

Does 'Moral Reframing' Impact Support for Supervised Drug Consumption Facilities in the UK? An Experimental Vignette Study

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Abstract

The provision of supervised drug consumption facilities (SDCF) is a recent development in the United Kingdom (UK). The only currently operating facility opened in Glasgow in 2025. It has attracted extensive media and political scrutiny, often framed in moral terms. This experimental vignette study examined the role of moral judgements in UK debates on SDCF provision through the lens of Moral Foundations Theory (MFT).

We undertook a cross-sectional online experimental study with a randomised factorial design. Participants ($N=1,506$; 52% female; mean age 47 ± 16 years) were randomly assigned one of seven short vignettes. Six made an argument in favour of SDCF provision, framed around one of the six moral foundations identified in the Moral Foundations Questionnaire, Version 2 (MFQ-2). One provided a neutral description of SDCFs. Participants then answered two questions on support for SDCF provision either (a) in the UK or (b) in their local area.

Across all groups, support for SDCF provision somewhere in the UK was broadly positive. However, exposure to different message frames was not associated with differences in level of support. In contrast, only participants exposed to the care/harm framing vignette showed support for an SDCF in their own neighbourhood. Furthermore, MFQ-2 scores showed only limited associations with support: specifically, orientation towards the care/harm foundation predicted greater support for local provision.

Our findings suggest that moral framing may have limited persuasive effect when policy proposals are hypothetical or abstract, but that some types of moral considerations may become more salient as interventions are concretised in local contexts. The findings raise questions about the extent to which MFQ scores predict opinions on specific drug policy issues and invite further research on the role of emotional salience in shaping public responses to drug policy proposals.

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Introduction

In recent years, an extensive body of literature has emerged on the subject of safer drug consumption facilities [SDCF] (see EMCDDA and C-EHRN, 2023; Nicholls et al., 2023; Shorter et al., 2023; Yoon et al., 2022 for recent reviews). A substantial proportion of this research focuses on the evaluation of outcomes or the experiences of staff and service users. However, a smaller number of studies have explored public and political attitudes towards SDCF provision (Atkinson et al., 2019; Barry et al., 2019; Jauffret-Roustide & Cailbault, 2018; Kolla et al., 2017; McGinty et al., 2018; Nicholls et al., 2022; Parkes et al., 2022; Pijl et al., 2025; Salmon et al., 2007; Southwell et al., 2022; Strike et al., 2014; Sumnall et al., 2020). Unsurprisingly, these find mixed views on the principles and value of SDCF provision among the general public, policymakers and people directly affected by drug-related harms. Broadly, the research shows that debates on SDCF provision often coalesce around a number of key themes. These include the potential of SDCF provision to reduce drug-related deaths, blood-borne virus transmission and other health harms; their cost-effectiveness and possible opportunity costs in relation to other social and health provision; potential and perceived impacts on crime and disorder; and potential impacts on local amenity. However, a number of studies also highlight the degree to which concerns around stigma and the need for compassionate, non-judgmental care frame discussions on the value of provision, especially among supporters (Barry et al., 2019; Nicholls et al., 2022; Nicholls et al., 2023; Parkes et al., 2022; Salmon et al., 2007; Southwell et al., 2022). This suggests that appeals to ethical principles can play a key, and, for some people, principal, role in arguing for interventions of this kind.

In the United Kingdom [UK], SDCFs remain politically contentious, and only one pilot site currently operates (The Thistle, Glasgow). The Scottish Government supports their wider introduction, but the UK Government, which controls national drug legislation, maintains that it has no plans to support them. Analyses of political, public and media discourse on the topic have found that debate focuses as much on moral concerns as on appraisals of available outcomes evidence (Atkinson et al., 2019; Nicholls et al., 2022; Parkes et al., 2022; Stevens, 2024; Sumnall et al., 2020). The relationship between moral principles and views on SDCF provision in Canada has recently been explored by Pijl et al. (2025), whose findings are discussed further below. Recent UK research exploring the relationship between stigma and attitudes towards harm reduction has found that the expression of stigmatising attitudes does not correlate neatly with support or opposition to harm reduction (Sumnall et al., 2023, 2025), suggesting the relationship between expressed moral attitudes towards drug consumption and views on harm reduction may not be easily predicted.

The role of morality in shaping attitudes to drug policy is the subject of a growing body of literature (Curchin et al., 2025; Dea, 2020; Harris, 2021; Holland, 2020; Lerkkanen & Storbjörk, 2023; Nicholls, 2024; Porter, 2020; Stevens, 2024). Importantly, much of this work not only argues that drug policy analysis must account for moral considerations but recognises that, while the ‘moralism’ of conservative positions is often emphasised, *all* views on drug policy reflect moral assumptions and conflicts between core values (Curchin et al., 2025; Harris, 2021; Lasco & Abesamis, 2024; Lerkkanen & Storbjörk, 2023; Nicholls, 2024; Porter, 2020; Ritter, 2022; Zampini, 2018). As Christie et al. (2019: p. 231) have noted in relation to debates on needle exchange, while it may be thought that ‘moralization of needle exchange is particular to conservative opposition, an alternative interpretation ... is

that disagreement is less over *whether* moral arguments are used than over *which* moral arguments are used'. Recent work in this area has applied and analysed a range of frameworks, including Schwarz's theory of basic human values (Askew & Ritter, 2023, 2025), and ethico-political 'policy constellations' (Stevens, 2024). Several studies have also considered drug policy debates through the lens of Moral Foundations Theory (MFT) (Askew et al., 2022; Christie et al., 2019; Pijl et al., 2025; Ruiz Flores López et al., 2024), suggesting potential for further application within the field. MFT provides a framework for exploring often unarticulated values that underlie expressed political alignments, as conventionally placed along a left-right, or liberal-conservative axis (Graham et al., 2011). The theory suggests that views on policy issues, while frequently interpreted in binary political terms and assumed to be the outcome of rational deliberation, stem from a deeper set of moral intuitions.

This study seeks to develop these insights specifically in relation to support or opposition to SDCF provision in the UK. The existing literature on public attitudes to SDCF provision reveals that moral arguments figure prominently in the expression of views, whether in support or opposition, and UK studies suggest support or opposition is not neatly correlated with stated political preferences (Sumnall et al., 2023, 2025). Furthermore, while harm reduction is conventionally coded as politically progressive, there are coherent libertarian arguments for harm reduction, just as there are coherent left-wing arguments against it (Nicholls, 2024; Stevens, 2024). MFT postulates that stated political preferences are a secondary expression of deeper moral intuitions. This paper seeks to explore whether those underpinning moral intuitions correlate more clearly with support for or opposition to SDCF provision. This is not the first study to apply MFT analysis to harm reduction support (Christie et al., 2019; Eriksson et al., 2025; Pijl et al., 2025; Zampini, 2018), but the first to do so experimentally in a UK context, looking specifically at SDCFs. Furthermore, where previous comparable studies have explored correlations between individual moral intuitions and views on harm reduction policy, this study has a core focus on whether the moral framing of messages about harm reduction impacts attitudes independently of, and in interaction with, existing moral views.

Moral Foundations Theory

MFT originally proposed that moral intuitions arise from five core, evolved moral 'foundations' (care/harm; fairness/cheating; loyalty/betrayal; authority/subversion and sanctity/degradation), operationalised in the Moral Foundations Questionnaire (MFQ) (Atari et al., 2020; Graham et al., 2009; YourMorals.org, 2024). These were further grouped into '*individualising*' (care and fairness) and '*binding*' (loyalty, authority, sanctity) foundations, reflecting their respective focus on individual rights versus social order (Graham et al., 2009). Early studies suggested politically left-leaning respondents prioritise individualising foundations, while right-leaning respondents valued individualising and binding foundations equally, but less intensely (Graham et al., 2009).

A recently revised version of the MFQ, the MFQ-2, refined the original structure by dividing fairness/cheating into two distinct foundations: *equality* and *proportionality* (Atari et al., 2023; Zakharin & Bates, 2023; see Supplementary Material). This was to address concerns that the original scale conflated rights-oriented and contract-based notions of fairness (Skurka et al., 2019), a distinction that is significant in debates on drug harm reduction (Nicholls, 2024).

The MFQ-2, therefore, comprises six domains:

1. Care/harm
2. Equality (equal treatment and outcomes)
3. Proportionality (reciprocation, just rewards, contractual responsibility)
4. Loyalty/betrayal
5. Authority/subversion
6. Sanctity/degradation

In MFQ-2, equality is defined as individualising while proportionality is defined as binding.

Research has explored the predictive value of MFQ scores for policy preferences (Graham et al., 2009), and experimental studies find some evidence that support for harm reduction interventions correlates with higher individualising foundations (Alderman et al., 2010; Christie et al., 2019; Metas, 2023; Pijl et al., 2025). However, Christie et al. (2019) found that only care/harm and sanctity/degradation robustly predicted support or opposition to needle exchange programmes (NEPs). They also reported that while left-leaning participants were more favourable towards NEPs, only the ‘very conservative’ subgroup fell below the midpoint of the support scale – suggesting that *strength* (not just direction) of moral foundation alignment is important. In a recent study on SDCFs in rural Canadian communities, Pijl et al. (2025) found that higher care/harm and fairness/cheating scores predicted greater support, while higher authority/subversion and sanctity/degradation scores predicted lower support. Here, MFQ scores explained more variance than demographic variables, stigmatising attitudes, or familiarity with people who use drugs, suggesting moral foundations strongly shape attitudes on this issue.

Several studies have also explored whether ‘moral reframing’ – that is, aligning policy messages with moral intuitions of recipients – increases support for specific policies (Clifford et al., 2015; Feinberg & Willer, 2013; Kidwell et al., 2013; Luke & Gawronski, 2021). These studies tend to show support for conventionally ‘progressive’ policies increases among right-leaning participants if those policies are justified using binding frames (Day et al., 2014; Feinberg & Willer, 2013; Hurst & Stern, 2020; Wolsko et al., 2016). In previous studies (Sumnall et al., 2023, 2025), we found that hypothesised associations between political affiliation and harm reduction support were not confirmed, contrasting with international studies showing clear effects (Kulesza et al., 2015; McGinty et al., 2018; Rasinski et al., 2000). This may reflect complexities in the UK political landscape where there are strong traditions of social conservatism within the left-leaning Labour Party, which has historically opposed drug policy reform (Bolton & Pitts, 2020; Buchanan, 2010), while some libertarian organisations have openly supported harm reduction (Bartle, ND). This led us to consider whether alignment with moral foundations, rather than simple political orientation, may be a better predictor of support. Furthermore, because SDCFs are highly localised interventions (Eriksson et al., 2025; Socia et al., 2021), we hypothesised that views on SDCF provision in the abstract would differ compared to views concerning provision in the neighbourhood of respondents.

To investigate this, we used an experimental vignette design. Experimental vignette methods have a long history in social science research and provide a well-established approach for studying the relationship between attitudes, beliefs and policy-relevant judgements (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Hughes & Huby, 2004). Moral reframing studies in MFT research typically use vignettes to manipulate the description of a policy such that it aligns with specific moral foundations. The core advantage of experimental vignette methods is that they enable causal inferences to be made about the effects of specific framing at scale. The method has limitations regarding external validity (Hughes & Huby, 2004), since policy attitudes are rarely completely fixed in time, and only sometimes (though often importantly – for example, when voting) articulated under isolated conditions. Furthermore, it cannot investigate the social and psychological conditions that underpin the construction of social attitudes. However, it can provide cross-sectional insights into the relationship between broader moral positioning and likely support for, or opposition to, specific policies at a given moment. The present study applies this approach to SDCF provision in the UK to explore the specific effects of moral framing on public attitudes in relation to a novel and potentially controversial policy, introduced within a highly moralised policy arena, where these potential effects have not been previously examined experimentally.

Research Questions

This study addressed one primary research question through two hypotheses, supplemented by exploratory analyses. The primary research question was ‘does the moral framing of SDCFs impact public support?’. The methodology, analysis plan and hypotheses were pre-registered (<https://aspredicted.org/fp9p4x.pdf>):

- H1: There will be significant differences between support for supervised drug consumption facilities in the UK, depending on the moral framing of messages used around them; and
- H2: There will be significant differences between support for supervised drug consumption facilities in the individuals’ own neighbourhood, depending on the moral framing of messages used around them.

To further assess relationships between message framing and support relative to individual moral foundation scores, we conducted exploratory analyses to examine whether:

- Individuals scoring high on binding MFQ-2 foundations were more likely to support SDCFs when exposed to binding message frames than when exposed to individualising frames.
- Individuals scoring high on individualising foundations were less likely to support SDCF provision when exposed to binding message frames, compared to those exposed to individualising message frames.

Methods

A randomised between-subjects experimental vignette study, with seven conditions. Six conditions consisted of a short message in support of SDCF provision, framed according to one of the domains in MFQ-2. A control condition consisted of a neutral description of an SDCF. Vignettes provide an established method for exploring the specific impacts of message framing on a narrow policy proposal across large populations, and have been used in MFT research where the framing, rather than the substance, of a policy issue is being explored (Clifford et al., 2015; Day et al., 2014; Feinberg & Willer, 2013). A small number of studies have used vignettes to explore the impact of framing on attitudes to drug policies (Christie et al., 2019; Pijl et al., 2025; Ruiz Flores López et al., 2024).

Participants

A total of 1,506 adults currently living in the UK were recruited via a Prolific UK panel (Prolific, UK; <https://prolific.co/>). Prolific UK uses quota sampling matched to census data on age, sex and ethnicity; however, as an opt-in online panel, it is not fully population representative (see ‘Sample characteristics’ section). The survey was carried out in July 2025. A priori power calculation indicated that 1,500 participants would provide 80% power, two-tailed, to detect small main effects in an ANOVA ($f = 0.095$), and small individual group differences (Cohen’s $d = .27$) (Table 1).

Materials

Six brief vignettes were prepared, each making a positive case for SDCF provision framed according to one of the moral domains in MFQ-2. One neutral vignette briefly described SDCFs without advocating for provision. Initial draft vignettes were developed by JN using iterative prompts to ChatGPT. First prompts specified word length range, scenario platform (a social media post) and requirement for

Table 1. Participant Demographics (NB: Demographic Questions Are Created by Prolific).

Demographic	All Participants (n = 1506)
Age	46.7 (SD 15.4)
Sex (%)	
Male	48.5
Female	51.5
Ethnicity (%)	
White	85.3
Asian	8
Black	3.4
Mixed ethnicity	1.7
Other	1.6
Education (%)	
Degree or above	61
Drug use (last 12 months) (%)	8.8
Knowing someone who died from an overdose (%)	16.5
Family member	3
Close friend	5
Other	8.5
Awareness of an SDCF in Scotland (%)	21.5

MFQ-2 domain alignment. Further prompts refined initial drafts specifically seeking tonal consistency and emotional neutrality. To minimise confounding, the aim was to match all vignettes as closely as possible on length, tone, emotional register and informational content, with differences only in moral framing. Drafts were discussed by JN and HS, and minor amendments were made. The revised drafts were re-entered into ChatGPT for further tonal consistency checks and word-length consistency. The draft vignettes were then reviewed by the whole research team for domain alignment, comprehensibility and tone. No amendments were proposed. Final draft versions were then pre-tested with 15 volunteers, recruited via professional networks. Volunteers were presented with each vignette and a list of MFQ-2 domains and asked to categorise each vignette according to one of the MFQ-2 domains. This confirmed strong domain alignment, with very few errors in responses. No further revisions were made. The length range of the final vignettes was 63–79 words. Final vignettes are included in the Supplementary Material.

Measures

Support for SDCF Provision. Support for SDCF provision was measured using two questions: one measuring support in principle for SDCF provision somewhere in the UK, the second measuring support for the establishment of an SDCF within the respondent’s neighbourhood:

1. After reading the text, how would you rate your level of support for a supervised drug consumption facility in the UK?
2. After reading the text, how would you rate your level of support for a supervised drug consumption facility in your neighbourhood?

A separate 21-point response scale, ranging from –10 (*strongly oppose*) to 10 (*strongly support*), was provided for each question.

Moral Foundations. Moral foundations alignment was measured using the 36-item MFQ-2 questionnaire (Atari et al., 2020; see Supplementary Materials). In the MFQ-2, participants respond to 36 statements on a 5-point scale: Does not describe me at all (a); Slightly describes me (b); Moderately describes me (c); Describes me fairly well (d); Describes me extremely well (e). Each statement is aligned to one of the six moral foundations, with six statements for each foundation. Scale scores are computed by averaging the scores for the relevant statements for each foundation. For example, for each respondent, the scores given for all of the six statements aligned to ‘proportionality’ are averaged to derive a composite ‘proportionality’ score. This is repeated for all six moral foundations. Higher composite scores indicate greater endorsement of that foundation.

Additional Measures. To further characterise the sample and enable exploratory analyses, three further measures were included. To assess whether participants were previously familiar with the main research topic, a single yes/no question was asked: ‘Are you aware that an SDCF has recently opened in Scotland?’ Familiarity with people who have substance use problems was measured using a modified Level of Familiarity scale (Corrigan et al., 2001). Personal experience of drug death loss was assessed using two items adapted from Kennedy-Hendricks et al. (2024). These were (a) Do you personally know anyone who has died from a drug overdose? (Yes/No/Don’t know); and (b) Who do you know that has died from a drug overdose? (family member; close friend; other).

Procedure. After completing consent, participants were randomised to one of the seven vignettes. Following exposure to the vignettes, participants completed the two support for SDCF provision questions. They then completed the MFQ-2 questionnaire. Finally, they completed the familiarity questions in the following order: topic familiarity; familiarity with people who have substance use problems; and personal experience of drug death loss. Finally, as an attention check, participants completed a four-item multiple-choice test containing three incorrect and one correct description of an SDCF. An incorrect answer was classed as failing the check.

Data Analysis

Primary Analysis. Analyses were conducted in R. ANOVA was used for the main hypotheses (H1 and H2) as only minor deviations from normal distributions were observed (Blanca et al., 2017). One-sample t-tests against zero were used to determine whether mean group scores differed significantly from the scale midpoint. In the scale, zero represented neither support nor opposition. For local vs national support, paired t-tests were used, combining all experimental groups.

For results that were not statistically significant, Bayes Factors (BF^{10}) were provided to assess support for the alternative hypothesis vs the null using default priors (Jeffreys-Zellner-Siow prior on standardised effects (Cauchy (0, .707))). Following (Beard et al., 2016), BF^{10} cutoffs were: $BF^{10} > 3$ = substantial evidence for the alternative hypothesis; $BF^{10} < 0.33$ = substantial evidence for the null hypothesis; and $BF^{10} 3-0.33$ = weak evidence for either hypothesis (data insensitivity).

Sensitivity Analysis. Non-parametric sensitivity tests (Friedman’s test) and trimmed ANOVAs (removing 10% at both extremes of the outcome) were applied. The pattern of results remained unchanged in all cases. To address careless responses, analyses were repeated excluding participants in the fastest 5% of overall survey completion time, and responders who failed the attention check.

Exploratory Analysis. Pairwise Pearson correlation coefficients were calculated between all MFQ-2 domain scores to assess the presence of individualising and binding foundation clusters in the sample. Participant MFQ-2 scores were correlated with support for SDCFs, both nationally and locally, to

assess whether moral foundation alignment predicted support for provision. To assess whether responses differed across message frame conditions, we calculated correlations between moral foundation scores and vignette frames (grouped as individualising, binding or neutral). Finally, we conducted multiple regression on all MFQ-2 scores and message framing conditions as predictors of SDCF support to assess whether participant foundations independently predicted support for SDCF provision controlling for shared variance among foundations and message frame exposure.

Results

Sample Characteristics

While the sample proportions matched census data on sex and ethnicity, the proportion educated to degree or above (61%) was almost twice the figure across the UK population. Reported drug use in the last 12 months matched the figure (8.7%) in the 2025 Crime Survey for England and Wales (Office for National Statistics, 2025). 16.5% reported knowing someone who had died of an overdose, of whom 3% were a member of the family and 8% a close friend. We cannot determine how respondents defined ‘other’ on this question, so this may include people not known personally. A large majority of participants (78.5%) were unaware of the SDCF operating in Glasgow, suggesting the policy may have low salience across the sample generally.

Table 2 presents MFQ-2 domain scores across the sample. Care/harm was the most strongly endorsed foundation ($M = 22.98$, $SD = 5.20$). This is consistent with wider MFT studies, which tend to show care/harm as the highest-scoring individual domain among populations in Western countries. Sanctity/degradation was the lowest-scoring domain, which is also consistent with prior research ($M = 14.64$, $SD = 5.54$). Proportionality scored highly compared to most other foundations, including equality ($M = 21.90$, $SD = 4.54$), providing some support for the hypothesis underpinning the development of MFQ-2 that proportionality represents an independent domain within the broader concept of ‘fairness’. Equality also showed the highest standard deviation ($SD = 6.13$), suggesting more heterogeneous views on this foundation than on others.

Internal consistency for MFQ-2 subscales was good according to McDonald’s Omega (care/harm = 0.87; equality = 0.83; proportionality = 0.80; loyalty/betrayal = 0.69; authority/subversion = 0.82; sanctity/degradation = 0.73).

Primary Analysis

Support for National Provision by Message Frame (H1). Across the whole sample, including those exposed to the neutral vignette, average support for SDCF provision somewhere in the UK was above zero on the rating scale ($M = 3.36$, $SD = 5.60$, $ps < .001$, $ds = 0.51$ – 0.68). This indicates broadly positive, though moderate, support across the general population for SDCF provision somewhere in the UK. However, one-way ANOVA indicated no significant effect of vignette conditions ($F(6,664.2) = 0.95$, $p = .46$, $np2 = .00$; $BF^{10} < .001$), indicating that exposure to different message frames did not affect levels of support. Bayesian analysis provided strong evidence in favour of the null hypothesis. Results remained unchanged after sensitivity analysis.

Support for Local Provision by Message Frame (H2). Across the whole sample, including those exposed to the neutral vignette, support for provision in the neighbourhood of the respondent was very close to neutral ($M = 0.69$, $SD = 6.54$). However, in contrast to national-level support, there was some variation by message framing. Among individual vignette conditions, only participants exposed to the care/harm vignette condition showed support above zero for an SDCF in their own neighbourhood ($t(213) = 3.09$, $p = .002$, $d = .021$, 95% CI 0.08–0.35). Participants exposed to other vignettes, including the neutral,

Table 2. Spread of Moral Foundations Scores Across the Sample (Max Score per Foundation = 36).

	Mean	SD
<i>Moral Foundation</i>		
Care/harm	22.98	5.20
Equality	17.62	6.13
Proportionality	21.90	4.54
Loyalty/betrayal	18.16	5.67
Authority/subversion	19.25	5.90
Sanctity/degradation	14.64	5.54

did not significantly differ from 0 on the support scale ($ps > .055$). One-way ANOVA confirmed no significant difference between conditions overall ($F(6,664.3) = 0.83$, $p = .54$, $\eta^2 = 0.00$: $BF^{10} < .001$). Bayesian analysis also provided strong evidence for the null. Sensitivity checks did not alter the findings.

Support for National vs Local Provision. Generally, support for SDCF provision in the UK and locally was strongly correlated: that is, those who supported local provision also tended to support national provision. However, the reverse was not true. Across the sample, support for SDCF provision somewhere in the UK was significantly higher than for provision where participants actually lived ($t(1,501) = 24.28$, $p < .001$, $d = .63$, 95% CI 0.57–0.68). This indicates that individuals are substantially more likely to support SDCF provision in theory, and assuming it would be located at a distance, as compared to supporting concrete proposals for the opening of a facility in their local neighbourhood. Notably, the care/harm vignette condition was the only group in which support for local SDCF provision was significantly above zero, suggesting that appeals to empathy may mitigate local opposition (though this was not tested). However, support for local SDCF provision was not affected by appeals to any other moral framing (Figures 1 and 2).

Exploratory Analyses

MFQ-2 Domain Correlations. In line with previous studies, correlation analysis showed strong and moderately strong positive associations between three binding foundations (loyalty/betrayal, authority/subversion and sanctity/degradation), and a moderately strong positive correlation between the two individualising foundations (care/harm and equality). This supports the conventional aggregation of the separate moral foundations into two composite types: individualising and binding (though it remains open as to whether these are the best descriptive labels for the two groupings). In our analysis, proportionality correlated negatively with equality – supporting the conceptual distinction between the two that underpins MFQ-2. Proportionality also correlated moderately positively with the binding foundations, providing further indicative support for the proposition that there is a substantive difference between proportionality- and equality-based conceptions of fairness (see Supplementary Material).

MFQ-2 Scores and SDCF Support. When individual foundations scores were aggregated into individualising and binding, a weak pattern emerged. Support for SDCF provision (both UK and local) showed a weak negative correlation with all the binding foundations (including proportionality). That is, participants who scored more highly on the ‘binding’ foundations tended to be more likely to oppose any SDCF provision. By contrast, support for SDCF provision correlated moderately positively with the individualising foundations.

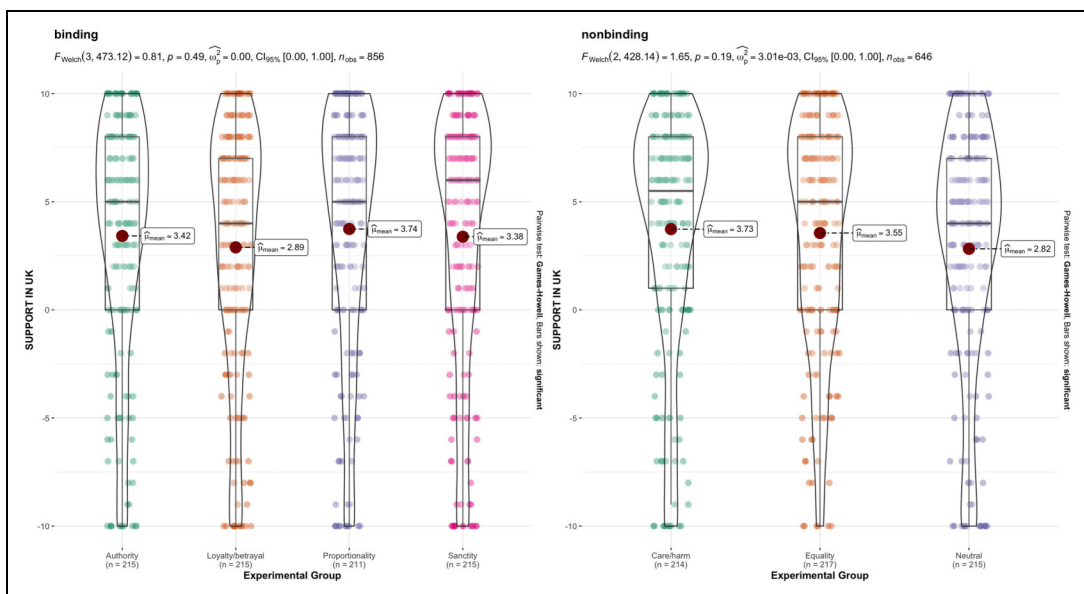


Figure 1. Support for supervised drug consumption facilities in the UK, by message frame exposure group.

Multiple regression analyses were consistent with these findings. Looking at the relationship between participant MFQ-2 scores and support for SDCF provision, there was a positive correlation between individualising scores and support, and a negative correlation between binding scores and support. These effects were weaker after controlling for other foundation scores and message framing condition. As shown in Table 3, care/harm was the strongest predictor of support, both nationally ($b = 0.33$, $p < .001$) and locally ($b = 0.40$, $p < .001$). Equality also showed a positive association, though weaker (national $b = 0.13$; local $b = 0.17$, both $p < .001$). Among the binding foundations, sanctity/degradation and proportionality showed the most consistent negative associations with support. Authority/subversion was negatively associated with national support, but the local association was non-significant ($p = .056$). Loyalty/betrayal showed a very weak positive association with support (national $b = 0.01$, $p < .012$; local $b = 0.11$, $p < .021$); however, this disappeared after adjusting for age and gender.

Message Frame and Foundation Scores. There was some evidence that individuals who scored high on individualising foundations were more likely to support SDCF provision, and that those scoring high on care/harm were, alone, more likely to support provision in their local area. However, regression analysis confirmed that message framing alone – that is, the message frame independent of participant MFQ scores – produced no statistically significant correlations when looking across the sample as a whole. Furthermore, correlation analysis found no evidence that binding frames increased support among participants scoring higher on binding foundations. It appears unlikely, on this evidence, that opposition to SDCF provision among individuals who score highly on binding foundations would reduce even if arguments in favour of provision are framed in ways that align with their moral intuitions. Furthermore, participants who scored high on binding foundations showed slightly stronger levels of opposition when exposed to individualising frames, suggesting a possible (though weak) rebound effect. That is, arguments for provision that emphasise individualising foundations may entrench opposition among those with differing moral intuitions. By contrast, exposure to binding frames was positively associated with support for SDCF provision (both local and national) among participants scoring

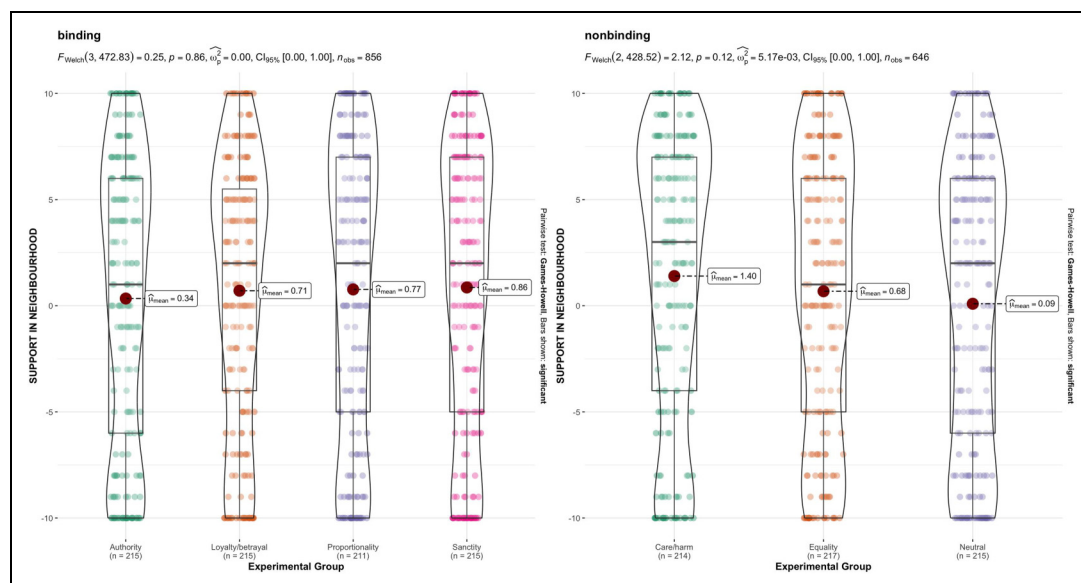


Figure 2. Support for supervised drug consumption facilities in the local neighbourhood, by message frame exposure group.

high on individualising foundations. Support remained largely unchanged in this group regardless of frame exposure (see Supplementary Material).

Overall then, the findings point to only limited associations between message framing, moral foundations scores and support for SDCFs in the current UK population. Across the sample as a whole, there was moderate support in principle for SDCF provision but, notably, this was much lower for provision in the local neighbourhood. The only exception to this was among people who scored highly on the care/harm foundation. Message framing, by itself, had no measurable impact on attitudes. Nor did the alignment of message framing with MFQ-2 scores significantly or consistently change levels of support.

Limitations

Although Prolific UK samples are census-matched on key demographics, they are not nationally representative. In particular, our sample had much higher rates of higher education than the general population. The low rates of familiarity with the topic area limit generalisability to other settings, including areas of the UK where the issue has gained greater public attention and generates more polarised debate. More broadly, the findings may not generalise to settings where SDCF provision is more established, such as Canada, the Netherlands or Switzerland, and where both public familiarity and the political debate are differently configured. The null framing effect found here may, therefore, reflect the low-salience context rather than the absence of any framing effect in principle. While the brevity and emotional neutrality of the vignettes were appropriate for isolating the effect of moral framing, it may have limited the ecological validity of the stimuli, as real-world advocacy, media coverage and political debate around SDCFs are rarely emotionally neutral. The use of single-item measures to test support only partially captures the multi-dimensional nature of social attitudes (e.g., conditional acceptance).

Table 3. Regression Analysis.

	Support UK				Support Neighbourhood			
	b	95% CI	t-statistic	p	b	95% CI	t-statistic	p
Message frame exposure								
Intercept	-0.36	-2.14-1.41	-0.40	.689	-4.84	-6.91 to -2.78	4.60	<.001
Care/harm	0.10	0.84-1.05	0.22	.829	0.83	0.27-1.93	1.49	.137
Equality	0.09	0.85-1.03	0.19	.852	0.33	0.77-1.42	0.58	.560
Loyalty/betrayal	(-0.48)	(-1.43)-0.46	1.00	.316	0.37	0.72-1.47	0.67	.504
Neutral	(-0.59)	(-1.54)-0.35	1.23	.217	(-0.23)	(-1.32-0.87)	0.41	.686
Proportionality	0.29	0.66-1.24	0.59	.555	0.37	0.73-1.48	0.66	.508
Sanctity/degradation	0.28	0.66-1.22	0.58	.561	0.87	0.23-1.96	1.55	.122
MFQ-2 scores								
Authority/subversion	(-0.14)	(-0.22)-(-0.06)	3.27	.001	(-0.10)	0.19-0.0	1.91	.056
Care/harm	0.33	0.27-0.39	11.39	<.001	0.40	0.34-0.47	11.88	<.001
Equality	0.13	0.08-0.17	5.05	<.001	0.17	0.11-0.23	5.90	<.001
Loyalty/betrayal	0.11	0.02-0.19	2.53	.012	0.11	0.02-0.21	2.30	.021
Proportionality	(-0.11)	(-0.18)-(-0.04)	3.20	.001	(-0.22)	(-0.30)-(-0.14)	5.34	<.001
Sanctity/degradation	(-0.19)	(-0.26)-(-0.13)	6.02	<.001	(-0.17)	(-0.24)-(-0.10)	4.60	<.001
Observations	1,499				1,499			
R ² /R ² adjusted	0.214/0.208				0.223/0.217			

Values in bold are statistically significant.

Discussion

The findings show that, by itself, the moral framing of messages had no significant effect on support for SDCF provision, whether national or local. This was the case both across the sample as a whole and when analysed in relation to the MFQ-2 scores of participants. A weak rebound effect was observed in the case of people who scored high on binding foundations when exposed to messages emphasising individualising values, but the effect would appear to be limited. There was a notable difference in levels of support for local provision compared to national, echoing findings by Pijl et al. (2025) and Socia et al. (2021). The only notable difference between MFQ-2 scores and support was the higher support for local provision among participants scoring high on care/harm.

This null finding is substantive, and the Bayes Factor analysis provides strong evidence for it. Therefore, we must consider why framing effects that appear in other comparable studies are not replicated here. We would propose a number of possible explanations. Firstly, the topic familiarity question highlighted that the majority of respondents were unaware of the debate on SDCFs in the UK, and may have had only a partial understanding of what SDCF provision would involve even after reading the brief vignettes. The findings may, therefore, indicate that message framing is less persuasive where the policy issue at hand has low political or emotional salience. Differences in support for both propositions were non-significant across message framing conditions, but the distribution of responses suggests SDCFs are not a sharply polarising issue in the general UK population. These findings may not, therefore, be generalisable to settings where SDCF provision is more widespread and, therefore, a more high-profile political issue. This includes non-UK settings such as Canada (see Pijl et al., 2025) but also regions within the UK, specifically Scotland, where the debate has a much higher media and political profile. Further studies in such settings would provide useful comparators.

The findings may also shed light on conceptual and methodological challenges in MFT research more broadly. Critically, there is no *a priori* reason why orientation towards a given moral foundation would lead to a specific view on the efficacy of an intervention. One could, for instance, be highly caring but simply take the view that SDCFs will not achieve the best outcome for those about whom you care. Similarly, one could be highly loyal but feel a closer affinity to those who share your political principles than those who share geographical proximity. MFQ scores may therefore indicate ethical dispositions, but not how those manifest in relation to real-world decisions.

Our findings may also indicate that views on SDCFs are grounded in axiomatic values or beliefs that outweigh the effects of short-form messaging. These may include specific beliefs about the morality of drug use (MacCoun, 2013) or other forms of identity-based moral reasoning and ideological commitments, which are not captured by moral foundations categories (Piazza et al., 2019; Smith et al., 2017). Furthermore, the arguments in the vignettes, while oriented towards different moral foundations, all centred on the possible effects of SDCF provision on people who use drugs, local communities and public health. Views grounded in axiomatic (or deontological) principles concerning the ethics of drug consumption may simply be resistant to the consequentialist framing used in our vignettes.

Importantly, the vignettes were deliberately designed to be tonally consistent and emotionally neutral, which may have reduced the likelihood they would activate non-deliberative moral intuitions. The role of emotion in determining moral judgement is well established; indeed, recognition of this informed the development of MFT (Haidt, 2001; Helion & Ochsner, 2018). However, we were keen to avoid skewing responses by loading vignettes with different emotional weights. As a result, the cues may not have been emotionally salient enough to trigger strong affective responses. It may be that tonal markers in exposure materials may play a key role in triggering and signalling moral alignment, making them as significant as substantive claims or arguments. Further research should test the extent to which such affective triggers shape responses to MFT stimuli, and whether this has implications for the presuppositions of MFT more broadly.

Across the sample, there was moderate support for SDCF provision somewhere in the UK, but only very limited support for provision in participants' own neighbourhoods. This finding echoes Pijl et al. (2025) and Socia et al. (2021), which also show that support is generally higher for provision outside one's own neighbourhood. Such a 'NIMBY' effect is perhaps unsurprising, being commonplace among many policy areas, but it has important implications. For instance, it suggests that national-level opinion on the abstract principle of SDCF provision may be a poor proxy for, and predictor of, local responses where services are proposed. Local engagement in the planning and evaluation of services is therefore critical, even where consensus may have been achieved at a wider population level. Notably, the exception to this was among people who score high on care/harm. This finding is consistent with Pijl et al. (2025). Taken together, this trend across two studies suggests that while moral foundation orientations may not be a significant factor when provision is hypothetical, they may play a more powerful role in shaping opinions in localised settings where views may become more polarised. Or, it may be that care/harm orientations don't necessarily increase support in principle but instead mitigate reductions in support when there is a perceived risk of personal impact.

Prior framing research has indicated that on some conventionally 'progressive' issues, support may increase among individuals who score highly on binding foundations if advocacy for the policy is itself framed in binding terms (Day et al., 2014; Feinberg & Willer, 2013; Wolsko et al., 2016). We found no evidence for this in our sample. Likewise, support among those with high individualising scores was not significantly affected by message framing, suggesting neither a persuasive effect when frames align nor 'rebound effects' when they do not. This contrasts with research suggesting binding frames 'persuade' high-binding individuals to support ostensibly liberal policies, but is consistent with evidence that they do not create rebound effects among high-individualising people (Pijl et al., 2025). While our findings partially support Pijl et al. (2025)'s suggestion that binding frames present a low-risk strategy for advocates seeking to increase support across all foundation groups, we did not replicate the persuasion effect among high-binding participants.

For SDCF advocates, this suggests that arguments for provision based on 'binding' issues such as reducing public injecting or discarded needles may not override other concerns among opponents of provision whose moral intuitions align with binding moral foundations. However, this should also be considered in light of the fact that most participants had low familiarity with the topic, and the observed patterns may differ where provision is a concrete local reality, and they may also be shaped by differing local conditions (including perceived levels of consumption, amenity issues or public nuisance) that our study did not take into account.

These findings have several implications for planning and advocacy around SDCF provision. The gap between national and local support suggests that even where wider public opinion is broadly positive, local consultation and engagement cannot be assumed to mirror that consensus. The apparent resilience of opposition to moral framing suggests that advocacy strategies based primarily on reframing arguments may have limited impact, at least in low-salience contexts. Investment in local deliberative processes, direct engagement with affected communities, and attention to the specific practical concerns of local residents may be more productive than attempts to shift opinion through mass communication framing.

Our results support the refinement of the MFQ-2 fairness/cheating domain into equality and proportionality. In our data, equality correlated with individualising foundations, while proportionality correlated more closely with binding foundations. A number of recent studies have considered the extent to which rights-based and contractual conceptions of justice conflict in drug policy discourse (Curchin et al., 2025; Nicholls, 2024; Porter, 2020). If the proposed division of fairness/cheating into the two foundations of equality and proportionality holds, then this suggests that the principles and rhetoric of fairness can be effectively operationalised by all sides in policy debates since the meaning of 'fairness' is contingent upon prior moral assumptions.

While moral foundations appear moderately associated with levels of support for SDCFs, in our study, moral framing of messaging did not significantly alter those views. This suggests that, where policy remains a relatively abstract concern, attitudinal change may not be triggered by short-form persuasive cues regardless of moral framing. This may change in cases where concrete local impacts are experienced or expected. Alternatively, it may suggest that a threshold of emotional salience is needed to trigger the level of affective response needed to change already-held opinions. The exception – the impact of care/harm framing on support for local provision suggests that emotional appeals to empathy may warrant further investigation as a distinct mechanism, separate from the broader MFT framing literature. It has been noted recently that opposing ‘constellations’ in drug policy debates share a self-perception as being ‘compassionate’ in their approach, and it may be this that the care/harm message activates (Stevens, 2024). Future research might further examine the role of emotional tonality in activating moral intuitions as defined in MFT, and whether this is a more significant factor than is assumed in prior MFT studies. Overall, however, these findings suggest that among a general population where few or no SDCFs operate, and where the public debate lacks emotional salience for many, the type of affective and deliberative responses elicited by moral foundation approaches play only a limited role in shaping attitudes.

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Ethical Considerations

The research was approved by Liverpool John Moores University Research Ethics Committee (Reference: 25/PSY/037).

Consent to Participate

Participants were members of a commercial research panel service who are emailed research opportunities when they meet specified study inclusion criteria. Potential participants were provided with an overview of the research topic, tasks, inclusion criteria, time involvement, and payment. Study information included an implied consent statement, and participants had to indicate their agreement with this to proceed.

Consent for Publication

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Data Availability Statement

Data and analysis scripts can be found here: <https://osf.io/dazhk>

Supplemental Material

Supplemental material for this article is available online.

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