

Research Article

Do you consider human behaviour to be stable or malleable? Your answer can influence your preferences for policy instruments

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Abstract: Government officials can have a disposition to conceptualise the behaviour of policy target groups as stable, malleable, or something in-between. This paper hypothesizes these conceptualisations to influence preferences for policy instruments: Officials seeing behaviour to be more stable are hypothesised to prefer enforcement when aiming to change behaviour, whereas officials assuming behaviour to be more malleable are hypothesised to prefer information provision and behavioural instruments. Using a survey among local government officials from the Netherlands ($N = 717$), we tested these hypotheses in the context of compliance with rules to prevent the spread of Covid-19. Results show that officials assuming behaviour to be more stable preferred more enforcement and information provision to change behaviour than officials assuming behaviour to be more malleable. This may suggest that seeing behaviour as more stable leads officials to prefer more government intervention in general. Conceptualisations about the changeableness of behaviour were not related to preferences for behavioural instruments. Implications for government officials are discussed.

Keywords: Implicit theories, Policy instrument choices, Policy making, Covid-19, The Netherlands

Supplements: [Open data](#), [Preregistration](#)

The instrument choice literature suggests that government officials who make or implement public policies have a range of policy instruments (e.g., bans, information provision) at their disposal from which they choose. Individual characteristics of officials can influence such choices (Linder & Peters, 1989) but little is known about what characteristics cause officials to prefer some instruments over others (Capano & Howlett, 2020; Howlett et al., 2020; Veselý & Petrúšek, 2021). Here, we suggest and investigate implicit theories of government officials about the behaviour of target groups (e.g., neighbourhoods, professions) as one candidate for such a characteristic.

Cognitions about behaviour and instrument choice

Psychological research suggests that the changeableness of behaviour is an important aspect of cognitions about behaviour (Dweck & Yeager, 2019). Some individuals have a disposition to view behaviour as malleable and easy to change whereas others consider it hard to change and stable. Such dispositions are rarely made explicit but represent “frames” (Sarel, 2000) to explain and organize perceptions of the social environment (i.e., implicit theories; Plaks, 2017). Government officials also have such dispositions. They can conceptualise behavioural patterns or repeated behaviours of target groups as malleable, stable, or something in-between.

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Such conceptualisations relate to preferences for policy instruments. As pointed out by Schneider and Ingram (1990), government officials almost always aim to change behaviour with their policy instruments; and behavioural reactions to instruments determine to what extent intended policy outcomes are achieved (Capano et al., 2019). Specifically, the compliance literature is concerned with behavioural reactions to policy instruments and scholars have pointed out the need for officials to reflect on behaviour when making instrument choices to increase the likelihood that instrument targets react positively (Weaver, 2014). Officials should thus match instrument choices to their targets using accurate conceptualisations of target behaviour (Hall et al., 2014). In fact, conceptualisations of instrument targets and anticipation of their reactions influence policy decisions (Schneider & Ingram, 1993; 2005), and multiple approaches have been suggested to better anticipate behavioural reactions (e.g., social marketing, co-production).

In the following, we discuss how instrument preferences can be influenced by anticipated behavioural reactions to those instruments (i.e., whether groups are believed to be “receptive” to instruments; Jeffrey & Seaton, 2004), and how those anticipations are rooted in different conceptualisations about the changeableness of behaviour. For this, we focus on information provision (“sermon”) and enforcement (“stick”; Veselý & Petrůšek, 2021) as two common instruments, and behavioural instruments as a novel instrument.

Information provision

For information provision to be an effective instrument, the target group needs to be capable of attending and processing the provided information to subsequently initiate and maintain behavioural change in a self-guided fashion (Howlett, 2018). This is something that officials who see behaviour as hard to change are inherently pessimistic about (i.e., they do not anticipate successful behavioural change). In contrast to that, officials who conceptualise behaviour as malleable plausibly view target groups as more receptive for information provision and more likely to change behaviour. We therefore hypothesise that the more malleable officials view behaviour, the stronger their preference for information provision (H1). This hypothesising is grounded in the finding that instrumentality (i.e., perceived usefulness of instruments) is one of two major factors determining instrument preferences (Capano & Lippi, 2017).

Behavioural Instruments

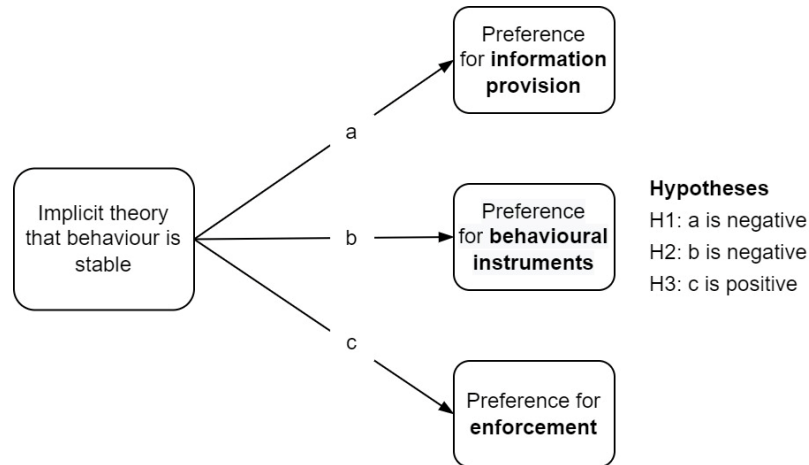
By behavioural instruments, we mean subtle interventions that encourage or discourage behaviours and are informed by behavioural sciences (e.g., nudges; Thaler & Sunstein, 2008). Such instruments are typically presented as choice-preserving (i.e., not forbidding any behaviours; Thaler & Sunstein, 2003), and hence, rely on the target group to accept the suggested direction of behavioural change and cooperate (e.g., Dewies et al., 2021). Although there are well-known examples for the effectivity of behavioural instruments (e.g., organ donation defaults; Johnson & Goldstein, 2003), examples are often context-specific with unclear implications for other contexts and long-term effects (e.g., Marchiori et al., 2017). Therefore, officials seeing behaviour as more stable are more likely to assume more hurdles to behavioural change associated with behavioural instruments than more optimistic officials viewing behaviour as malleable. We hence hypothesise that the more malleable officials view behaviour, the stronger their preference for behavioural instruments (H2).

Enforcement

Enforcement relies on regulations, policing, and sanctions to create behavioural change. It is more intrusive and less reliant on the voluntary acceptance and cooperation of target groups than information provision and behavioural instruments. Therefore, for officials viewing behaviour as stable, it promises to be effective and able to overcome perceived hurdles for behavioural change. Also, for officials viewing behaviour as malleable, enforcement promises to be effective. Yet, other characteristics plausibly limit preferences for enforcement: Legitimacy is another major determinant of instrument preferences (Capano & Lippi, 2017) and research suggests that enforcement tends to be perceived as threatening freedom of choice (Salamon, 2002, pp. 25-27), thereby lowering its legitimacy. For officials viewing behaviour as malleable, lower legitimacy of enforcement plausible leads them to prefer other effective instruments. Therefore, we hypothesise that the more stable officials view behaviour, the stronger their preference for enforcement (H3).

The statistical and theoretical framework implied by this hypothesising is shown in Figure 1.

Figure 1
Theoretical framework and hypothesized relationships



Methods

Design

We tested the hypotheses using a cross-sectional survey in the context of Covid-19. We chose this context because it provided an influential (Searwright & Gerring, 2008) and disputed (Harvey, 2020) case. ‘Zooming in’ (Nicolini 2009) on this case could help to magnify underlying structures, here cognitions about behaviour and policy instruments, since the urge for behavioural change was unprecedented at the time. Moreover, hygiene measures often targeted entire populations suggesting that general cognitions about the changeableness of behaviour could be investigated, rather than cognitions about more specific target groups.

Single case studies can provide valuable examples (proof of concept; Flyvbjerg, 2006) inspiring further research. However, the exceptional situation of the pandemic may limit generalisability, and relations between implicit theories about behaviour and instrument preferences may be different in other contexts. The research was approved by the DPECS ethics committee at Erasmus University Rotterdam (20-023r).

Sampling rationale

For this study, we aimed to recruit government officials with direct influence on public policy by being involved in policy making or policy implementation. Since we were interested in general cognitions about behaviour and public policy, and deemed the Covid-19 case accessible and familiar to all officials, we did not differentiate between different policy domains, job functions, or backgrounds.

Procedure

Using existing contacts, we approached the municipality of Rotterdam in the Netherlands for this research. In the Netherlands, municipalities have a substantial role in prevention and infection control. Based on our specifications, the municipality included Rotterdam officials with a salary grade of 10 or higher. This included officials actively involved in policy making or implementation as well as officials working in back offices of primary processes (e.g., policy advisors, project managers, executives, and strategic communication planners). Our respondents were from all policy domains of Dutch local governments (for more info on those domains see Association of Netherlands Municipalities, 2017, pp. 20-25). The municipality generated a list of officials of

which half (based on random employee numbers; $N = 2,928$) were invited to fill in a survey online. Data collection started on May 5th, 2020, just after the first wave of Covid-19 and lasted until June 8th, 2020, with a reminder sent halfway.

Sample

725 officials agreed to participate and answered the survey. Following a privacy-related requirement from the ethics committee, 8 respondents were excluded because they had a unique combination of demographic characteristics, leaving a sample of 717 (response rate 24%). Respondents were mainly between 40 and 55 ($n = 336$, 47%) or over 55 (228, 32%) years of age. Most respondents had studied at a university (326, 45%) or university of applied sciences (322, 45%). About half of the respondents were male (351, 49%; 332, 46% female).

Measures

Implicit theories

Implicit theories about behaviour were measured using three items from Levy and colleagues (1998). They were translated into Dutch and adapted to refer to behaviour instead of traits (Table 1).

Policy instrument preferences

We designed three items to measure preferences for information provision, behavioural instruments, and enforcement to prevent the spread of Covid-19 (Table 1).

All items were answered using a Likert scale from 1 (*totally disagree*) to 5 (*totally agree*).

Table 1
Translated items and item statistics

<i>Measure</i>	Reliability
Item	<i>M (SD)</i>
<i>Implicit theories</i>	.79
1. A person's behaviour determines who they are and can't be changed very much.	2.5 (1.0)
2. A person's behaviour can change a bit, but you cannot really change the important behaviours.	3.0 (1.2)
3. Everyone behaves in a personal way and there is not much you can do to really change that.	2.2 (0.9)
<i>Policy instrument preferences</i>	.44
The government should mainly use dissemination of information and knowledge (e.g., campaigns) to prevent the spread of the coronavirus.	3.7 (1.2)
The government should mainly use behaviour change techniques (e.g., gamification, change of defaults) to prevent the spread of the coronavirus.	3.8 (1.0)
The government should mainly use enforcement (e.g., fines, prohibition) to prevent the spread of the coronavirus.	3.0 (1.2)

Analytical Strategy

The hypotheses were tested using structural equation modelling and the lavaan package (Rosseel, 2012) for the R statistical software. Specifically, we modelled implicit theories of government officials as a latent variable that influenced policy instrument preferences. The model was estimated using 2,000 bootstrapped samples and to evaluate the hypotheses, we examined the 98% CIs for the coefficients of interest. The analysis code and the data are provided online (<https://osf.io/75bmw/files>).

Preregistration

The analytic strategy differs from the pre-registration (<https://osf.io/dngvq>) where we specified three separate models (one for each instrument preference as outcome), did not model implicit theories as a latent variable, and did not account for the multiple testing. Yet, integrating the three preferences in a single model better accounts for covariation between preferences, and latent variables are less affected by measurement errors.

As specified in the preregistration, we also investigated efficacy beliefs (i.e., an officials' confidence that behavioural change could be sustained after initial change) as a potential mediator for the hypothesised relations. However, theoretical support for this mediator was questioned by the reviewers, which led us to report this aspect in the supplementary material.

Results

Descriptive statistics and correlations between all measures and socio-demographic variables are shown in Table 2. On average, officials did not believe behaviour to be totally stable or malleable but something in-between. Comparing different policy instruments, enforcement was less preferred than information provision and behavioural instruments, according to one-way repeated measures ANOVA, $F(1.96, 1257.33) = 113.929$, $p < 0.001$.

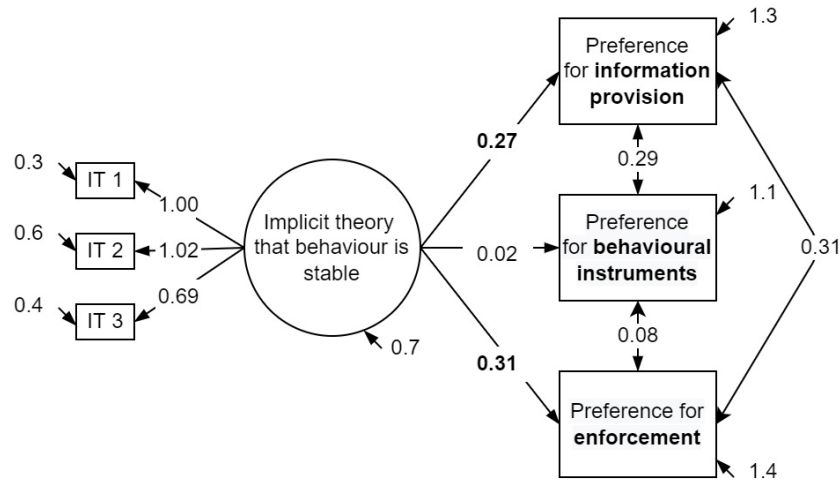
Table 2
Selected descriptive statistics and correlations

Measure	<i>M (SD)</i>	Information	Behavioural	Enforcement	Older age	Male	High education
Stable behaviour	2.6 (0.9)	.19	.01	.18	.10	.10	-.10
Information	3.7 (1.2)	-	.25	.27	.21	.07	-.20
Behavioural	3.8 (1.0)		-	.07	.01	.04	-.02
Enforcement	3.0 (1.2)			-	.09	.08	-.07

Notes. Spearman correlations printed in bold were significant at $p = .05$ according to the t -statistic.

Turning to the structural model (Figure 2), indices evaluating the goodness of fit for the model were in the acceptable range ($\chi^2 = 3.544$, $df = 6$, $p = 0.738$; $CFI = 1.000$; $SRMR = 0.011$; $RMSEA = 0.000$). According to inference statistics, the direct paths between implicit theories about behaviour and policy instrument preferences were significant for information provision, $\beta = 0.27$, 98% CI [0.13, 0.42], and enforcement, $\beta = 0.31$ [0.16, 0.47] but not for behavioural instruments, $\beta = 0.02$ [-0.11, 0.15]. Thus, counter to H1, information provision was preferred more and not less by respondents viewing behaviour as more stable. In line with H3, enforcement was also preferred more by those respondents. To investigate effect sizes, we calculated separate linear models per outcome and the effect sizes were Cohen's $f^2 = .03$ for enforcement and $f^2 = .02$ for information provision. A sensitivity analysis using age, gender, and education as covariates did not change the overall results.

Figure 2
Structural model



Notes: Rectangles represent observed variables; the circle represents a latent variable; coefficients are unstandardised; bold coefficients are significant; arrows from empty space represent variances; covariates are not included.

In an explorative analysis, we estimated a structural equation model with a preference for any type of government intervention as a latent dependent variable, measured by the preference for all three instruments together. This model provided acceptable fit ($\chi^2 = 17.422$, $df = 8$, $p = 0.026$; $CFI = 0.987$; $SRMR = 0.043$; $RMSEA = 0.043$) and showed that respondents who saw behaviour more as stable preferred the use of more government intervention than respondents who saw behaviour more as malleable, $\beta = 0.15$ [0.02, 0.39].

Discussion

Using a survey among officials of a Dutch local government, we investigated how preferences for policy instruments to prevent the spread of Covid-19 were influenced by implicit theories about the changeableness of behaviour. Our results show that, on average, officials preferred enforcement less than behavioural instruments and information provision. The preferences for enforcement and information provision were influenced by how officials conceptualised the changeableness of behaviour: Enforcement and information provision were more preferred by officials who conceptualised behaviour as stable and hard to change rather than easy to change and malleable. However, the effects were of small size (Cohen, 1988). Interestingly, there was no relation between preferences for behavioural instruments and conceptualisations about the changeableness of behaviour.

The finding that officials preferred more information provision and more enforcement the more they conceptualised behaviour as stable, may suggest that those officials prefer more government intervention in general (“A lot helps a lot”), at least under conditions where behaviour change can be considered necessary. This reasoning is supported by other research findings (Veselý & Petrúšek, 2021) and by our exploratory analysis. It suggests, however, that officials do not reflect on the different underlying working mechanisms of policy instruments and the extent to which they match actual behaviours of target groups (Howlett, 2018). Another explanation relates to the overall anxiety and uncertainty around Covid-19 at the time of the survey which may have overruled beliefs about behaviour. The simple need to do something (anything!) may have resulted in stronger preferences for both information provision and enforcement. Yet, both explanations cannot explain why we found no relation between conceptualisations about the changeableness of behaviour and preferences for behavioural instruments.

Concerning behavioural instruments, a plausible explanation for our findings is that instrument perceptions overrode the influence of the perceived changeableness of behaviour. The literature on behavioural instruments suggests that some perceive behavioural instruments as effectively changing behaviour in a mechanistic way without targets being aware of it (e.g., Junghans et al., 2015). Consequently, behavioural instruments may be perceived as useful for changing behaviour even when behaviour is conceptualised as stable and hard to change.

It is important to acknowledge that past research and this study do not allow conclusions about what implicit theories about behaviour are correct or desirable. Rather, actual behavioural changeableness tends to be influenced by multiple and diverse factors (e.g., personality, behavioural domain), requiring case-by-case assessments by officials. Therefore, general implicit theories of officials about the changeableness of behaviour may act as biases and we encourage practitioners to carefully reflect on behaviour before making instrument choices in order to avoid misconceptions about behaviour (Bensley & Lilienfeld, 2017). For this, professionals can make use of existing frameworks (for example Dudley & Xie, 2020; Olejniczak et al., 2020) or consult with behavioural experts from behavioural insights teams (e.g., Dewies et al., 2022).

A recent and related example of biased decision making is the United Kingdom government's decision to postpone introducing a lockdown amid the spread of Covid-19 in early 2020. This decision was justified by saying that "behavioural fatigue" would make that people could not really change their behaviour and could thus not comply with the lockdown over longer periods, meaning that a lockdown should better be introduced later when the situation had worsened, and compliance was more urgent (Feitsma & Whitehead, 2021). However, this reasoning lacked scientific evidence (Harvey, 2020; Mahase, 2020; Michie et al., 2020) and is said to have cost many lives (Knock et al., 2021).

We acknowledge the small number of items in our measurements as a major limitation of this research. To increase response rates, the individual measures were short consisting of maximum three items, which may have impaired measurement precision. For instance, we did not include negatively worded items to directly measure implicit theories about the malleability of behaviour (rather than the absence of stability). In addition, we did not include items to measure other relevant constructs potentially confounding the relationship between implicit theories and policy instrument preferences (e.g., political orientation; omitted variable bias). Another limitation is that the respondents may have observed the effectiveness of different policy instruments in practice, potentially influencing their answers. A factor limiting generalisation is that institutional backgrounds can influence instrument preferences (Vesely & Petrúšek, 2021), implying that the relations may differ for officials from other institutions (e.g., on national instead of municipality level).

Future research can overcome these limitations and extend the current research. Moreover, with this research contextualised in an exceptional situation like the Covid-19 pandemic, it is unclear how our findings generalise to other contexts. For instance, under stressful conditions, judgments were found to be more influenced by one's implicit theories (Chiu et al., 2000). Moreover, it is plausible that beliefs about behaviour are to some extent domain specific (i.e., behaviours related to an addiction may be assumed to be less malleable than others). These aspects deserve to be investigated further.

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