

**Omission and commission in judgment and decision making:
Understanding and linking action-inaction effects using the concept of
normality**

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In press at Social and Personality Psychology Compass

Accepted for publication on June 4th 2020

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Word count: Abstract – 116; Manuscript – 5434

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Declaration of Conflict of Interest:

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

financial disclosure/funding:

The author(s) received no financial support for the research and/or authorship of this article.

Acknowledgments or Author Notes:

[None]

Abstract

Research on action and inaction in judgment and decision making now spans over 35 years, with ever-growing interest. Accumulating evidence suggests that action and inaction are perceived and evaluated differently, affecting a wide array of psychological factors from emotions to morality. These asymmetries have been shown to have real impact on choice behavior in both personal and interpersonal contexts, with implications for individuals and society. We review impactful action-inaction related phenomena, with a summary and comparison of key findings and insights, reinterpreting these effects and mapping links between effects using norm theory's (Kahneman & Miller, 1986) concept of normality. Together, these aim to contribute towards an integrated understanding of the human psyche regarding action and inaction.

Keywords: action, inaction, omission, commission, choice, bias, affect, regret, asymmetry, judgment and decision making

Omission and commission in judgment and decision making:

Understanding and linking action-inaction effects using the concept of normality

Action and inaction are core concepts in human psyche and behavior and decades of research across multiple domains have made significant progress in identifying action-inaction related phenomena and demonstrating impact for individuals and society (Anderson, 2003; Prentice & Koehler, 2003). One of the earliest studies in this domain was by Kahneman and Tversky in 1982 on action-inaction asymmetries in reference to the emotion of regret (reviewed below). That paved the way for a prolific line of research in judgment and decision-making showing action-inaction asymmetries in processing, evaluations, and attributions with implications for a wide array of factors, from emotions and cognition to preferences, choices, and behavior. In these demonstrations of asymmetries, experiments typically show that comparable action and inaction tend to be associated with and elicit different evaluations, choices, and behaviors.

These phenomena were shown to hold important implications for many aspects of life, including but not limited to law (Prentice & Koehler, 2003; Zamir & Ritov, 2012), marketing (e.g., Ng, Kim, & Rao, 2015) and health (e.g., Aberegg, Haponik, & Terry, 2005; Connolly & Reb, 2005).

Over the years, many action-inaction effects have been documented. Yet, these have often been studied in isolation, mostly focusing on attempts to generalize with empirical demonstrations of the effects in various domains, and documenting nuances regarding possible moderating factors. The number of documented phenomena, their contextual factors, and the disconnect between lines of research has made it difficult to see the forest for the trees, to clarify links between biases, and to communicate clear conclusions for broad audiences.

We review action and inaction related phenomena in the judgment and decision-making literature. We aim to discuss similarities and links between the seemingly disparate asymmetries. We do so by applying a theoretical lens that offers a unified framework for examining these effects, with an initial categorization into four high-level domains of classic action-inaction phenomena.

Normality, norm theory, and exceptionality bias

The theoretical lens we use to review the action-inaction effects is norm theory by Kahneman and Miller (1986). The theory was suggested following a growing body of literature documenting phenomena of asymmetries in judgment and decision-making. Asymmetries in the context of judgment and decision making are differences in impact observed in comparisons of two factors on a singular dimension that would otherwise not be expected to matter. For example, the well documented positive-negative asymmetry captures differences in the processing of events only varying in valence comparing positive to negative, such that, for example, "bad is stronger than good" (Baumeister et al., 2001) and losses loom larger than gains (Tversky & Kahneman, 1991). These asymmetries were considered violations of neoclassical economic theories which assumed rationality and expected that differences in factors such as valence (positive-negative), actor (self-other), or action (versus inaction) would not affect people's valuations and decisions (von Neumann & Morgenstern, 1947).

Norm theory was the first theoretical account offered for action-inaction asymmetries demonstrated several years earlier by the action-effect by Kahneman and Tversky (1982) (covered in detail below). The theory has since been extensively cited and commonly referred to for a wide array of effects, with over 3500 citations at the time of writing (according to Google Scholar). It is a comprehensive multi-faceted theory with innovative and complex concepts, yet the part most relevant for action and inaction that we focus on here is the

concept of normality. Normality can be defined as the extent to which something is perceived or processed as normal. Simplifying the complex theory for the purpose of this review, there are two core aspects of normality: 1) normality is dependent on cognitive availability of stimuli or events and possible alternatives, meaning - the ease by which one can retrieve similar instances and think of alternatives (coined "counterfactuals"), and 2) normality holds implications for the person as it affects an array of factors, such that abnormal stimuli and events tend to stand out and elicit stronger reactions, like regret and surprise, compared to normal events.

As an example of norm theory applications consider exceptionality bias, the phenomenon that people associate stronger regret with negative outcomes that are a result of exceptional behavior compared to when a result of routine behavior. Kahneman and Miller (1986) described an experiment in which participants rated negative emotions experienced by two persons who had an accident while driving home after work. One person was described as driving on the regular route (routine), and the other as driving on a new route taken for a change of scenery (exception). Comparing the two, most people rated stronger negative emotions over the incident in the exceptional circumstances (Kutscher & Feldman, 2019; Fillon, Kutscher, & Feldman, 2020). Norm theory's concept of normality can be used to explain the exceptionality effect. Routines are cognitively more easily accessible, making it easier to think of alternatives to exceptional circumstances, such as simply following the routine, thereby evoking stronger reactions over negative outcomes that result from exceptional compared to routine behaviors.

The concept of normality can be applied to behaviors, circumstances, or outcomes. If we consider an accident like in the exceptionality effect scenario above, normality could be determined by a number of factors. It could be about how rare the decision and/or behavior of driving in non-routine roads was (behavior normality). It could be about the likelihood of the

circumstances of the accident in driving through these roads, like hitting a deer in a road that typically has no deer (circumstances normality). Or, it could be about the probability of the outcome of experiencing an accident overall (outcome normality).

We now move to review the action-inaction effects in the judgment and decision-making literature first discussing differences between the biases and using the normality concept to highlight similarities and links between the biases.

Review of action-inaction effects

We categorized the action-inaction effects into four categories, with two effects reviewed as examples in each category. A model of the reviewed effects is presented in

Figure 1.

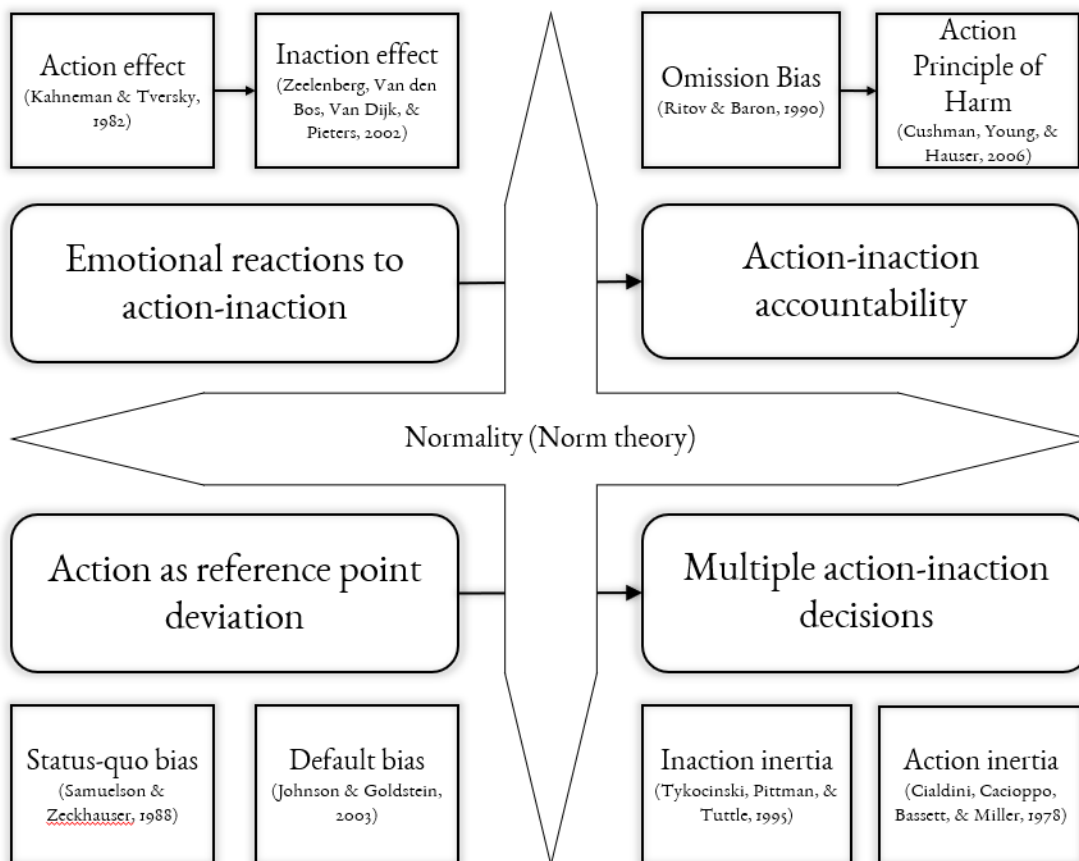


Figure 1. Action-inaction asymmetry effects reviewed, grouped into four categories, with two sample effects in each category. Arrows indicate chronological development of the literature. Norm theory and normality concept in the center is the theoretical lens used in reviewing and linking between the biases.

A summary of the reviewed action-inaction asymmetries is provided in Table 1.

The four chosen categories for reviewing the action-inaction biases represent the evolution of the action-inaction literature and term use. We begin with the very first action-inaction asymmetries documented in the literature regarding emotional reactions with the action-effect (Kahneman & Tversky, 1982). The action-inaction effects that followed typically referred back to previous literature and positioned contribution in reference to those effects. The newer effects also helped gain a deeper understanding of what action and inaction mean and think of new ways by which these terms can be defined and understood. Following emotional reactions to action-inaction came literature about the perceived accountability of action-inaction that helped understand preferences for action-inaction. Both directions led to literature about action as a deviation from set reference points, be those set status quo or defaults. Finally, phenomena were identified that involved multiple decisions of action-inaction.

Table 1

Summary of reviewed action-inaction biases

Effects	Key articles	IV	DV	Context	Findings	Key contribution	Norm theory explanation
Emotional reactions to action-inaction							
Action-effect	Kahneman & Tversky, 1982	Action-inaction behavior	Negative emotions (regret)	Inaction norms, negative outcomes	Action higher negative affect than inaction	First demonstration of action-inaction asymmetries	Inaction is the norm. Deviations from norm are more salient, and elicit more upward counterfactuals and stronger regret.
Inaction effect	Zeelenberg et al., 2002	Action-inaction behavior	Negative emotions (regret)	Action norms, negative outcomes	Inaction higher negative affect than action	Action-inaction norms and context matter for action-effect	Action-effect dependent on action-inaction norms. Action norms weaken the action-effect.
Action-inaction accountability							
Omission bias	Ritov & Baron, 1990	Choice between acting and not acting	Preference for or choice of not acting versus acting	Possibility of negative outcomes and/or harm; Outcome not yet known, uncertainty.	Preference for inaction over action	Choice / preference Outcome uncertainty (possibly negative), interpersonal	Negative outcome from action (vs. inaction) perceived stronger norm deviation than from inaction.
Action principle of harm	Cushman et al., 2006	Harm through action versus harm through inaction	Blame / morality	Inflicting harm / immoral behavior	Inaction harm less accountable than action harm	Morality, accountability, interpersonal	Harm through action (vs. inaction) perceived as stronger norm deviation and attributed greater responsibility.

Effects	Key articles	IV	DV	Context	Findings	Key contribution	Norm theory explanation
Action as reference point deviation							
Default bias	Johnson & Goldstein, 2003	Choice between a default option and non-default alternatives	Preference for default versus non-default	Explicit default to be follow if no action taken	Preference for default option over non-default options	Choice/Behavior, explicit default, action \neq non-default	Defaults serve as reference points. Changing from defaults (action) is stronger norm deviation.
Status quo bias	Samuelson & Zeckhauser, 1988	Choice between proceeding with the status-quo or changing	Status-quo versus change	An existing status-quo situation	Preference for the status-quo option over the change option	Choice/Behavior, existing status-quo, action \neq deviation	Current state serves as reference point. Changing from current status (action) is stronger norm deviation.
Multiple action-inaction decisions							
Inaction inertia	Tykcinski, Pittman, & Tuttle, 1995	Choice between acting and not acting	Acting versus not acting	Previous inaction decision on more attractive opportunity	Preference for inaction over action	Choice/Behavior, prior inaction habitual patterns	Previous inaction serves as a reference point making further action stronger deviation from norm.
Action inertia	Cialdini, Cacioppo, Bassett, & Miller, 1978	Choice between acting and not acting	Acting versus not acting	Previous action decision on similar smaller scale decision	Preference for action over inaction	Choice/Behavior, prior action habitual patterns	Previous action serves as a reference point making further inaction stronger deviation from norm.

Note. IV = independent variable, DV = dependent variable, Key contribution = beyond previous findings.

Emotions action-inaction

Action-effect

Action-effect (Kahneman & Tversky, 1982) is the phenomenon that people tend to feel stronger regret over negative outcomes resulting from action compared to inaction. Action-effect was the first of the action-inaction asymmetries and is considered one of “the clearest and most frequently replicated finding in the entire literature” (Gilovich & Medvec, 1995, p. 380) with several recent successful replications (e.g., Feldman, 2020; Feldman & Albarracín, 2017).

The effect was first demonstrated by asking participants to compare two investors who initially decided to invest in firm A. One of the investors decided to take action and switch the investment to firm B whereas the other investor decided not to take action and not switch, and both finally lost the same amount of money. Subjects attributed higher regret to the investor that took action and switched investments, and follow-up studies have shown that in such cases, people indeed tend to experience higher regret over taking action and switching.

In the scenario used in the classic experiment, the term action was used to describe deviating from a previous decision, whereas inaction was used to describe the decision not to change. In norm theory, Kahneman and Miller (1986) made the connection between normality and the action-effect by arguing that in these situations deciding to not act is more normal, making action exceptional and therefore eliciting stronger emotional reactions.

However, Kahneman and Miller provided no explanation as to why inaction would be more normal, and there was little clarification of the term normal or the concept of normality regarding action (Feldman & Albarracín, 2017; Feldman, 2019). Similarly, the term routine in the exceptionality bias was ambiguous, leaving it unclear at which point something is considered a routine or normal, and when something is then considered an exception to routine or abnormal, rather than just being considered random or casual behaviors. Attempts

for clarifications came later. In the context of the action-effect and normality, three broad types of normality have been identified and contrasted: past-behavior normality, expectations or contextual normality, and social norms normality (Feldman & Albarracín, 2017; Koonce, Miller, & Winchel, 2015), and these have been shown to be unique and additive in the context of the action-effect (Feldman, 2020).

Inaction-effect

Emotional reactions depend on action-inaction and perceptions of action-inaction depend on normality. An example of the importance of normality for action-inaction in the action-effect was demonstrated by inaction effect (Zeelenberg, Van den Bos, Van Dijk, & Pieters, 2002). When the decision between action and inaction was preceded by a loss, thereby setting expectations for taking action, action-effect was significantly weakened and even reversed. The context of what took place prior to the decision and the associated expectations shifted normality from inaction to taking action, resulting in stronger regret for not taking action (vs. action) when things turned out badly.

Therefore, inaction is not necessarily the norm as vaguely argued in norm theory, and action can be perceived as more normal or justifiable either in terms of role/situational expectations (Zeelenberg et al., 2002), past-behavior (Kutscher & Feldman, 2019; Fillon, Kutscher, & Feldman, 2020; Seta, McElroy, & Seta, 2001; McElroy & Dowd, 2007), or social context (Feldman & Albarracín, 2017). In such cases, in accordance with norm theory, regret is associated with deviations from what is perceived as normal.

The very definition and acceptability of action may depend on the broader context, with consequences for subsequent cognition, emotions, and behavior. For example, when a society is very action driven (action-inaction country averages: Ireland, Hepler, Li, & Albarracín, 2015; Zell et al., 2013; US states averages: Ireland, Chen, Schwartz, Ungar, & Albarracín,

2016), action may be perceived as insufficient action or even as inaction, given the comparison to a set level of expected action.

Action-inaction accountability

Omission-bias

Following the link found between action-inaction and emotional reactions came the realization that action and inaction are also perceived differently in terms of accountability. Expanding on the action-effect to examine attributions of responsibility was the omission bias. In its broadest definition, omission bias is the phenomenon that people prefer omissions to commission when there is the possibility of a negative outcome (Spranca, Minsk, & Baron, 1991; Ritov & Baron, 1990). Using this definition, if we consider the classic action-effect scenario, the two investors facing a risky situation and presented with the options of taking action and switching versus not taking action and sticking to the initial investment would prefer inaction to action.

A more specific definition tends to focus the context on morality, and not just any negative outcome but rather one that involves harm. The omission bias is often mentioned in the context of moral judgments (DeScioli, Asao, & Kurzban, 2012), and more specifically about harm and blame, likely because it was first demonstrated regarding vaccination decisions. Back in the 1990s, Ritov and Baron argued that when faced with a decision between not vaccinating a child against the flu and risking death from flu against a decision to vaccinate the child and risk death as a result of drug side-effects, parents often chose not to vaccinate (Ritov & Baron, 1990). People showed a preference for inaction over action when both decisions were likely to result in the same negative outcome, even when the chances for harm or the expected level of harm were slightly lower for action (Asch et al., 1994; Meszaros et al., 1996).

Although the omission bias phenomenon in vaccination decisions has received some criticism (Connolly & Reb, 2003; Reb & Connolly, 2010), there seems to be wide empirical support for the broader omission bias in moral evaluations and domains other than vaccinations (Baron & Ritov, 2004; Kordes-de Vaal, 1996; Spranca et al., 1991; Jamison, Yay, & Feldman, 2020), and a recent meta-analysis concluded strong effects (Yeung, Yay, & Feldman, 2020).

Interestingly, omission bias findings showing a preference for inaction over action seem at first to contradict evidence showing general social norms and attitudes favoring action over inaction (Ireland et al., 2015; Zell et al., 2013). Integration of these seemingly contradictory findings would be to consider normality and take the context into account, that in the omission bias decision making situations the possibility of negative outcome or harm seems to result in norm and preference reversal from action to inaction (Feldman & Albarracín, 2017).

Action principle of harm

Action-effect focused on emotional reactions to events resulting from action compared to inaction, whereas the omission bias focused on accountability and the tendency to prefer inaction over action when there is the possibility for negative outcomes.

The action principle is one of three principles leading to divergent moral judgments (Cushman, Young, & Hauser, 2006). The action principle states that harm through action is judged as more immoral and accountable compared to harm through inaction (Bostyn & Roets, 2016; Cushman, 2013; Hauser, 2006), which captures the omission bias asymmetry in judgments of morality. Some of the classic demonstrations of the omission bias were examining preferences, such as in vaccination decision situations, and some were about evaluations of moral judgments. For example, Spranca et al. (1991) is considered one of the classic demonstrations of the omission bias, yet examines judgment asymmetries

corresponding more closely to the action principle of harm. Spranca et al. (1991)'s first case described a tennis player harming another tennis player he was competing against in order to guarantee a win in their match the following day. The findings were that harming the other tennis player through action (by suggesting harmful food) was perceived as more immoral than harming the other tennis player through inaction (by not stopping the other player from eating harmful food).

There are cases in which the omission bias and the action principle of harm may diverge. In both cases, the agent demonstrates clear intent and attempts to minimize blame. However, in omission-bias vaccination scenarios the decision-maker is trying to minimize perceived inflicted harm and associated regret if things turn out badly. In contrast, in the tennis player scenario described above harm was intended and the agent wanted to inflict rather than avoid the negative outcome. As a result, in the tennis scenario there is a reversal of the action-effect in that inaction in intending to harm is regretted more than action causing harm (Jamison et al., 2020). This raises the need to take the agents' intentions into account and both their personal and interpersonal considerations.

Therefore, it is useful to differentiate between the action principle of harm and the omission bias to allow a clearer focus on either the cognitive evaluations asymmetry or on the broader behavioral bias in the preference to not act when faced with the possibility of harm. The two are related, as the preference for harm through inaction helps maintain a self-image of being moral by minimizing perceived immorality, yet the two do not necessarily represent the same phenomenon and may depend on different factors and context.

Accountability related effects

At this point we note several associated mechanisms discussed in the literature for the omission bias and the action principle of harm, revealing further unnamed evaluation asymmetries between omission (inaction) and commission (action) (Baron, 2013). Compared

to omissions, commissions are perceived as more intentional, more causally related to outcomes, and more morally accountable, with omissions at times interpreted as non-decisions (Hayashi, 2015; Kordes-de Vaal, 1996). Actions are also perceived as more controlled, attributed internal locus of control, elicit stronger emotional reactions in others than inactions, and agents that act are seen as more accountable than agents that do not act (Zeelenberg, van der Pligt, & de Vries, 2000). These seem to relate to a functional reason for associating action with responsibility in that inaction produces less material evidence of wrongdoing (DeScioli, Bruening, & Kurzban, 2011).

Action-effect and omission-bias were originally framed as cognitive biases, yet people also seem to use these biases strategically and in sense-making. In interpersonal interactions, people aim to reduce accountability and minimize possible blame and punishment over anti-social behavior by preferring to engage in such behaviors through the more ambiguous inaction rather than by the clearer action, in what was termed the omission strategy (DeScioli, Christner, & Kurzban, 2011). Meaning, that when inactions are less ambiguous, and there is clear evidence for wrongdoing through inaction, then the omission-bias is weakened and action and inaction are perceived as equally immoral (DeScioli et al., 2011).

An example of the omission strategy is that people would rather refrain from reporting the truth than actively lie, in order to avoid condemnation and responsibility if caught (Pittarello, Rubaltelli, & Motro, 2016), yet if there is evidence for deliberate withholding of information then it can be judged as severely as telling a lie. The omission bias and the omission strategy are closely related. The preference for omission in the face of possible harm may occur not only to minimize own perceived inflicted harm and to maintain self-image of being moral, but also as a strategic choice that in a social context would result in lower moral condemnation by others for the harm caused through inaction (DeScioli et al., 2011).

Action as reference point deviation

Status quo bias

Status quo bias is the phenomenon that people tend to choose to maintain a pre-existing state (Kahneman, Knetsch, & Thaler, 1990; Samuelson & Zeckhauser, 1988). The bias was first demonstrated by presenting participants with a choice set that either had or did not have a status-quo, to show that when a status-quo was presented people often shifted their preferences to value that option.

The link to the action-effect is by the association between taking action and deviation from set status-quo. Set reference points are commonly used to evaluate the level of action, and so a decision to deviate from the status-quo option is perceived as taking action (Anderson, 2005; Eidelman & Crandall, 2012).

If we revisit the classic action-effect investors scenario discussed above (Kahneman & Tversky, 1982), inaction in the action-effect scenario was defined by means of following the status-quo of a previously made decision to invest in Company A, and taking action was defined as choosing to deviate from the set status-quo to switch to investing in Company B. Similarly, in the classic omission-bias vaccination decision situations there is a clear status-quo of not having received a vaccination, and so to get vaccinated requires changing the current state. This has helped further refine the action-effect, and distinguish it from status-quo bias, so that action-effect focuses on the action taken (e.g., investment versus no investment), rather than on the deviation from previous decision (e.g., initial investment).

Default bias

The status quo bias seems to encompass two biases, one regarding the set default and the other regarding the existing status-quo (Shevchenko, von Helversen, & Scheibehenne, 2014). The literature attempted to disentangle the two biases.

The default bias is a bias towards the default option in a given choice set (Brown & Krishna, 2004; Johnson, Bellman, & Lohse, 2002; Johnson & Goldstein, 2003), whereas the status-quo bias is a bias towards not changing from a pre-set reference point typically defined in a broader context (Baron & Ritov, 2009; Eidelman & Crandall, 2012). For example, when a person currently not registered as an organ donor is presented with enrollment as a donor as a default option, the preference would be to follow the default set option and deviate from the status quo of not being an organ donor to becoming an organ donor (Davidai, Gilovich, & Ross, 2012).

Status-quo bias and default bias seem to represent a different phenomenon than the action-effect and omission bias (Schweitzer, 1994). For example, Ritov and Baron (1992) demonstrated the action-effect is distinct and occurs regardless of set defaults. They added two conditions for action and inaction, only in these conditions the decision of whether to switch investments or not was directed by an investment manager and the investor is only asked whether he objects. Therefore, the default is set by an external authority agent. When defaults were contrasted against action-inaction, highest regret was for the investor who objected to switching the investment and lost money (deviated from default, inaction/no-switch) followed by an investor who did not object to a switch and lost money (followed default, action/switch).

These biases all take into account norm reference points. In status-quo bias the norm is what took place prior to the decision, in the default bias the chosen option cognitively affects perceived norm. Given these biases, perceptions and impact of action depend on norm reference point deviation.

Multiple action-inaction decisions

Inaction inertia

The status-quo can be set either externally, such as by a manager or government policy, or internally, based on one's own habitual patterns. An example of internal status-quo bias in the context of action-inaction is the inaction inertia effect, that people are reluctant to act if they previously failed to act on a more attractive opportunity (Tykocinski et al., 1995). For example, an attractive 10% discount is less likely to be chosen if it follows a missed opportunity for a 50% discount than if presented with no previous decisions made. The effect likely combines two key elements: (1) missed opportunity serving as reference point to which the current option is compared against, and (2) prior inaction resulting in perceived loss (Tykocinski & Pittman, 1998; van Putten, Zeelenberg, van Dijk, & Tykocinski, 2013).

A demonstration of the inaction inertia effect was first provided by Tykocinski et al. (1995). In their first experiment, they presented participants with several scenarios contrasting regular purchase against purchases following varying degrees of missed opportunities. For example, in their car scenario participants were presented with a limited time 500\$ factory rebate on a car, with some participants randomly assigned to previously having missed an opportunity for a 2500\$ or a 750\$ rebate. They found that the larger the missed opportunity of failing to act on a more attractive previous offer the less likely the decision maker was to act on the offer.

To link the inaction inertia bias with action-effect and normality, in the action-effect investor scenario the inaction inertia bias would mean that missed opportunities prior to the focal decision whether or not to switch investments would affect perceived regret from action or inaction. The more attractive the missed opportunities or the more missed opportunities an investor previously had from not taking action and not switching investments, the higher the

likelihood the investor would persist with previous investment decisions, even when presented with better opportunities.

Inaction inertia bias focused on missed opportunities, yet the findings we reviewed above about the action-effect, normality, and status-quo bias suggest that the bias may occur regardless of missed opportunities. A decision to not act may set a reference point to which a subsequent decision between action and inaction is compared against. Every instance of deciding not to act further reinforces inaction as the status-quo, and establishes inaction as the intrapersonal norm. Hence, the more a person decides not to act, the more difficult it would be to decide against the status quo and the established habitual pattern.

Action inertia

Inertia can also occur in taking action, in that prior action can drive further action. For example, a classic finding in persuasion is that deciding to take or accepting minor action (e.g., signing a petition), is more likely to lead to deciding to take or accepting related major action (e.g., posting a sign on one's house; foot in the door persuasion technique; Freedman & Fraser, 1966). Similarly, a decision to purchase is more likely if there was an initial purchase decision for a lower price (low ball persuasion technique; Cialdini et al., 1978). These two examples may reflect a commitment to an initial decision to take action that results in further action.

The sunk-cost fallacy or escalation of commitment bias is the tendency to escalate commitment to a course of action despite being presented with negative feedback that expectations are not met (Brockner, 1992; Staw, 1997). For example, investors that made an initial investment in a company receiving negative feedback that the investment is not meeting expectations often find it difficult to ignore sunk costs and their personal involvement. Rather than withdrawing and seeking other more attractive investments, these investors often decide to further escalate their commitment to their initial investment and may

even increase investment, in the hope of still meeting their initial expectations and recovering their losses.

Much of the escalation of commitment bias literature has focused on the implications of sunk costs, the resources invested in the past. Recent studies highlighted the links between the bias and the action-inaction biases (Feldman & Wong, 2018), with two possible implications. First, based on the inaction-effect (Zeelenberg et al., 2002), it is likely that negative feedback in escalation dilemmas results in an action-orientation, in order to attempt correcting the problem. Second, similarly to the inaction inertia bias, escalation of commitment may reflect an action inertia bias (Tykocinski & Ortmann, 2011), so that once a decision has been made to act, it sets the reference point for future behavior in both perceived normality and status-quo, and so decision makers are more likely to act again. If escalation is understood as taking action¹, then this would mean people are more likely to escalate: (1) the more prior decisions the decision-maker made to take action, either in an initial decision to invest, or in previous decisions to escalate, (2) the stronger the pressure felt by the decision-maker to take corrective action resulting from negative feedback.

Normality and linking biases

We reviewed eight action-inaction asymmetries and suggested that the disconnected effects can be linked using norm theory and the concept of normality. The reviewed effects all regarded action and inaction against reference points, and the deviations from these reference points determined normality and affected associated outcomes.

¹ The escalation of commitment literature is a good example of the problems with action-inaction definitions and the possible impact that such issues may have on findings. In the example provided and other escalation decision situations it is often unclear whether the choice options involve action or inaction, as both escalation and de-escalation could be perceived and interpreted either way. Feldman and Wong (2018) demonstrated action-inaction framing effects in escalation of commitment scenarios. That because of the action-orientation in escalation situations, clearly defining escalation or de-escalation to be action or inaction influences the tendency to escalate in favor of the option set as action.

Normality: What is normal?

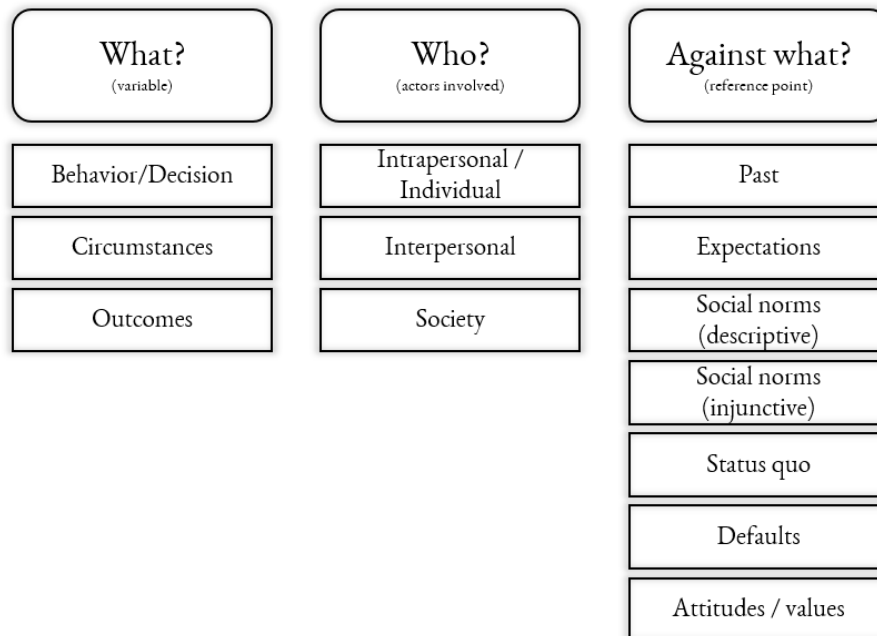


Figure 2. Summary of the identified factors affecting normality, what is perceived as normal.

The action-inaction effects reviewed provide insights about norm theory, with several concrete examples for normality categories. In light of the effects and their associated literature, normality can be evaluated in three main aspects (see Figure 2): (1) variable (what): behavior/decision, circumstances, or outcomes, (2) actors (who): intrapersonal, interpersonal, or society, and (3) reference point (against what?): past, expectations, social norms, status quo, defaults, and attitudes/values.

For example, in the classic action-effect experiment, normality is examined regarding the individual decision of whether or not to switch investments, in the context of a previously made decision to invest in a specific company, and stronger regret is associated with larger deviation from the assumed normality of inaction. Changes in any of the reference points are likely to affect the outcomes, such that regret over negative outcome following action will be

weaker if past behavior, expectations, social norms, defaults, or own attitudes and values were for taking action.

Therefore, beyond the identified links between the effects, conceptualizing action-inaction in terms of normality helps identify moderators that moderate these effects. For each of these asymmetries, any change in one of those normality factors can result in a weaker or even opposite effect. For example, inaction effect we reviewed above, is building on action-effect by examining expectations normality, such that action expectations reversed action-inaction into an inaction-effect.

In addition, building on normality as an overarching framework for action-inaction effects can help guide future research by raising many promising research questions. We identified several factors that may act as reference points, and these can serve as the basis for further examining the process by which reference points are formed and updated, and how the different set references may interact in affecting cognition and behavior. Future research may also examine the process of reference points formation and whether some reference points are more potent than others. For both formation, potency, and interplay, it is likely that these also meaningfully differ across people and context, such that they are affected by individual differences and/or social-cultural factors.

Decades after norm theory was published, this is a first step in better understanding its concept of normality, and raises the need to further define at what point something becomes normal, and when is something considered a deviation from normal.

Implications and future directions

Action, inaction, and normality are concepts that hold real implications for people. The reviewed effects clearly demonstrate that the contrast between action and inaction impacts cognition, emotions, decision-making processes, choices, morality, and behavior. These effects seem generalizable and robust as a recent effort to replicate and meta-analyze these

effects has found support for the reproducibility and replicability of these effects (e.g., Feldman, 2020; Fillon, Kutscher & Feldman, 2020; Kutscher & Feldman, 2019; Jamison, Yay, & Feldman, 2020; Yeung, Yay, & Feldman, 2020).

Action-inaction effects documented in the literature have so far mostly been studied in separation, likely making it difficult for practitioners and policy makers to recognize their importance. This review helps make clear that these are not nuanced separate effects, but rather a network of related effects, linked to the core concept of normality, and these can be used to help understand and improve decision making for individuals and societies.

For researchers, the review identifies several promising directions for research. From clarifying the poorly defined concepts of action, inaction, and normality, to linking and testing several action-inaction effects together, and finally mapping the action-inaction mind and testing combined effect on behavior, with normality concept helping identify contextual factors that moderate these effects.

Scope and Limitations

We focused on eight action-inaction effects that provided two examples for each of the categories we identified in the literature. However, this was not meant as an exhaustive review and there are many other action-inaction effects that we have not reviewed (e.g., choice deferral: Anderson, 2003; intentionality bias: Rosset, 2008; regret-action effect: Feldman & Chen, 2019).

We used norm theory and the normality concept as the theoretical lens to link between the effects, yet there are other frameworks that may be applied to explain and link action-inaction effects. One such example is decision justifiability theory (Inman & Zeelenberg, 2002), mostly discussed in the context of emotions, focusing on outcome evaluation and negative feelings over undesired outcomes. The two theories are not exclusive, and can be used in conjunction.

Future systematic reviews and meta-analyses could leverage the current review to provide a more comprehensive summary of the action-inaction effects literature and testing predictions using several theories.

Conclusion

Action and inaction are important concepts in human psyche and behavior. Scholars have documented a wide array of action-inaction phenomena and these effects are considered some of the strongest most replicable effects in judgment and decision-making.

We conclude our review of key action-inaction effects with the following takeaways. We argued there is much ambiguity in the literature regarding the terms action and inaction and called for clearer definitions to be able to map, link, and understand action-inaction effects. We suggested that action-inaction effects can be understood using one unifying framework based on the concept of normality. Using this interpretation, the meaning of action and inaction depends on the set reference point, or - what is normal. We identified four broad categories of effects related to action-inaction in the literature (Figure 1), to suggest that either action or inaction which deviate from established reference points will result in: 1) stronger emotional reactions, 2) higher accountability, 3) lower likelihood of choosing, and 4) lower likelihood given habituation (inertia) in repeat decisions situations. We went beyond norm theory to provide an initial mapping of the factors affecting normality and types of reference points (Figure 2). Finally, we outlined several directions by which normality can be used to extend current literature on action-inaction effects with several promising directions for future research.

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