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# What Are the Critical Factors That Matter to Our Free Choice When Under Threat From Manipulation?

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When we are victims of manipulation, then theory expects that our ability to freely choose is threatened by default. But, when looking at folk beliefs, we see nuance in the judgments made about choice and manipulation, which appear to be strongly informed by perspective and context. Regarding perspective, the negative relationship between free choice and manipulation is stronger when we explicitly see ourselves rather than others in the same autonomy-threatening contexts. When it comes to context, free choice is impacted more in some manipulative situations (e.g., microtargeting, subliminal priming, subliminal advertising, hypnosis) than others (e.g., jingles, product placement, political campaigning). The labile nature of the relationship between manipulation and free choice, which is in contrast to theoretical expectations, requires further investigation to expose whether these two factors (perspective, context) are robust. The present study stress tests these two factors by examining order effects (Experiments 1 and 2: manipulation vs. autonomy, autonomy vs. manipulation), as well as varying verbal descriptions (Experiments 1 and 2: manipulation vs. influence) and the way judgments are expressed (Experiment 1 ratings on scales 0–10, Experiment 2 forced choice Y/N). Consistent with previous research, the strength of the relationship between manipulation and free choice is amplified in specific contexts and when considered from a personalized perspective. The implications of this for theories on free choice and free will are discussed.

*Keywords:* manipulation, free choice, free will, folk beliefs, unconscious

There is a puzzle revealed in recent studies examining folk beliefs regarding threats to free choice in the presence of manipulation (Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024). Many theoretical accounts assume that any experience of manipulation in turn ought to reduce one's experience of autonomy across the board (e.g., Handelman, 2009; Noggle, 1996; Shaver & Scott, 1992; Susser et al., 2019; Todd, 2013). But

folk beliefs, that is, the general understanding that we as lay people (i.e., nonexperts) have, do not bear this out in a consistent fashion. Instead, what is found is that even when manipulation is perceived to be high, it does not reliably downgrade the amount of free choice we believe we have. When put to the empirical test, the strengthening and weakening of the relationship between the two (manipulation and free choice) appears sensitive to

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Magda Osman developed the methods and materials, ran

the study, and conducted data collection. The coding of the data was carried out independently by Magda Osman and Christos Bechlivanidis, and all analyses presented in the article were conducted by Christos Bechlivanidis. The writing up of the article was prepared by Magda Osman and reviewed and revised by Christos Bechlivanidis.

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several factors. Given that this pattern of findings presents a challenge to theoretical accounts of the relationship between manipulation and autonomy, there is a need to ensure that the folk belief evidence base is robust. Moreover, there is a need to increase the evidence base examining folk beliefs in this domain because it has attracted far less attention than folk beliefs on free will. The present study aimed to address this in an effort to further support theory building. The focus here was to empirically examine the critical factors that consistently inform appraisals of free choice when under threat from manipulative methods in everyday contexts.

### Folk Beliefs on Free Will

Typically, approaches to examining folk beliefs on free will rely on experimentally designed vignettes that carefully control critical details. Such vignettes range, for example, from judging if free will is expressed when there is no deliberation involved in selecting a pen to write with (Vierkant et al., 2019), a supercomputer accurately predicting when someone will commit a robbery (Nahmias et al., 2005), to a son killing his father who has accused him of being lazy (Genschow et al., 2021). The aim is to use carefully crafted vignettes to present properties that reveal whether people's general views are compatibilist (free will is present even under determinism) or incompatibilist (free will is undermined because of determinism; e.g., Deutschländer et al., 2017; Feltz & Millan, 2015; Nahmias et al., 2005, 2007; Nichols, 2011; Vierkant et al., 2019). One of the most pervasive problems is that when empirically investigated, people do not appear to fully understand what compatibilism and incompatibilism mean. The result is that it is then hard to find evidence in support of theories that would predict that people tend toward compatibilism (e.g., Nahmias et al., 2005, 2007). This in turn has prompted considerable discussion regarding concerns resulting from the experimental materials designed to gauge "folk" beliefs.

Often the concern has been about the success of experimental approaches designed to reduce misalignment in the way participants interpret philosophical concepts and the formal interpretations of compatibilism or incompatibilism (Murray et al., in press; Nichols, 2011). Creative attempts to assess the extent to which participants can provide informed judgments around concepts of free will and determinism include sampling participants that

have an active interest in philosophy (e.g., Giraud & Cova, 2024), or experts that are required to make decisions based on an understanding of the concepts (e.g., Genschow et al., 2021), using a driving simulator to mimic situations where free will is under threat (O'Neill, 2022), disguising the nature of the experiment through instructions (e.g., Monroe & Ysidron, 2021), introducing materials (articles, videos, lectures) emphasizing arguments against free will (Highhouse & Rada, 2015; MacKenzie et al., 2014), and examining the effects of priming challenges to free will on motor responses (e.g., Genschow et al., 2017; Lynn et al., 2014; Rigoni et al., 2011). From this, the challenge for theorists is whether or not methodological issues are the main reason for why participants continue to respond differently to what would be theoretically predicted. If the problem is a methodological one, then the strategy is to devise better experimental techniques that allow people to reveal their consistent and coherent beliefs on free will and determinism. If methodological reasons are not the main viable explanation, then this reveals a deep disconnect between how people experience and appraise free will and how theory is built and informed by evidence.

One way to answer this is to look to qualitative reviews (e.g., Baumeister & Brewer, 2012; Ewusi-Boisvert & Racine, 2018) and meta-analyses (Clark et al., 2021; Feltz & Cova, 2014; Genschow et al., 2017, 2023) to help identify if there are consistent patterns in the way people appraise free will. The synthesis of findings helps to identify what patterns preserve across different methodological approaches, which informs how conceptual development can improve to take them into account. The indication across these syntheses is that people hold views more closely aligned with compatibilist than incompatibilist positions. For example, Genschow et al. (2023) focused on studies of experimental manipulations impacting free will and the subsequent impact on people's appraisals of free will in social contexts. Their meta-analysis showed that people in general preserve free will across a range of different social contexts (e.g., cheating, conformity, cooperation, helping, prejudice). Where efforts were made to provide arguments in support of determinism, free will judgments seemed to lower under conditions that encouraged participants to actively engage with the materials. Typically, this involves asking participants to rephrase in their own words or

recall from memory what they had been presented with and appraising free will based on their own interpretation of the materials. When this is done, free will is judged to be lower in the face of arguments that challenge it, but downgrading judgments did not in turn increase acceptance of determinism which points to more compatibilist tendencies. This is to be expected given that ratings of free will do not reliably correlate with ratings of determinism (e.g., Nadelhoffer et al., 2014; Paulhus & Carey, 2011).

The considerable variation in experimental designs, types of vignettes, and the dependent variables (DVs) on which free will judgments were provided has consistently been highlighted by the many meta-analyses and reviews (Clark et al., 2021; Ewusi-Boisvert & Racine, 2018; Genschow et al., 2023). Moreover, several also point to issues regarding the ecological validity of the vignettes and the validity of the scales used to gauge acceptance of free will (Baumeister & Brewer, 2012; Ewusi-Boisvert & Racine, 2018; Feltz & Cova, 2014; Genschow et al., 2023). These practical issues continue to pose problems for theoretical and conceptual development that uses empirical work on free will to understand how that concept is understood and utilized by people. Another way to look at folk beliefs is to consider instead how free choice is undermined in people's own day-to-day experience. If ecological validity is at least one consistent problem in prior empirical work, then inspecting the way people understand and apply philosophical concepts based on examples they volunteer themselves increases the validity of the way this is experimentally investigated. If there are consistent patterns revealed in people's beliefs about retaining free choice in situations they identify as under threat from manipulation, then this presents an alternative means of understanding how the concept is applied to real-world situations that matter to people.

### **Folk Beliefs on Manipulation and Free Choice**

Characterizations of threats to autonomy include manipulative efforts that restrict our free choice (Noggle, 1996). This usually occurs when manipulation leads to choices that do not align with our intended goals, feelings, beliefs, and attitudes. An extreme example of this is situations where psychological tactics are employed to target the unconscious. The rationale being that this is a clear

way to expose threats to free choice because a choice is made outside of our conscious awareness and deliberation. To ensure that the work incorporates efforts to make the experimental materials as ecologically valid as possible, people were asked to volunteer examples of situations where they suspected psychological tactics were used (Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024). Along with this, no definitions of any philosophical concepts were provided. If there are any consistent patterns in the examples generated and the way these are appraised, then there would be evidence that people's understanding of philosophical concepts is coherent.

To compare consistency in the examples generated, a world sample from over 30 countries (Osman & Bechlivanidis, 2023) was compared to the initial set of examples people volunteered from a samples drawn from Australia, Canada, the United Kingdom, and the United States (Osman, 2020). Over 1,400 descriptions were analyzed and classified into six overarching contexts (marketing/advertising, research, therapy, politics, social media, management). The most common examples belong to the category of marketing and advertising (~45% of all examples generated), and of those the most frequently generated examples described the use of subliminal advertising to manipulate consumer choices (~40%). Scenarios drawn from these descriptions were then presented to other participants on which appraisals of manipulation and free choice were made (Osman, 2020; Osman & Bechlivanidis, 2022, 2024).

A recent meta-analysis (Osman & Bechlivanidis, 2022) was conducted to look at patterns of responses to the same set of materials regarding the influence of manipulation on free choice across three published studies (Osman, 2020; Osman & Bechlivanidis, 2022, 2024) including eight separate experiments ( $N = 1,230$ ). Overall, there was a weak negative relationship between free choice judgments and judgments of manipulation. This suggests that according to subjective appraisals, free choice is generally preserved, despite the understanding as well as awareness (Osman & Bechlivanidis, 2023) of manipulative techniques targeting unconscious processes. This pattern adds to what has been reported from current evidence examining folk beliefs on free will (Baumeister & Brewer, 2012; Clark et al., 2021; Ewusi-Boisvert & Racine, 2018; Feltz & Cova, 2014; Genschow et al., 2017, 2023). The general indication is that free choice and free

will be more often than not preserved, either using materials that are artificially constructed or that have real-world validity.

### **Perspective and Context as Factors Influencing the Relationship Between Manipulation and Free Choice**

One critical factor that impacts the extent to which the negative relationship between judged manipulation and free choice is amplified is whether participants appraise the scenarios from a first-person or a third-person perspective. The first-person perspective reveals a stronger threat to free choice from manipulation. The reason that this pattern also presents a puzzle is that usually differences between first-person and third-person effects in psychological research suggest that people see themselves as less susceptible to influence than others, in the context of media messaging and advertising (Davison, 1983; Sun et al., 2008). In fact, this is one example of a wider self versus other effect that reveals positive appraisals of the self compared to others when it comes to the following: immunity from biases (Pronin et al., 2002), exhibiting moral behaviors (Epley & Dunning, 2000), possession of moral or virtuous attributes (Vonasch & Tookey, 2024), optimistic forecasts about receiving good fortune (Mata & Simão, 2020), and general cognitive skills and abilities (Zell et al., 2020). However, there are also critical challenges to the reliability of the self versus other effect (e.g., Guenther & Alicke, 2010; Kruger, 1999; Tirso & Geraci, 2020) and third-person effect (Eisend, 2017; Feng & Guo, 2012; Lyons, 2022; Perloff & Shen, 2023). Even accepting these challenges, it is still notable that people judge themselves as more greatly impacted than others when it comes to manipulative methods that undermine their free choice. Therefore, before speculating on the reasons for this pattern revealed in folk belief work on manipulation and autonomy, it is worth stress testing it to ensure it preserves, and that is one of the objectives of the present study.

The second main factor that appears to influence how much free choice is judged to be maintained in the face of manipulation is the context in which the manipulation and choices occur. Across several studies (Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024), the findings (see meta-analysis, Osman & Bechlivanidis, 2022) show that the

negative relationship between ratings of manipulation and free choice are stronger for what seem like prototypical examples known to involve unconscious manipulation (hypnosis, subliminal advertising, subliminal priming), whereas the relationship is much weaker in the face of other methods (e.g., political campaigning, advertising jingles, product placement, social pressures in hiring decisions).

There are many parameters that will inform how people approach choice contexts, including their motivations and incentives, levels of responsibility over their choices, and the consequences for themselves and others. Along with this, people are likely to have nuanced interpretations of the causal mechanisms that manipulative methods have and their causal efficacy, which either attenuates free choice or fails to, for which there is some evidence (Osman & Bechlivanidis, 2022). There are likely critical underlying factors that explain why methods of manipulation targeting the unconscious are judged to threaten free choice more in some day-to-day situations than others. One likely reason is the degree to which the context involves a choice people want responsibility over, possibly because it is a stronger expression of their identity. For example, voting in elections is a case in point for which people's identity, regarding their political affiliation, and the consequences of their choice has stakes attached (e.g., Sripada, 2016; Whitfield, 2022). In fact in this case, people judge that, unlike others, their voting choice is down to their own actions, rather than the influence of other external manipulative tactics (e.g., disinformation, microtargeting campaigns; e.g., Nisbet et al., 2021).

It is worth considering the problems of variations in the vignettes used to study free will and how hard it is to extract from them the underlying reasons for mixed findings. The advantage of using the same set of materials, and experimentally varying other properties, such as the framing or the measurement scales, is that this lends greater confidence to the findings if the patterns of responses still differentiate vignettes in the same way. Moreover, given that the materials are based on examples that people have volunteered themselves, which increases their ecological validity, this provides a strong basis to then inspect which parameters predict the differences between them to then make predictions about other new sets of scenarios/contexts.

## The Present Study

The aim of the present study was to stress test the stability of the basic findings described from work examining folk beliefs on manipulation and free choice (FB-MFC). To this end, the present study introduces three experimental manipulations to explore the extent to which the aforementioned patterns regarding the strength of the negative relationship between manipulation and free choice preserve.

The study compared perspective by presenting participants with the scenarios and asking them to provide responses from a personal perspective or a general perspective. The instructions direct them to imagine themselves in the situations described in each scenario and where each measurement scale explicitly reminds them that they are giving their evaluations based on their own perspective (personal perspective; see Table 1). By contrast, for the general perspective, the instructions were to read the scenarios and then respond by providing evaluations to the same dependent measures. In this case, the dependent measures were phrased in a general way which would more likely invite a broad consideration of people in general, than the participant's specific position (see Table 1).

Taking into account that folk beliefs studies on manipulation and free choice show that people are sensitive to the perspective (e.g., first person vs. third person), it is worth exploring what other presentations of the instructions could impact response patterns. The verb "manipulate" is a loaded term, and synonyms are typically negative in nature (Sunstein, 2016) and carry stronger implications compared to the term "influence" (Osman & Bechlivanidis, 2023; Susser et al., 2019). In the present study, the instructions are adapted so that participants appraise free choice either by thinking about manipulative methods or by thinking about methods of influence. A prediction that follows is that, if people are sensitive to framings, the weaker label "influence" will further weaken the negative relationship between manipulation and autonomy compared to the label "manipulation."

Second, to immunize from order effects, all previous studies using folk-generated materials (Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024) randomized the presentation of the dependent measures (e.g., ratings of manipulation, free choice, responsibility, concern, personal experience of scenarios). In the present study, the order of the dependent measures was fixed so as to

empirically investigate the impact of judging free choice first and then manipulation or manipulation first and then free choice. Thus, it would be possible to investigate whether amplifying the relationship between manipulation and autonomy depends on making ratings conditional on each other. The prediction is that, when thinking about manipulation occurring, then thinking about free choice conditional on that, the negative relationship between the two should be increased compared to the other way around. For instance, along the lines of, *given how you responded to the level of manipulation (influence), how much free choice do you think you have?* Which exposes the impact on free choice more than, *given how you responded to how much free choice you have, what level of manipulation (influence) do you think is occurring?* The rationale behind this is that if people typically maintain free choice, even in the presence of manipulation, then it is less likely to be reduced when thinking about it before than after appraising the level of manipulation or influence that could undermine it.

Third, all previous studies with folk-generated materials used rating scales of 0–10 for all dependent measures, thus allowing participants some flexibility in their appraisals. However, some theoretical accounts (e.g., Handelman, 2009; Mills, 2022; Noggle, 1996, 2018; Susser et al., 2019) view manipulation as a threat to autonomy in an all or nothing manner, that is, when present then there is no autonomy. Therefore, a simple way of examining this is to use the same dependent measures and the same vignettes devised in folk belief studies of manipulation and free choice, but to change the response format. In the present study for half of the time, participants respond using the same scales as previously used, but the remainder of the time participants are presented a forced choice response setup (Y/N) for the exact same dependent measures. This is another way to stress test the patterns revealed in prior work, examining whether they preserve irrespective of the response format.

## Method

### Overall Design

There were four critical factors that were manipulated in the experiments as between-subject variables: Perspective (personal, general), Label (manipulation, influence), Order (manipulation/

**Table 1**  
*Dependent Variables for the Response Scale Format for Personal and General Perspective*

Personal perspective	Condition 1: Manipulation first	Condition 2: Manipulation second	Condition 3: Influence first	Condition 4: Influence second
Unconscious manipulation/ unconscious influence	Imagine you are in a situation like this right now, to what extent do you think that your critical choices are being unconsciously manipulated through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	Given how you have responded about the level of free choice in this situation, to what extent do you think your critical choices are being unconsciously manipulated through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	Imagine you are in a situation like this right now, to what extent do you think your critical choices are being unconsciously influenced through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	Given how you have responded about the level of free choice in this situation, to what extent do you think that your critical choices are being unconsciously influenced through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )
Free choice	Given how you have responded about the level of unconscious manipulation happening to critical choices here, to what extent do you think that your critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	Imagine you are in a situation like this right now, to what extent do you think that your critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	Given how you have responded about the level of unconscious influence happening to critical choices here, to what extent do you think that your critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	Imagine you are in a situation like this right now, to what extent do you think that your critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )
Responsibility	Given how you have responded about the level of unconscious manipulation happening to critical choices, to what extent do you think you can be ultimately responsible for your critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of free choice, to what extent do you think you can be ultimately responsible for your critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of unconscious influence happening to critical choices, to what extent do you think you can be ultimately responsible for your critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of free choice, to what extent do you think you can be ultimately responsible for your critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )
Ratings of personal experience	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )

(table continues)

**Table 1** (continued)

General perspective	Condition 1: Manipulation first	Condition 2: Manipulation second	Condition 3: Influence first	Condition 4: Influence second
Unconscious manipulation/ unconscious influence	To what extent do you think critical choices are being unconsciously manipulated through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	Given how you have responded about the level of free choice in this situation, to what extent do you think that critical choices are being unconsciously manipulated through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	To what extent do you think critical choices are being unconsciously influenced through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )	Given how you have responded about the level of free choice in this situation, to what extent do you think that critical choices are being unconsciously influenced through the processes described here? (0 = <i>not at all unconsciously manipulated</i> to 10 = <i>entirely unconsciously manipulated</i> )
Free choice	Given how you have responded about the level of unconscious manipulation happening to critical choices here, to what extent do you think critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	To what extent do you think that critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	Given how you have responded about the level of unconscious influence happening to critical choices here, to what extent do you think critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )	To what extent do you think that critical choices in this situation are <i>free</i> ? (0 = <i>not at all free</i> to 10 = <i>completely free</i> )
Responsibility	Given how you have responded about the level of unconscious manipulation happening to critical choices, to what extent can there be ultimate responsibility for critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of free choice, to what extent can there be ultimate responsibility for critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of unconscious influence happening to critical choices, to what extent can there be ultimate responsibility for critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )	Given how you have responded about the level of free choice, to what extent can there be ultimate responsibility for critical choices in this situation? (0 = <i>no responsibility</i> to 10 = <i>full responsibility</i> )
Ratings of personal experience	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )	To what extent have you had personal experience with something like what is described in the scenario? (0 = <i>no experience at all</i> to 10 = <i>highly frequent experiences</i> )



influence first, manipulation/influence second), and Response Format (scale, forced choice). The within-subject variables that were constant across experiments and conditions were the scenarios presented to participants (18 scenarios, of which there are six contexts: marketing, research, therapy, politics, social media, management) and four dependent measures (manipulation/influence, free choice, responsibility, personal experience). There was a total of two experiments (Experiment 1a/1b; Experiment 2a/2b), and the details of how the between-subject variables differed between them are presented in Table 2.

## Participants

All participants were recruited via a crowdsourcing system (Prolific: <https://www.prolific.co/>). The process of participant recruitment via Prolific was volunteer sampling. To take part in the study, the criteria were that participants were born and currently reside in the United Kingdom, that their age ranged between 18 and 80, and their first language was English. All participants were financially compensated for their time (2.5 USD). When taking part in the study, participants were asked to provide responses to five demographic questions (age, gender, education level, political affiliation, religiosity) which are summarized in Table 2. All experiments (Experiments 1a, 1b, 2a, 2b) received ethical approval from the Judge Business School ethics committee, University of Cambridge JBS/23-02/001.

In Experiment 1a, there were a total of 216 participants from the United Kingdom (see Table 3). The average age of the sample was  $M = 44.47$  ( $SD = 15.06$ ), with 106 men, 109 women, and one preferring not to say. In Experiment 1b, there were a

total of 200 participants from the United Kingdom. The average age of the sample was  $M = 42.09$  ( $SD = 14.55$ ), with 97 men, 101 women, and two preferring not to say. In Experiment 2a, there were a total of 221 participants from the United Kingdom. The average age of the sample was  $M = 41.82$  ( $SD = 14.68$ ), with 114 men and 107 women. In Experiment 2b, there were a total of 208 participants from the United Kingdom. The average age of the sample was  $M = 42.84$  ( $SD = 14.15$ ), with 101 men, 105 women, and three preferring not to say. See Table 3 for full details of age, gender, political affiliation, education level, and religiosity.

## Procedure

All experiments were presented via Qualtrics (<https://www.qualtrics.com/uk/>) which is an online platform for hosting experiments. In each experiment, participants were randomly assigned to one of four conditions (see Table 2) that differed according to the ordering of dependent variables (manipulation/influence first or manipulation/influence second) and the label that participants received in their instructions (manipulation, influence). Participants were first asked to provide their consent in order to take part in the study. Once consent was provided, participants were given instructions informing them that they would be presented with 18 real-world scenarios (see Table 4) they needed to read carefully.

They were informed that for each scenario they would be asked to provide a response (i.e., on a scale or forced choice) to four questions (manipulation/influence, free choice, responsibility, personal experience). The dependent variables used in Experiment 1a and 1b are shown in Table 1; the dependent variables used in Experiment 2a and 2b are the same but for minor changes so that it was clear that respondents were required to respond either yes or no to each. All participants were informed that after they had completed all ratings for each of the 18 scenarios, and provided their responses to the five demographic questions, the experiment was complete.

## Results and Discussion

### Experimental Factors Impacting Appraisals (Manipulation, Free Choice, Responsibility Personal Experiences)

Before analyzing the critical pattern of interest which concerns the strength of the negative

**Table 2**  
*Design of Experiments 1a and 1b and Experiments 2a and 2b*

Experiment	<i>N</i>	Perspective	Response format
Experiment 1a	216	Personal	Scale
Experiment 1b	200	General	Scale
Experiment 2a	221	Personal	Forced choice
Experiment 2b	208	General	Force choice

*Note.* The same four conditions were used in each experiment: Condition 1 (Order 1: Manipulation first), Condition 2 (Order 2: Manipulation second), Condition 3 (Order 1: Influence first), Condition 4 (Order 2: Influence second).

**Table 3**  
*Participant Demographics by Experiment (1a, 1b, 2a, 2b)*

Experiment	<i>N</i>	Age	Gender	Education	Religiosity	Political affiliation
Experiment 1a	216	<i>M</i> = 44.47 ( <i>SD</i> = 15.06) ranging from 20 to 79	Man 49%, woman 50%, prefer not to say 1%	Graduate/ postgrad 60%, nonuniversity 39%, prefer not to say 1%	Religious 20%, nonreligious 71%, prefer not to say/ other 9%	Liberal 41%, center 26%, conservative 21%, prefer not to say/other 12%
Experiment 1b	200	<i>M</i> = 42.09 ( <i>SD</i> = 14.55) ranging from 18 to 72	Man 48%, woman 51%, prefer not to say 1%	Graduate/ postgrad 64%, nonuniversity 36%	Religious 20%, nonreligious 68%, prefer not to say/ other 12%	Liberal 36%, center 30%, conservative 18%, prefer not to say/other 16%
Experiment 2a	221	<i>M</i> = 41.82 ( <i>SD</i> = 14.68) ranging from 19 to 81	Man 52%, woman 48%	Graduate/ postgrad 68%, nonuniversity 32%	Religious 16%, nonreligious 70%, prefer not to say/ other 14%	Liberal 42%, center 29%, conservative 16%, prefer not to say/other 13%
Experiment 2b	208	<i>M</i> = 42.84 ( <i>SD</i> = 14.15) ranging from 18 to 72	Man 49%, woman 50%, prefer not to say 1%	Graduate/ postgrad 63%, nonuniversity 36%, prefer not to say 1%	Religious 20%, nonreligious 72%, prefer not to say/other 8%	Liberal 44%, center 29%, conservative 15%, prefer not to say/other 12%

relationship between manipulation/influence and free choice, the first set of analyses considers the dependent variables individually. This first set of analyses provides an indication of the extent to which the dependent variables (manipulation/influence, free choice, responsibility, personal experience) were directly impacted by the experimental manipulations introduced in Experiments 1 and 2; perspective (personal, general), label (manipulation, influence), order (manipulation/influence first, manipulation/influence second), and response format.

Collapsed across all 18 scenarios in which the appraisals were made (see Figure 1, top), for Experiment 1a (personal) and 1b (general), multivariate analysis of variance was conducted on mean judgments (see Table 5).

The order of questions appears to have impacted patterns of judgments for manipulation,  $F(1, 207) = 4.54, p = .03$ , partial  $\eta = .02$ , though the effect size is low. Order 1 led to higher ratings of manipulation ( $M = 6.37, SD = 1.39, SE = .14$ ) than Order 2 ( $M = 5.94, SD = 1.50, SE = .14$ ). The same was found for judgments of influence,  $F(1, 204) = 6.95, p = .009$ , partial  $\eta = .03$ , again with a small effect. Order 1 generated higher ratings ( $M = 6.39, SD = 1.41,$

$SE = .14$ ) than Order 2 ( $M = 5.87, SD = 1.42, SE = .14$ ). For all other experimental factors for all four judgments, none of the remaining analyses or interactions reached significance, and none approached even a low effect size (.01; Cohen, 1988).

The same sets of analyses were conducted for Experiment 2a and 2b. In this case the percentage of yes responses for the 18 scenarios (see Figure 1, bottom) was computed for each of the four dependent variables for each participant. The percentages were entered into a multivariate analysis, accepting that the assumptions of sphericity and heterogeneity are violated, and in turn increase the likelihood of Type 1 errors (Greer & Dunlap, 1997). Therefore, caution is taken in interpreting and drawing any strong conclusions from the analyses. Label appeared to impact the patterns of yes responses in Experiment 2,  $F(1, 207) = 5.94, p = .02$ , partial  $\eta = .01$ , though the effect is low. The mean percentage of yes responses was lower when using the label manipulation ( $M = 75.99, SD = 16.59, SE = 1.12$ ) compared to the label influence ( $M = 80.08, SD = 18.31, SE = 1.26$ ). Outside of this, for all other factors for all four dependent

**Table 4**  
*Contexts and Scenarios*

Context	Scenario	Name
Advertising marketing	Advertisement jingles that are used so that people think of the product when they hear the jingle and then buy the product.	Jingles
	Advertisers that increase their chance of selling to people when using “buy two get one free” sales on products so that people think that they are getting a great deal.	Offers
	Supermarkets that present goods at eye level and at the end of row displays so that they are more eye catching to people to influence their purchasing of particular products.	Placement
	Car dealerships that employ staff to steer people by the way that they pose certain questions so that people spend more money.	Salesmen
	Subliminal adverts (messages flashed so quickly that people are not aware of seeing them) that show a product so that it stays in people’s mind and they then go and buy the product.	Subliminal-1
Management	When those in senior management in an organization are interviewing candidates to join a team and making judgment calls on who best suits the job.	Interviews
	When those in senior management positions are considering who from the team should be nominated for promotion.	Promotion
Research	Research that involves showing people a picture of something before a study so that it is in their minds, in order to study the influences on their choice when asked to select between the same picture and another picture.	Priming
	Research studying people sleeping that involves playing messages to them while they are asleep to examine the influence on their mind.	Hypnosis-1
	Research that involves giving people sugar cubes posing as pills to study the influence on peoples’ mental belief that the pills will have a positive effect on their health.	Placebo
	Research that flashes up positive or negative information so quickly that people are not aware of seeing it, and then studying the effect on peoples’ attitudes toward the quickly flashed-up information.	Subliminal-2
	Research that examines biases by creating either positive or negative links with a neutral piece of information, and then studying how it effects the way people then perceive the information.	Association
Therapy	Hypnotic methods that are used on people while they are in a relaxed state so that it is possible to influence their choices while they are under that state.	Hypnosis-2
	Hypnotic methods that are used on people to uncover hidden memories so that it is possible to heal them from past traumas.	Healing
Political campaigning	Political campaigning that helps political party leaders to dress and speak in a certain way so that it is possible to influence people’s voting choice.	Imagemaking
	Political campaigning that uses political advertisements targeted toward specific groups of people in such a way as to influence them toward one political candidate over another.	Microtargetting-1
Social media	Social media that uses advertisements targeted toward specific groups of people in such a way as to influence their opinions.	Microtargetting-2
	Social media that is designed in such a way so that the people experience it in such a way that it influences the way that they think.	Influence

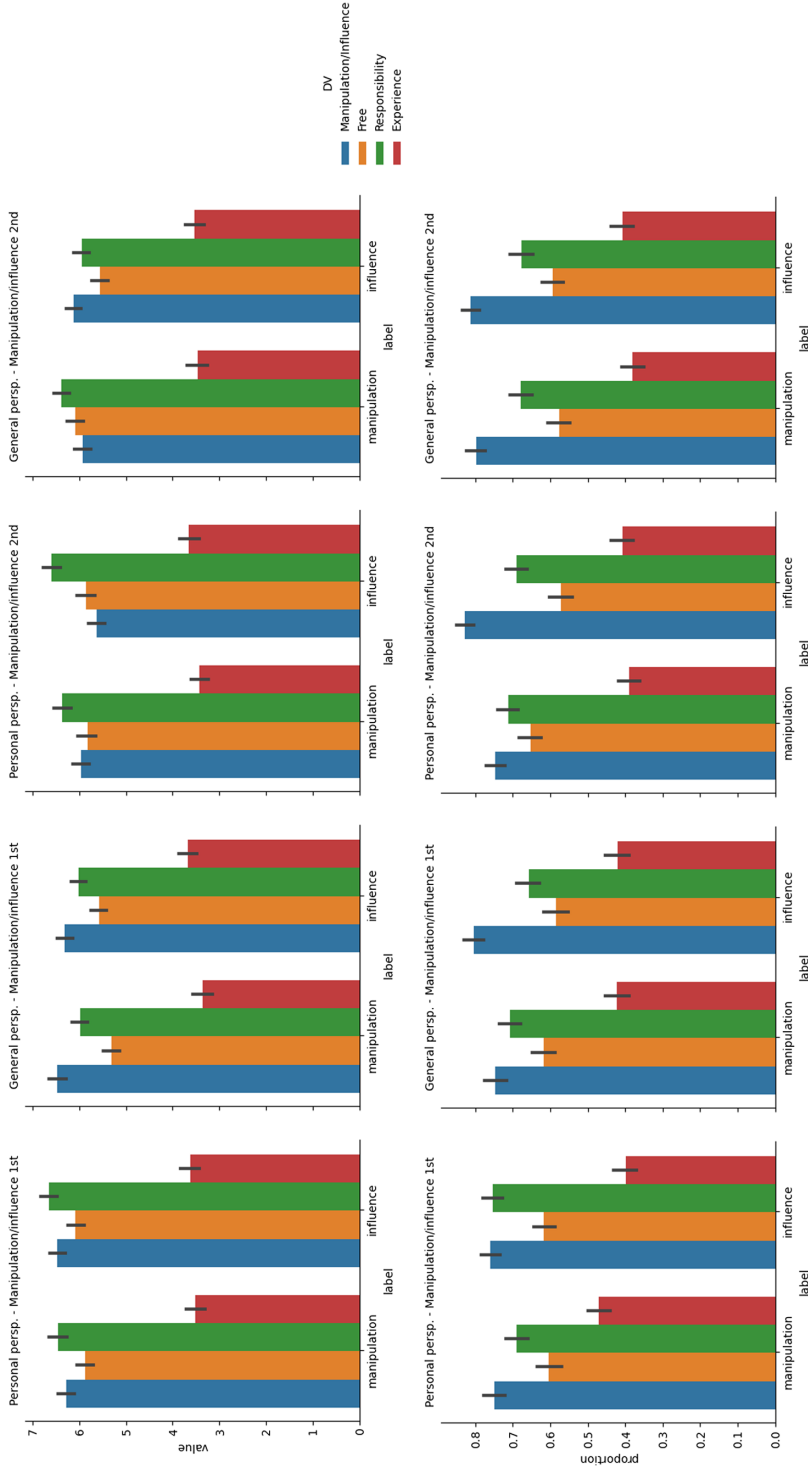
variables, none of the remaining analyses or interactions reached significance or approached even a low effect size (.01; Cohen, 1988).

In summary, the dependent variable most sensitive to experimental factors (order, label, perspective) was ratings (Experiment 1a, 1b) or

responses (Experiment 2a, 2b) of manipulation (and its alternative influence). In all other cases, the analyses did not expose any significant impact on the remaining dependent variables (free choice, responsibility, personal experience) based on order, label, or perspective.

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**Figure 1**  
*Ratings (Experiment 1a, 1b; Top) and Proportions (Experiment 2a, 2b; Bottom) by Perspective, Question, Question Label, and Question Order*



Note. Error bars represent 95% confidence intervals. Personal persp. = personal perspective; General persp. = general perspective; DV = dependent variable. See the online article for the color version of this figure.

**Table 5**  
*Summary Statistics of Each Dependent Variable for Each Experiment*

Experiment	Condition	Unconscious manipulation/influence	Free choice	Responsibility	Personal experience
1a ( <i>N</i> = 52)	Manipulation first	6.28 (1.52)	5.87 (1.33)	6.46 (1.47)	3.51 (1.39)
1a ( <i>N</i> = 57)	Manipulation second	5.96 (1.60)	5.83 (1.77)	6.36 (1.63)	3.41 (1.43)
1a ( <i>N</i> = 55)	Influence first	6.47 (1.43)	6.08 (1.51)	6.66 (1.43)	3.62 (1.62)
1a ( <i>N</i> = 52)	Influence second	5.63 (1.60)	5.86 (1.89)	6.59 (1.66)	3.65 (1.48)
1a ( <i>N</i> = 47)	Manipulation first	6.46 (1.24)	5.31 (1.66)	5.98 (1.61)	3.36 (1.37)
1a ( <i>N</i> = 52)	Manipulation second	5.93 (1.39)	6.09 (1.35)	6.38 (1.42)	3.46 (1.65)
1a ( <i>N</i> = 52)	Influence first	6.31 (1.40)	5.57 (1.36)	6.01 (1.35)	3.67 (1.51)
1a ( <i>N</i> = 49)	Influence second	6.12 (1.21)	5.56 (1.28)	5.94 (1.13)	3.53 (1.24)
2a ( <i>N</i> = 50)	Manipulation first	74.89 (14.77)	60.33 (22.64)	69.00 (20.05)	47.00 (18.11)
2a ( <i>N</i> = 60)	Manipulation second	74.63 (17.79)	65.28 (17.56)	71.11 (116.26)	38.89 (18.69)
2a ( <i>N</i> = 55)	Influence first	75.96 (18.49)	61.71 (22.60)	75.35 (18.20)	39.90 (21.12)
2a ( <i>N</i> = 52)	Influence second	82.74 (20.00)	57.24 (21.74)	69.05 (21.16)	40.78 (17.12)
2a ( <i>N</i> = 47)	Manipulation first	74.63 (19.72)	61.74 (24.04)	70.65 (23.71)	42.14 (19.26)
2a ( <i>N</i> = 52)	Manipulation second	79.80 (12.98)	57.58 (24.95)	67.88 (21.40)	37.98 (16.83)
2a ( <i>N</i> = 52)	Influence first	80.50 (16.70)	58.51 (26.56)	65.72 (27.15)	42.08 (21.26)
2a ( <i>N</i> = 49)	Influence second	81.17 (18.92)	59.26 (29.48)	67.70 (25.49)	40.74 (19.99)

*Note.* Means and standard deviations ratings (Experiment 1a, 1b) and % yes responses (Experiment 2a, 2b) for each of the four dependent variables by condition (condition 1: order 1 [manipulation first], condition 2: order 2 [manipulation second], condition 3: order 1 [influence first], condition 4: order 2 [influence second]) and by experiment (Experiment 1a, 1b, 2a, 2b).

### Correlations Between Manipulation/Influence and Free Choice

Granular correlational analyses exploring relationships between other dependent variables and by individual conditions for each experiment are presented in Table 6.

### Correlations: Perspective (Personal vs. General)

Overall the findings indicate that there was no reliable relationship between manipulation/influence and responsibility, manipulation/influence and personal experience, and free choice and personal experience. The only noteworthy pattern was a strong positive correlation between free choice and responsibility found in Experiment 1a, 1b, and Experiment 2a. The main focus for the remainder of this section is to report on the correlational analyses regarding the central matter of interest of the present study, which is the relationship between manipulation and free choice.

Focusing only on perspective, personal, Experiment 1a:  $r(216) = -.316, p < .001$ ; Experiment 2a:  $r(221) = -.323, p < .001$ , exposes a stronger negative relationship between manipulation and free choice than the

general, Experiment 1b:  $r(200) = -.095, p = .091$ ; Experiment 2b:  $r(209) = -.061, p = .19, .05$ .

### Correlations: Labels (Manipulation vs. Influence)

When focusing only on labels, in Experiments 1a and 1b, when the label "manipulation,"  $r(208) = -.235, p < .001$ , was substituted for "influence,"  $r(208) = -.220, p < .001$ , this did not substantively weaken the negative relationship with free choice when using a rating scale response format. For Experiment 2a and 2b, if anything, the label "influence,"  $r(212) = -.204, p < .001$ , strengthened the negative relationship than the label "manipulation,"  $r(218) = -.156, p < .05$ . Thus, none of the experiments supported Prediction 1.

### Correlations: Labels and Perspective

When considering label and perspective, in Experiment 1a and 1b, the correlation is still stronger under the personal perspective, manipulation:  $r(109) = -.333, p < .001$ , influence:  $r(107) = -.299, p < .001$ , than the general perspective, manipulation:  $r(99) = -.106, p > .05$ , influence:  $r(101) = -.08, p > .05$ . Also, in Experiments 2a and 2b, a personal perspective revealed a stronger negative relationship,

**Table 6***Correlations Between Each of the Dependent Variable by Condition and Experiment*

Experiment	Condition	Manipulation/ influence— free choice	Manipulation/ influence— responsibility	Manipulation/ influence— experience	Free choice— responsibility	Free choice— experience
<b>Personal 1a</b>						
(N = 52)	Manipulation first	-.435, $p < .001$	-.481, $p < .001$	.119, $p > .05$	.909, $p < .001$	-.044, $p > .05$
(N = 57)	Manipulation second	-.277, $p < .05$	-.189, $p > .05$	.170, $p > .05$	.864, $p < .001$	.082, $p > .05$
(N = 55)	Influence first	-.332, $p < .01$	-.257, $p < .05$	.136, $p > .05$	.894, $p < .001$	-.01, $p > .05$
(N = 52)	Influence second	-.331, $p < .01$	-.312, $p < .05$	.451, $p < .001$	.840, $p < .001$	-.128, $p > .05$
<b>General 1b</b>						
(N = 47)	Manipulation first	-.097, $p > .05$	-.162, $p > .05$	.225, $p > .05$	.804, $p < .001$	.262, $p > .05$
(N = 52)	Manipulation second	-.021, $p > .05$	.084, $p > .05$	.324, $p < .05$	.726, $p < .001$	.105, $p > .05$
(N = 52)	Influence first	-.075, $p > .05$	-.045, $p > .05$	.158, $p > .05$	.736, $p < .001$	-.111, $p > .05$
(N = 49)	Influence second	-.088, $p > .05$	-.198, $p > .05$	.087, $p > .05$	.496, $p < .001$	-.051, $p > .05$
<b>Personal 2a</b>						
(N = 50)	Manipulation first	-.287, $p < .05$	-.015, $p > .05$	.139, $p > .05$	.784, $p < .001$	-.044, $p > .05$
(N = 60)	Manipulation second	-.180, $p > .05$	-.029, $p > .05$	.301, $p < .05$	.694, $p < .001$	-.084, $p > .05$
(N = 55)	Influence first	-.280, $p < .01$	.051, $p > .05$	.063, $p > .05$	.351, $p < .01$	.363, $p < .01$
(N = 52)	Influence second	-.465, $p < .001$	-.031, $p > .05$	.220, $p > .05$	.462, $p < .001$	-.016, $p > .05$
<b>General 2b</b>						
(N = 47)	Manipulation first	-.086, $p > .05$	.168, $p > .05$	.216, $p > .05$	.645, $p < .001$	-.374, $p < .01$
(N = 52)	Manipulation second	-.076, $p > .05$	.287, $p < .05$	.231, $p < .05$	.169, $p > .05$	.169, $p > .05$
(N = 52)	Influence first	.173, $p > .05$	.188, $p > .05$	.146, $p > .05$	.370, $p < .05$	.427, $p < .01$
(N = 49)	Influence second	-.153, $p > .05$	.005, $p > .05$	-.069, $p > .05$	.310, $p < .05$	-.09, $p > .05$

*Note.* Correlations by perspective (personal, general), label (manipulation, influence), order (condition 1: order 1 [manipulation first], condition 2: order 2 [manipulation second], condition 3: order 1 [influence first], condition 4: order 2 [influence second]), and response format (scale, forced choice).

manipulation:  $r(110) = -.224, p < .01$ , influence:  $r(111) = -.385, p < .001$ , than the general perspective, manipulation:  $r(108) = -.092, p > .05$ , influence:  $r(101) = -.03, p > .05$ .

Regarding order effects, again, only focusing on this, in Experiment 1a and 1b, the negative relationship between manipulation/influence and free choice does not appear to be substantively impacted, when appraising manipulation/influence first and then free choice, Order 1:  $r(206) = -.235, p < .001$ , than the reverse, Order 2:  $r(210) = -.216, p < .001$ . However, in Experiment 2a and 2b, the negative relationship was stronger for Order 2:  $r(225) = -.237, p < .001$ , than Order 1:  $r(205) = -.126, p < .05$ .

When taking order and perspective into account, in Experiment 1a and 1b, we still see that the general pattern preserves, where a personal perspective exposes a stronger relationship, Order 1:  $r(107) = -.372, p < .001$ , Order 2:  $r(109) = -.302, p < .001$ , than a general perspective, Order 1:  $r(99) = -.09, p > .05$ , Order 2:  $r(101) = -.064, p > .05$ . The same pattern is found in Experiment 2a and 2b, for the personal perspective, Order 1:  $r(105) = -.280, p < .005$ , Order 2:  $r(116) = -.369, p < .001$ , and

the general perspective, Order 1:  $r(100) = .012, p > .05$ , Order 2:  $r(102) = -.123, p > .05$ .

In summary, label, order, and response format did have differential impacts on the strength of the negative relationship between free choice and manipulation. Consistent with prior research, the most consistent finding across experiments was that a personal perspective exposes a stronger negative relationship between free choice and manipulation than a general perspective.

### **Manipulation/Influence and Free Choice in Context**

The analyses of patterns of responses concerning context are restricted to the two critical dependent variables of interest, manipulation/influence and free choice. To make the analyses manageable, the two dependent variables were coded in ways to expose the strength of the relationship between manipulation/influence and free choice for each scenario and the corresponding context associated with each scenario (e.g., subliminal advertising was an example scenario under the context "Marketing"). To achieve this, a

difference score between ratings of manipulation/influence and free choice was generated for each Experiment 1a and 1b.

From this, to further examine patterns in the difference scores, they were coded according to valence. All positive scores indicated more free choice relative to judged level of manipulation/influence and labeled “more free choice.” From this it was possible to assign a percentage to each participant for their “more free choice” responses across the 18 scenarios (Experiment 1a,  $N = 216$ ,  $M = 40.30\%$ ,  $SD = 14.96$ ; Experiment 1b,  $N = 200$ ,  $M = 34.49\%$ ,  $SD = 14.25$ ). Negative scores were assigned the code “less free choice” (Experiment 1a,  $N = 216$ ,  $M = 44.88\%$ ,  $SD = 16.64$ ; Experiment 1b,  $N = 200$ ,  $M = 49.20\%$ ,  $SD = 13.33$ ). Where the difference score returned a value of zero, respondents were coded as “no difference” (Experiment 1a,  $N = 216$ ,  $M = 14.81\%$ ,  $SD = 2.91$ ; Experiment 1b,  $N = 200$ ,  $M = 16.20\%$ ,  $SD = 1.80$ ). Overall, relative manipulation responses tended toward “less free choice” than “more free choice,” which appears somewhat amplified in Experiment 1b (general perspective).

Given the response format, the coding of responses was different for Experiment 2. Where there were “Yes” responses to free choice when respondents also selected “Yes” to manipulation/influence, they were coded as “have free choice.” From this it was possible to assign a percentage to each participant for their “have free choice” responses across the 18 scenarios (Experiment 2a,  $N = 221$ ,  $M = 43.09\%$ ,  $SD = 20.24$ ; Experiment 2b,  $N = 208$ ,  $M = 41.22\%$ ,  $SD = 12.07$ ). For those that responded “No” to free choice when also responding “Yes” to manipulation/influence, they were coded as “not free” (Experiment 2a,  $N = 221$ ,  $M = 34.00\%$ ,  $SD = 20.30$ ; Experiment 2b,  $N = 208$ ,  $M = 33.48\%$ ,  $SD = 13.78$ ). In cases where participants responded “No” to manipulation and “Yes” to free choice, this was coded as “fully free” (Experiment 2a,  $N = 221$ ,  $M = 18.15\%$ ,  $SD = 12.94$ ; Experiment 2b,  $N = 208$ ,  $M = 14.83\%$ ,  $SD = 10.65$ ). There were rare situations in which participants selected “No” to free choice and “No” to manipulation/influence, though this was hard to interpret and so this was not labeled (Experiment 2a,  $N = 221$ ,  $M = 4.78\%$ ,  $SD = 5.54$ ; Experiment 2b,  $N = 208$ ,  $M = 5.03\%$ ,  $SD = 2.98$ ). Overall, the findings indicate that majority of responses were of the “have free choice” followed by “not free” and then “fully free.”

One way to explore general patterns is to see in which scenarios “less free choice” (Experiment 1) and “not free” (Experiment 2) responses most often appeared. There is overlap regarding where the most frequent threats to free choice appear (see Figure 2): Marketing (subliminal advertising), Research (subliminal priming, sleep studies), and Therapy (hypnosis targeting choices, hypnosis targeting memories).

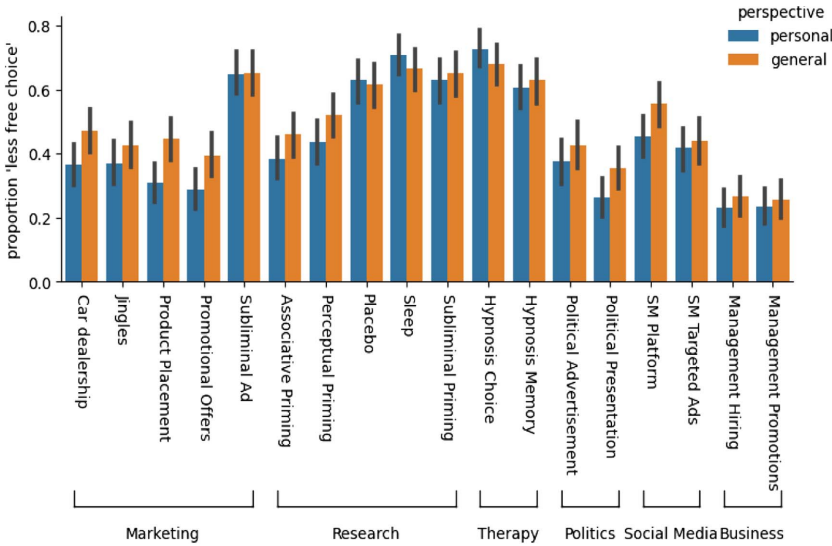
Moreover, as well as showing consistent patterns across both experiments, they align with findings from a meta-analysis (Osman & Bechlivanidis, 2022). They reported that scenarios in which prototypical methods of manipulation occur (e.g., hypnosis, subliminal priming) exposed the strongest negative relationships between appraisals of manipulation and free choice.

## General Discussion

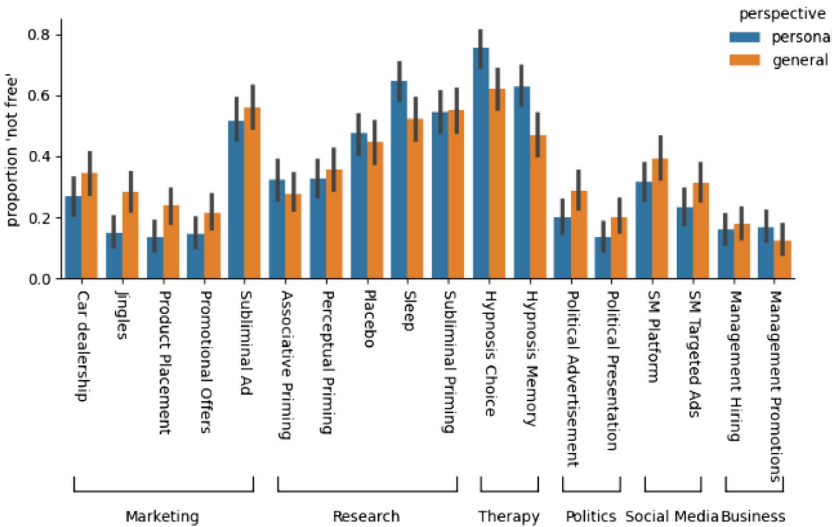
One reason that theoretical advancements on free will struggle to build on empirical work on folk beliefs on free will is methodological (e.g., variability in methodological approaches, vignettes used, instructions provided, and measurement scales; Clark et al., 2021; Feltz & Cova, 2014; Genschow et al., 2017, 2023). In contrast, the FB-MFC approach has generated a consistent pattern of responses on manipulation and its relationship to free will (Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024). The same set of scenarios have been used, with efforts to make them ecologically valid by drawing from real-life experiences that people have themselves volunteered. The examples involve descriptions where people suspect manipulative tactics are employed to target their choices outside of their awareness. Because of this, they are an accessible way to demonstrate meaningful autonomy-threatening properties without having to provide additional instructions and accompanying philosophical definitions of concepts. This work shows that people attribute different levels of manipulation in different choice contexts, but that this does not in turn mean that free choice is completely undermined. In fact, generally, collapsing across all scenarios presented to participants, previous work does not find a strong negative relationship between free choice and manipulation. However, while generally free choice is preserved, it can be substantially weakened when people view the manipulative tactics in scenarios from a personal perspective than a general one. In addition, where

**Figure 2**

Proportion of “Less Free” and “Not Free” Responses by Scenario and by Experiment (Experiment 1a, 1b, Experiment 2a, 2b)



**Experiment 1a, 1b**



**Experiment 2a, 2b**

Note. Subliminal Ad = subliminal advertising; SM Targeted Ads = social media targeted advertisements. See the online article for the color version of this figure.

manipulation is strong and in turn free choice is weakened depends also on the context, where individual scenarios reveal more prominently the threats (e.g., subliminal advertising, sleep research, hypnotherapy) than others (e.g., managerial decision making, product placement in consumer settings). To this end, the present study was designed to further test the durability of the

patterns of findings that have been reported thus far.

If people are sensitive to perspective and context, would they also be sensitive to different ways of labeling the core concepts? The present study compared the impact of substituting the label “manipulation” with “influence,” with the expectation that the latter would further weaken



the overall weak negative relationship to free choice. In fact, the analyses did not reveal this consistently. The factor did not generally play a role in changing the pattern of responses when looking at each individual dependent variable (manipulation/influence, free choice, responsibility, personal experience). When looking at the relationship between free choice and manipulation/influence, in Experiment 1 using a conventional Likert scale response format, responses did not substantively differ when comparing “manipulation” with “influence” label conditions. In Experiment 2 where a forced choice format was employed, if anything the label “influence” produced stronger negative correlations than “manipulation.” On the whole, it would seem that people abstract enough information from the details in the scenario, that when probing for impact of the manipulative tactic, either by asking about the level of manipulation or level of influence, people treat these broadly the same. In turn, this also suggests that as a stress test, the label did not have a substantive impact on the negative relationship between free choice and manipulation/influence.

Overall, when looking at order effects, presenting manipulation/influence questions first followed by free choice (Order 1) or second (after free choice; Order 2) did not make a consistent impact on patterns of responses across all four dependent variables across experiments. Experiment 1 did show that for the dependent variable manipulation (and the substitute “influence”), ratings were higher under Order 1 than Order 2, but this pattern did not preserve in Experiment 2. But when it came to examining the impact on the negative relationship between manipulation/influence and free choice, it did not appear to have any substantive influence on the relationship in Experiment 1. It did so in Experiment 2, though if anything Order 2 seemed to strengthen the negative relationship than Order 1. Overall, order did not seem to have a consistent influence on the pattern of response on dependent variables either when looking at them individually or in relation to each other.

Of all factors experimentally manipulated in the present study, perspective was consistently the most impactful on people’s responses to the scenarios. Regardless of label, order, and response format, those encouraged to appraise the scenarios from a personal perspective revealed a stronger negative relationship between manipulation/

influence and free choice, than those encouraged to adopt a general frame. Therefore, the present study is another demonstration of the durability of this pattern of responses. Prototypical cases of manipulative methods used to target the unconscious (e.g., subliminal methods, hypnosis, sleep research) have been shown to expose the strongest negative relationship between free choice and manipulation (e.g., Osman & Bechlivanidis, 2022). Consistent with this, the present study also showed that same scenarios (e.g., subliminal methods, hypnosis, sleep research) revealed reduced free choice responses that were judged to be highly manipulative/or highly influential. Taken together, the present study compellingly shows that context and perspective are two critical factors that inform the way in which people consider the impact on their free choice in the presence of manipulative methods designed to target them outside of their awareness.

### **How Does This Inform Work on Folk Beliefs on Free Will?**

While the findings are mixed, the general tendency is for folk beliefs to go in the direction of a compatibilist position than an incompatibilist one. There are two reasons for this; first despite all the methodological issues and all the differences in scales and vignettes, the tilt is still in the direction of compatibilism. Even when efforts are made to steer people toward accepting determinism, they tend to weaken their view of free will, but not so much that they switch to determinism. The work on FB-MFC adds to this by suggesting people tend to preserve some free choice even when methods are employed to target their choice behavior outside of their awareness. This is unlikely to be the result of confused understandings of free choice, free will, determinism, and other related concepts, unless the confusion is homogenous across countries, and all general group differences (e.g., age, gender, education, religiosity, political affiliation; Osman, 2020; Osman & Bechlivanidis, 2022, 2023, 2024). Instead, it is more likely the case that folk views do not align with expert philosophical conceptualization of the concepts. In addition, what the findings from FB-MFC show, might also shed some light on why there are mixed findings in folk beliefs work on free will. Without carefully manipulating perspective, the way instructions are

provided to people varies according to whether they take on a first-person or third-person perspective. It is clear that a highly personalized first-person perspective makes the threats to free choice much more salient, though in specific situations. When vignettes depart considerably from day-to-day situations such as those used in folk beliefs on free will work, it also makes it harder for people to see themselves in those situations, or relate to them, then they might adopt a third-person perspective. If so, then we know from the FB-MFC that more free choice is attributed to autonomy-threatening situations from the third-person perspective.

Finally, the degree to which people show resistance to adopting a determinist view on their day-to-day experiences is likely for two reasons. People's understanding of free will seems to be much more psychologically than philosophically informed (Osman & Bechlivanidis, 2022). That is, people interpret free will to mean action that is unhindered in pursuit of a personal self-set goal in line with intentions, unconstrained, and based on conscious deliberation (Deci & Ryan, 2012; Monroe & Malle, 2014). In this sense, people are making practical determinations about the extent to which they do have a clear goal in the choice context, when and where they have an opportunity to deliberate about the choice, and how easy it is to express the choice they wanted to make. This is why the measures of free choice in the FB-MFC work generates fairly stable patterns of findings in the choice context presented to people, because it aligns with an understanding that they already likely have.

Understanding what capacity people believe they have to exercise choice is of course different from traditional philosophical work on free will. For theory to advance by taking seriously the folk understanding of freely choosing as applied to practical day-to-day situations then, there needs to be greater sensitivity to what the folk think. Often it seems that concepts are imposed on people without actually appreciating that they have their own credible and coherent views on the same concepts; it is just that they are not necessarily ones shared by philosophers. The findings from FB-MFC provide a new lens from which to interpret folk beliefs work on free will and raise two key questions that need to be addressed in new theoretical work. If people take free will to mean free action, what are the essential properties of manipulative methods that are seen

to hinder free action (free choice)? Also, given the consistent findings that suggest that the presence of manipulation alone is not autonomy threatening by default, what are the general cognitions that people apply to themselves but not to others? For instance, this likely includes appraisals concerning causal attributions as to where choice is preserved and attributions of responsibility that can amplify or relax the level of concern when manipulation is present.

### Limitations and Future Directions

Though not strictly a limitation, the response format was introduced into this study as a factor, but nonetheless poses an issue that is worth considering. While efforts were made to make the questions as similar as possible across experiments, there are inevitable differences when asked to respond on a binary versus a continuous format. For instance, the proportion of responses across all participants ( $N = 416$ ) in Experiment 1 for every scenario (i.e., total 7,488), the percentage of no manipulation responses (i.e., 0) was 3.9%, and the percentage of no free choice responses was 4.9%. In Experiment 2 ( $N = 430$ , total responses 7,740), the equivalent overall percentage of no responses to manipulation was 21.5%, and no responses to free choice was 41.7%. To achieve anywhere close to the same proportions in Experiment 1 as in Experiment 2, the percentages have to include 0–4 selections on the rating scale, so rather than no, we would interpret 0–4 as low manipulation (24.8%) and low free choice (32.6%). It is clear that the response format does impact how people express their beliefs, and the forced choice format appears to encourage more no free choice responses. Nonetheless, it is worth also highlighting that despite this, the main patterns that this study aimed to stress test preserved.

### Conclusion

Do people believe that manipulations that target the unconscious diminish the victim's freedom? The one conclusion we can safely draw is that contrary to theoretical expectations, freedom of choice is much more resistant than hitherto assumed. Although there are both intrinsic (type/context of manipulation) and extrinsic (assumed perspective) factors that are consistently shown to play a role, we have equally consistently failed to

observe the strong negative correlation that the theory predicts, whereby the stronger the manipulation, the less free the resulting action.

Does this mean that people are compatibilists, in the sense that they believe that free will is present even when a choice is determined by external factors? We would be very hesitant to draw any conclusions pertinent to philosophical debates from this work. In fact, we believe that, at least on this matter, the usefulness of folk intuitions is limited with regard to philosophical theorizing. While experiments inspired from the latter are plagued with inconsistent findings, when, instead, the experimenter focuses on people's understanding for its own sake, thus presenting scenarios that are drawn from people's experiences, the way people then evaluate those scenarios is impressively consistent and largely robust to changes in "secondary" characteristics, such as the particular phrasing, the order in which questions are presented or the measures used. It is when the scholar is trying to impose their language or worldview that people start to appear inconsistent or sensitive to what are otherwise taken to be cosmetic features of the presented stimuli.

If there is any chance of informing theoretical work from people's views, one ought to start from naturalistic everyday scenarios, which, despite their noisiness, produce consistent, reliable intuitions, and find ways to translate the features of those scenarios to the theoretical constructs the scholar is interested in. Alternatively, and as we are attempting here, one may focus in the intuitions themselves, with the view of using any robust findings to applied scenarios with social, moral, or policy-related import.

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