Text analysis of the Participatory Public Accounts of the management of Gendarmería de Chile between the years 2017 and 2020

Technical Report

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Introduction

The Participatory Public Accounts (P.P.A.) are open dialogue mechanisms that link the authorities of the State Administration bodies with citizenship and aim to inform about the management of public policies carried out, generate a feedback process that allows collecting the concerns and contributions of its participants and give an organized response to consultations arising in the process.

For this analysis, text analysis techniques are applied in R language to the public accounts of Gendarmería de Chile corresponding to the years 2018, 2019, 2020 and 2021 (2017, 2018, 2019 and 2020, respectively).

Gendarmerie de Chile is a Public Service, under the Ministry of Justice and Human Rights of the State of Chile, whose mission is to contribute to a safer society, guaranteeing the effective fulfillment of preventive detention and liberty deprivation or restriction sentences to whom the courts determine, providing conditions and benefits to the affected ones according to their quality as a person and to the human rights standards, developing social reintegration programs that tend to reduce the probabilities of criminal recidivism and promoting the elimination of criminal record as part of the reintegration process.
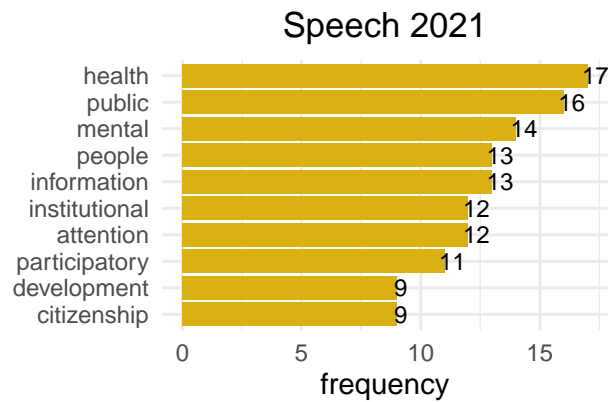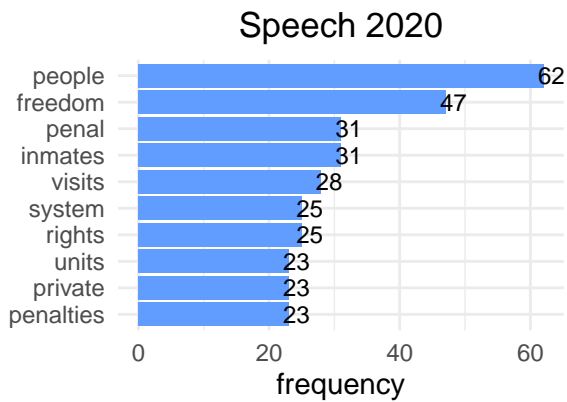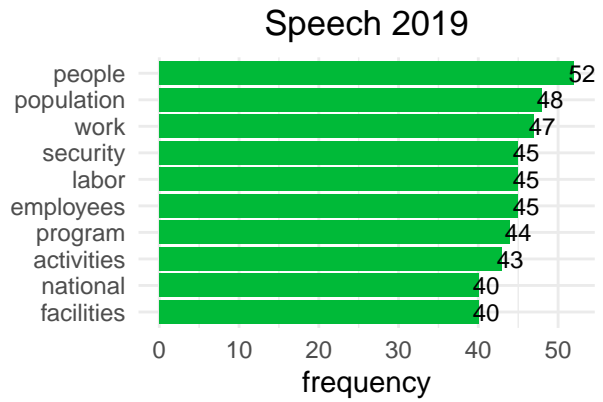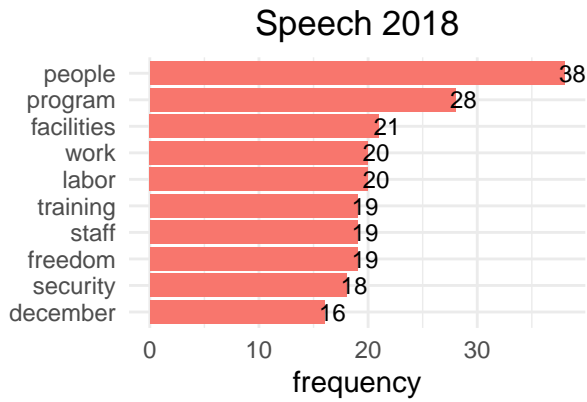
– Note: At the date of publication of this project, the P.P.A. of this year 2022 (management 2021) is still in development by Gendarmería de Chile, thus it is not included in this analysis.

One-word Analysis

First, we calculate and plot the most frequent words in each speech to subsequently perform a TF-IDF analysis. This analysis allows to determine the relevance of a word in a document regarding a set of documents. It allows to answer the question: What concepts of one word stand out in a speech regarding the rest of the speeches?
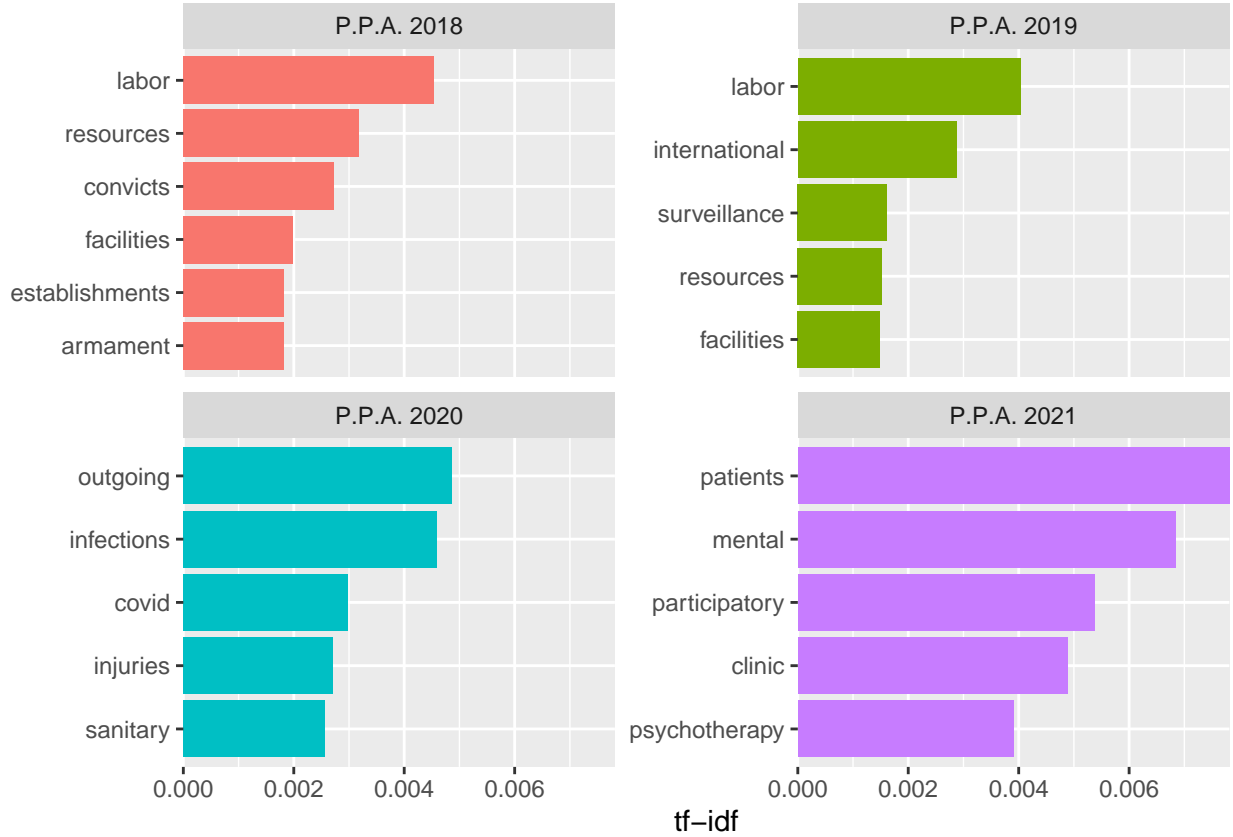
Frequencies

We plot the most frequent words from each speech.

Speech 2018

word	frequency
people	38
program	28
facilities	21
work	20
labor	20
training	19
staff	19
freedom	19
security	18
december	16

Speech 2019

word	frequency
people	52
population	48
work	47
security	45
labor	45
employees	45
program	44
activities	43
national	40
facilities	40

Speech 2020

word	frequency
people	62
freedom	47
penal	31
inmates	31
visits	28
system	25
rights	25
units	23
private	23
penalties	23

Speech 2021

word	frequency
health	17
public	16
mental	14
people	13
information	13
institutional	12
attention	12
participatory	11
development	9
citizenship	9

TF-IDF Analysis

And we compare graphically.

In the speech of the Participatory Public Account (P.P.A.) 2018, work, training and *labor* placement, and those *convicts* that have been intervened was emphasized. Likewise, it was given accounts about *resources* executed during 2017, financed by Law of Budget. *Armament* protection policy is also mentioned in special units.

During 2019, the P.P.A. Speech focused on highlighting the intervention, training and *labor* placement programs, as well as the *labor* activities carried out within the prison *facilities* during 2018. In the same way, the *surveillance* of persons deprived of liberty, the adoption of norms and good practices adjusted to *international* law and compliance with commitments with *international* organizations were emphasized.

We see that the words *infections* and *covid* took the attention of Speech 2020, which makes a lot of sense in attention to the *sanitary* emergency of pandemic that began in that year. On the other hand, it is reported the publication of a recidivism study that considered *outgoing* persons deprived of liberty in 2016. In addition, attention was paid to the large number of detainees during 2019 that were received with obvious *injuries* from police institutions, for which protocols to check health status were approved.

Finally, the 2021 speech of the P.P.A. emphasized two major themes. The first, related to *mental* health and the derivation of possible *patients* deprived of liberty with needs for psychological *clinical* care in the field of individual *psychotherapy.* This, especially that during 2020 the health risk of pandemic was maintained. The second topic addressed the development of a *Participatory* Public Account with greater social inclusion and with transmission via streaming for the second consecutive year.
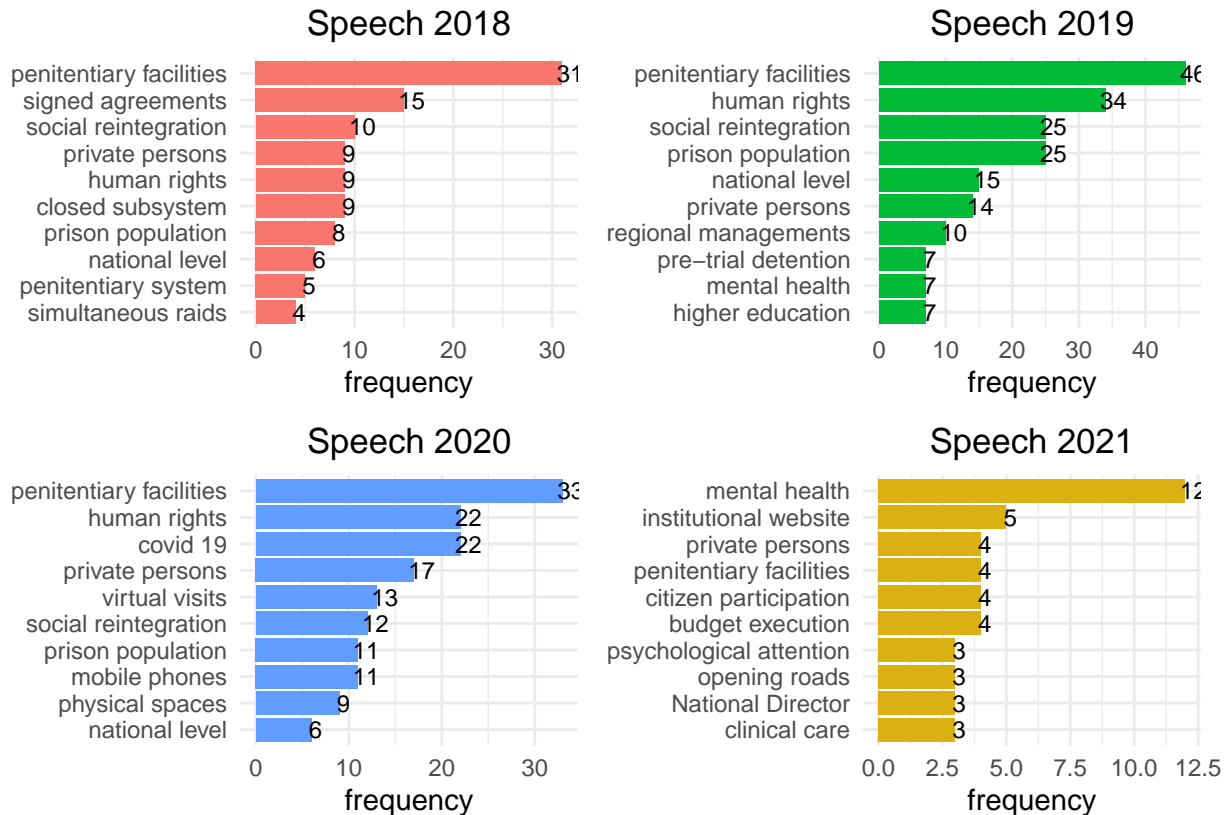
Bigram Analysis

We calculate and plot the most frequent bigrams for each speech to perform a TF-IDF analysis then. This analysis allows to determine how important is each bigram from a document in relation to a set of documents.

In this case, we can answer the question: what two-words concepts are most important in a speech with respect to the rest?

Let's define some *stopwords* to additionally discard with those already defined. We make some additional corrections and calculate the frequency of the bigrams for each document.
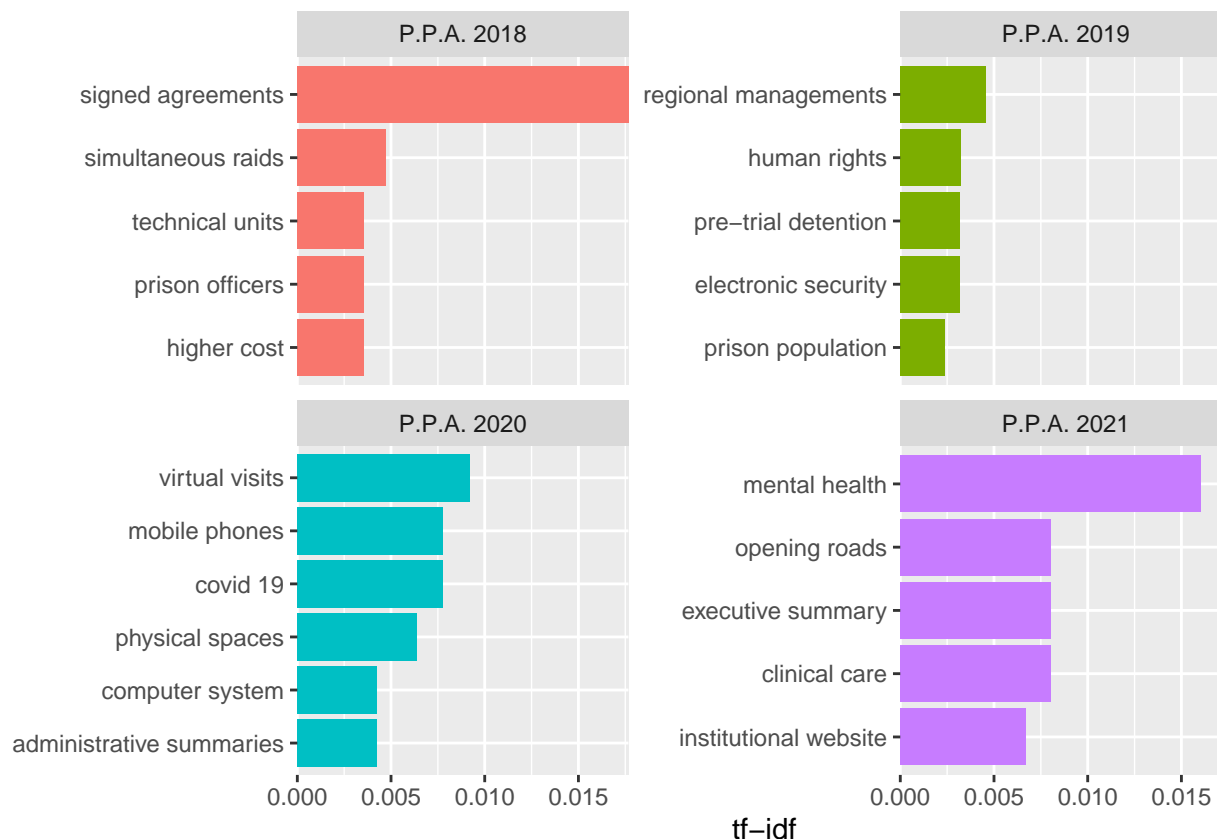
Frequencies

We plot the most frequent bigrams.

TF-IDF Analysis

And we compare graphically.

The speech of the Participatory Public Account (P.P.A.) of the year 2018 highlighted the execution of activities through *signed agreements* in 2017 with various public entities, corporations, foundations and universities, both at the central and regional level, managed and implemented by the different regional *technical units* and of penitentiary facilities. During this year, *simultaneous raids* were developed in various regions, allowing to seize various illicit and prohibited species.

In the 2019 speech, the coordination of *Regional Offices* with the units of the closed, opened and postpenitentiary subsystems was emphasized, in order to carry out joint activities for public-private links. Other activities in 2018 were executed in the field of *Human Rights* through training for officials and updating resolutions and administrative acts. There were also execution of projects to implement, expand, replace and maintain *electronic security* equipment, with the aim of complementing human perimeter surveillance.

The bigram analysis stands out again that the P.P.A. Speech of the year 2020 focused on the pandemic situation by *covid 19* and in some actions taken as a result of it, such as the implementation of rooms for *virtual visits*, allow the limited use of *mobile phones* for the communication of inmates with their relatives, and relocation of inmates to reduce the probability of infections due to lack of *physical spaces* and their disinfection.

Lastly, the 2021 speech addressed the activities carried out in 2020 related to *clinical care* and the derivation of patients with *mental health* issues in pandemic context. On the other hand, it was highlighted the participation of citizens in the structure and content of the P.P.A. *Executive Summary* and its availability to download from the *institutional website*. A citizen consultation was also answered about the *Opening Roads* program from the Ministry of Social Development.