

Social Psychology

# Evaluations of Action and Inaction Decision-makers in Risky Decisions Resulting in Negative Outcomes: Inaction Agents Are Preferred to and Perceived as More Competent and Normative Than Action Agents

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Research on action and inaction in judgement and decision making has shown that for choices in risky situations resulting in negative outcomes, people tend to prefer inaction over action and regret actions more than inactions. We built on this idea to test whether the established norm preference for inaction over action affects evaluations of decision-makers, and results in stronger preference for an agent who favors inaction over action in risky decisions resulting in negative outcomes. We conducted three pre-registered experiments via the Prolific platform, replicating and further extending the classic action-effect paradigm (overall  $N = 1138$ , 355 male, 746 female, 37 others,  $M_{age} = 36.98$ ,  $SD_{age} = 12.34$ ) to examine perceptions of competence and trustworthiness of action versus inaction agents. First, we successfully replicated action-effect ( $d = 0.58$  to  $0.96$ ). We then found that participants indeed tended to evaluate an inaction protagonist as more competent, trustworthy, and inline with social norms than an action protagonist ( $d = 0.05$  to  $d = 0.61$ ). Results concerning our extensions examining perceived social norms and joy attributions over positive outcomes were less clear. Finally, we found that normality moderated the preference-inaction effect into a preference-action effect: Negative prior outcomes led participants to prefer action actors to inaction actors and to find those to be more competent and normative. Overall, we found that, in the context of negative outcomes, inaction is perceived as more trustworthy than action. We concluded that action and inaction seem to extend to social evaluations of agents and that trustworthiness can be affected by action and inaction, context, and norms. All materials, data, and code are available on: <https://osf.io/a8e4d/>

In 1982, Kahneman and Tversky provided the first demonstration of an action effect, that when evaluating negative outcomes, actions evoke stronger emotions and counterfactuals than inactions. Their findings have been widely replicated (Feldman, 2020; Feldman & Albarracín, 2017; Landman, 1987; Yeung & Feldman, 2023). One of the leading explanations for the action effect was by norm theory (Kahneman & Miller, 1986), that action results in stronger regret than inaction because in risky situations the norm is to not act, and therefore acting is perceived as more exceptional. Studies on the exceptionality effect have shown that deviations from what is normal resulting in negative outcomes are regretted more than routines (Fil-

lon et al., 2021; Kutscher & Feldman, 2019). Changes in the extent to which action or inaction are perceived as normal impact the action-effect (Feldman et al., 2021), be it changes in past-behavior routines and habits (Seta et al., 2008), social norms (Feldman & Albarracín, 2017), or expectations (Zeelenberg et al., 2002).

### Social norms and expectations

Feldman and Albarracín (2017) conducted four experiments using variations of the classic action effect scenarios (Kahneman & Tversky, 1982) and showed that corporate, society, and family action-inaction norms weakened the ac-

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The classic action effect showing action-inaction asymmetries in regret has been widely replicated (Yeung & Feldman, 2023). Therefore, we expected to replicate the effect in our samples:

Hypothesis 2 (replication): In situations involving risky choices and resulting in negative outcomes, action is regretted more than inaction.

The vast majority of studies on action effect focused on the negative emotion of regret, with only a few examining positive emotions such as elation and joy. Landman (1987) modified Kahneman and Tversky's (1982) original scenario by adding positive consequences and testing for joy, and showed a replication of the action effect regarding regret and an extension of the effect to joy, though. Meaning, that when things turn out favorably, those who acted experience stronger elation than those who did not act. However, the effect was much smaller for joy than for regret. Feldman (2020) tested action effect in both joy and regret and found that while norms impacted regret, they seemed to have little to no impact on joy. We therefore also set out to test both regret and joy and contrast their effects:

Hypothesis 3a (replication): In situations involving risky choices resulting in positive outcomes, action is attributed more joy than inaction.

Hypothesis 3b (replication): Action-effect for regret is stronger than action-effect for joy.

The action effect can be weakened and even reversed into an "inaction effect" if expectations are to take action, as demonstrated by Zeelenberg et al. (2002) who manipulated prior outcomes showing that negative prior outcomes resulted in raising expectations to take action. We therefore expected that this too would generalize to evaluations of action and inaction agents regarding preference, competence, and alignment with norms:

Hypothesis 4 (extension): In case of no prior outcomes or positive prior outcomes, an inaction protagonist is preferred, seen as more competent, and perceived as more in line with social norms (injunctive and descriptive) than a protagonist who acted.

Hypothesis 5 (extension): In case of negative prior outcomes, an action protagonist is preferred, seen as more competent, and perceived as more in line with social norms (injunctive and descriptive) than a protagonist who did not act.

## Pre-Registration and Open-Science

We pre-registered the experiments on AsPredicted (Study 1: #14653, <https://aspredicted.org/p8ir6.pdf>, March 2018; Study 2: #20841, <https://aspredicted.org/46x8w.pdf>, March 2019). Materials, data, and code are available on: <https://osf.io/a8e4d/>

All measures, manipulations, exclusions conducted for this investigation are reported, all studies were pre-registered with power analyses and data collection was completed before analyses.

## Studies 1a and 1b

### Method

#### Participants and power analysis

In Study 1a, we expected to detect a small-sized effect ( $d = .20$ ) for a one-sample t-test with 95% power, and an  $\alpha = .05$ . We planned to recruit 280 participants based on a power analysis, and 339 participants completed the study on Prolific ( $M_{age} = 37.54$ ,  $SD_{age} = 12.01$ ; 93 males, 230 females, 7 others, 9 unknowns).

In Study 1b, we reran the study aiming for a sample of 330 participants and recruited a total of 339 participants from Prolific ( $M_{age} = 37.62$ ,  $SD_{age} = 13.30$ ; 124 males, 208 females, 4 others, 3 unknowns).

#### Procedure

Participants were presented with the scenario about an action agent and an inaction agent and were asked to make comparison evaluations. The only difference between Study 1a and Study 1b was that questions were made mandatory in Study 1b. Question order was randomized, and the scenario was presented before every question. Participants then answered a funneling section to allow participants the possibility of commenting on the study ("Please let us know if you have any comments or questions about this study"), and provided demographic information.

#### Scenario

The scenario described two protagonists, Paul and George, who made financial decisions regarding an initial investment. Paul represented the inaction actor, and George represented the action actor. The scenario was as follows:

Paul and George are two financial advisors.

Paul invested his client's money in stocks in company A. During the past year he considered switching to stock in company B, but he decided against it. He now finds out that his client would have been better off by £1.2 million if he had switched to the stock of company B.

George invested his client's money in stocks in company B. During the past year he switched to stock in company A. He now finds out that his client would have been better off by £1.2 million if he had kept his stock in Company B.

#### Measures

Participants answered questions regarding **preference** "Which advisor – Paul or George – would you prefer to hire in the future?", **competence** "Which advisor – Paul or George – is more competent?", **perceived norms** "Which advisor's behavior – Paul's or George's – is more in line with norms?", and **regret** "Which advisor – Paul or George – regrets their decision more?", on the same scale (-5 = *Definitely Paul for not switching*, 5 = *Definitely George for switching*).

**Table 1. Studies 1a and 1b: Summary statistics**

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
<b>Study 1a</b>			
Preference	256	-0.98	2.04
Competence	274	-0.49	1.81
Normative	271	-0.65	2.51
Regret	264	2.11	2.70
<b>Study 1b</b>			
Preference	339	-0.74	2.16
Competence	339	-0.40	1.83
Normative	339	-0.69	2.47
Regret	339	2.09	2.74

Note. *n* = 339 for Study 1a and Study 1b. All dependent variables were between -5 (Paul, Inaction) and +5 (George, Action), meaning that means below 0 indicate inaction, and above 0 indicate action. The varying *n* in Study 1a was because we did not mandate answering all questions, leading to many skipping some questions, an issue we addressed in Study 1b.

## Results

We summarized descriptive statistics of all measures in [Table 1](#), with summary plots provided in [Figures 1 and 2](#).

Our main hypothesis (*H1a*) was supported. We found that participants preferred Paul who did not act over George who acted. Our additional hypotheses were also supported, and inaction Paul was perceived as more competent than action George (*H1b*), and as behaving more in line with the perceived norms (*H1c*).

Finally, we replicated the classic action-effect findings from Kahneman and Tversky (1982). Inaction Paul was attributed as experiencing less regret than action George (*H2*).

We summarized all correlations in [Table 2](#). We found positive associations between preference, competence, and norms ( $r = .27$  to  $r = .48$ ), and negative associations between regret and all other variables (from  $r = -.01$  to  $r = -.39$ ).

## Study 2

In Studies 1a and 1b, we found a preference for inaction over action agents and that inaction agents were perceived to be more aligned with general norms, more competent, and less likely to regret than action agents facing the same negative outcomes. The question concerning norms was ambiguous, as it only states “which protagonist is more in line with norms”, not explaining what these norms are. In Study 2, we examined two specific types of norms, descriptive norms – how common the protagonist’s behaviors are, and injunctive norms – how likely are the protagonist’s behaviors to be criticized by their peers.

We had multiple goals: 1) manipulating norms, examining the impact of prior outcomes following findings from “inaction effect” - prior negative outcomes shift social norms towards taking action, 2) again confirm the preference for inaction over action in the control condition (no prior outcomes indicated), and 3) explore different types

of social norms, both descriptive norms, and injunctive norms.

## Method

### Participants and power analysis

We expected to detect a small-to-medium-sized effect ( $f = .15$ ) with 80% power and  $\alpha = .05$ . Our pre-registered minimum sample size was 432 and planned sample size of 450.

A total of 460 Prolific participants completed the study ( $M_{age} = 35.77$ ,  $SD_{age} = 11.71$ ; 138 males, 308 females, 7 others, 7 unknowns). We assigned participants to one of the three prior conditions: no prior control condition, positive prior outcomes (eliciting inaction norms), and negative prior outcomes (eliciting action norms). The no prior condition was similar to the scenario in Study 1 and constitutes a replication.

### Procedure

Participants were randomly assigned to one of the three prior outcome conditions, presenting some backgrounds from an investment of the two investors.

**[No prior outcomes:** Paul and George are two financial advisors. In the past, Paul invested his client’s money in stocks in Company A and George invested his client’s money in Company B.

**Negative prior outcome:** Paul and George are two financial advisors.

In the past, Paul invested his client’s money in stocks in Company A, and these investments usually lost money for the clients. George invested his client’s money in Company B, and these investments usually lost money for the clients.

**Positive prior outcome:** Paul and George are two financial advisors.

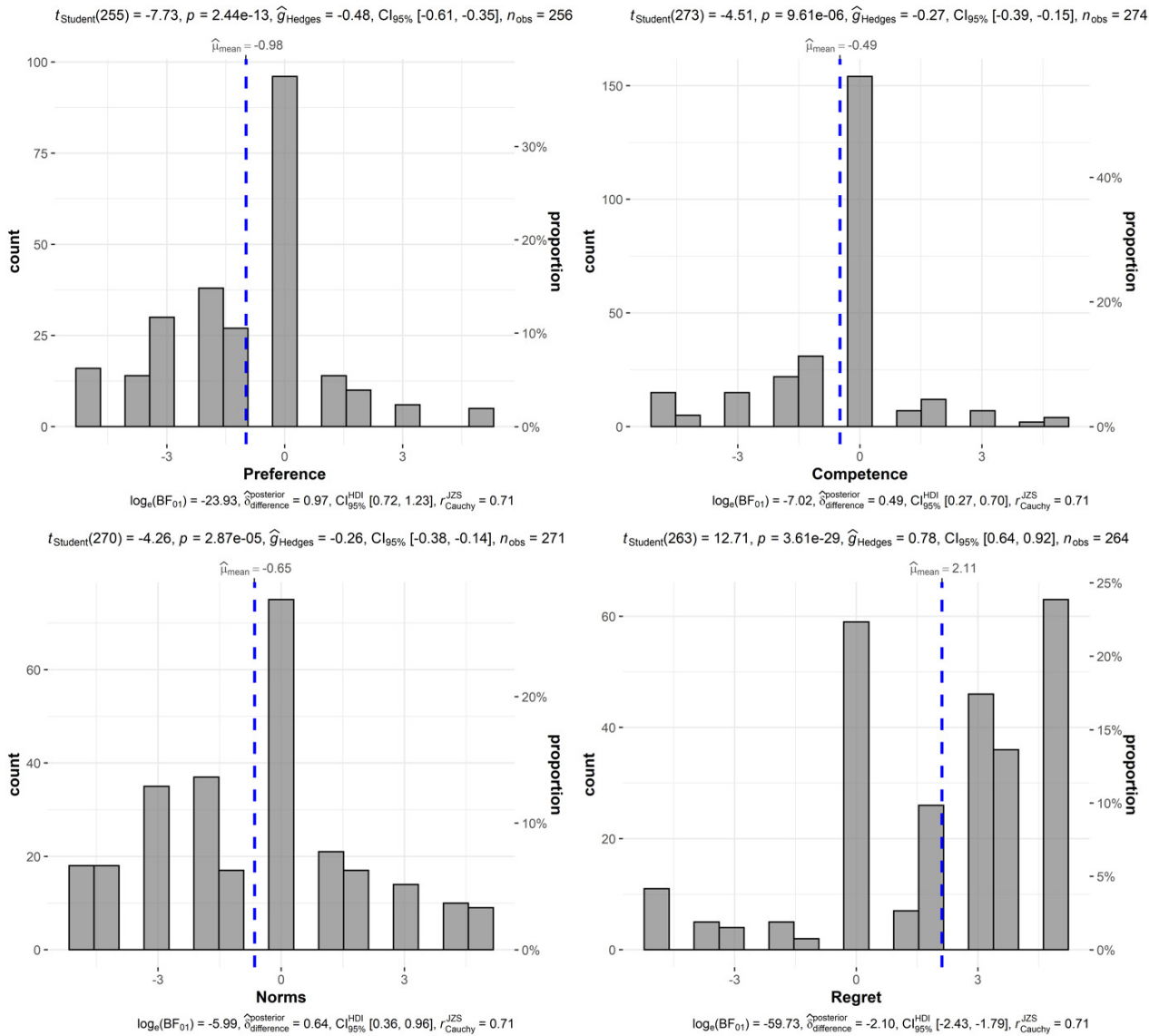
In the past, Paul invested his client’s money in stocks in Company A, and these investments were usually profitable for the clients. George invested his client’s money in Company B, and these investments were usually profitable for the clients.]

Then, all participants were presented with a manipulation check of expectations for taking action and changing - “To what extent do you expect Paul and George to change their investment behavior in the future?” ( $-5 = \textit{definitely not changed their behavior}$ ,  $5 = \textit{definitely changed their behavior}$ ).

Afterward, an adjusted version of the scenario in Studies 1a/b was presented as follow:

Paul has continued to invest his client’s money in stocks in company A. During the past year he considered switching to stock in company B, but he decided against it. He now finds out that his client would have been better off by £1.2 million if he had switched to the stock of company B.

George has not continued to invest his client’s money in stocks in company B. During the past year he switched to stock in company A. He now finds out that



**Figure 1. Study 1a: Distribution plots of dependent variables with one-sample t-test summary statistics**

Note. Created with ggstatsplot's gghistostats (Patil, 2021). Scales are between -5 favoring inaction and 5 favoring action. The graphs include the results of a one-sample t-test of differences between the mean and  $\mu = 0$  (p-value, effect size of Hedges'g and 95% confidence intervals). Below the figure is computed the Bayes factor in favor of the null hypothesis with a Cauchy prior of 0.707. A negative  $\log(BF_{01})$  indicates a negative evidence for the null hypothesis, and is accompanied by the mean posterior difference and 95% credible interval.

his client would have been better off by £1.2 million if he had kept his stock in Company B.

### Measures

The scenario was followed by questions about **preference** “Which advisor – Paul or George – would you prefer to hire in the future?”, **competence** “Which advisor – Paul or George – is more competent?”, **descriptive norms** “Whose behavior – Paul’s or George’s – is more common among financial advisors?”, **injunctive norms** “Whose behavior – Paul’s or George’s – will be more criticized among financial advisors?”, **regret** “Which advisor – Paul or George – regrets their decision more?”, and **joy** “Which advisor – Paul or George – would have been likely to experience more joy if things had gone well?” on the same scale (-5 = *Definitely Paul for not switching*, 5 = *Definitely George for switching*). Af-

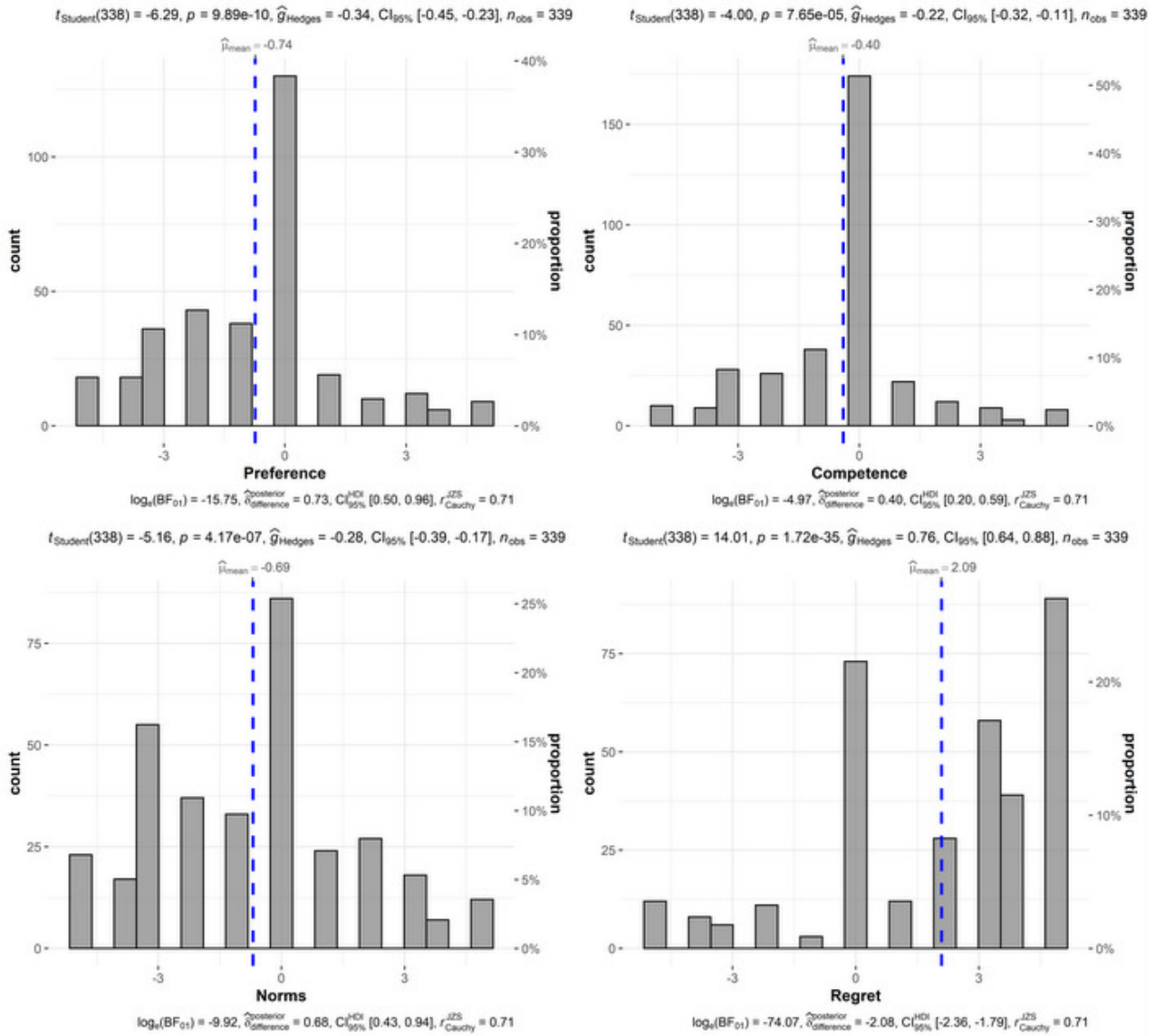
ter completing the study, participants answered an attention check, a funneling section, and provided demographic information.

### Result

#### Replication: Control condition

First, we repeated the same analyses as in Studies 1a and 1b using only the control condition. We presented the results in [Figure 3](#) and [Table 3](#).

We again found support for a higher attribution of preference (*H1a*) and competence (*H1b*) to the inaction than to the action investor. We separated norms (*H1c*) into descriptive and injunctive, yet only found support for an effect on injunctive norms but not on descriptive norms. Participants indicated action-George would be more criticized than in-



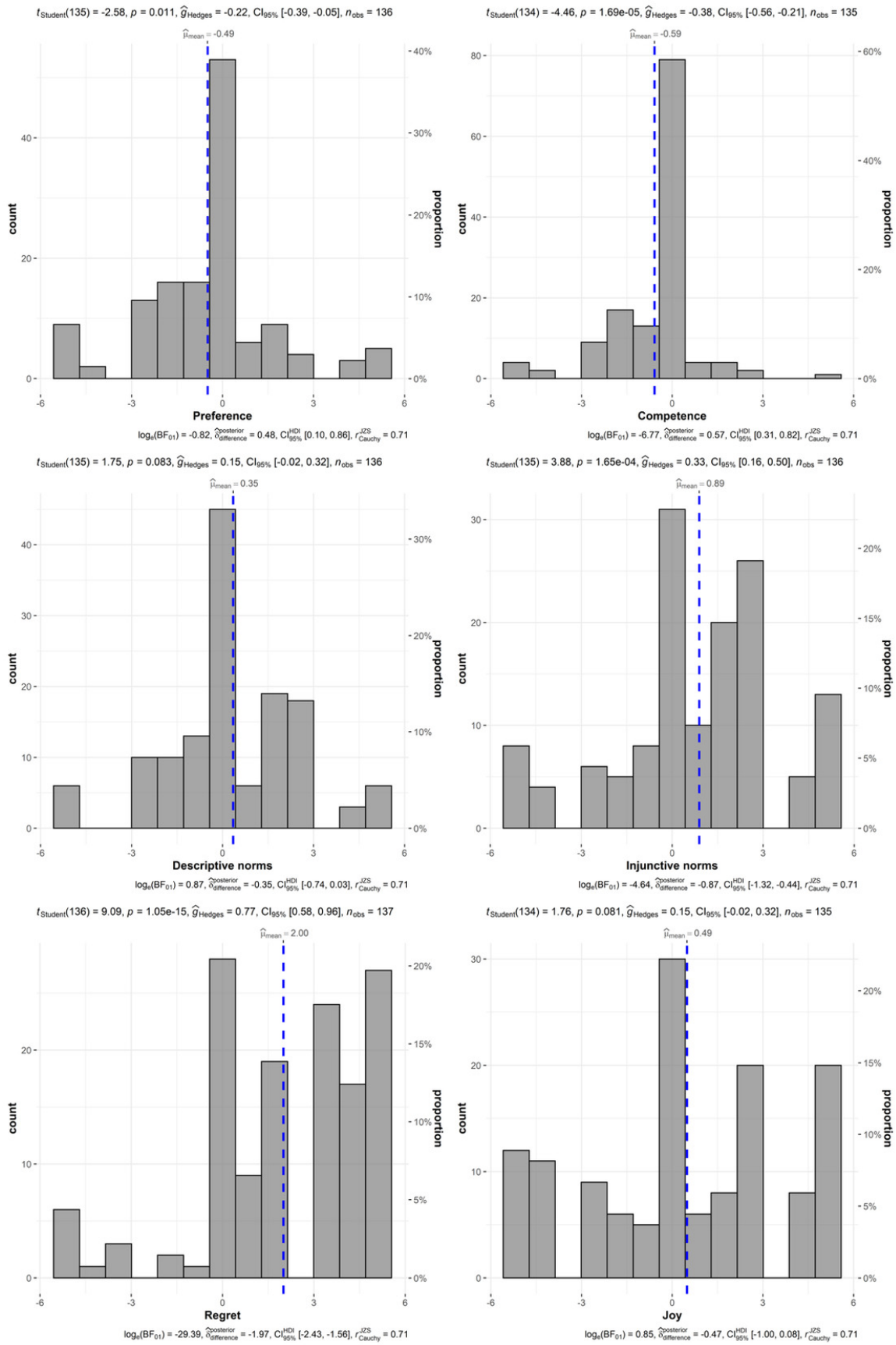
**Figure 2. Study 1b: Distribution plots of dependent variables with one-sample t-test summary statistics**

Note. Created with ggstatsplot's gghistostats (Patil, 2021). Scales are between -5 favoring inaction and 5 favoring action. The graphs include the results of a one-sample t-test of differences between the mean and  $\mu = 0$  (p-value, effect size of Hedges' g and 95% confidence intervals). Below the figure is computed the Bayes factor in favor of the null hypothesis with a Cauchy prior of 0.707. A negative  $\log(BF_{01})$  indicates a negative evidence for the null hypothesis, and is accompanied by the mean posterior difference and 95% credible interval.

**Table 2. Studies 1a and Study 1b: Correlations table**

Variables		Competence		Norms		Regret	
		r	p	r	p	r	p
Preference	Study 1a	.54 [.35, .72]	<.001	.39 [.18, .60]	.002	-.15 [-.40, .10]	.24
	Study 1b	.49 [.41, .57]	<.001	.36 [.27, .45]	<.001	-.40 [-.48, -.31]	<.001
Competence	Study 1a			.40 [.20, .61]	.001	-.30 [-.53, -.08]	.02
	Study 1b			.26 [.16, .36]	<.001	-.27 [-.37, -.17]	<.001
Norms	Study 1a					-.01 [-.29, .28]	.96
	Study 1b					-.16 [-.27, -.05]	.003

Note.  $n = 339$  for both Studies 1a and 1b.  $r =$  Pearson's correlation. All measures were between -5 (Paul, Inaction) and +5 (George, Action). Values in brackets represent 95% interval confidence for Pearson's  $r$ .



**Figure 3. Study 2 Control (No prior outcomes): Distributions and one-sample t-test statistics**

Note. Created with ggstatsplot's gghistostats (Patil, 2021). Scales are between -5 favoring inaction and 5 favoring action. The graphs include the results of a one-sample t-test of differences between the mean and  $\mu = 0$  (p-value, effect size of Hedges' g and 95% confidence intervals). Below the figure is computed the Bayes factor in favor of the null hypothesis





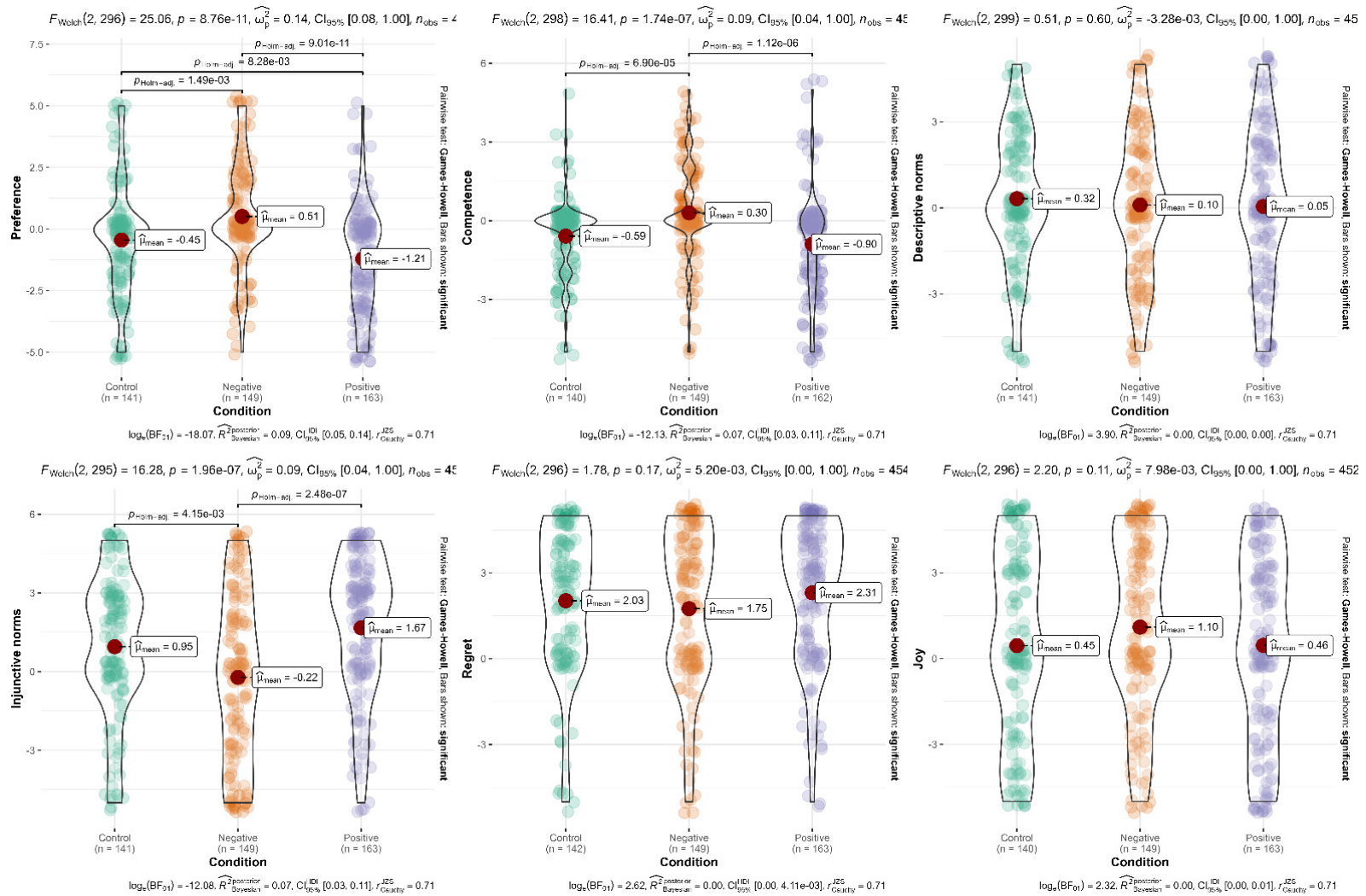


Figure 4. Study 2: One-way ANOVA plots for all dependent variables

Note. Created with ggstatsplot's gghiststats (Patil, 2021). Scales are between -5 favoring inaction and 5 favoring action. The Welch  $F$ -test tests the difference between the mean of the three condition – control, negative prior and positive prior, with the associated  $p$ -value and effect size of partial omega squared with 95% confidence intervals. Below the figure is computed the Bayes factor in favor of the null hypothesis with a Cauchy prior of 0.707. A negative  $\log(\text{BF}_{01})$  indicates a negative evidence for the null hypothesis, and is accompanied by the mean posterior difference and 95% credible interval. A  $\log(\text{BF}_{01})$  between [0, 2] indicates weak evidence for the null hypothesis and [2, 6] positive evidence for the null hypothesis.

**Table 4. Correlations for variables in Study 2**

Condition Variable	Control					Positive prior					Negative prior				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. Regret															
2. Joy	.14 [-.03, .30]					-.03 [-.18, .13]					-.07 [-.23, .10]				
3. Competence	-.35 [-.49, -.19]	-.01 [-.18, .16]				-.16 [-.31, .00]	.00 [-.16, .16]				-.04 [-.20, .13]	-.02 [-.18, .14]			
4. Injunctive norms	.27 [.10, .42]	-.07 [-.24, .10]	-.21 [-.37, -.04]			.31 [.16, .44]	-.14 [-.29, .02]	-.34 [-.47, -.20]			.13 [-.03, .29]	-.16 [-.32, -.00]	-.16 [-.32, -.00]		
5. Descriptive norms	-.09 [-.25, .08]	.08 [-.09, .25]	.08 [-.09, .24]	-.31 [-.45, -.15]		-.06 [-.22, .10]	.06 [-.09, .22]	.11 [-.05, .26]	-.23 [-.38, -.08]		-.18 [-.33, -.01]	.07 [-.09, .23]	.30 [.14, .44]	-.24 [-.39, -.08]	
6. Preference	-.41 [-.54, -.26]	.15 [-.02, .31]	.43 [.29, .56]	-.26 [-.41, -.09]	.10 [-.07, .26]	-.25 [-.39, -.10]	-.05 [-.21, .10]	.35 [.20, .48]	-.26 [-.40, -.11]	-.07 [-.23, .09]	-.17 [-.33, -.01]	.02 [-.14, .18]	.44 [.30, .56]	-.31 [-.45, -.16]	.13 [-.04, .29]

Note. Values in square brackets indicate the 95% confidence interval for each correlation.

**Table 5. Summary of findings**

Hypothesis	Study 1a	Study 1b	Study 2	Support
Hypothesis 1a: Individuals will prefer inaction over action.	0.48 [0.35, 0.61]	0.34 [0.23, .045]	0.20 [0.03, 0.36]	Supported in Study 1a, 1b, and 2.
Hypothesis 1b: Individuals will find choices of inaction are a result of more competence than choices of action.	0.27 [0.15, 0.39]	0.22 [0.11, 0.32]	0.39 [0.21, 0.56]	Supported in Study 1a, 1b, and 2.
Hypothesis 1c: Individuals will find choices of inaction are a result of more alignment with norms, descriptive and injunctive, than choices of action.	0.26 [0.14, 0.38]	0.28 [0.17, 0.39]	Descriptive 0.13 [-0.03, 0.30]; Injunctive 0.35 [0.18, 0.52]	Supported in Study 1a and 1b. Partially supported in Study 2.
Hypothesis 2: Individuals will attribute more regret to inaction than to action.	0.78 [0.64, 0.92]	0.76 [0.64, 0.88]	0.77 [0.58, 0.96]	Supported in Study 1a, 1b, and 2.
Hypothesis 3: Individuals will attribute less joy to inaction than to action if things turned out to go well.			0.14 [-0.03, 0.30]	Not supported in Study 2.
Hypothesis 4: In case of no prior outcomes or positive prior outcomes, the advisor who did not act is preferred and is seen as being more competent and more in line with social norms (injunctive and descriptive) over the one who did act.			From $d = 0.27$ to $d = 0.62$ (except for descriptive norms: $d = 0.07$ [-0.04, 0.18])	Supported in Study 2 except for descriptive norms.
Hypothesis 5: In case of negative prior outcomes, the advisor who did act is preferred and is seen as being more competent and more in line with social norms (injunctive and descriptive) over the one who did not act.			From $d = 0.01$ to $d = 0.40$ except for descriptive and injunctive norms (from $d = -0.23$ to $d = 0.20$ )	Supported in Study 2 except for social norms.

Note. If not detailed, results are Hedge's  $g$  and values in brackets are 95% confidence intervals for the presented values.

comparable to what was previously found in the literature (Feldman, 2020).

### The roles of social norms in the action effect

In Studies 1a and 1b, we asked a general question about perceived norms - "which advisor is more in line with norms?". In these studies, and that framing, norms were related to competence and preference and the action effect applies. In Study 2, we divided this question into two types of norms, injunctive norms, asking which of the investors would be more criticized, and descriptive norms, asking which of the investors' actions are more common (Gialdini, 2003; Feldman & Albarracín, 2017). We found support for our hypothesis for injunctive but not for descriptive norms, suggesting that action resulting in negative outcomes is perceived to elicit more criticism than inaction. Also, descriptive norms and injunctive norms were only weakly related, with descriptive norms going in the opposite direction to what we expected.

These findings suggest the need to clearly define what norms are being measured, and then to differentiate between the two types of norms when examining their associations with and impact on attributions and affect. Feldman and Albarracín (2017) showed that the impact of social norms on action is complex and depends on the reference point to which norms refer to and their importance for the individual (e.g., corporate norms, coworkers' behavior, family norms, societal norms). Therefore, it is likely not

only the type of norms, descriptive or injunctive, but also the reference group to which these norms are compared against. Future studies may aim to first measure the different types of norms and the different possible reference groups, and then to try and manipulate those in order to examine their impact on the action-effect.

In addition, it is possible that norms depend on the context. For example, our context was one of a financial investment, whereas the context in Zeelenberg et al. (2002) inaction-effect demonstration was in the context of sports. The two contexts differ, in their visibility, in their competitiveness, in the level of risk, and in other factors. Any of these factors may affect the way in which social norms impact the action effect, and therefore the variations of that impact in the different categories of norms. Overall, we see much potential for further theoretical developments regarding norms in the action effect by investigating types of norms, reference points, and context.

### Social evaluations, morality, and normality

Action and inaction were widely studied in the judgment and decision-making literature as cognitive biases, or "systematic" asymmetries in judgements regarding protagonists that either acted or not acted when faced with a choice (Kahneman & Tversky, 1982). Studies examined evaluations or attributions of emotions (e.g., regret; Zeelenberg et al., 2002) and/or cognition (e.g., counterfactual thinking,

N’Gbala & Branscombe, 1997) in hypothetical scenarios (for a review, see Feldman et al., 2020).

The attribution of regret, preference, or competence can also be seen as social evaluations, the assignment of positive or negative values to a behavior in social interactions (Abdai & Miklósi, 2016). Traditionally, action/inaction biases were focused on negative context – attributions of regret, responsibility, or intentionality in order to understand when someone is held accountable for a bad outcome. In our study, we changed the perspective to a positive social evaluation, the evaluations of trustworthiness and competence.

Our findings raise an interesting question as why inaction is attributed more trustworthiness, a positive evaluation, despite the same bad outcome? One possibility is that action may signal that someone may have taken too big of a risk, and therefore might be less trustworthy in similar risky decision. It is also possible that it is the social comparison between the acting and non-acting agents on a vignette in which the only provided factor is action to make the link between action and trust. Therefore, one possible line of future research would be to contrast between and within designs, such that agents would be rated independently to examine effects when there is no social comparison. Another potential line of research would be to assess perceived risk in that situation and rate each agent on perceived risk-taking tendencies, and examine how those are associated with trustworthiness.

### Manipulation norms through prior outcomes

In situations involving positive or neutral prior outcomes we found that the expected pattern that the inaction investor was perceived to be more competent than the action investor. In situations involving negative prior outcomes which elicit social norms for taking action, we found a reversal of the effect, in which the action investor was perceived to be more competent than the inaction investor. Curiously, our attempted replication of the inaction-effect to find this pattern regarding regret failed, even though our extension worked. It is possible that inaction norms in that context are so strong that prior outcomes do little to affect regret over a single bad decision. In recent research (Dorison et al., 2021), decision-makers who chose to invest more funds after a prior investment were perceived as warmer, more competent, and more confident than decision-makers who did not, and the results were the contrary in the absence of prior investment. Thus, researchers concluded that honoring sunk costs (or already having invested money in stocks) confer reputational benefits, which we confirmed in our study. Still, inaction-effect has been replicated multiple times with similar and other scenarios, and so more research is needed regarding the specifics of the current context that may have weakened the inaction-effect.

### The Regret-Joy asymmetry

Investigating the roles of emotions in this preference, the effect size of joy was far weaker than the effect found for regret, supporting similar findings reported by Feldman

(2020). Regret and joy also seemed to be unrelated to each other ( $r = .00$ , 95%CI [-.10, .11]).

A possible explanation for these differences may lie in effects such as “bad is stronger than good” (Baumeister et al., 2001) “bad is freer than good” (Feldman et al., 2016), and the Side-Effect Effect (Knobe, 2003). These reflect a similar idea that negative outcomes are more impactful, they elicit stronger attributions of responsibility, causality, and intent, and therefore likely to also elicit stronger emotions.

Another possible explanation may lie in our procedure. In the Elation effect for action and inaction (Landman, 1987), the regret/joy asymmetry was shown by reversing the scenarios. Half the participants were presented with a negative outcome and a regret question, and half with an opposite positive outcome and a joy question. In our study, this type of manipulation would have meant to randomly vary our scenario so that half the participants would instead read about financial advisors who won more money by acting and not acting, with a question about attributions of joy. We instead first provided all participants with the negative outcome scenario, and then asked participants to imagine joy felt had things turned out well. This procedure is different, and arguably more complex and cognitively effortful. It is possible that participants experienced difficulty in making that cognitive reversal, and so future studies can try and contrast the two procedures, and also provide a more rigorous test with an added option of some participants first being presented with a positive scenario joy and then asked to answer a regret question when things turned out badly.

### Implications, limitations, and directions for future research

#### Constraints on Generality (COG)

Several constraints limit our possibility to generalize the effect. Our population consists of Prolific users and we used hypothetical scenarios and not in real environment decision-making. Prolific has been found to be a source of reliable data (Palan & Schitter, 2018; Pe’er et al., 2021) and we implemented various measures such as comprehension checks to ensure data quality, supported by evidence mostly consistent with previous literature. Yet future research can build on these findings to test robustness and generalizability to real-life decisions and wider populations.

Our scenarios were modified versions of the original study from Kahneman and Tversky (1982). This scenario has been replicated, extended, and modified many times, with both old and recent research testing various versions of the scenarios and extending to other domains to test the generalizability of the action effect (e.g., the Moral Sense Test, Cushman et al., 2006; sports coach, Feldman, 2020; Zeelenberg et al., 2002; factory rebate of a car, Tykocinski et al., 1995). We aimed to try and take the action effect in a different direction, to generalize the action effect to look at new dependent variable from different perspectives, examining preference, competence, and norms and rating perceptions of action and inaction agents rather than action or

inaction behaviors. We see much potential in further extensions of this domain to examine other dependent variables and perspectives looking at agents and interactions rather than singular decisions.

### Conclusion

We found support for an extension of the action effect to evaluations of agents looking at preferences, competence, and social norms. Evaluating agents facing negative outcomes over their decisions, people show preference for inaction, and find inaction more competent and more in line with norms, compared to action.

### Competing Interests

The author(s) declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

### Funding

None.

### Acknowledgments

We thank Anthony M. Evans for initiating and guiding this project, and conducting the pre-registration, and data collections. We thank Philippe van de Calseyde for his valuable feedback regarding experimental designs and our pre-registrations in early stages of the project.

### Authorship Declaration

Please see the [table](#). The pre-registration authors were primarily responsible for the empirical methods, results, and first drafts, and therefore were essential. All authors approved the final manuscript for submission.

### Data Accessibility Statement

All materials, data, and code are available on: <https://osf.io/a8e4d/>

### Contributor roles taxonomy

Role	Adrien Fillon	Luna Strauch	Gilad Feldman
Conceptualization		+	
Pre-registration		+	
Data curation	+	+	
Formal analysis	+	+	
Funding acquisition			
Investigation	+	+	
Pre-registration peer review / verification			+
Data analysis peer review / verification	+		
Methodology		+	
Project administration			+
Resources			
Software	+	+	
Supervision			+
Validation	+		
Visualization	+		
Writing-original draft	+		+
Writing-review and editing			+

*Note.* See <https://www.casrai.org/credit.html> for the details and definitions of each role. We note that Dr. Anthony M. Evans guided Luna Strauch on this project, and conducted the data collections and pre-registrations. During those stages, Gilad Feldman was an external reviewer on the pre-registrations. Once those were completed Anthony M. Evans chose to withdraw as coauthor on this project and handed the project over to Gilad Feldman and Adrien Fillon to bring this to publication.

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## Supplementary Materials

### Peer Review History

Download: [https://collabra.scholasticahq.com/article/74817-evaluations-of-action-and-inaction-decision-makers-in-risky-decisions-resulting-in-negative-outcomes-inaction-agents-are-preferred-to-and-perceived-a/attachment/157696.docx?auth\\_token=YiJexhimNsvin3ZBbF9m](https://collabra.scholasticahq.com/article/74817-evaluations-of-action-and-inaction-decision-makers-in-risky-decisions-resulting-in-negative-outcomes-inaction-agents-are-preferred-to-and-perceived-a/attachment/157696.docx?auth_token=YiJexhimNsvin3ZBbF9m)

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### Supplementary Materials

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Evaluations of action and inaction decision-makers in risky decisions resulting in negative outcomes: Inaction agents are preferred to and perceived as more competent and normative than action agents

**Supplementary**

Contents

Supplementary..... 1

Open Science disclosures ..... 2

    Procedure and data disclosures ..... 2

        Data collection..... 2

        Conditions reporting..... 2

        Data exclusions ..... 2

        Variables reporting..... 2

Power-analysis ..... 3

    Study 1a..... 3

    Study 1b..... 3

    Study 2..... 3

Tables ..... 4

Figures ..... 8

One-way ANOVA Study 2 ..... 17

    One-Way ANOVA..... 17

    Post Hoc Tests..... 17

Reference..... 21

## **Open Science disclosures**

### **Procedure and data disclosures**

#### Data collection

Data collection was completed before analyzing the data.

#### Conditions reporting

All collected conditions are reported.

#### Data exclusions

Details are reported in the materials section of this document

#### Variables reporting

All variables collected for this study are reported and included in the provided data.

## Power-analysis

### Study 1a

```
> powerAnalysis::power.t(es=.20, power=0.95, sig.level=0.05, type="one", alternative="right")

One-sample t test power calculation

      es = 0.2
      n  = 271.9134
  power = 0.95
sig.level = 0.05
alternative = right

NOTE: n is the number of observations
```

### Study 1b

```
> powerAnalysis::power.t(es=.20, power=0.95, sig.level=0.05, type="one", alternative="two.sided")

One-sample t test power calculation

      es = 0.2
      n  = 326.7952
  power = 0.95
sig.level = 0.05
alternative = two.sided

NOTE: n is the number of observations
```

### Study 2

```
> powerAnalysis::power.anova.oneway(groups=3, f=0.15, sig.level=0.05, power=.80)

Balanced one-way analysis of variance power calculation

  groups = 3
      n  = 143.7394
      f  = 0.15
  power = 0.8
sig.level = 0.05

NOTE: n is number in each group

> 144*3
[1] 432
```

**Tables**

Table S1

*Studies 1a/1b: Summary of one-sample t-tests*

Variable	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>	95% <i>CI</i>
Study 1a ( <i>n</i> = 339)					
Preference	-7.73	255	<.001	-0.48	[-0.61, -0.35]
Competence	-4.51	273	<.001	-0.27	[-0.39, -0.15]
Normative	-4.26	270	<.001	-0.26	[-0.38, -0.14]
Regret	12.71	263	<.001	0.78	[0.64, 0.92]
Study 1b ( <i>n</i> = 339)					
Preference	-6.29	338	<.001	-0.34	[-0.45, -0.23]
Competence	-4.00	338	<.001	-0.22	[-0.33, -0.11]
Normative	-5.16	338	<.001	-0.28	[-0.39, -0.17]
Regret	14.01	338	<.001	0.76	[0.64, 0.88]

*Note.* *t* = one sample t-test against  $M = 0$ , *df* = degree of freedom, all *ps* <.001, *d* = Cohen's *d*, 95% *CI* = 95% confidence interval around Cohen's *d*.

Table S2

*Study 2: Summary of one-sample t-tests*

Variable	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>	95% <i>CI</i>
Preference	-3.91	455	<.001	-0.18	[-0.28, -0.09]
Competence	-4.33	453	<.001	-0.20	[-0.30, -0.11]
Descriptive norms	1.21	455	.23	0.06	[-0.04, 0.15]
Injunctive norms	6.13	455	<.001	0.29	[0.19, 0.38]
Regret	16.71	456	<.001	0.78	[0.68, 0.89]
Joy	4.45	454	<.001	0.21	[0.12, 0.30]

*Note.* *t* = one sample t-test against  $M = 0$ , *df* = degree of freedom, all *ps* <.001, *d* = Cohen's *d*, 95% *CI* = 95% confidence interval around Cohen's *d*.

Table S3

Study 2: Correlations table

Variables	Preference		Competence		Descriptive norms		Injunctive norms		Regret		Joy	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Preference			.44 [.35, .50]	<.001	.03 [-.07, .14]	.49	-.34 [-.42, -.26]	<.001	-.27 [-.35, -.18]	<.001	.07 [-.03, .17]	.12
Competence					.15 [.06, .25]	.001	-.28 [-.37, -.20]	<.001	-.19 [-.28, -.09]	<.001	.01 [-.09, .12]	.63
Descriptive norms							-.25 [-.33, -.16]	<.001	-.11 [-.21, -.01]	0.02	.06 [-.05, .16]	.28
Injunctive norms									.24 [.16, .33]	<.001	-.15 [-.24, -.05]	.004
Regret											.00 [-.10, .11]	.97
Joy												

Note. N = 460. *r* = Pearson's correlation. All measures were between -5 (Paul, Inaction) and +5 (George, Action). Values in brackets represent 95% interval confidence for Pearson's *r*.

Table S4  
 Study 2: Experimental design

<b><u>IV: No prior (control / replication)</u></b>	<b><u>IV: Negative prior outcomes</u></b>	<b><u>IV: Positive prior</u></b>
<p>Paul and George are two financial advisors.</p> <p>In the past, Paul invested his client's money in stocks in Company A and</p> <p>George invested his client's money in Company B.</p>	<p>Paul and George are two financial advisors.</p> <p>In the past, Paul invested his client's money in stocks in Company A, and these investments usually <i>lost money</i> for the clients.</p> <p>George invested his client's money in Company B, and these investments usually <i>lost money</i> for the clients.</p>	<p>Paul and George are two financial advisors.</p> <p>In the past, Paul invested his client's money in stocks in Company A, and these investments were usually <i>profitable</i> for the clients.</p> <p>George invested his client's money in Company B, and these investments were usually <i>profitable</i> for the clients.</p>
<p><b><u>Manipulation check</u></b>          "To what extent do you expect Paul and George to change their investment behavior in the future? (-5 = <i>definitely not changed their behavior</i>, 5 = <i>definitely changed their behavior</i>)."</p>		
<p><b><u>Scenario</u></b>          Paul has continued to invest his client's money in stocks in company A. During the past year he considered switching to stock in company B, but he decided against it. He now finds out that his client would have been better off by £1.2 million if he had switched to the stock of company B.</p> <p>George has not continued to invest his client's money in stocks in company B. During the past year he switched to stock in company A. He now finds out that his client would have been better off by £1.2 million if he had kept his stock in Company B.</p>		
<p><b><u>Dependent variables</u></b>          Orders presentation were randomized.          Scale: -5 = <i>Definitely Paul who decided not to switch</i>; 5 <i>Definitely George who decided to switch</i>.</p> <p><b><u>Preference</u></b>          Which advisor – Paul or George – would you prefer to hire in the future?</p> <p><b><u>Competence</u></b>          Which advisor – Paul or George – is more competent?</p> <p><b><u>Descriptive norms</u></b>          Whose behavior – Paul's or George's – is more common among financial advisors?</p> <p><b><u>Injunctive norms</u></b>          Whose behavior – Paul's or George's – will be more criticized among financial advisors?</p> <p><b><u>Regret</u></b>          Which advisor – Paul or George – regrets their decision more?</p> <p><b><u>Joy</u></b>          Which advisor – Paul or George - would have been likely to experience more joy if things had gone well?</p>		

## Figures

Figure S1

*Study 1a: Distribution plots*

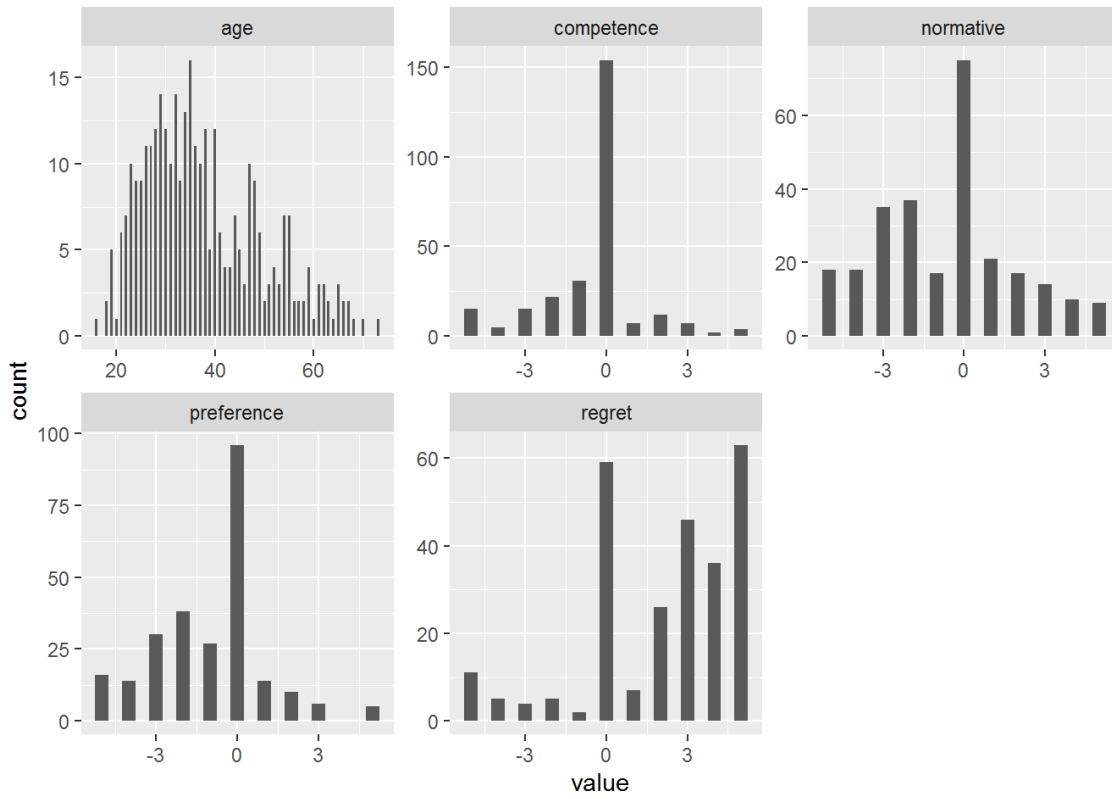




Figure S2

Study 1b: descriptives

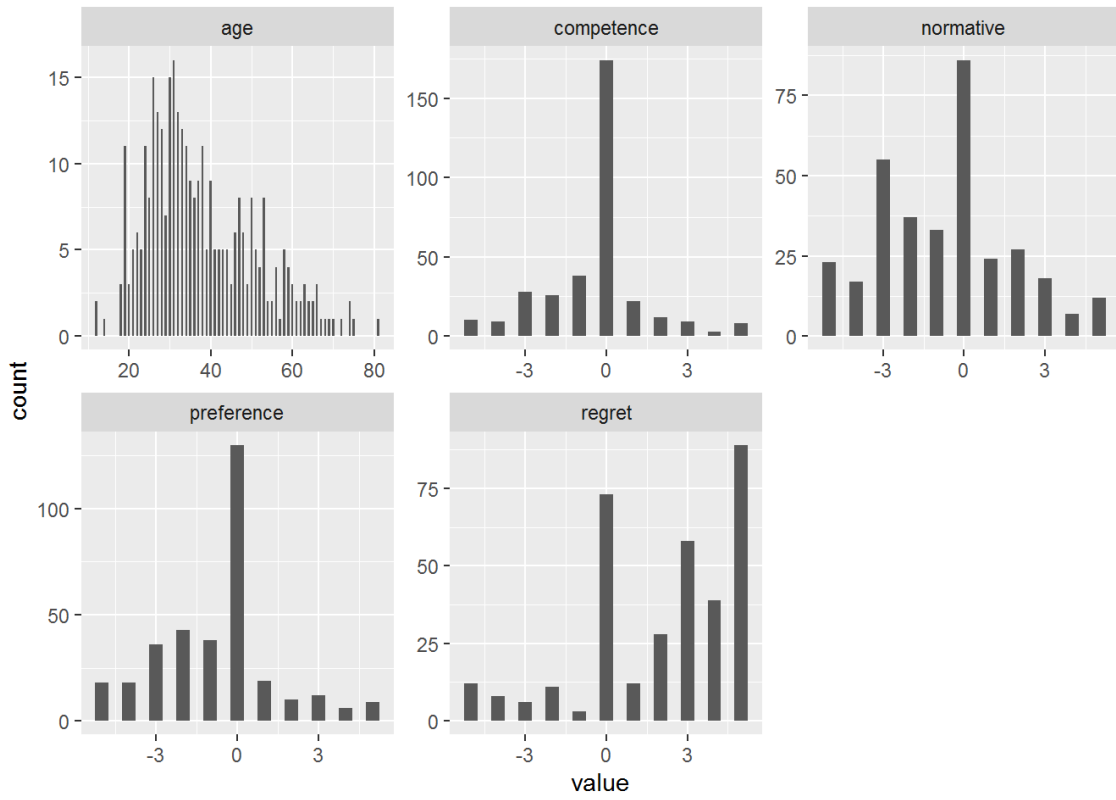


Figure S3

Study 2 descriptives

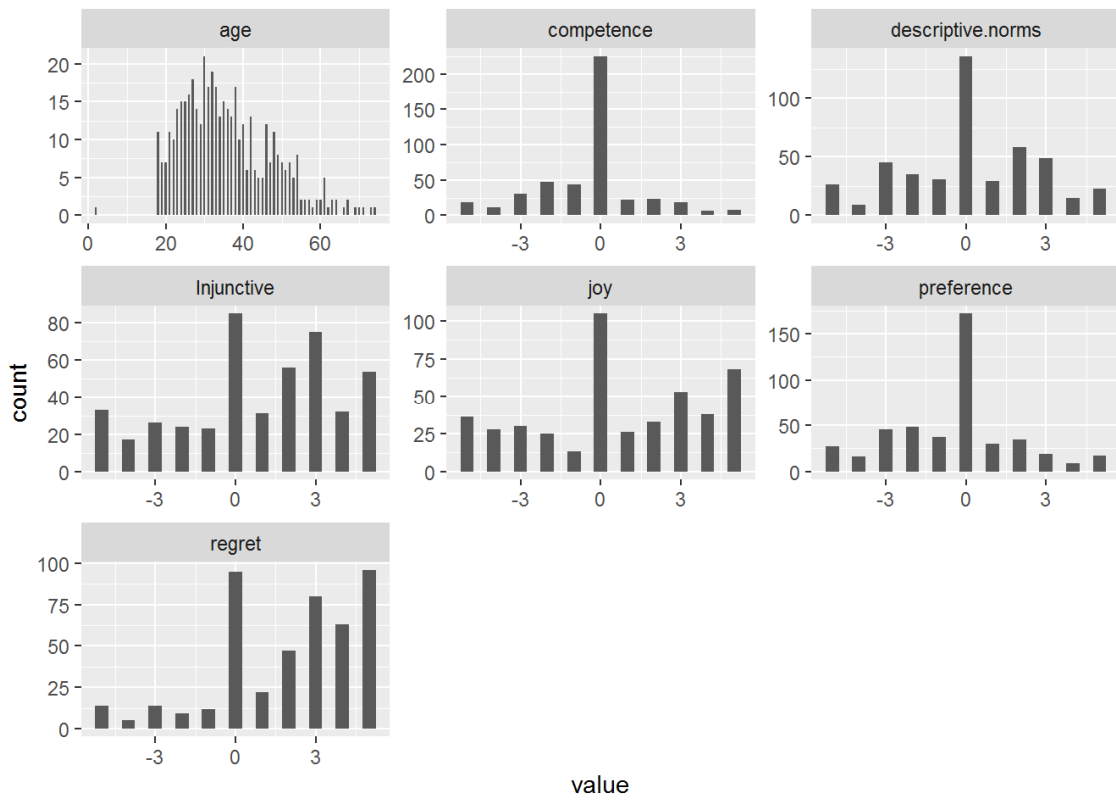


Figure S4

Study 1a: Correlations

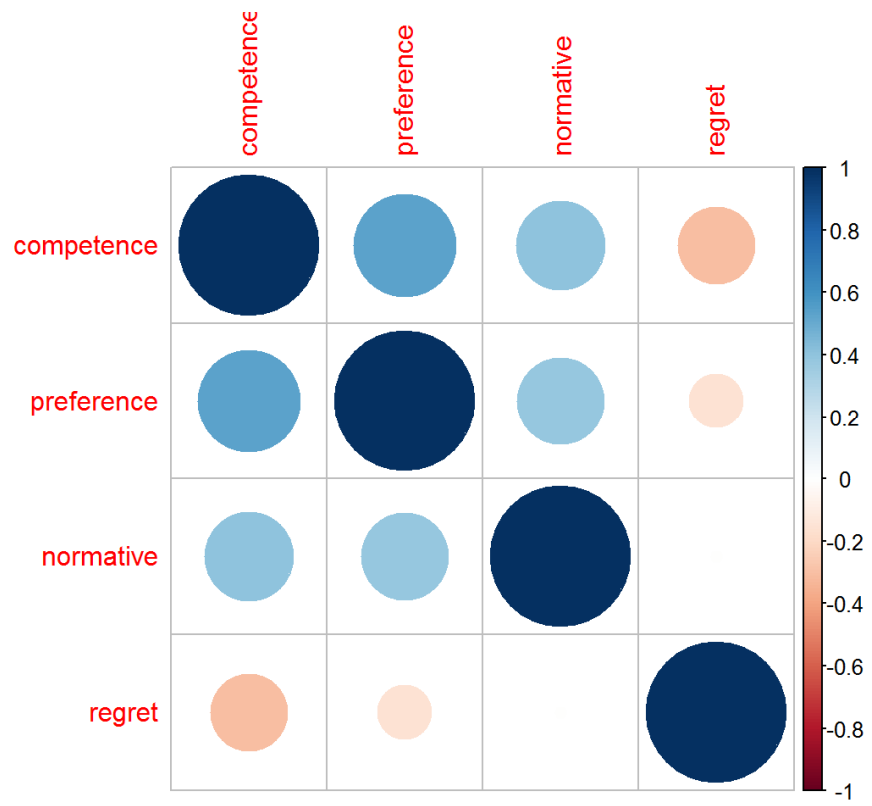


Figure S5

Study 1a: Correlations

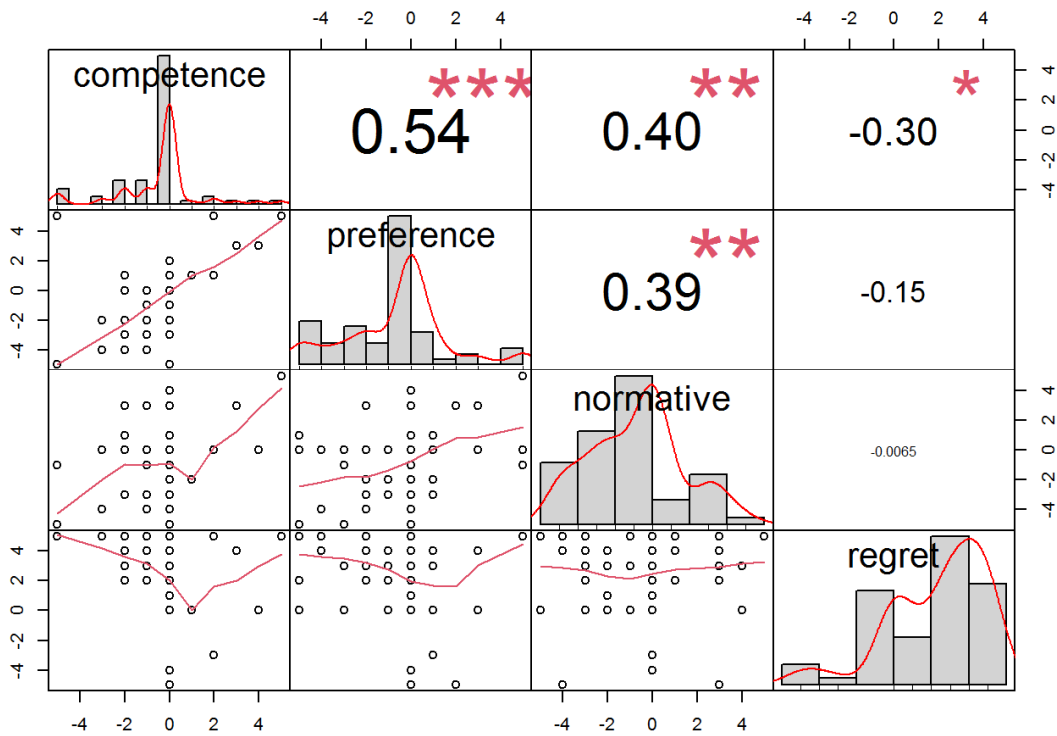


Figure S6

Study 1b: Correlations

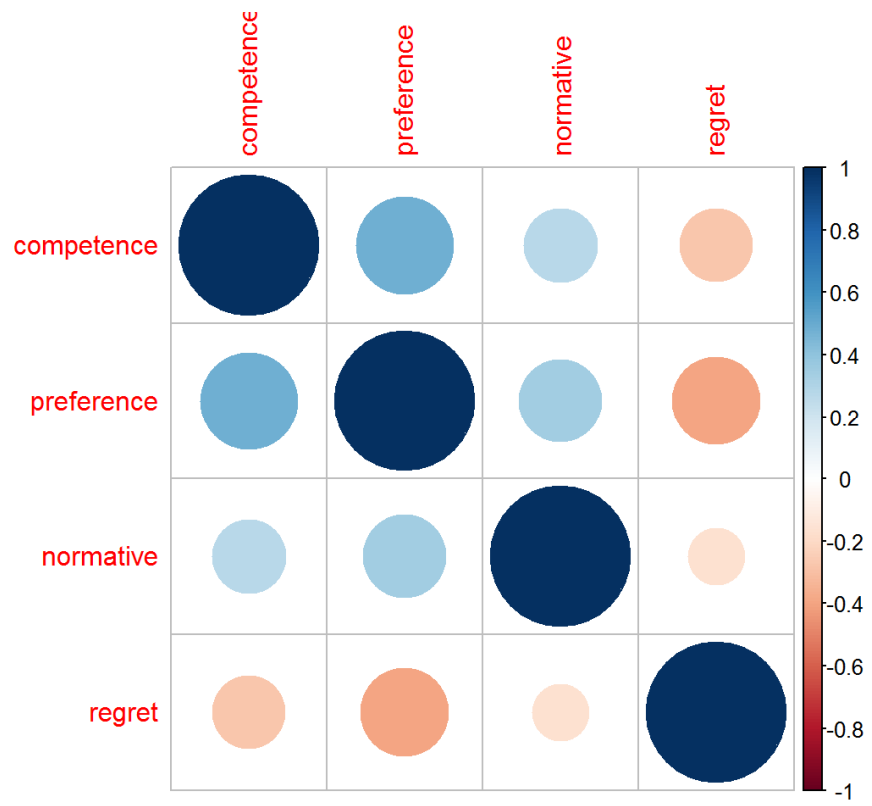


Figure S7

Study 1b: Correlations

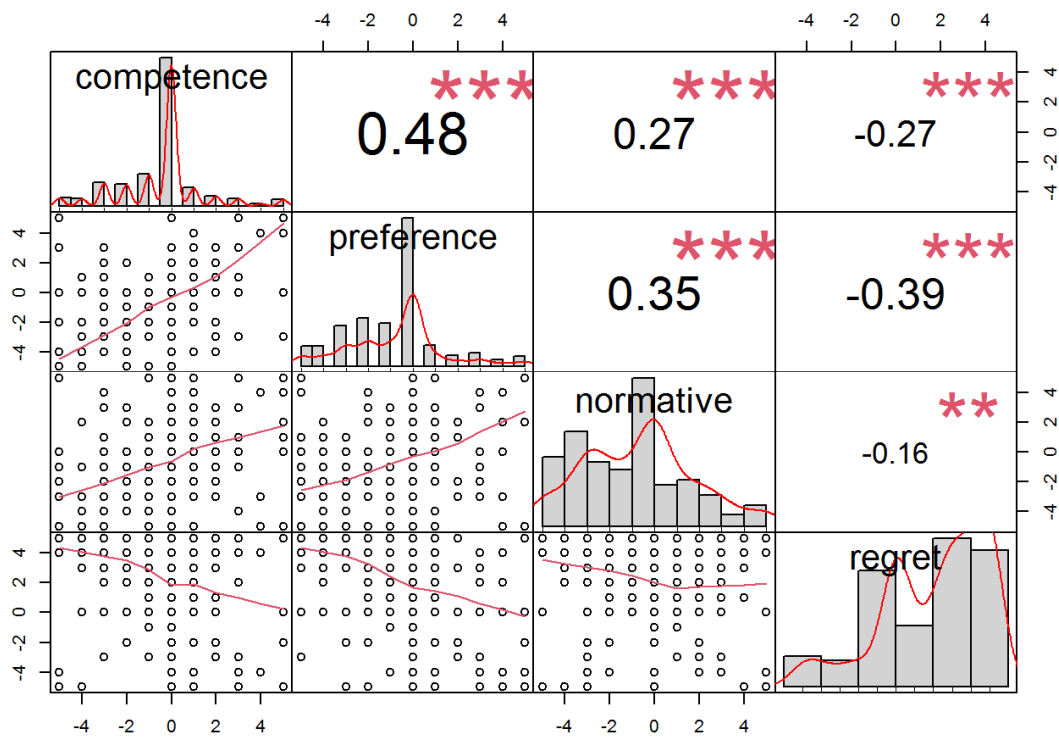


Figure S8

Study 2: Correlations

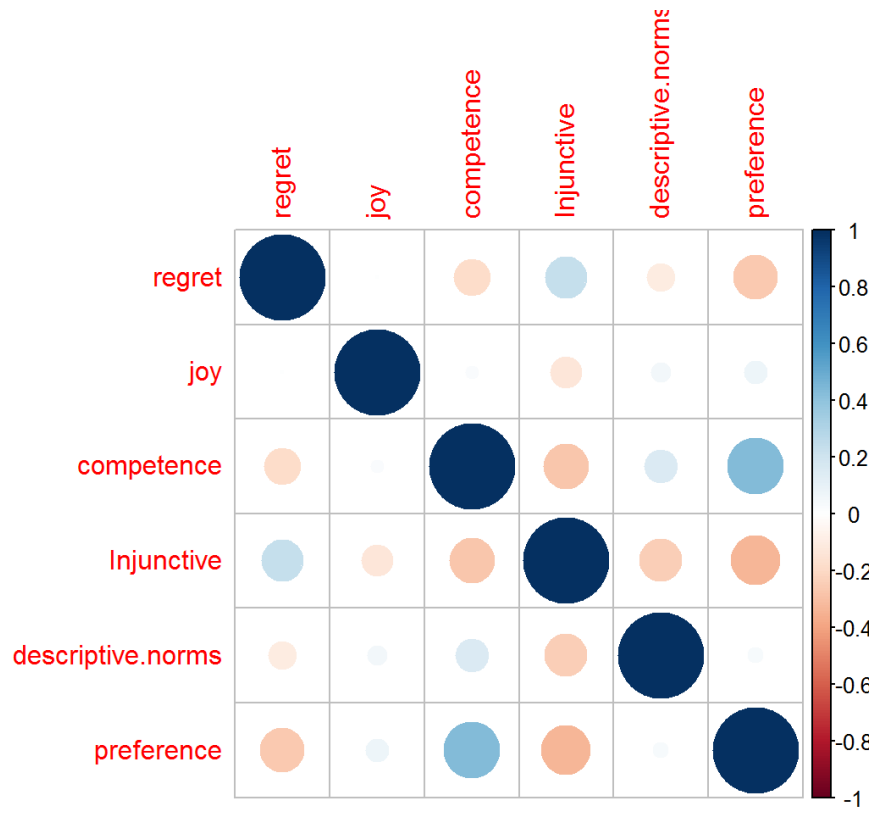
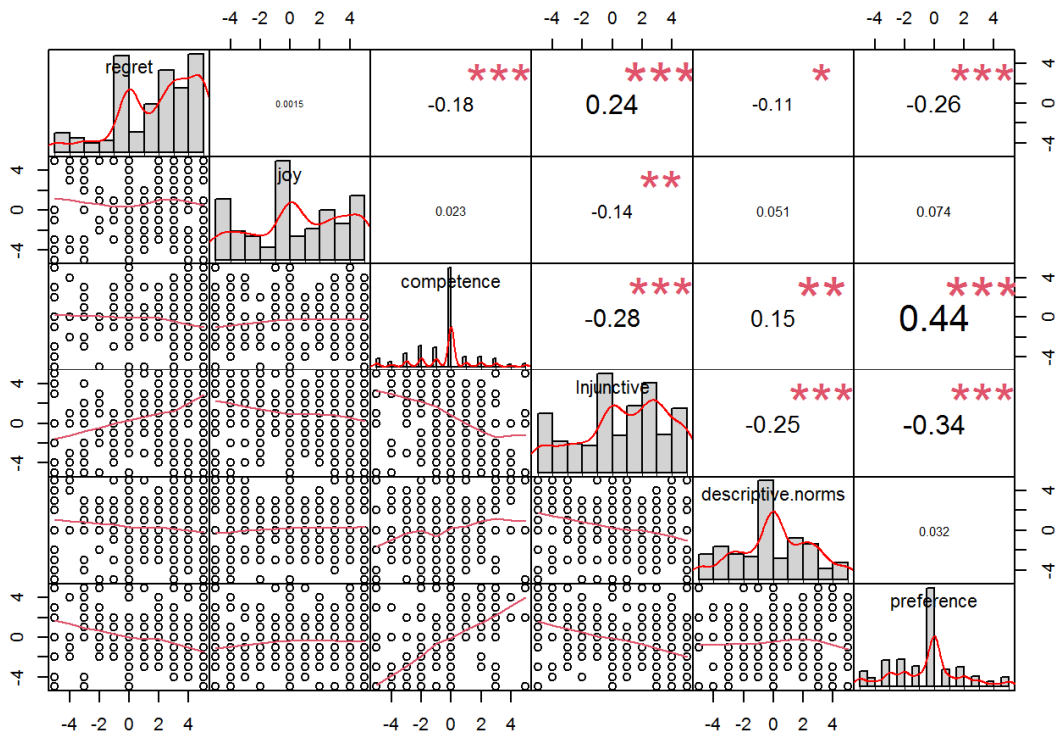


Figure S9

Study 2: Correlations





## One-way ANOVA Study 2

The ANOVA revealed a difference between the three priors for preference, a difference between control + positive priors vs. negative prior for competence and injunctive norms, and no differences for descriptive norms, regret and joy.

### One-Way ANOVA

*One-Way ANOVA (Fisher's)*

	F	df1	df2	p
Preference	24.245	2	450	<.001
Competence	17.608	2	448	<.001
Descriptive norms	0.476	2	450	0.621
Injunctive norms	17.547	2	450	<.001
Regret	1.799	2	451	0.167
Joy	2.115	2	449	0.122

### Post Hoc Tests

Tukey Post-Hoc Test – preference

	1	2	3
1 Mean difference	—	0.762 **	-0.957 ***
t-value	—	3.04	-3.74
df	—	450	450
p-value	—	0.007	<.001
2 Mean difference		—	-1.719 ***
t-value		—	-6.96
df		—	450
p-value		—	<.001
3 Mean difference			—
t-value			—
df			—
p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Tukey Post-Hoc Test – competence

		1	2	3
1	Mean difference	—	0.309	-0.888 ***
	t-value	—	1.46	-4.12
	df	—	448	448
	p-value	—	0.309	<.001
2	Mean difference		—	-1.197 ***
	t-value		—	-5.76
	df		—	448
	p-value		—	<.001
3	Mean difference			—
	t-value			—
	df			—
	p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Tukey Post-Hoc Test – descriptive norms

		1	2	3
1	Mean difference	—	0.270	0.2185
	t-value	—	0.931	0.737
	df	—	450	450
	p-value	—	0.621	0.741
2	Mean difference		—	-0.0516
	t-value		—	-0.181
	df		—	450
	p-value		—	0.982
3	Mean difference			—
	t-value			—
	df			—

## Tukey Post-Hoc Test – descriptive norms

	1	2	3
p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Tukey Post-Hoc Test – Injunctive

	1	2	3
1 Mean difference	—	-0.718	1.17 **
t-value	—	-2.21	3.52
df	—	450	450
p-value	—	0.071	0.001
2 Mean difference		—	1.89 ***
t-value		—	5.89
df		—	450
p-value		—	< .001
3 Mean difference			—
t-value			—
df			—
p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Tukey Post-Hoc Test – regret

	1	2	3
1 Mean difference	—	-0.279	0.276
t-value	—	-0.940	0.913
df	—	451	451
p-value	—	0.615	0.632

## Tukey Post-Hoc Test – regret

		1	2	3
2	Mean difference		—	0.555
	t-value		—	1.896
	df		—	451
	p-value		—	0.141
3	Mean difference			—
	t-value			—
	df			—
	p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Tukey Post-Hoc Test – joy

		1	2	3
1	Mean difference	—	-0.0101	-0.651
	t-value	—	-0.0280	-1.76
	df	—	449	449
	p-value	—	1.000	0.183
2	Mean difference		—	-0.641
	t-value		—	-1.80
	df		—	449
	p-value		—	0.170
3	Mean difference			—
	t-value			—
	df			—
	p-value			—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

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