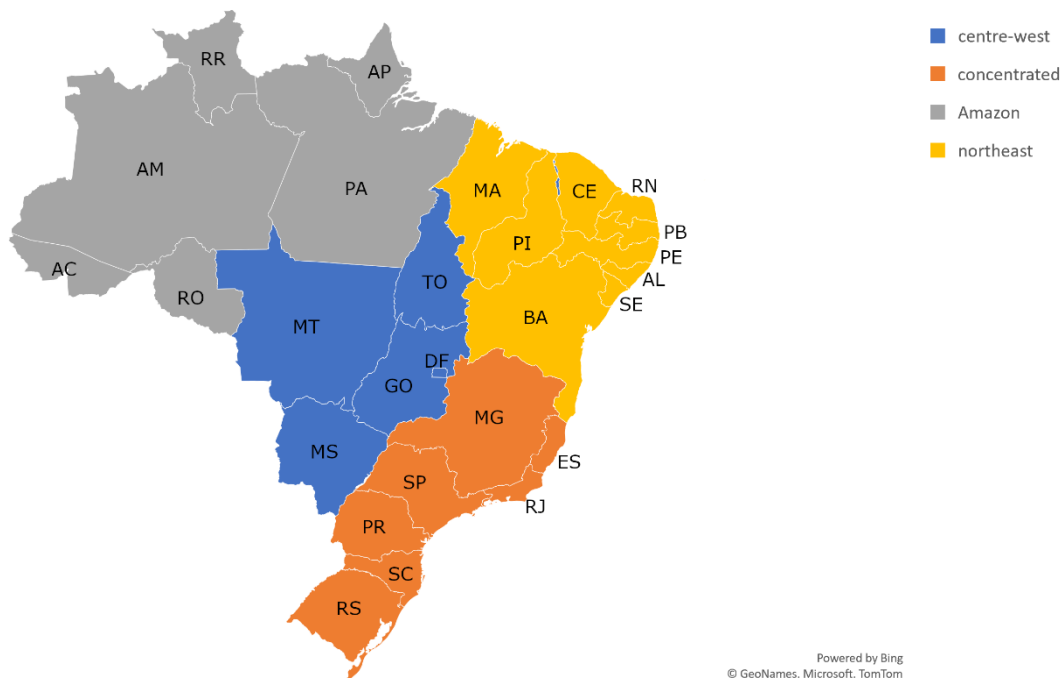
Besides these two geographical sciences-backed divisions, it is important to consider INSS's own administrative-territorial divisions, as it is likely that the officials' locations in the agency's structure shape institutional pressures and thus their behaviour. The 1,614 INSS service offices (APS), usually connected to municipalities or groups of municipalities, are clustered in 101 executive management offices (*Gerências-Executivas* – GEX), which can either correspond to a whole state (the case of Sergipe – SE, Alagoas – AL, Espírito Santo – ES, for instance) or be one among others in a single municipality (the cases of the municipality of São Paulo/SP, with 4 GEXs and Rio de Janeiro/RJ, with 2).

Further, by aggregating GEXs, the agency has its regional oversight administrative structures (*Superintendências-Regionais* – SR), clustering states in a different way than IBGE or Santos & Silveira: north/centre-west, northeast, south, southeast 1, and southeast 2 (Brasil, 2020; Decreto n. 9.746, de 8 de Abril de 2019, 2019; Portaria n. 414, de 28 de Setembro de 2017, 2017). Basically, INSS separates the highly dense state of São Paulo (SP) from south-eastern Brazil and merges the low-density centre-west and north regions (**Figure 18**).

Figure 18: INSS regional administrative division (Brasil, 2020; Decreto n. 9.746, de 8 de Abril de 2019, 2019; Portaria n. 414, de 28 de Setembro de 2017, 2017)
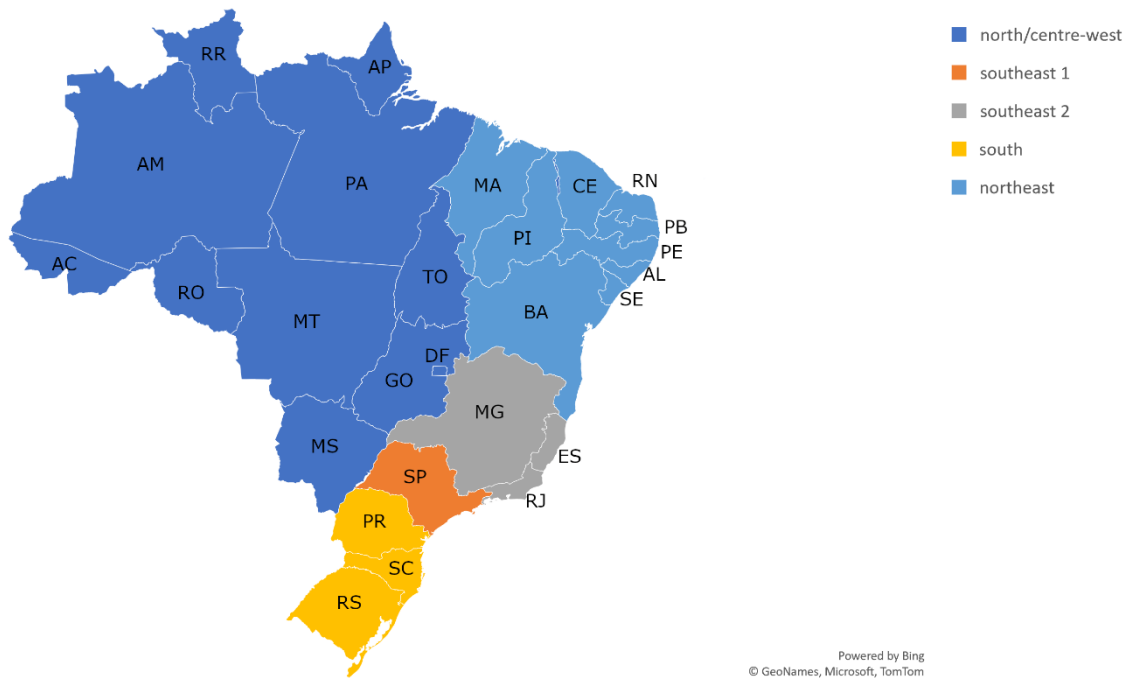
5.4.2 Relevant variables for clustering

Apart from the previously discussed clustering standards, it is important in our study to consider State-level variables able to provide a comprehensive picture of their socioeconomic development levels. We first resort to the publication *Radar IDHM*, a joint effort from three reliable organizations: the Institute for Applied Economic Research (*Instituto de Pesquisa Econômica Aplicada* – IPEA), the João Pinheiro Foundation (*Fundação João Pinheiro* – FJP), and the United Nations Development Programme (IPEA et al., 2019). Radar IDHM calculated human development index figures (HDI) for the Brazilian municipalities (HDI-M, or *IDHM*) based on the national survey by domicile sampling (*Pesquisa Nacional por Amostragem de Domicílios* – PNAD), from the years 2012 to 2017. HDI-M, as the traditional HDI, is a composite measure of three different subindexes, regarding education, longevity, and income. HDI-M levels had roughly parallel trends across the different Brazilian states, so we opted to consider the most updated data, that is, those for the year 2017 (IPEA et al., 2019).

Then, our clustering effort also draws on the research object's literature, accounting for state-level socioeconomic variables which can influence deservingness perceptions[23]. In this regard, even though INSS officials are obviously not unemployed themselves, higher levels of unemployment in their regional settings might shape their deservingness perceptions towards citizens relying on

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[23] See **2.4 Institutional Influence on Deservingness Perceptions**.

welfare support. For instance, in higher unemployment regions, it is more likely that people in the official's social circle are or have been recently unemployed, or that these people are related to others in that situation, shifting their deservingness perceptions towards the unemployed in general. To measure federated States' unemployment levels, we use data from the Brazilian PNAD survey for the last quarter of 2020 (IBGE, 2020b).

Besides unemployment levels, States' average wages are an important variable for this research, already considered in the assessment of our studied factors. They can represent both a State-degree economic indicator and a specific factor regarding INSS officials, given their mostly standardised wages[24]. These are also considered in our clustering effort too.

Finally, as also discussed in the literature, political preferences are highly connected to deservingness perceptions[25]. Despite the Brazilian political arena being too intricate to allow extensive analyses without the risk of opening too large an avenue for the scope of this research (Maciel et al., 2018), it is possible to appeal to the last presidential election results in 2018. The 2018 presidential elections were particularly polarised, in a much stronger sense than previous ones. The traditional leading liberal right-wing party *Partido Social Democrata Brasileiro* (PSDB) gave way to the rise of Jair Bolsonaro and the newly-reformed, conservative right-wing party *Partido Social Liberal* (PSL) to face the traditional left-wing coalition led by the *Partido dos Trabalhadores* (PT) (Mariano & Gerardi, 2019). We draw on this recent, dichotomic and simplified political struggle to account for the States' general political orientation, using their percentages of right-wing valid votes (votes in Jair Bolsonaro) in the second round of the 2018 presidential run as a proxy. Election data is extracted from the Brazilian Superior Electoral Court website (TSE, 2018).

5.4.3 Relevant variables-based state clustering

In this section, the proposed clustering variables (HDI-M, average income per domicile in the last quarter of 2020, unemployment level in the last quarter of 2020, and 2018 presidential election results) are analysed and employed in a hierarchical clustering model. Afterwards, the model is compared to the existing cluster standards so to help find an optimal clustering proposal for the research. **Table 11** shows the States' populations, the number of INSS officials in service offices and scores for each of the four considered variables.

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[24] See **5.2.3 Socioeconomic status**. States' average income per domicile are provided by the most recent Brazilian PNAD survey data, representing values of the last quarter of 2020 (IBGE, 2020b).

[25] See **2.3 Individual Factors Influencing Deservingness Perceptions**.

Table 11: Federated states' scores on relevant variables

		Officials in service offices	Population (thousands)	HDI-M	Avg. income 2020 last quarter	Unemployme nt 2020 last quarter	2018 right-wing valid votes
AC	Acre	54	894	0.719	R$ 2,023.00	17.1%	77.2%
AL	Alagoas	267	3,352	0.683	R$ 1,543.00	20.0%	40.1%
AM	Amazonas	146	4,208	0.733	R$ 1,955.00	16.6%	50.8%
AP	Amapá	38	862	0.740	R$ 2,168.00	15.2%	50.2%
BA	Bahia	1128	14,931	0.714	R$ 1,743.00	20.7%	27.3%
CE	Ceará	752	9,187	0.735	R$ 1,661.00	14.1%	28.9%
DF	Federal District	214	3,055	0.850	R$ 4,268.00	15.6%	70.0%
ES	Espírito Santo	269	4,064	0.772	R$ 2,253.00	13.9%	63.1%
GO	Goiás	346	7,114	0.769	R$ 2,274.00	13.2%	65.5%
MA	Maranhão	459	7,115	0.687	R$ 1,408.00	16.9%	26.7%
MG	Minas Gerais	1504	21,293	0.787	R$ 2,132.00	13.3%	58.2%
MS	Mato Grosso do Sul	207	2,809	0.766	R$ 2,536.00	11.5%	65.2%
MT	Mato Grosso	210	3,526	0.774	R$ 2,482.00	9.9%	66.4%
PA	Pará	436	8,691	0.698	R$ 1,701.00	10.9%	45.2%
PB	Paraíba	304	4,039	0.722	R$ 1,958.00	16.8%	35.0%
PE	Pernambuco	612	9,617	0.727	R$ 1,823.00	18.8%	35.5%
PI	Piauí	328	3,281	0.697	R$ 1,513.00	12.8%	22.9%
PR	Paraná	801	11,517	0.792	R$ 2,630.00	10.2%	68.4%
RJ	Rio de Janeiro	1041	17,366	0.796	R$ 3,251.00	19.1%	67.9%
RN	Rio Grande do Norte	266	3,534	0.731	R$ 1,950.00	17.3%	36.6%
RO	Rondônia	109	1,796	0.725	R$ 1,979.00	11.4%	72.2%
RR	Roraima	32	631	0.752	R$ 2,489.00	18.5%	71.5%
RS	Rio Grande do Sul	1130	11,423	0.787	R$ 2,807.00	10.3%	63.2%
SC	Santa Catarina	696	7,253	0.808	R$ 2,672.00	6.6%	75.9%
SE	Sergipe	169	2,319	0.702	R$ 1,734.00	20.3%	32.5%
SP	São Paulo	3105	46,289	0.826	R$ 3,366.00	15.1%	68.0%
TO	Tocantins	103	1,590	0.743	R$ 1,938.00	12.2%	49.0%

Table 12 then shows Pearson correlations among the four variables. Except between average income and unemployment, all variables are reasonably correlated. HDI-M and average income are

so strongly correlated (,918) that they likely tell the same story. This comes as no surprise, given that one of the HDI-M components is exactly average municipal incomes. Given that average income shows lower correlations with the other variables, we drop the HDI-M, ensuring a richer background for the clustering. The correlation between average income and the right-wing percentage of 2018 presidential election's valid votes is quite strong (,694) – though it might be still valuable to keep both variables, as, at a first glance, there is no obvious reason for their association, and dropping out one of them might conceal important similarities between seemingly unrelated states.

Table 12: Pearson correlations among clustering variables

	HDI-M	Avg. income 2020 last quarter	Unemployment 2020 last quarter	2018 right-wing valid votes
HDI-M	1	,918**	-,396*	,709**
Avg. income 2020 last quarter	,918**	1	-,198	,694**
Unemployment 2020 last quarter	-,396*	-,198	1	-,436*
2018 right-wing valid votes	,709**	,694**	-,436*	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

So, after dropping HDI-M, we ran a hierarchical clustering analysis, using between-groups linkage, distances calculated by square Euclidian distances, and variables standardised to range from zero to one. **Figure 19** shows the resulting dendrogram, where the green line cuts where we understand it to be the optimal clustering. States are thus, according to the selected variables, divided into 6 groups, where one of the groups is composed solely by Santa Catarina (SC), due to its clear outlier position.

Figure 19: Hierarchical state clustering dendrogram
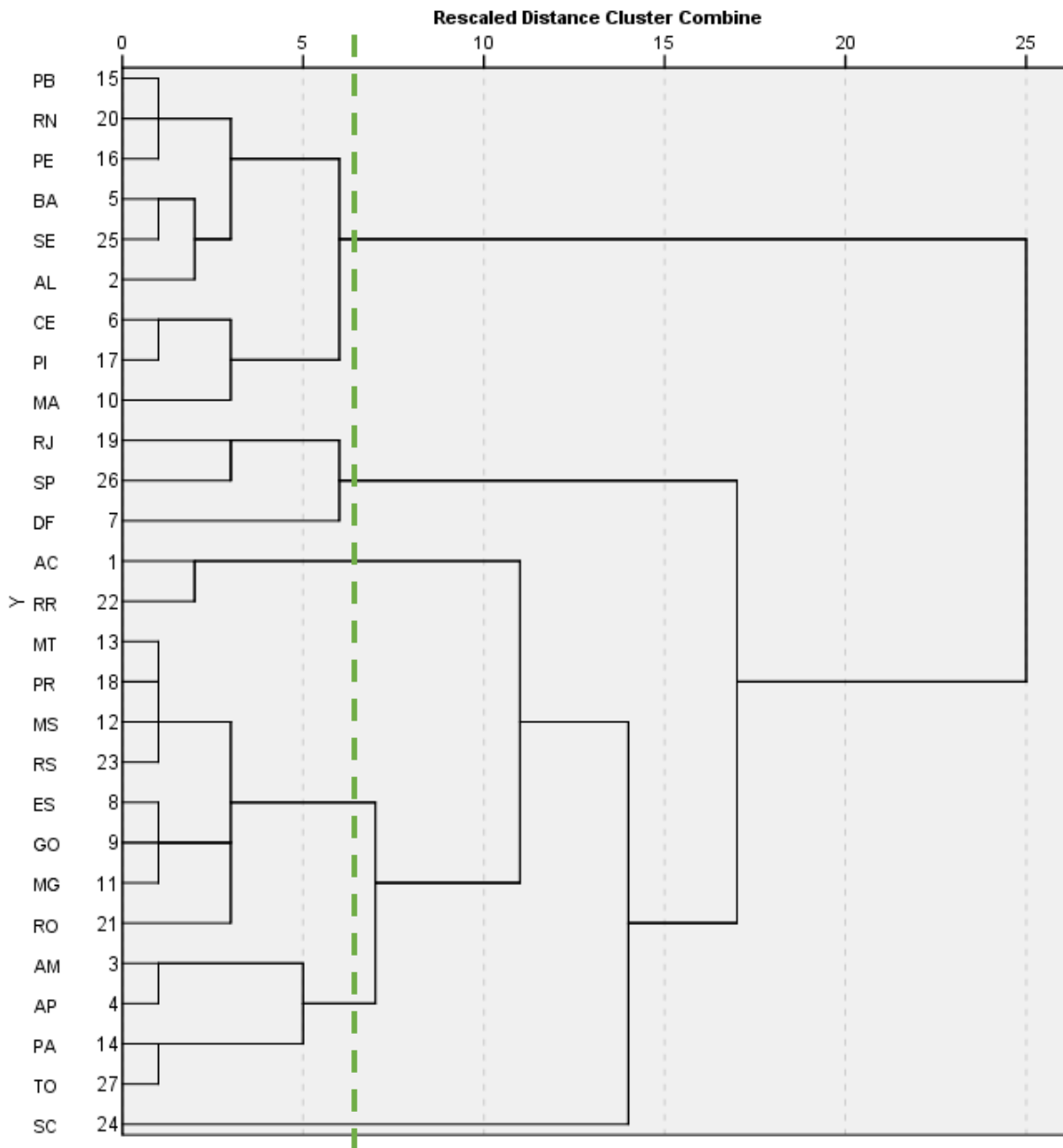
The resulting 6-cluster solution figures are shown in Table 12. Standard deviations are not high, allowing the conclusion that the clusters are fairly homogeneous, though the total civil servants in cluster n. 1, composed of just Acre (AC) and Roraima (RR) is quite low (86), posing a problem for sampling.

Table 13: State clusters by relevant variables. Total populations, civil servants, relevant variable means and standard deviations

		State	INSS officials in service offices	Population (thousands)	Avg. income 2020 last quarter	Unemployment 2020 last quarter	2018 right-wing valid votes
1	1	AC	54	894	2.023,00	17,1%	77,2%
	2	RR	32	631	2.489,00	18,5%	71,6%
	Sum		86	1.526			
	Mean		43	763	2.256,00	17,8%	74,4%
	Std. Dev.				329,51	1,0%	4,0%
2	1	AL	267	3.352	1.543,00	20,0%	40,1%
	2	BA	1.128	14.931	1.743,00	20,7%	27,3%
	3	CE	752	9.187	1.661,00	14,1%	28,9%
	4	MA	459	7.115	1.408,00	16,9%	26,7%
	5	PB	304	4.039	1.958,00	16,8%	35,0%
	6	PE	612	9.617	1.823,00	18,8%	35,5%
	7	PI	328	3.281	1.513,00	12,8%	23,0%
	8	RN	266	3.534	1.950,00	17,3%	36,6%
	9	SE	169	2.319	1.734,00	20,3%	32,5%
	Sum		4.285	57.374			
	Mean				1.703,67	17,5%	31,7%
	Std. Dev.				191,53	2,8%	5,6%
3	1	AM	146	4.208	1.955,00	16,6%	50,3%
	2	AP	38	862	2.168,00	15,2%	50,2%
	3	PA	436	8.691	1.701,00	10,9%	45,2%
	4	TO	103	1.590	1.938,00	12,2%	49,0%
	Sum		723	15.350			
	Mean				1.940,50	13,7%	48,7%
	Std. Dev.				190,90	2,6%	2,4%
4	1	DF	214	3.055	4.268,00	15,6%	70,0%
	2	RJ	1.041	17.366	3.251,00	19,1%	68,0%
	3	SP	3.105	46.289	3.366,00	15,1%	68,0%
	Sum		4.360	66.711			
	Mean				3.628,33	16,6%	68,6%
	Std. Dev.				556,94	2,2%	1,2%
5	1	ES	269	4.064	2.253,00	13,9%	63,1%
	2	GO	346	7.114	2.274,00	13,2%	65,5%
	3	MG	1.504	21.293	2.132,00	13,3%	58,2%
	4	MS	207	2.809	2.536,00	11,5%	65,2%
	5	MT	210	3.526	2.482,00	9,9%	66,4%
	6	PR	801	11.517	2.630,00	10,2%	68,4%
	7	RO	109	1.796	1.979,00	11,4%	72,2%
	8	RS	1.130	11.423	2.807,00	10,3%	63,2%
	Sum		4.576	63.542			
	Mean				2.386,63	11,7%	65,3%
	Std. Dev.				274,87	1,6%	4,1%
6	1	SC	696	7.253	2.672,00	6,6%	75,9%

5.4.4 State clustering solution

By plotting the relevant variable clustering on the Brazilian territory map side-by-side with other existing clustering standards (**Figure 20**), we verify that cluster 2 coincides with the northeast region in the other maps. Cluster 3 almost grasps the whole IBGE north macro-region, except for Roraima (RR), Acre (AC), Rondônia (RO) and Mato Grosso (MT). Further, clusters 1, 4 and 5 do not show contiguity, that is, they do not share borders.

Figure 20: Relevant variables 6-cluster solution map alongside existing clustering standards
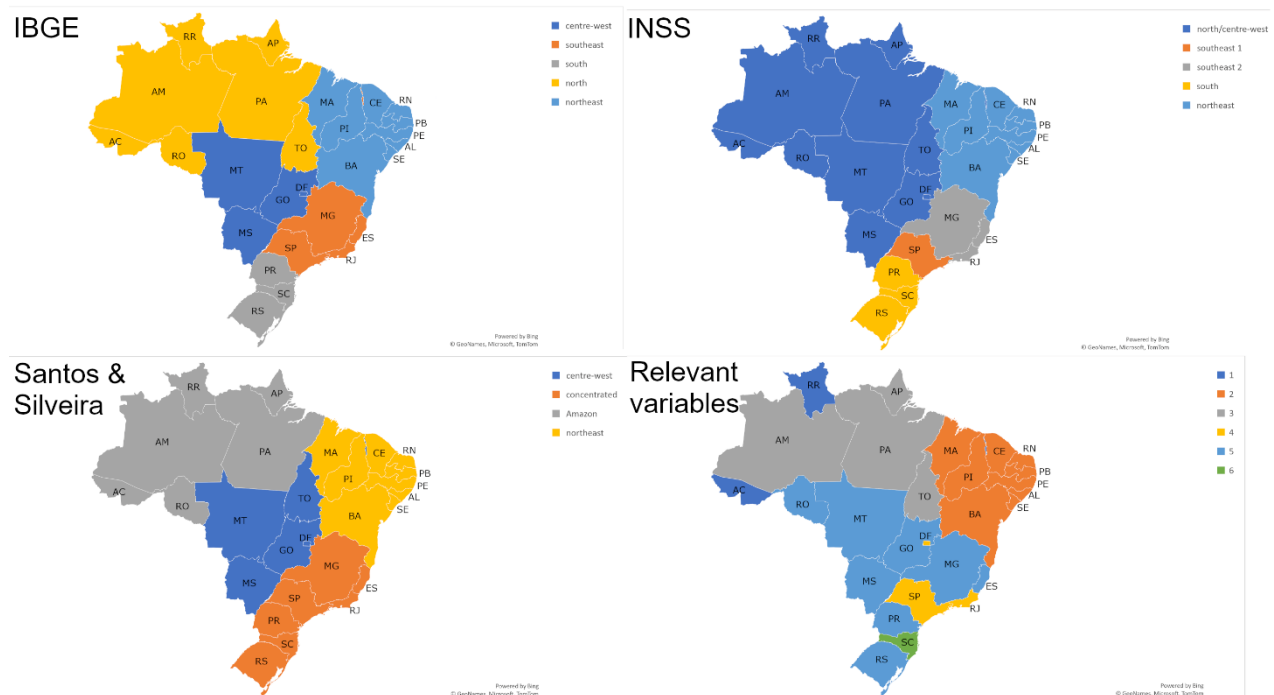
Therefore, in order to provide an optimal solution by balancing on the four clustering schemes while considering INSS officials' populations, we reach the following solution:

1. North: AC, AM, AP, PA, RR, TO – Joining clusters 1 and 3, to solve the issue with small populations in Roraima (RR) and Acre (AC), based on the existing standards, and given the States' intermediary dendrogram distance from the other northern States (**Figure 19**).

2. Northeast: AL, BA, CE, MA, PB, PE, PI, RN, SE – Keeping cluster 2 as it is, given its identity across all existing clustering solutions.

3. Centre-west: GO, MS, MT, RO – Separating the centre-west and Rondônia (RO) from the North, while keeping most of the eastern 'wall', common to all the three existing standards.

4. High-income: DF, RJ, SP – Keeping cluster 4 as it is, given these States' considerably higher income, the small INSS officials' population in Distrito Feral (DF), and its detachment from the surrounding territory.

5. Southeast: MG, ES – Grouping the State of Minas Gerais (MG) with Espírito Santo (ES), given their dendrogram proximity and ES officials' small population.

6. PR.

7. SC.

8. RS.

Southern States are kept separated, given Santa Catarina (SC)'s outlier status and intermediate physical position, plus the INSS officials reasonable population in each of the three states. The balanced solution's INSS officials' populations are all reasonable in size, counting more than 600 in each cluster, while standard deviations in the relevant variables are still acceptable (**Table 14**). Contiguity is preserved in every case, except for the high-income cluster, for the reasons explained above. The final map in **Figure 21:** Balanced clustering solution shows the resulting division, which will be used for drawing the sample for the research's survey.

Table 14: Balanced state clusters. Total populations, civil servants, relevant variable means and standard deviations

Balanced clusters		INSS officials in service offices	Population (thousands)	Average income in 2020's last quarter	Unemployment in 2020's last quarter	2018 right wing valid votes
1	Sum	809	16.876			
	Mean			2.045,67	15,1%	57,2%
	Std. Dev.			264,81	3,0%	13,5%
2	Sum	4.285	57.374			
	Mean			1.703,67	17,5%	31,7%
	Std. Dev.			191,53	2,8%	5,6%
3	Sum	872	15.246			
	Mean			2.317,75	11,5%	67,3%
	Std. Dev.			252,51	1,3%	3,3%
4	Sum	4.360	66.711			
	Mean			3.628,33	16,6%	68,6%
	Std. Dev.			556,94	2,2%	1,2%
5	Sum	1.773	25.357			
	Mean			2.192,50	13,6%	60,6%
	Std. Dev.			85,56	0,4%	3,4%
6 (PR)		801	11.517	2.630,00	10,2%	68,4%
7 (SC)		696	7.253	2.672,00	6,6%	75,9%
8 (RS)		1.130	11.423	2.807,00	10,3%	63,2%

Figure 21: Balanced clustering solution
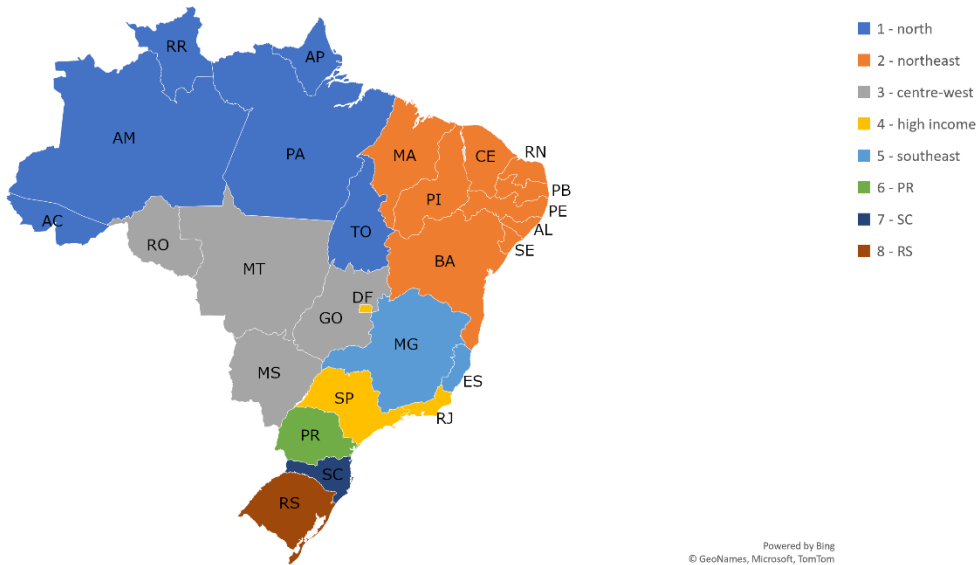
The balanced clustering solution provided a relevant criterion for generating stratified samples. Offices' State information is available both in unidentified and identified data (see **Annex II – Data treatment log**), allowing us also to compare gender and age inside-cluster distribution to our final respondents' distributions, and, if necessary, weigh accordingly.

This way, gender balance varies among clusters, with both north and northeast Brazil counting significantly fewer women than men in service offices, differently from the rest of the country (**Table 15**).

Table 15: Gender balance across federated state clusters

| | | | Gender | | |
			female	male	Total
Cluster	1. North: AC, AM, AP, PA, RR, TO	Count	370	439	809
		% within cluster	45,7%	54,3%	100,0%
	2. Northeast: AL, BA, CE, MA, PB, PE, PI, RN, SE	Count	1.963	2.323	4.286
		% within cluster	45,8%	54,2%	100,0%
	3. Centre-west: GO, MS, MT, RO	Count	485	387	872
		% within cluster	55,6%	44,4%	100,0%
	4.High-income: DF, RJ, SP	Count	2.435	1.925	4.360
		% within cluster	55,8%	44,2%	100,0%
	5.Southeast: MG, ES	Count	996	777	1.773
		% within cluster	56,2%	43,8%	100,0%
	6.PR	Count	459	342	801
		% within cluster	57,3%	42,7%	100,0%
	7.SC	Count	378	318	696
		% within cluster	54,3%	45,7%	100,0%
	8.RS	Count	604	526	1.130
		% within cluster	53,5%	46,5%	100,0%
Total		Count	7.690	7.037	14.727
		% within cluster	52,2%	47,8%	100,0%

Officials' ages vary across clusters roughly according to the aggregate trend, but with some relevant differences. In the three southern Brazilian States, the distribution between ages 55 and 65 seems considerably flatter. (**Figure 22**).

Figure 22: INSS officials in service offices by cluster, according to age in 10/2020
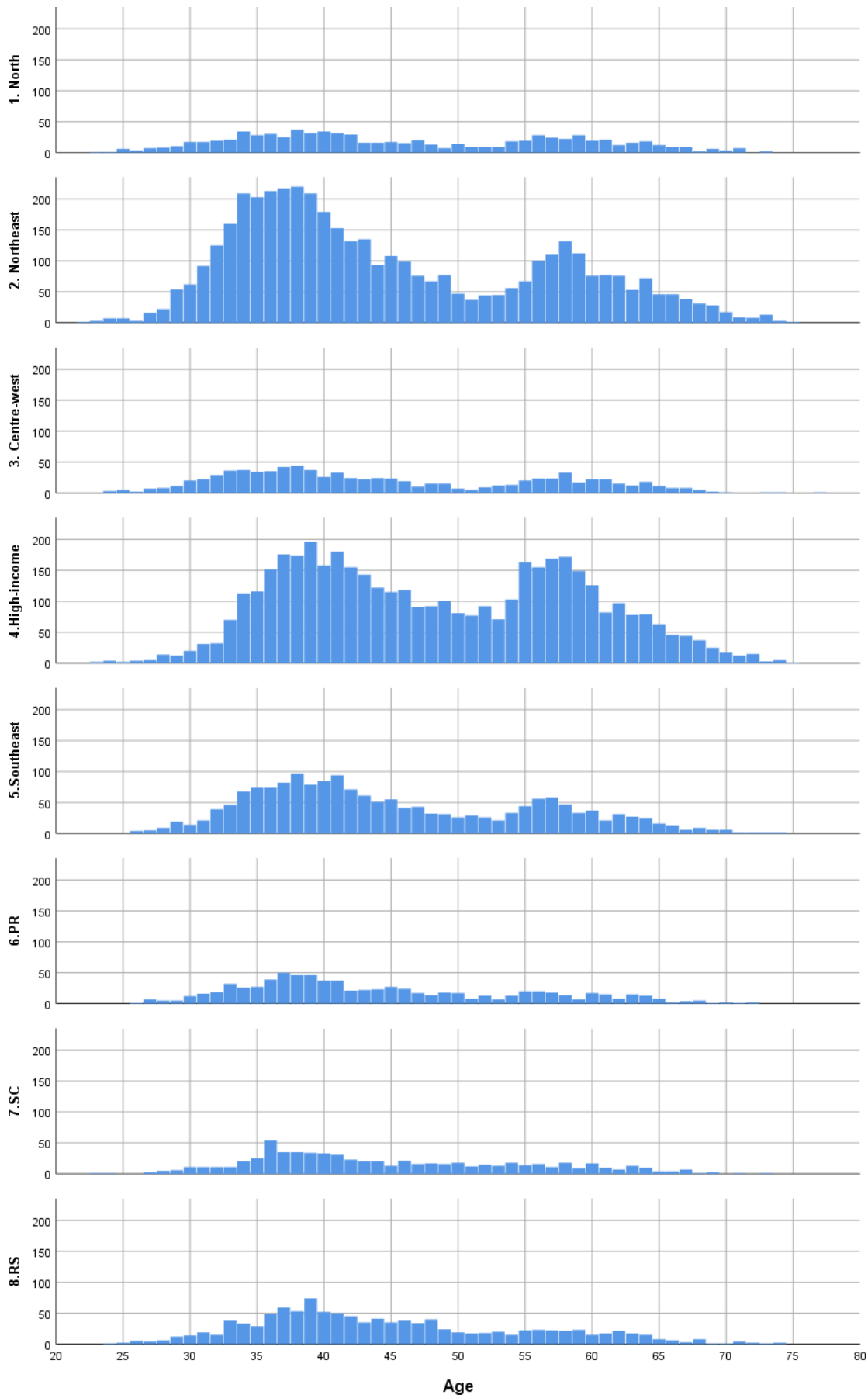
5.5 Sample selection

The available dataset provides good grounds for simple random sampling. Still, the availability of pre-survey, individualised administrative data, allows sampling to be further improved, without necessarily overcomplicating the process. This was done through proportionally allocated stratified sampling, reducing the odds of drawing bad samples and improving the analyses' precision (Lohr, 2019).

Two criteria were used for stratification:

1. Participation in each of the eight federated states clusters.
2. Splitting between officials who analysed more than 120 cases in 2020 and those who analysed less.

By stratifying into federated state clusters, regional representativeness along their lines is guaranteed, a concern already expressed in section **5.4 Federated State clustering**. Besides, state-level variables considered in the cluster solution might play a major role in INSS officials' socioeconomic status, given their standardised wages (see **5.4.2 Relevant variables for clustering**).

The second criterion aims to pick a representative sample of those officials who effectively analysed benefit applications in the near past, that is, worked in more than 10 cases per month in 2020. It was adopted envisaging further studies on the same sample – for instance, tracking deservingness perceptions only among officials who effectively work on benefit granting or analysing the relationships with benefit granting patterns. Moreover, given proportional allocation, these strata anyway help improve sampling results (Lohr, 2019).

Roughly 30% of the officials in each one of the 16 resulting population strata (2 x 8), were randomly selected, generating a sample of 4,419 units (officials). **Table 16** shows the selection figures.

Table 16: Stratified sample selection figures

|			Number of Units Sampled		Proportion of Units Sampled	
			Requested	Actual	Requested	Actual
Officials who, in 2020, analysed 120 cases or less	working in cluster:	1,00	139	139	30,0%	30,0%
		2,00	767	767	30,0%	30,0%
		3,00	156	156	30,0%	30,1%
		4,00	826	826	30,0%	30,0%
		5,00	308	308	30,0%	30,0%
		6,00	129	129	30,0%	30,0%
		7,00	123	123	30,0%	29,9%
		8,00	202	202	30,0%	30,1%
Officials who, in 2020, analysed more than 120 cases	working in cluster:	1,00	104	104	30,0%	30,1%
		2,00	519	519	30,0%	30,0%
		3,00	106	106	30,0%	30,0%
		4,00	482	482	30,0%	30,0%
		5,00	224	224	30,0%	29,9%
		6,00	111	111	30,0%	29,9%
		7,00	86	86	30,0%	30,2%
		8,00	137	137	30,0%	29,9%

The selected sample shows similar distributions to the population's ones concerning core activities and admission dates (distributions are non-normal, so **Table 17** shows Mann-Whitney U tests' results). Distribution comparison plots are similar, as shown in **Figure 23**, **Figure 24** and **Figure 25**.

Table 17: Mann-Whitney U Tests for core activities figures and admission dates between the selected sample and the population of INSS civil servants acting in service offices

	Null Hypothesis	Sig.	Decision
Time spent in in-person encounters from 2017 to 2020	The distribution is the same in sample and population.	,233	Retain the null hypothesis.
Total cases analysed in 2020	The distribution is the same in sample and population.	,706	Retain the null hypothesis.
Admission dates	The distribution is the same in sample and population	,862	Retain the null hypothesis.

Asymptotic significances. The significance level is ,050.

Figure 23: Time spent (in hours) in in-person encounters by INSS civil servants (who spent at least 96h in in-person encounters) from 2017 to 2020 – distribution comparison between selected sample and service office population
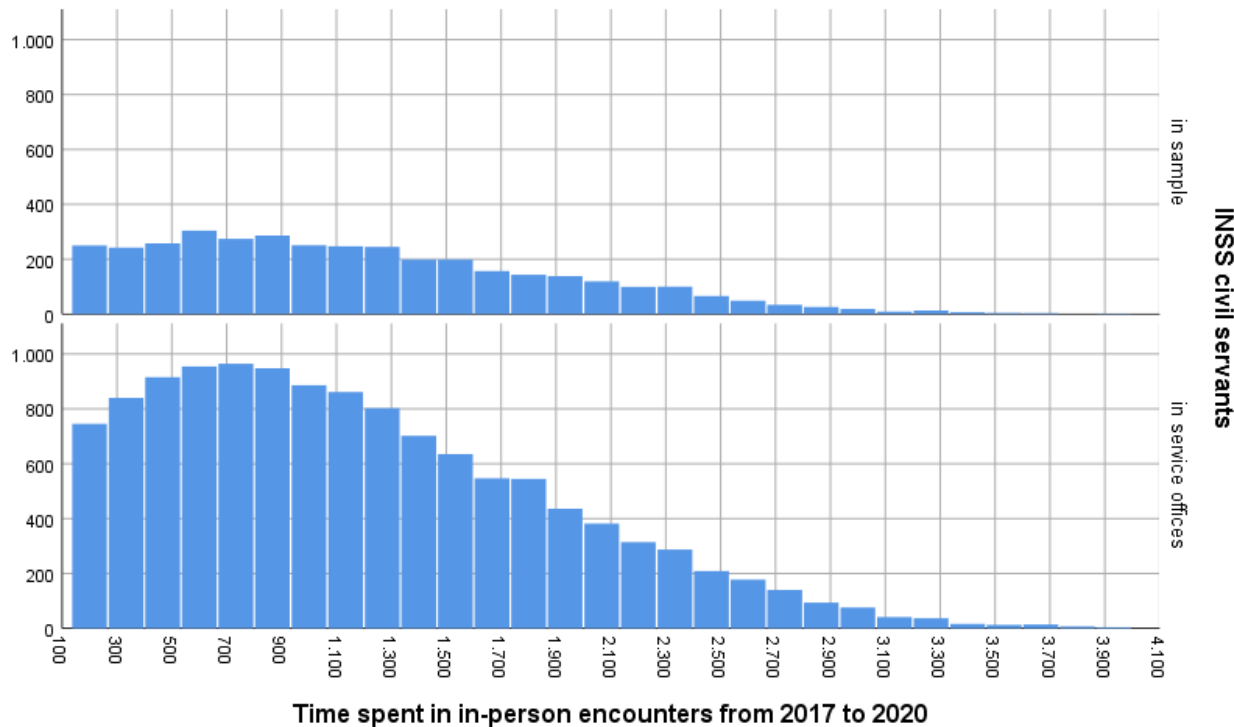
Figure 24: Total cases analysed by INSS civil servants (who analysed at least 120 cases) in service offices in 2020 – distribution comparison between selected sample and service office population
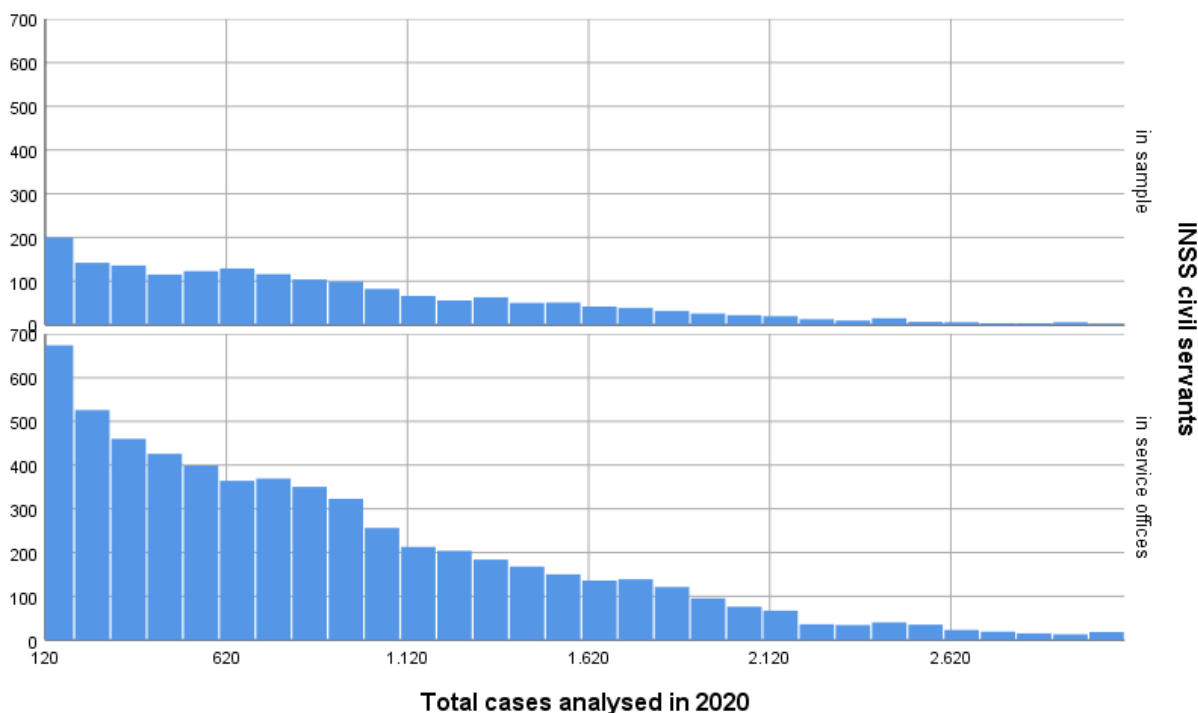
Figure 25: INSS civil servants working in service offices by admission year – distribution comparison between selected sample and service office population
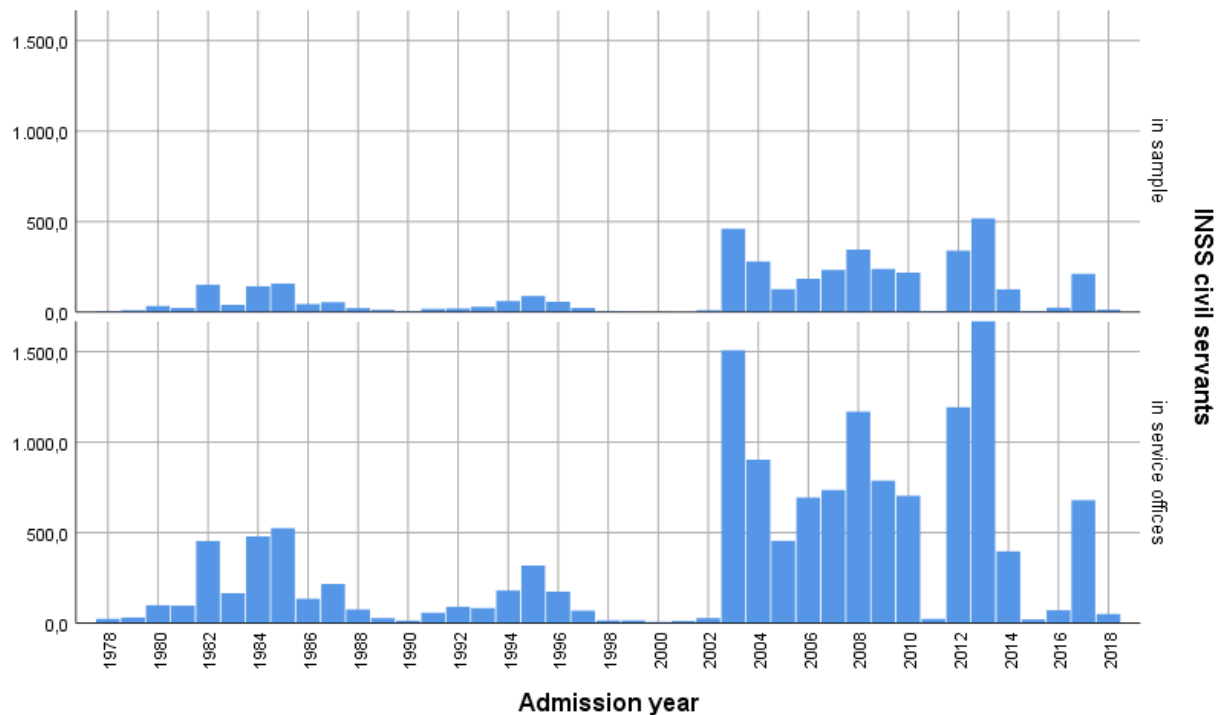
5.6 Control variables

Items below will briefly explain the choice of control variables and how data concerning them were gathered.

5.6.1 Age, gender and level of educational attainment

The set of demographic background variables – age, gender and level of educational attainment – was shown to often exert significant influence on European welfare attitudes and deservingness perceptions' empiric studies (Blomberg et al., 2017; Kallio & Kouvo, 2015; Kangas, 2003; Pfeifer, 2009; Staerklé et al., 2012; van Oorschot, 2006, 2010)[26], and is used for control in regression analyses. Both age and gender, being regarded as sensitive personal information (CGU, 2020), could not be individualised in administrative data, hence were included in the form of objective questions in the survey.

Level of educational attainment was also addressed as a question in the survey, given that available administrative data is likely not updated because, despite being conditional to admission, further education does not entail promotions or wage gains. That is, there are no incentives for officials to

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[26] See **2.3 Individual Factors Influencing Deservingness Perceptions**.

request updates on their files regarding educational level. Based on Kangas' (2003) model, and thus aiming to facilitate future integration with international survey data, the question is asked straightforwardly: *What is the highest educational attainment level you have completed?* There are six possible answers:

1) Completed basic education.
2) Completed high school education.
3) Completed vocational education.
4) Completed college-level education.
5) Completed master or specialization degree education.
6) Completed doctoral degree education.

5.6.2 Years working as a social security official

To account for any possible effects of the time spent working under INSS's institutional environment on officials' perceptions, the number of years working as a social security official will be controlled in regression analyses. As shown in section **5.3.4 Job titles and admission**, officials were admitted during different hiring waves, which were concentrated in time. These swelled in distinct stages of Brazil's recent political history and, thus, are connected to different state organisations. So, if its correlation with age does not hold, total time in office might tell a relevant story.

Individualised admission dates for INSS officials, available on the agency's open data website (INSS, 2020a), were employed to calculate this variable.

5.6.3 State clusters

As explained in **5.6.3 State clusters**, cultural and socioeconomic settings are quite diverse across the vast Brazilian territory. So, officials' workplace State clusters will be controlled to account for the 'different countries' they live in.

6. RESULTS

6.1 Data collection

From the total of 4,419 sampled units, 701 responses were collected. After cleaning up 4 duplicates and 10 invalid SIAPE registry number inputs[27], the total responses are 687. Still, among these respondents 49 came from outside of the sample: considering the very small respondent rate, we kept, among these, all the ones who worked in service offices (40). Our final, *effective sample*, has therefore 678 units, making up a 15.34% response rate. Many factors can explain such a low response rate, but it is likely that officials simply just did not have the time to check their emails or to answer the survey. Additionally, despite approving the survey and the creation of the mailing list, INSS did not agree to send the emails officially through its communications advisory, through the official communication email. So, the researcher sent the invitation straight out of his personal INSS email on 17/05/2021, plus three reminders (on 20/05/2021, 26/05/2021 and 01/06/2021), and collected answers until 02/06/2021.

We then analysed the representativeness of the effective sample, drawing on pre-survey relevant information regarding 1) state cluster participation; 2) gender; 3) age; 4) face-to-face encounter time; 5) casework in 2020; 6) years in office; 7) relative income[28].

A Chi-Square test shows different state cluster distributions between the effective sample and the hypothesized, population-proportional sample (**Table 18**). The graph (**Figure 26**) shows that proportions are particularly different regarding the *northeast* (2)*,* the *high-income* (4), the *southeast* (5) and the RS clusters.

**Table 18**: Chi-Square Test for State cluster distribution between effective sample and population

	Null Hypothesis	Test	Sig.	Decision
1	*State clusters* occur with the specified probabilities.	One-Sample Chi-Square Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,050.

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[27] SIAPE registry number inputs were used for individualisation of respondents. See **Annex I – Survey Instrument**.
[28] Relative income is an interaction between job title education level, years in office and manager status. These variables' distributions are thus indirectly accounted for. We kept tests regarding years in office, as it is already planned as a control (see **5.6.2 Years working as a social security official**).

Figure 26: Proportions of state cluster participation comparison between effective sample (observed) and population (hypothesized)
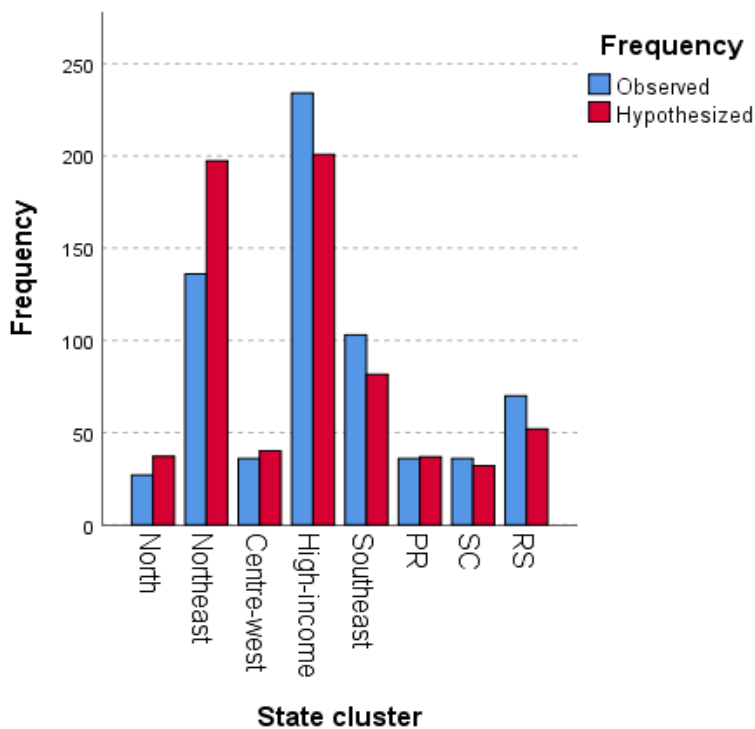
Regarding gender, the effective sample also failed a binomial test comparing it to the population. however, the p-value was 0.41, rejecting the null hypothesis to a significance of .05, though quite near the significance threshold (**Table 19**). In fact, the female respondent proportion was just a bit overrepresented: 55.6% of respondents were female, against 55.2% of the population.

Table 19: Binomial Test for gender, effective sample x population

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by *gender* = female and male occur with probabilities ,522 and ,478.	One-Sample Binomial Test	,041	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,050.

The age distribution is not normal in the INSS service offices officials' population (see **Figure 6**). So, we used a Mann-Whitney U Test to compare age distribution in the anonymous age and gender dataset to the one in the effective sample, concluding also on non-representativeness (**Table 20**).

Table 20: Mann-Whitney U Test for age distribution across population and effective sample

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of *age* is the same across population and effective sample groups.	Independent-Samples Mann-Whitney U Test	,027	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,050.

We also used Mann-Whitney U Tests for other continuous non-normally distributed variables, that is, *face-to-face encounter time*, *casework in 2020*, *years in office* and *relative income*. Relative incomes were calculated in the form proposed in **5.2.3 Socioeconomic status**, that is, the ratio between the estimated officials' wage (according to job title, years in office and manager status) and their workplace state's average wage. Results are shown in **Table 21**: the effective sample group is representative solely regarding face-to-face encounter time.

Table 21: Mann-Whitney U Tests for face-to-face encounter time, casework in 2020, years in office and relative income distribution across population and effective sample

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of *face-to face encounter time* is the same across population and effective sample groups.	Independent-Samples Mann-Whitney U Test	,215	Retain the null hypothesis.
2	The distribution of *casework in 2020* is the same across population and effective sample groups.	Independent-Samples Mann-Whitney U Test	,000	Reject the null hypothesis.
3	The distribution of *years in office* is the same across population and effective sample groups.	Independent-Samples Mann-Whitney U Test	,002	Reject the null hypothesis.
4	The distribution of *relative income* is the same across population and effective sample groups.	Independent-Samples Mann-Whitney U Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,050.

The significant differences between the effective sample and the population in most of the distributions suggest a degree of selective non-response. It is thus useful to acknowledge, as possible as the available data allow, to which degree the resulting bias of the selective non-response can affect the research results, and, if needed, adapt the regression models accordingly. Most of the variables whose distribution in the effective sample do not represent the population are part of the

research design[29], though – so their effects on deservingness perceptions are already accounted for in the proposed models.

6.2 Data preparation for modelling

In this section, we explain the procedures done to prepare the effective sample data for modelling. We start with the independent variables. First, State clusters are reordered according to increasing average incomes (see **Table 14**). This way, we have the high-income cluster, comprised of DF, RJ and SP, as the reference category in the Ordinal Logistic Regression[30] – which makes sense, as it contains the bulk of officials (**Table 22**).

Table 22: State cluster order for the model

	Cluster	Average income	Sample
1	Northeast	R$ 1,703.67	136
2	North	R$ 2,045.67	27
3	Southeast	R$ 2,192.50	103
4	Centre-west	R$ 2,317.15	36
5	PR	R$ 2,630.00	36
6	SC	R$ 2,672.00	36
7	RS	R$ 2,807.00	70
8	High income	R$ 3,628.33	234

Given the rather small effective sample, in order to both reduce the influence of outliers and to avoid convergence problems in the OLR models (Allison, 2004; Suchower, 1997), continuous variables relevant to our study (age, face-to-face encounter time, years in office, relative income) were binned according to population quantiles, drawing on the available population administrative data. In the case of face-to-face encounter time, quantiles were calculated (and rounded up) over the population that crossed the equal to or less than 96h threshold[31]. Categories for numbers below these were added. The resulting bins are presented in **Table 23**, **Table 24**, **Table 25** and **Table 26**.

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[29] The exception is casework, which we kept away from the analysis. See **5.2 Independent variables** and **5.6 Control variables**.

[30] The software used in this study, IBM SPSS v.26, establishes the last category as the reference for ordinal logistic regression factors.

[31] See **5.3.2 Participation in core activities**

Table 23: Age bins according to population terciles

	Age values	Sample	Population
1	52+	185	4.839
2	40-51	253	4.635
3	<=39	240	5.253

Table 24: Face-to-face encounter times in hours binned according to predefined threshold and remaining population median

	Hours in face-to-face encounters (2017-2020)	Sample	Population
1	1,001+	295	6,794
2	97-1,000	305	6,019
3	<=96	78	1,913

Table 25: Years in office bins according to population terciles

	Years in office	Sample	Population
1	17+	176	5,055
2	11-16	272	4,745
3	<=10	230	4,926

Table 26: Relative income bins according to rounded up population terciles

	Relative income	Sample	Population
1	4.51+	180	4,514
2	3.01-4.50	271	5,763
3	<=3,00	227	4,449

Plus, ordinal independent variables, that is, *self-socioeconomic assessment*, *formation area* and *education level*, were collapsed in fewer categories, according to response rates across them and adequacy to the study design. Resulting categories and response totals are shown in **Table 27**, **Table 28** and **Table 29**.

Table 27: Self-socioeconomic assessment collapsed categories

Original	Respondents	Collapsed	Respondents
10	7	1	78
9	6		
8	65		
7	149	2	311
6	162		
5	175	3	289
4	73		
3	32		
2	7		
1	2		

Table 28: Formation area collapsed categories

Original	Label	Respondents	Collapsed	Label	Respondents
3	Social work	66	1	Social work	66
0	No higher education	77	2	Other	612
1	Medicine	0			
2	Law	165			
4	Communication	9			
5	Economy	43			
6	Psychology	13			
7	Exact sciences	89			
8	Other biological sciences	57			
9	Other humanities	159			

Table 29: Education level collapsed categories

Original	Label	Respondents	Collapsed	Label	Respondents
5	Doctoral degree	1	1	Post-college	241
4	Master or specialisation degree	240			
3	College education	356	2	College	356
2	High school education	77	3	Basic	81
1	Basic education	4			

As proposed in section **5.2.3 Socioeconomic status**, we collected data regarding both self-assessed socioeconomic status through a survey question and objective economic situation as effective income compared to the official's workplace federated state. As it could have been expected, the

variables tell different stories: they are not correlated at all, both when pre- or post-prepared for modelling (see **Table 30**). Therefore, we account for the effects of both variables in the model.

Table 30: Pearson correlations between relative income and self-assessed socioeconomic status, pre- and post-preparation for modelling

		Pre-model	Model
Relative income x Self-assessed socioeconomic status	Pearson Correlation	,056	,033
	Sig. (2-tailed)	,147	,397

Finally, scores under the *control* dimension were inverted, accounting for the different direction of the corresponding statement[32], so to standardise the deservingness perceptions' scales.

6.3 Hypotheses testing

In this section, we test the hypotheses raised in **4. Research Question and Hypotheses**. We report results for two different ordinal logistic regression models, one including only the independent variables of interest (*Models 1*) and another including control variables too (*Models 2*), for each of the SUCARIN criteria. **Table 31** shows odds ratio (OR) coefficient estimates, standard errors and significance levels for variables in both models, plus standard errors for Models 2 OR coefficients[33].

Preliminary, we briefly acknowledge the overall model limitations. The rather small effective sample size likely contributed to a high number of *empty cells* (Suchower, 1997), even after variable category collapse and binning: between *27%* and *40%* in Models 1, and circa *77%* in Models 2. However, there was no separation in any of them, and convergence was achieved (Allison, 2004). Most models showed significant fitting improvement in relation to an 'intercept only' equation, except for *Universalism* ($p = .426$ for Model 1 and *.209* for Model 2, and Nagelkerke R² is just about *.01*). *Identity*'s Model 2 also failed the text for an *alpha* of *.05*, but the test barely crosses this threshold.

SPSS goodness of fit standard tests for Models 2 are fairly met (most *p*-values are over *.05*, except for *Social investment*, where $p = .042$). However, these tests are often too sensitive to empty cells, thus not reliable in the case, making pseudo-R² tests particularly relevant (NCRM, 2011). Reported Nagelkerke R² tests for Models 2 indicate a small, though relevant degree of explanation for

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[32] See **5.1.2 Control (over neediness)**.
[33] Models were run in IBM SPSS Statistics version 26. Standard errors for ORs were obtained through StataCorp Stata 13.1 MP – Parallel edition.

deservingness perceptions' variations, especially regarding *Social investment* (*.132*), *Control* (*.142*), and *Reciprocity* (*.131*) criteria. It is useful to be aware though that the models do not aim to explain a large portion of dependent variables' behaviour: there are surely too many other factors contributing to INSS officials' deservingness perceptions, which are not addressed in this research. Further, *parallel lines* test results, which assess the ordinal logistic regression's equal slopes assumption (OR coefficients for each independent variable are homogeneous between different dependent variable's levels), were not satisfactory across four of the models, control variables included or not ($p < .05$ in *Social investment*, *Control*, *Identity* and *Need*). In a separate analysis, however, parallel lines tests were successful when the variable *self-assessed economic status* was excluded from the *Social investment*, *Control* and *Need* models, and *social work formation* excluded from the *Need* model, with no relevant differences in the other coefficients. There are arguments for sticking with the ordinal logistic regression full models in any case, as the parallel lines test is "often described as anti-conservative, that is it nearly always results in rejection of the proportional odds assumption" (Azen & Walker, 2021; Heeringa et al., 2010; NCRM, 2011, p. 17). Finally, we restate that the sample is not fully representative of the INSS officials' population, and, despite most of the variables used to measure representativeness being controlled for in the models, results may well not fully hold for the whole pre-selected sample, thus neither for the population.

Table 31: SUCARIN criteria ordered logistic regressions report

	Social investment			Universalism			Control			Attitude			Reciprocity			Identity			Need		
	Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2	
	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.	O. R.	O. R.	S. E.
Social work formation (ref. Other)	8.58***	9.71***	2.88	1.78*	2.13**	.55	7.64***	7.64***	2.88	2.12**	2.77***	.76	6.46***	7.38***	2.13	2.65***	2.57***	.72	2.88***	3.57***	1.00
Face-to-face encounter time (ref. <= 96h)																					
97 - 1,000	1.20	1.10	.27	.82	.76	.18	.76	.72	.18	.82	.74	.17	1.09	1.03	.24	1.23	1.18	.28	.81	.79	.19
1001+	1.19	1.13	.26	.83	.81	.19	.60*	.58*	.15	1.07	1.00	.24	1.00	1.00	.23	1.28	1.25	.30	.79	.78	.19
Relative income (over State avg.; ref <= 3.00)																					
3.01 - 4.50	1.01	1.00	.22	.87	.98	.21	1.22	1.26	.29	1.09	1.16	.26	1.13	1.13	.24	1.00	1.14	.25	1.25	1.21	.27
4.51+	1.51	1.25	.41	.87	.98	.98	1.57*	1.34	.46	1.17	.95	.31	1.64**	1.44	.46	1.00	1.08	.35	1.85**	1.43	.48
Self-assessed socioeconomic status (ref <= 5)																					
6 - 7	.71*	.71*	.02	1.65	1.04	.16	.72*	.73*	.12	1.12	1.12	.17	.64**	.64**	.10	.85	.85	.13	1.18	1.18	.18
8+	.67	.75	.25	.51	.96	.23	.71	.85	.22	1.12	1.19	.30	.83	.90	.22	.63*	.66	.16	1.52	1.67*	.41
Age (ref <= 39)																					
40 - 51		1.38	.27		1.59*	.30		1.27	.26		1.14	.22		.98	.19		1.05	.20		1.11	.22
52+		1.60*	.34		1.35	.27		1.32	.28		.94	.20		.99	.20		1.14	.23		.99	.21
Female (ref. Male)		.79	.12		.73*	.11		.87	.13		.92	.14		.86	.13		1.03	.15		.68*	.10
Education level (ref = Basic)																					
College		.95	.22		1.19	.26		1.03	.24		1.23	.29		.85	.20		1.02	.23		1.08	.26
Post-college		1.28	.32		1.17	.28		1.52	.39		1.11	.28		1.00	.25		1.05	.25		1.20	.30
Years in office (ref. <= 10)																					
11 - 16		1.19	.22		1.10	.20		.97	.19		1.01	.19		1.19	.22		.92	.17		1.20	.23
17+		1.09	.26		1.32	.31		.78	.19		1.34	.32		1.21	.29		.79	.19		1.20	.29
State cluster (ref. = High-income)																					
RS		.74	.20		.83	.22		.57*	.16		.76	.21		.67	.18		.82	.22		.76	.21
SC		.87	.30		.94	.33		.78	.29		.83	.28		1.04	.35		1.02	.36		1.03	.36
PR		1.15	.38		.60	.20		.59	.20		1.02	.34		.74	.25		.86	.29		.87	.31
Centre-west		.60	.21		.45*	.15		.56	.21		.39**	.14		1.13	.41		.56	.20		.73	.26
Southeast		.90	.26		.80	.23		.97	.29		.76	.22		.73	.21		.78	.22		1.02	.30
North		.89	.38		.72	.32		1.59	.79		.59	.26		.75	.33		.78	.32		.97	.42
Northeast		1.32	.42		.81	.26		1.13	.39		1.47	.48		1.25	.40		1.03	.34		1.30	.44
Model																					
Model fit sig.[1]	.00	.00		.43	.21		.00	.00		.02	.01		.00	.00		.00	.07		.00	.00	
χ2 Pearson sig.[2]	.17	.04		.18	.44		.00	.09		.00	.13		.02	.07		.72	.28		.98	.18	
χ2 deviance sig.[3]	.37	1.00		.06	1.00		.69	1.00		.01	1.00		.10	1.00		.55	1.00		.93	1.00	
Parallel lines test sig.	.00	.00 *(.058)*[2]		.71	.09		.00	.00 *(.177)*[2]		.34	.09		.18	.11		.02	.04 *(.998)*[3]		.01	.02 *(.257)*[2]	
Nagelkerke R²	.13	.16		.01	.04		.10	.14		.03	.06		.11	.13		.04	.05		.06	.08	

*** = p < 0.001; ** = p < 0.01; * = p < 0.05.
[1] Chi-Square -2Log Likelihood difference from intercept only model.
[2] Value in parenthesis is significance if *self-assessed socioeconomic status* is excluded.
[3] Value in parenthesis is significance if *social work* is excluded.

6.3.1 H1. Social work academic background effects

Regarding the effect of officials' academic background, our results confirm *H1.1* and reject *H1.2*, that is, social work formation is significantly related to perceptions of increased deservingness across all *SUCARIN* criteria, to an *alpha* of *0.001* for S, C, A, R, I and N and *0.01* for U. The effect is strong, being OR coefficients especially high in S, C and R (about *9.7*, *7.6* and *7.4*, respectively), and also high across the others (about *2.1* for U, *2.7* for A, *2.6* for I and *3.6* for N).

So, social work formation showed to drive a *two- to tenfold increase* in the odds of incrementing one point on deservingness perceptions Likert scales' scores, across any of the SUCARIN dimensions. This is in line with the Finnish quantitative findings (Blomberg et al., 2017; Kallio & Kouvo, 2015) and the idea that social worker mindset assumes structural over individual-level causes for poverty (Sun, 2001; Weiss, 2003). Moreover, the result contradicts straightaway *H1.2*, as social work formation was connected to relatively lower I and N deservingness perceptions score increment odds than those for S, C and R, putting into question, *a priori*, the literature on Brazilian policy-operating social workers' behaviour (Eiró, 2017; Koga, 2006; M. C. de Souza, 2009).

6.3.2 H2. Face-to-face contact effects

Increased face-to-face contact had only one significant connection: those officials most often working in over-the-counter service provision showed reduced odds of a one-point increase in the *Control* score, in both model sets. That is, more than 1000 hours of face-to-face contact from 2017 to 2020 make the official on average *41.6%* less likely to increase one point in the *Control* Likert scale (OR = .584) than officials not usually facing INSS clientele (*p < 0.05*). So to say, excessive time in face-to-face service provision could stimulate *grasshopper* labelling on social assistance nature benefits recipients, who would be 'to blame' for their needy situation.

Therefore, *H2.1* did not hold, the Finnish researchers' theory on face-to-face contact providing higher deservingness perceptions to street-level bureaucrats being contradicted in the INSS case (Blomberg et al., 2017; Kallio & Kouvo, 2015). The null hypothesis was not rejected across S, U, A, R, I and N criteria, and there is even a negative effect on *Control*. The results though partially confirm *H2.2*, providing some support for Ferreira & Medeiros (2016) arguments on the preservation of client contact in system-mediated interactions. However, regarding *Control*, the model suggests that system-mediated interactions could even protect positive deservingness perceptions against the effect of massive frontline work.

6.3.3 H3. Socioeconomic status effects

The testing of hypotheses concerning socioeconomic status influence on deservingness perceptions ended up being especially tricky. In the *Model 1* set, belonging to the highest tier in the objective measure of *relative income* (that is, officials with *4.51* or more times the workplace State's average income) is connected to significant positive effects on C, R, and N ($p < .05$, $< .01$ and $< .01$, respectively). The effect size is also relevant, varying between an average improvement of *57.5* to *84.6%* in the odds of a one-point increase in the Likert scales. It seems thus that the most well-off officials tend to perceive social assistance beneficiaries as effectively needful, not to blame for this situation, and having contributed enough to society to justify their benefits. These effects are offset by the introduction of control variables (*Model 2*) – however, this should be read with care, as a deal of *relative income* variations is closely connected to the officials' *years in office* and their workplace's *State cluster*[34].

On the other hand, mid score *self-assessed socioeconomic status* had significant negative effects on S, C and R dimensions ($p < .05$, $< .05$ and $< .01$, respectively), being linked to an average reduction of *36.7%* to *27.5%* in the odds of one-point improvements in the corresponding scales. Plus, officials recognizing their upper socioeconomic status are connected to a significant ($p < .05$) average *67%* increase in the odds of a one-point improvement in the *need* deservingness score. However, the effect sizes under S, C and N should be read with care, as the models possibly violated the *equal slopes* assumption, thus tend not to be homogeneous across different steps in the criteria scales.

In any case, the results reject *H3.1* in the INSS street-level officials' universe, as no general reduction in any of the deservingness perceptions criteria can be connected to higher socioeconomic status, being it objectively measured or self-assessed, contrary to the findings of Heuer & Zimmermann (2020), Pfeifer (2009), and Staerklé et al. (2012). *H3.2*, corresponding to the null hypothesis, is only partially rejected though, as *relative income* did not show significant effects only on S, U, A, and I. *Self-assessed socioeconomic status* is also sterile towards U, A and I, while its effects in S, C and N models may well be unreliable, given the possible violation of the *equal slopes* assumption. So, van Oorschot's (2000, 2006, 2010) gauging of deservingness perceptions according to socioeconomic status might hold in the Brazilian INSS scenario at least under S, U, A and I.

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[34] See **5.2.3 Socioeconomic status**. Collinearity diagnostics showed a Variance Inflation Factor (VIF) of *4.231* for belonging to the upper-wage tier in *relative income* and *4.887* for belonging to the *High-income State cluster*, offset with the exclusion of any of these categories. Given that the first is effectively calculated based on the latter, this did not worry us. No other variables showed VIF scores above *2.5*.

The diagram in **Figure 27** updates the one in **Figure 3**, according to the observed results.

Figure 27: Hypotheses' testing results
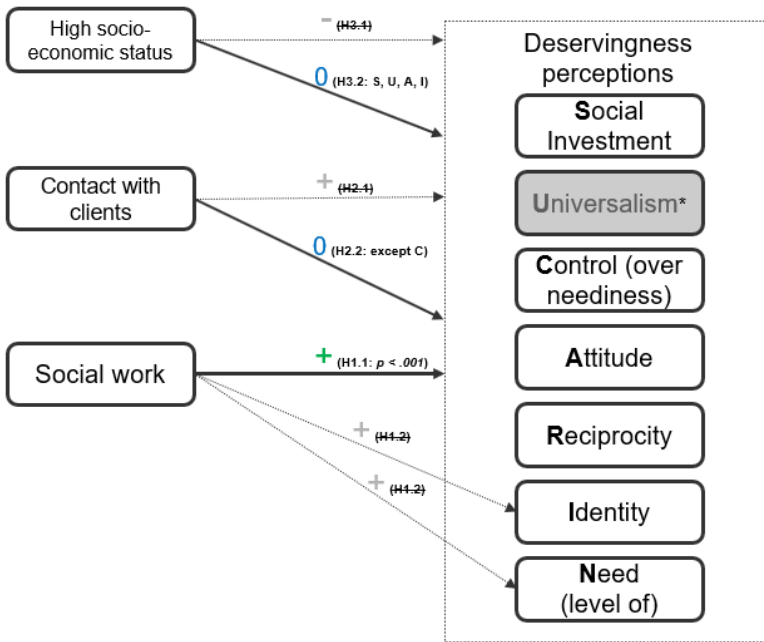
7. DISCUSSION

In the last section, we acknowledge more general limitations of the research, interpret our results under the light of context specifics, elaborate some general remarks and point out possible research paths as well as general suggestions to practitioners.

7.1 Limitations

Our results should be interpreted with doubled care. First, it is important to have in mind Nielsen et al.'s (2020) conclusions regarding the subjective use of deservingness criteria: beyond evaluative heuristic tools, deservingness criteria help project pre-conceived stereotypical images on the assessed group. "Deservingness is, consequently, a process of ascription as much as it is a process of evaluation – a fact that is invisible to survey measurements" (Nielsen et al., 2020, p. 132). In a sense, lower deservingness scores in any criteria might signal just stronger *alterity* perceptions from the observer to the observed – though better elaborated, in line with what could be deemed as sensible reasoning. Every deservingness criterion can eventually be measuring *identity*, though in more justifiable, politically adequate ways – scores would tell just to what extent the observer perceives the observed as *non-equals*. In any case, it would still be useful for researchers and practitioners working in instrumentation system design efforts to understand how officials' different justifications for alterity are affected by individual and institutional factors – assuming these can shape their influence on social outcomes.

Second, the many omitted variables and surreptitious semantic divergences can jeopardise the external validity of this (and of any) studies on deservingness perceptions. This is to say that survey statements' meanings likely vary across contexts, and so what a Brazilian official reads out of them might be too different from what a Finnish one does. Even political affiliations and convictions, which showed a strong weight on deservingness perceptions before (Blomberg et al., 2017; Kallio & Kouvo, 2015; van Oorschot, 2008), can diverge across contexts – what is deemed to be a socialist standpoint in one place could be seen as a neoliberal one in another. We intended to internally offset part of these subtle divergences by controlling our models by Brazilian State clusters, though aware of the fragile assumption that these would not vary along with other spatial parameters, like city sizes and local economic traits. As in many other quantitative social sciences studies, our models *are* expected to explain only a small part of the variance, although include a relevant set of literature-backed control variables.

Third, our research objectives do not include *profiling* INSS officials or comparing their overall convictions with some given standard. This is a given in the research design, as our foci are

regression models, not descriptive statistics: we are looking for relationships across factors and deservingness perceptions scores, not average characteristics. So, it is inappropriate to, based on our results, say that INSS officials perceive recipients of benefits of social assistance nature as deserving or not, neither to compare their overall perceptions with those from another agency or country, for instance. It makes sense though to state that one of the studied factors is more or less likely to affect officials' deservingness perceptions in one direction or another, and, if parameters are compatible, to compare these relationships to those in other settings.

Would the intent be to profile INSS officials, other relevant limitations should be acknowledged: 1) the INSS digital transformation is still recent, relative to such a huge organization's lifetime, so, results might still reflect a transition phase; 2) results might be well biased according to the current particular national-level political situation; 3) surveys were answered between 17/05/2021 and 02/06/2021, therefore answers might reflect transitory moods connected to the Brazilian COVID-19 crisis. So, the collected data might be strongly linked to a peculiar, ephemeral zeitgeist. At least, profiling would require future data collection and panelling.

Nevertheless, INSS officials in service offices are Lipsky's (2010) typical street-level bureaucrats, or, more precisely, Bovens & Zouridis (2002) screen-level bureaucrats. So, as foretold by the authors, they have a fair amount of discretion in their hands – and the ambiguous pressures inherent in the NPM or post-NPM public agency work environment compels them to resort to simpler heuristics for sensemaking (Bovens & Zouridis, 2002; Lipsky, 2010). This is to say that it is not only fair but expectable that officials, dealing directly with the public *and* deciding on its fate, *package* clients according to intuitive perceptions. In other words, stereotyping facilitates officials' efforts to match clients into different categories of actions, optimising case processing (Lipsky, 2010). Being these perceptions related to, or hidden behind deservingness heuristics, they are likely to play a role in their decision-making, and, thus, shape policy outcomes – as said before[35] (Blomberg et al., 2017).

7.2 Interpretation of findings

Some of Lipsky's (2010) considerations were already put into question when different street-level bureaucrat categories were compared by Kallio & Kouvo (2015), and by more intricate institutionalist frameworks (Rice, 2013) though. Along this line, our results confirmed Finnish surveys' findings, for social work formation played the strongest role in officials' perceptions (Blomberg et al., 2017; Kallio & Kouvo, 2015) – but also seem to challenge Lipsky's (2010) idea

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[35] See **2.2 Street-level Bureaucrats' Deservingness Perceptions**.

that once bureaucrats are immersed in the public agency's institutional aquarium, their attitudes tend to melt into its waters. And this is because, different from Kallio & Kouvo's (2015), our whole study population dwell in the same institutional environment – they are all INSS officials, and, even so, social work formation was connected to high odds of powerful shifts towards increased deservingness perceptions across every criterion. This relationship held even when *years in office* was controlled, that is, regardless of officials' INSS immersion time.

This finding can also defy Brazilian authors' disappointed views into social worker welfare attitudes (Eiró, 2017; Koga, 2006; M. C. de Souza, 2009) – though this divergence might hold only at the façade. First, the deservingness gauging statements refer to *most* of the social assistance beneficiaries. That is, it does not rule out the possibility of social workers viewing *some* of them as indeed highly undeserving, or fraudsters – so, positive responses could still be compatible with Brazilian social workers' reportedly wary behaviour (Eiró, 2017). Second, the Brazilian studies do not compare social worker attitudes against other categories, but to an ideal social worker attitude. That is, even not *sufficiently* tilting officials' behaviour towards more *equalitarian* ideas, social worker formation might still drive increased deservingness perceptions *in relation to* other academic backgrounds.

Contra, Finnish authors' inference that part of the improved social workers' deservingness perceptions could be due to the increased face-to-face contact they are exposed to (Blomberg et al., 2017; Kallio & Kouvo, 2015) *did not hold* in the INSS case. Beyond, under the *Control* dimension, deservingness perceptions are likely lower for those officials which dealt the most with clients over the counter. As is the only criterion being measured after a negative, rather harsh statement ('Most of those who receive benefits of social assistance nature *is to blame* for their economic situation'), This effect might be connected to a 'cumulative annoyance', or 'numbing' effect – that is, officials who have to deal the most with the public might simply tend to get tired of or used to trying to help people, and thus indifferent to the clients' needs. This could be straitly connected with the public agencies' 'inexhaustible demand' problem which Lipsky (2010) alerts us for.

The flop in deservingness perceptions born out of extended face-to-face service provision times might also be connected to a potential increase in the odds of witnessing more client profiles matching 'grasshopper' stereotyping, or even more cases of fraud attempts. Those, being likely easier to be remembered than the mass of regular clients, might strengthen undeserving labelling of beneficiaries.

Further, utilised variable might not tell the whole story: total face-to-face service provision time does not tell anything about what kinds of services are effectively being provided. Officials working in service offices can be specialized in providing specific services, which are delivered to different client profiles and thus causing different shifts in deservingness perceptions. For instance, if services provided to social assistance beneficiaries tend to take more counter time than other services, there is a relevant qualitative separation in the data.

Service per time ratio might be determinant too: one service provided in one hour is not the same thing as six services provided in thirty minutes. It is hard to picture ten-minute face-to-face services being processed as meaningful encounters, in which empathy and solidarity connections thrive, but easy to imagine how fifty of these encounters in a single day can be stressful. Different pressures and more complex relationships are likely concealed in this unidimensional measure, which should be further studied.

Despite results connected to officials' socioeconomic status did not confirm any of the formulated hypotheses, they signal that both Kangas' (2003) findings on Australian respondents and Heuer & Zimmerman's (2020) focus groups' results hold in the case of INSS officials. This is because even the lowest wage officials are still a part of their federated States' middle classes, while the upper-wage, richest tier, is connected to increasing odds of improved deservingness perceptions in the dimensions of *Control* and *Reciprocity*. Conversely, this means that middle-class officials tend to see the socially assisted as *to blame for their situation* and *not having contributed enough to society to justify their benefits*.

Complementarily, officials scoring in the middle of the *self-assessed socioeconomic status* scale showed increased odds to see social assistance beneficiaries not only *guilty of their situation* and *not contributing enough* to justify their benefits, but these officials are also *distrustful that they could repay it to society at some point*. On the other hand, self-perceived richer officials were more likely to see the needs of beneficiaries as legitimate. These reinforce the general finding of both Kangas (2003) and Heuer & Zimmerman's (2020) studies, as the very feeling of belonging to the middle class can increase the odds of officials seeing more grasshoppers among the assisted poor. Furthermore, although the findings do not suggest that this is the case, we should be aware of the alternative explanation that low deservingness scores in both *social investment* and *reciprocity* dimensions might be connected to disbelief in favourable economic conditions for either pre or post-compensation of benefits.

Of all the SUCARIN models, the one for *Universalism* was particularly non-significant. This comes as no surprise at all, as the *Universalism*-related question does not gauge a deservingness criterion, but the degree to which the respondent is objectively in favour of selective or universal social policies. The result does reinforce Nielsen et al.'s (2020) argument that these universalistic logics *compete* with those embedded in deservingness perception heuristics. That is, the very idea of measuring to which extent respondents perceive someone as deserving or not of social assistance makes sense to the extent to which they agree with selective welfare provision. Further research could, though, theorise and assess the relationships between scores under the strict deservingness criteria and Universalism, which could lead to new frameworks for assessing welfare attitudes.

7.4 Takeaways

Deservingness perceptions, which likely affect decisions taken by social policy operators, *can* be significantly connected to measurable individual background and institutional-level variables – that is what the literature suggests, and our findings support. Nevertheless, when roaming near the *black hole* that is bureaucracy's opaque discretion bubble (Rothstein, 1998), one might as well be sucked up and absorbed by its gravity. As the latest studies (Heuer & Zimmermann, 2020; Nielsen et al., 2020) point out and our findings hint, *these connections can be too intricate*, and also compete with alternative ideological constructs, demanding deeper studies to refine current deservingness-measuring frameworks.

The scarcity of quantitative studies on deservingness perceptions outside of Europe is a challenge too, as countries' socioeconomic trends, political and institutional environments play an extensive role in people's welfare attitudes. As both Rice (2013) and our findings suggest, the bureaucracy bubble is not this hermetic anymore, the 'outside' institutions having a great deal of influence in bureaucrats' behaviour. So, officials' deservingness perceptions studies in different settings are more than needed.

Moreover, even with the limitations involved, our findings can help policymakers account for the factors shaping deservingness perceptions when designing or reforming policies that rely, to some degree, on street-level discretion. In a more immediate, management-level takeaway, we signal a direction for Learning & Development and internal communication actions, assuming deservingness perceptions can have an impact on officials' actions. Those actions could be, for instance, aimed at 1) aligning the understanding of welfare provisions systems' *rationales* and founding *principles* (beyond laws and norms), to restrain undue effects of too deviant deservingness perceptions; 2) helping officials to avoid harmful stereotyping, balancing their decisions for the

possible 'numbing' effects of having contact with too many cases; 3) making them aware of their *actual* position in the society, compensating, for instance, possible demeaning effects born out of street-level bureaucracy's common sense stereotypes, which can lower their self-assessed status, thus artificially harm their deservingness perceptions.

At the policy implementation level, recruiting and workforce allocation could be aware of the softer factors driving deservingness perceptions, and match officials' profiles to the agency's activities accordingly. Known discretion spaces in officials' decision-making processes could also be mapped and given attention. For instance, discretion-prone procedures, where the expression of deservingness perceptions could be harmful to policy outcomes, can be adjusted to restrict it, while still drawing on officials' agency, but channelling it to more fruitful spaces.

Mainly, policymakers can consider our findings at the design level. Discretion spaces and the soft factors driving bureaucrats' use of them can be given attention in the upper layers of policy instrumentation. With the rise of screen-level bureaucracy (Bovens & Zouridis, 2002), discretion spaces' role in policy outcomes became underrated at the implementation level, seen as just an undesirable residue – yet, *it is still there*, though just swept to under the carpet. We argue that, by raising the carpet, one can find not dust and dirt, but tools instead. By taking advantage of current automation and AI achievements to better 'integrate man and machine', spaces for the expression of operating bureaucrats' agency could be *planned* so to better integrate with '*street-level algorithms*' (Ammitzbøll Flügge et al., 2021). This is to say, as officials' discretion often works as oil for the policy engines (and might as well be the better mechanism available so far), the channels through which it flows can be set up so as to improve that role – and factors which could predict how the discretion is used are critical in that endeavour.

Furthermore, while discretion spaces became residual in the screen-level bureaucracy setting, they became quite extensive for system-level bureaucracy (Bovens & Zouridis, 2002). While frontline official's discretion can have an impact on a one-to-one case basis, system-level officials' decisions can have massive impacts (Cardoso, 2020). Policymakers should then be double-aware of the fact that, as in the street, convictions and other soft factors in the system level can be critical on policy outcomes, and thus should also be accounted for in the design/reform endeavours. Up to now, process automation and algorithm-based policies still depend on human-driven thrust and adjustments: there are still human 'wizards' pulling the levers, prone to decisions based on stereotyping and other simplifying heuristics. The difference is that, in the system-level, shortcut heuristics' impact is amplified, while decisions are harder to roll back – and less and less their eventually harmful effects can be buffered by street-level agency.

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ANNEX I – SURVEY INSTRUMENT

Dear INSS official, you were selected to answer the questionnaire "Deservingness perceptions among social policy operators". The questionnaire is objective and short, contains 19 simple, multiple choice and 2 optional open-ended questions, and can be answered in less than 10 minutes. The research is intended exclusively for scientific purposes. The research is highly relevant to guide the design and implementation of social policies in Brazil and worldwide. By sending the questionnaire, you authorize Luiz Henrique Alonso de Andrade, INSS official, SIAPE number 1,564,403, to use the data provided for qualitative and quantitative analysis, and preparation of statistical reports. All data will be anonymized before analysis and publication. Only the aforementioned official will have access to the individual survey responses. In case of doubts or problems to answer the survey, send an email to (omitted)@inss.gov.br.

1. What is your SIAPE registry number?

2. What is your age?

3. Which is your gender, or the gender you identify the most with?

   - ◯ Female
   - ◯ Male
   - ◯ Rather not answer

4. Select the activities you performed the most since the beginning of 2018 in INSS (up to five):

   - ☐ Archive maintenance
   - ☐ Benefit granting - mostly retirement or old age pensions
   - ☐ Benefit granting - mostly survivor pensions or maternity allowances
   - ☐ Benefit granting - mostly social assistance benefits or closed season benefits
   - ☐ Benefit granting - mostly rural social security benefits
   - ☐ Benefit maintenance and updating
   - ☐ Benefit monitoring and control
   - ☐ Communication activities
   - ☐ Corporate education/training provision
   - ☐ Court decision-based benefit implementation
   - ☐ In-person service provision
   - ☐ Insurance regime compensation
   - ☐ Management/supervision
   - ☐ Social security education provision
   - ☐ Supporting/administrative activities

   Other: ☐ _____

5. In the past 36 months, how often did you feel that formal rules are not comprehensive enough, and decisions that will impact on benefit granting rely on your own interpretation or judgment?

○ Frequently

○ Often

○ Sometimes

○ Rarely

○ Never

○ I did not work with benefit granting in the last 36 months

6. In the past 36 months, for approximately how much time, from 0 to 36 months, have you worked in CEAB, CEAP, other forms of teleworking or benefit granting working groups?

Perceptions on recipients of social assistance nature benefits	Tell to which degree you agree or disagree with the following statements, according to the scale: 1 - strongly disagree 2 - disagree 3 - neither agree nor disagree 4 - agree 5 - strongly agree For the purposes of this research, benefits of social assistance nature can be understood as those operated or not by the INSS, and even those that, although technically contributive, you understand to have social assistance character - for instance, rural social security benefits, bolsa-família, fishermen closed season benefit or continuous cash benefits.

7. Most of those who receive benefits of social assistance nature is to blame for their own economic situation.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

8. The recipient of benefits of social assistance nature can be any one of us whose economic situation has unexpectedly worsened

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

9. Most of those who receive benefits of social assistance nature do behave, show gratefulness or respect towards society

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

10. Most of those who receive benefits of social assistance nature have significantly contributed to society before, either through taxes or through work efforts, paid or not.

	1	2	3	4	5	
Strongly disagree	◯	◯	◯	◯	◯	Strongly agree

11. Most of those who receive benefits of social assistance nature will retribute it to society at some point, either through taxes or through work efforts, paid or not.

	1	2	3	4	5	
Strongly disagree	◯	◯	◯	◯	◯	Strongly agree

12. Regardless of the causes of their situation, most of those who receive benefits of social assistance nature really needs them.

	1	2	3	4	5	
Strongly disagree	◯	◯	◯	◯	◯	Strongly agree

13. Benefits of social assistance nature should be paid regardless of their recipients' contributions to society, their profiles, or the causes of their situation.

	1	2	3	4	5	
Strongly disagree	◯	◯	◯	◯	◯	Strongly agree

14. What is the highest educational attainment level you have completed?

◯ Completed basic education
◯ Completed high school education
◯ Completed college-level education
◯ Completed master or specialization degree education
◯ Completed doctoral degree education

15. If you have completed at least college-level education, select the course area most representative of your last degree.

◯ I have not completed higher education
◯ Medicine
◯ Law
◯ Social work
◯ Communication

- ◯ Economy
- ◯ Psychology
- ◯ Exact sciences (engineering, industrial design, mathematics, etc.)
- ◯ Other biological sciences (biochemistry, physiotherapy, dentistry, physical education, etc.)
- ◯ Other humanities (anthropology, geography, history, political science, social sciences, etc.)

16. In our society, some groups are seen as of a higher socioeconomic level and some as of a lower level. Where do you think you are on this scale:

	1	2	3	4	5	6	7	8	9	10	
Low level	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	High level

17. How many persons are there in your household including yourself?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6 or more

18. What is the combined average monthly income of all of the members of your household, after taxes paid over income?

- ◯ Less than R$ 11.000,00
- ◯ Between R$ 11.000,00 and R$ 22.000,00
- ◯ More than R$ 22.000,00

19. On a scale from 1 to 10, indicate your belief as to whether you can trust or whether you need to be very careful in dealing with most people.

	1	2	3	4	5	6	7	8	9	10	
Need to be too careful	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Can trust most people

20. Optional: There can be big challenges in providing benefits of social assistance nature, either to avoid paying undue benefits or to make sure that those entitled to them effectively receive it. What are, if any, the main challenges you face in this regard when performing your duties? Those could, for example, be related to misinformation and other communication issues, frauds, blind spots or complexity in regulation.

21. Optional: The intermediation of benefit applications by "despachantes", "trespassers" and lawyers is frequent in INSS service provision. How do you see the role played by these agents in relation to those entitled to benefits? How do you think their role is affected by the INSS digital transformation process?

22. If you are available for a phone or video interview with the researcher, provide your e-mail for contact.

ANNEX II – DATA TREATMENT LOG

1. Datasets on sex and age statistics of active INSS civil servants, for descriptive statistics and sample selection. Officials unidentified.

   a. Filename:

      i. INSS Active Civil Servants Age and Sex 10.2020.xlsx (active permanent INSS civil servants).

      ii. INSS Active Civil Servants S.Office Age and Sex 10.2020.xlsx (active permanent INSS civil servants acting in service offices).

      iii. INSS Active Civil Servants S.Office Age and Sex 10.2020.sav

   b. Sources:

      i. Officials working at INSS in 10/2020, by sex and age, unidentified (INSS, 2020a);

      ii. Officials working at INSS service offices in 10/2020, by sex and age, unidentified (CGU, 2021f).

   c. Filters:

      i. INSS Active Civil Servants Age and Sex 10.2020.xlsx - Only officials active in INSS in 10/2020, i.e., no retired officials or officials transferred to other agencies.

      ii. INSS Active Civil Servants S.Office Age and Sex 10.2020.xlsx (data received already filtered).

   d. Pre-existing variables:

      i. *seq* – officials' sequential number (unidentifiable)

      ii. *state* – acronym for the Brazilian federated state where the official's workplace is.

      iii. *regional* – regional higher administration office to which the official's workplace office is subordinate.

      iv. *gex* – executive higher administration office to which the official's workplace office is subordinate (sub-regional).

      v. *job.title* – official's job title.

      vi. *sex* – official's sex in 10/2020.

      vii. *age* – official's age in 10/2020.

   e. Created variables:

      i. *cluster* – state cluster according to proposed cluster solution (**Table 13**).

2. Dataset on individualised variables about INSS civil servants, for descriptive statistics and sample selection.

   a. Filenames:

      i. INSS Active Civil Servants 10.2020.xlsx.

      ii. INSS Active Civil Servants 10.2020.sav.

      iii. INSS Active Civil Servants S.Office 10.2020.sav.

   b. Sources:

      i. Officials working at INSS in 10/2020, identified (INSS, 2020a).

      ii. Identified INSS officials occupying management positions (INSS, 2020a).

      iii. Identified INSS officials' activity at in-person service provision in 2017, 2018, 2019, and 2020 (CGU, 2021d).

      iv. Identified INSS officials' caseworking figures in 2020, concerning retirement, old-age, pensions, maternity allowances, survivor benefits, and continuous cash transfer benefits, either resulting in grant, denial, or request for more information (CGU, 2021e).

      v. Collected survey data.

   c. Filters:

      i. Only officials active in INSS in 10/2020, i.e., no retired officials or officials transferred to other agencies.

      ii. INSS Active Civil Servants S.Office 10.2020.sav – only officials with *service.office* = 1

   d. Pre-existing variables:

      i. *state* – acronym for the Brazilian federated state where the official's workplace is.

      ii. *regional* – regional higher administration office to which the official's workplace office is subordinate.

      iii. *gex* – executive higher administration office to which the official's workplace office is subordinate (sub-regional).

      iv. *workplace.name* – official's workplace office name.

      v. *siape* – official's federal government identification code.

      vi. *name* – official's name.

      vii. *job.title* – official's job title.

viii. *job.title.education* – official's job title education level.

ix. *admission.date* – official's admission date in INSS.

x. *manager.start.date* – date when the official started in the managing position held in 10/2020, if the case.

xi. *enc2017* – total in-person encounters the official had in 2017.

xii. *enc.time2017* – total time (in days, decimal fractions) in in-person encounters the official had in 2017.

xiii. *enc2018* – total in-person encounters the official had in 2018.

xiv. *enc.time2018* – total time (in days, decimal fractions) in in-person encounters the official had in 2018.

xv. *enc2019* – total in-person encounters the official had in 2019.

xvi. *enc.time2019* – total time (in days, decimal fractions) in in-person encounters the official had in 2019.

xvii. *enc2020* – total in-person encounters the official had in 2020.

xviii. *enc.time2020* – total time (in days, decimal fractions) in in-person encounters the official had in 2020.

xix. *casework2020* – total applications analysed by the official in the year 2020.

e. Created variables:

i. *service.office* – dummy variable, telling if official's workplace office is a service office or not. Based on workplace.name – if workplace name starts with 'APS (*Agência da Previdência Social*)', then it is a service office, i.e., it directly provides services to citizens.

ii. *job.title.type* – official's job title type, according to job title's name. Three categories:

1. If job title refers to typical core INSS activities, i.e., social security benefit analysis and service provision, then *job.title.type* = 1.

2. If job title refers to atypical, unrelated activities, i.e., activities that don't relate to INSS core activities, then *job.title.type* = 0.

3. If job title refers to compatible, related activities, i.e., activities that can relate to INSS core activities, then *job.title.type* = 2.

iii. *manager* – tells whether the official occupied a manager-related role in INSS in 10/2020, and which level. Information is filtered from the Brazilian federal government standardised management position codes ('DAS', 'FCPE', 'FG' or 'FCT' codes).

1. If *manager* = 1, the official held a higher-level position in INSS in 10/2020. These positions usually are in INSS headquarters: coordinators, general coordinators, directors, and the President. Heads of regional and executive offices (sub-regional) also hold higher-level positions: the case of regional superintendents and executive managers.

2. If *manager* = 2, the official occupied a lower-level position in INSS in 10/2020. Service offices usually count with one of these positions, occupied by the service office manager. They can also be in INSS headquarters, or in regional and executive officers, occupied by division and service managers.

3. If *manager* = 3, the official occupied other management-related positions in INSS in 10/2020. These can be headquarters' support staff and advisors in the headquarters and regional offices, or benefit managers and supervisors in service offices.

4. If *manager* = 0, the official was not a manager in 10/2020.

iv. *total.enc.time* – total time spent in in-person encounters from 2017 to 2020, in hours ((enc.time2017 + enc.time2018 + enc.time2019 + enc.time2020)*24).

v. *in.person.dummy* – dummy, 1 if the official had more than 96h spent in-person service provision encounters with citizens from 2017 to 2020. That is, if (*total.enc.time*) > 96, *in.person2017.2020* = 1.

vi. *casework.dummy* – dummy, 1 if *casework.2020* > 120.

vii. *core.dummy* – dummy, 1 if in.person.dummy + casework.dummy > 0.

viii. *cluster* – state cluster according to proposed cluster solution (See **Table 13**)

ix. *adm.wave2000* – dummy, 1 if *admission.date* > 12/31/1999.

x. *years.office* – total number of years in office in 2020, based in *admission date*'s year.

3. Dataset on variables by service offices, for descriptive statistics and sample selection.

a. Filenames:

i. INSS Active Civil Servants 10.2020.xlsx.

ii. INSS Service Offices and Managers 10.2020.sav

b. Sources:

    i. Officials working at INSS in 10/2020, identified (INSS, 2020a).

    ii. INSS officials occupying management positions, identified (INSS, 2020a).

c. Filters:

    i. Counting Only officials acting on service offices in 10/2020.

d. Created variables:

    i. *service.office* – service office name, equivalent to *workplace.name*.

    ii. *non.managers* – number of officials per service office with value 0 for *manager* in 10/2020.

    iii. *lower.level.managers* – number of officials per service office with value 2 for *manager* in 10/2020 (office managers and benefit service managers.

    iv. *management.related* – number of officials per service office with value 3 for *manager* in 10/2020 (supervisors).

    v. *total.officials* – total number of officials per service office in 10/2020.

4. Dataset on variables by federated state:

a. Filenames:

    i. State clustering.xlsx.

    ii. State Clustering.sav.

b. Sources:

    i. INSS Active Civil Servants 10.2020.xlsx.

    ii. Benefit granting trends across federated states (CGU, 2021b).

    iii. Estimated socioeconomic data across Brazilian federated states in 2020's last quarter by domicile sampling (IBGE, 2020b).

    iv. Estimated municipal Human Development Index (HDI) from 2012 to 2017 (IPEA et al., 2019).

c. Created variables:

    i. *state* – acronym for the Brazilian federated state where the official's workplace is.

    ii. *officials* – total INSS officials whose workplace is in the federated state.

    iii. *pop* – federated state estimated population.

    iv. *hdi*.m.2017 – 2017 HDI according to federated states' municipalities.

v. *hdi.i.2017* – 2017 HDI on income, according to federated states' municipalities.

vi. *avg.dom.inc.lq2020* – average domicile income per federated state in 2020 last quarter.

vii. *unemploy.lq2020* – unemployment figures per federated state in 2020 last quarter.

viii. *total.apps* – total INSS social assistance benefit applications from 04/2018 to 03/2020 per federated state.

ix. *granted.apps* – total granted INSS social assistance benefit applications from 04/2018 to 03/2020 per federated state.

x. *%apps.nat* – percentage of applications over the national total, from 04/2018 to 03/2020 per federated state.

xi. *%apps.grant* – percentage of granted INSS social assistance benefit applications from 04/2018 to 03/2020 per federated state.

xii. *grant.pop*1000* – ratio of granted INSS social assistance benefit applications from 04/2018 to 03/2020 over federated state's population.

xiii. *tsi* – state cluster region, according to the technic-scientific-informational criteria, by Santos and Silveira (2001).

xiv. *inss.reg.adm* – state cluster region, according to regional administration in INSS structure (Brasil, 2020; Decreto n. 9.746, de 8 de Abril de 2019, 2019; Portaria n. 414, de 28 de Setembro de 2017, 2017).

xv. *macroregion* – state cluster macro-region, according to IBGE (2019b).

xvi. *2018.right.wing* – percentage of right wing valid votes in the second round of 2018 presidential elections (TSE, 2018).

5. Dataset on individualised variables about INSS civil servants, for descriptive statistics and sample selection.

   a. Filenames:

      i. Sampled survey.sav

   b. Sources:

      i. INSS Active Civil Servants S.Office 10.2020.sav.

      ii. Collected survey data.

   c. Filters:

<ol type="i" start="1">
Only officials active in INSS in 10/2020, i.e., no retired officials or officials transferred to other agencies.
Only officials with *service.office* = 1

<ol type="a" start="4">
Pre-existing variables:
<ol type="i">
siape – official's federal government identification code.
state – acronym for the Brazilian federated state where the official's workplace is.
cluster – state cluster according to proposed cluster solution (See **Table 13**).
job.title.education – official's job title education level.
job.title.type – official's job title type, according to job title's name. Three categories:

If job title refers to typical core INSS activities, i.e., social security benefit analysis and service provision, then *job.title.type* = 1.
If job title refers to atypical, unrelated activities, i.e., activities that don't relate to INSS core activities, then *job.title.type* = 0.
If job title refers to compatible, related activities, i.e., activities that can relate to INSS core activities, then *job.title.type* = 2.

admission.date – official's admission date in INSS.
casework2020 – total applications analysed by the official in the year 2020.
total.enc.time – total time spent in in-person encounters from 2017 to 2020, in hours.
manager – tells whether the official occupied a manager-related role in INSS in 10/2020, and which level. Information is filtered from the Brazilian federal government standardised management position codes ('DAS', 'FCPE', 'FG' or 'FCT' codes).

If *manager* = 1, the official held a higher-level position in INSS in 10/2020. These positions usually are in INSS headquarters: coordinators, general coordinators, directors, and the President. Heads of regional and executive offices (sub-regional) also hold higher-level positions: the case of regional superintendents and executive managers.
If *manager* = 2, the official occupied a lower-level position in INSS in 10/2020. Service offices usually count with one of these positions, occupied by the service office manager. They can also be in INSS

headquarters, or in regional and executive officers, occupied by division and service managers.

    3. If *manager* = 3, the official occupied other management-related positions in INSS in 10/2020. These can be headquarters' support staff and advisors in the headquarters and regional offices, or benefit managers and supervisors in service offices.

    4. If *manager* = 0, the official was not a manager in 10/2020.

x. *age* – age, according to respondent information on survey instrument corresponding question (See Annex I).

xi. *female* – dummy for gender, 1 if female, according to respondent information on survey instrument corresponding question (See Annex I).

xii. *des.control* – Likert score for deservingness perception in the *control* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xiii. *des.identity* – Likert score for deservingness perception in the *identity* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xiv. *des.attitude* – Likert score for deservingness perception in the *attitude* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xv. *des.reciprocity* – Likert score for deservingness perception in the *reciprocity* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xvi. *des.social.investment* – Likert score for deservingness perception in the *social investment* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xvii. *des.need* – Likert score for deservingness perception in the *need* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xviii. *des.universalism* – Likert score for deservingness perception in the *universalism* dimension, inverted, according to respondent information on survey instrument corresponding question (See Annex I).

xix. *education* – level of educational attainment, according to respondent information on survey instrument corresponding question (See Annex I).

xx. *formation.area* – formation area, according to respondent information on survey instrument corresponding question (See Annex I).

xxi. *self.socioeconomic* – level of self-socioeconomic position perception, according to respondent information on survey instrument corresponding question (See Annex I).

e. Created variables:

i. *respondent* – dummy, 0 if non-respondent/non-sampled, 1 if respondent

ii. *years.office* – total number of years in office in 2020, based in *admission date*'s year.

iii. *relative.income* – [*job.title.education* basic wage + (*years.office* * average yearly increment up to ceiling) + increment according to *manager* category] / *avg.dom.inc.lq2020*[36].

iv. *age_bin* – *age* binned according to population distribution terciles.

v. *enc.time_bin* – *total.enc.time* binned in three categories: 1) cases where *in.person.dummy* = 0; 2) where *in.person.dummy* = 1, population distribution less or equal to and above the rounded median (1,000).

vi. *casework_bin* – *casework.2020* binned in three categories: 1) cases where *casework.dummy* = 0; 2) where *casework.dummy* = 1, population distribution less or equal to and above the rounded median (800).

vii. *years.office_bin* – *years.office* binned according to population distribution terciles.

viii. *relative.income_bin* – *relative.income* binned according to population rounded up distribution terciles.

ix. *self.socio_col* – *self.socioeconomic* collapsed according to response ratio.

x. *formation.area_col* – *formation.area* collapsed according to research design (that is, kept *social work* and *other humanities* categories separated).

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[36] See **5.2.3 Socioeconomic status**.