
Article:
Ang, D orcid.org/0000-0003-3739-5870, Diecidue, E and Dewitte, S (2022) To Deliberate or Not? The Effects of Anticipated Regret and Deliberation on Willingness-to-Pay. Journal of Business Research, 151. pp. 563-578. ISSN 0148-2963

https://doi.org/10.1016/j.jbusres.2022.07.013

ACCEPTED for PUBLICATION IN Journal of Business Research

To Deliberate or Not? The Effects of Anticipated Regret and Deliberation on Willingness-to-Pay

Dionysius Ang

Leeds University Business School, UK

Enrico Diecidue

INSEAD, Fr

Siegfried Dewitte

KU Leuven, Be

Acknowledgments

The authors acknowledge support from CONCORT, a EU funded (FP7) Marie Curie Initial training network.

Abstract

While consumers favor control over the price to pay, they also are deterred by the effort involved and tend to underpay in participative pricing contexts. We identify anticipated regret and deliberation as potential psychological determinants for consumers' willingness to pay (WTP). In 3 studies, we show that anticipated regret and deliberation increase the WTP for the preferred option. Our single-paper meta-analysis (includes 11 studies) demonstrates the combined effect of anticipated regret and deliberation on valuation across varying manipulations, purchase context, goods, and decision contexts. By detailing how anticipated regret and deliberate increases WTP, we offer a potential solution for underpaying and conclude by discussing directions for future research and managerial implications.

Keywords: anticipated regret, deliberation, willingness-to-pay, participative pricing

To Deliberate or Not? The Effects of Anticipated Regret and Deliberation on Willingness-to-Pay

1. Introduction

Participative pricing strategies allow consumers to determine the price they are willing to pay. These strategies come in many forms, from name-your-own-price, pay-what-you-want (PWYW), auctions, exchanges to negotiations (for a review, see Kim et al., 2009). While participative pricing can increase sales and brand loyalty, it also involves an inherent risk where consumers (on average) pay much less than they would when prices are fixed (Wang et al., 2021). Notably, Panera Bread and Lyft have discontinued participative pricing due to substantive losses (Viglia et al., 2019). Thus, it is crucial to examine the factors that could increase the price consumers are willing to pay.

One of the factors hindering the successful implementation of PWYW pricing strategies is the cognitive effort involved (Chandran & Morwitz, 2005; Rathore et al., 2022). To determine a final price, consumers need to weigh up the benefits of paying the lowest price possible against the costs of being unfair and appearing cheap (Gneezy et al., 2012; Rabbanee et al., 2022). Consumers also need to balance their negative feelings associated with overpaying (Kunter, 2015) with their long-term interests in keeping the seller in business (Wang et al., 2021). Correspondingly, the deliberative effort of PWYW pricing deters consumers, reducing their purchase intentions (Wang et al., 2022). We aim to mitigate this issue by identifying the conditions under which deliberation could increase the price consumers are willing to pay for their preferred option.

In particular, we posit that how deliberation affects willingness-to-pay (WTP) depends on anticipated regret. Prior research has shown that reliance on feelings during deliberation led people to hold more certain attitudes towards their preferences (Maglio & Reich, 2019). Consequently, people who focused on feelings when processing decision-relevant information were more likely to defend their decision against negative feedback, perceiving reviews against their preference as less accurate (Maglio & Reich, 2020). We posit that anticipating regret during deliberation could have a similar effect on attitude certainty, increasing WTP for their preferred option. Since individuals cope with anticipated regret by bolstering the least objectionable option during deliberation (Janis & Mann, 1970), we propose that deliberation increases WTP for the preferred option when anticipated regret is high.

Across three experimental studies and a single-paper meta-analysis of 11 studies, we show that consumers are willing to pay more for their preferred option after deliberating while anticipating regret. This work contributes to the extant literature in several ways. Firstly, we identify novel factors – deliberation and anticipated regret that could aid the successful implementation of PWYW by boosting WTP. By doing so, we further the stream of research that has identified factors such as guilt (Kutner, 2015), prosocial concerns (Gneezy et al., 2012), reference prices (Johnson & Cui, 2013; Roy et al., 2021), payment timing (Viglia et a., 2019) that affect WTP in participative pricing. In particular, we extend the literature where the consumer's cognitive state is considered in participative pricing. While previous research has revealed that pick-your-price (PYP) strategies, mental resources, and a high need-for-cognition could mitigate the issues of cognitive effort in PWYW pricing (Rathore et al., 2021; Wang et al., 2021; 2022), we identify another boundary condition - anticipated regret.

Secondly, our work contributes to the regret literature. While a considerable amount of theoretical and empirical research (e.g., Loomes & Sugden, 1982; Connolly & Reb, 2003; Zeelenberg & Beattie, 1997; Somasundaram & Diecidue, 2017) has examined the effects of anticipated regret on *choice*, this research has largely neglected to address how anticipated regret influences *valuation.* Our research attends to this research gap, showing that anticipated regret increases WTP for the preferred option when coupled with deliberation. Lastly, we also broaden the scope of feelings in decision-making (e.g., Pham, 2007). While previous research showed that feeling-focused deliberation improves evaluations of the preferred option (e.g., Maglio & Reich, 2019; 2020; Meloy, 2000), we show that this extends to a willingness to pay a higher price.

2. Conceptual development

2.1 Deliberation

The dual-process model posits that preferences are constructed by intuitive and deliberate processes (Dhar & Gorlin, 2013). Some choices are attributed to rapid, unintentional, and intuitive processing, whereas others arise from intentional and deliberative processing (Dhar & Gorlin, 2013). Thus, intuitive processes rely on heuristics and require little cognitive effort. Conversely, deliberative processes involve cognitive effort where individuals carefully consider and analyze information in depth (Cacioppo & Petty, 1984; Wegener & Chien, 2013). Participative pricing requires consumers to weigh up the benefits of maximizing their utility (i.e., paying anything, including $0) against the cost to their reputation (Gneezy et al., 2012; Rabbanee et al., 2022) and their long-term interests in keeping the seller in business (Wang et al., 2021). In other words, deliberation - the "processes in which available attitude-relevant information is

scrutinized for its merits by comparing it with other available information." (Wegener & Chien, 2013) is inherent in participative pricing.

Although prior research has shown that the deliberation in PWYW pricing deters purchases and sales, it is unclear how deliberation affects willingness to pay. While past research on deliberation and choice evaluations could offer some clues, the results are equivocal. Option attachment postulates that deliberating induces attachment to options, increasing the attractiveness of the foregone option after choosing (Carmon et al., 2003). Conversely, pre-decisional distortion asserts that new information is evaluated biasedly in favor of the preferred option, resulting in more favorable evaluations (Russo et al., 2008). We postulate that the reliance on feelings such as anticipated regret during deliberation could account for these mixed findings. Specifically, we show that deliberation (vs. no deliberation) increases WTP for the preferred option when anticipated regret is high.

2.2 Anticipated regret

When faced with difficult and important decisions, individuals often worry about it turning out badly and regretting their choices (Zeelenberg & Pieters, 2007). Anticipated regret is a comparison-based emotion of self-blame evoked when one anticipates that the current situation would have been better if one had decided otherwise (Roese & Summerville, 2005; Zeelenberg & Pieters, 2007). Individuals predict the possibility of regret and adjust their behavior to avoid it (Bleichrodt, Cillo, & Diecidue, 2010; Somasundaram and Diecidue, 2017). Although predictions of future feelings are not always accurate (Wilson & Gilbert, 2003), individuals still expect these emotions and make decisions to minimize regret (Bleichrodt & Wakker, 2015; Zeelenberg & Pieters, 2007). A meta-analysis revealed that anticipated regret is a strong predictor of behavior

(Brewer et al., 2016), affecting preferences for global vs. local brands (Davvetas & Diamontopoulos, 2017), repeat purchases (Inman & Zeelenberg, 2002), hedonic vs. utilitarian products (Sameeni et al., 2022), counterfeit products (Chen et al., 2015), and pricing promotions (Scheinbaum et al., 2020).

Anticipated regret also underlies various pricing strategies. Coupon redemption increases just before the expiration as consumers anticipate regret over non-usage (Inman & McMcAlister, 1994; Chiou-Wei & Inman, 2008). The Steadily Increasing Discount pricing strategy also harnesses anticipated regret to boost purchases. By pitting product scarcity against a future discount, this pricing strategy forces consumers to choose between cost savings and the potential risk of missing out on the purchase (Gabler & Reynolds, 2013). Correspondingly, consumers anticipate regret over missing out on the discount and the limited product (Gabler et al., 2017). Similarly, in early-bird discounts, consumers often have to purchase a product (e.g., concert ticket) at a discount without knowing if they can utilize it in the future (e.g., covid restrictions). Thus, anticipated regret stems from the lost opportunity of the discount, forward purchasing something that might not be needed later, and missing out on something of limited availability (Diecidue et al., 2012). These findings suggest that managers should account for anticipated regret in pricing decisions (Seo et al., 2020).

2.3 The moderating role of anticipated regret

We posit that anticipated regret moderates the effect of deliberation on WTP. Specifically, we predict that deliberation increases WTP for the preferred option when consumers anticipate regret. Feelings have been found to moderate the effect of deliberation on choice evaluation. When consumers are in a good (vs. neutral) mood, they tend to evaluate new information in

favor of a tentative choice during deliberation (Meloy, 2000). Similarly, when consumers focused on their feelings (vs. details) during the decision-making process, they were more satisfied with their preferred option (Mikels et al., 2011). Consumers who relied on their feelings during deliberation (vs. no deliberation) also saw their preference as more representative of their true selves, resulting in greater attitude certainty (Maglio & Reich, 2019). These findings suggest that reliance on feelings during deliberation improves evaluations of the preferred option, translating into a willingness to pay more.

We purport that anticipated regret moderates the effect of deliberation on WTP by allowing for the spreading of alternatives (i.e., boosting the attractiveness of the preferred option and reducing the attractiveness of the rejected alternative, Gilbert & Erbert, 2002). In other words, people cope with anticipated regret by bolstering the least objectionable option during deliberation (Janis & Mann, 1970). When consumers anticipate regret over irreversible decisions (Mourali et la., 2018; Zeelenberg & Pieters, 2007), they attend to aspects of the decision that increase satisfaction. Positive aspects of the preferred option and negative aspects of the foregone alternative were more accessible than the negative aspects of the preferred alternative and positive aspects of the foregone alternative when people made irreversible (vs. reversible) decisions (Bullens et al., 2013). Thus, the more regret consumers anticipate, the more likely they are to concentrate on the merits of their preferred option during deliberation, boosting the price they are willing to pay. Formally, we hypothesize that

H1: Deliberation (vs. no deliberation) increases WTP for the preferred option to a larger extent under high (vs. low) anticipated regret.

We also do not have strong arguments to expect an interaction effect of anticipated regret and deliberation on the WTP for the foregone option because the focus of deliberation centers on the preferred option (Gilovich & Medvec, 1995).

3. Overview of studies

We ran three experimental studies to examine the effect of deliberation and anticipated regret on valuation. Study 1 shows that deliberating while anticipating regret increased WTP for the preferred option. Study 2 demonstrates that the effect is robust regardless of incentives and different anticipated regret manipulations. Study 3 shows that the effect of deliberation and anticipated regret on WTP for the preferred option is robust even when money-back guarantees are provided. An internal meta-analysis of 11 studies (these three and an additional eight studies varying manipulations and decision contexts) further demonstrates that deliberating while anticipating regret inflates the WTP of the preferred option.

4. Study 1

Study 1 demonstrates that deliberating in situations of high anticipated regret increases the WTP for the preferred option. When faced with equally attractive options, deliberating in situations of high anticipated regret offers an opportunity to bolster the least objectionable option, increasing the valuation for the preferred option. When anticipated regret is high, individuals who deliberated (vs. not deliberated) are expected to increase their WTP for the preferred option. Among participants that deliberated, those who anticipated high (vs. low) anticipated regret should increase their WTP for the preferred option.

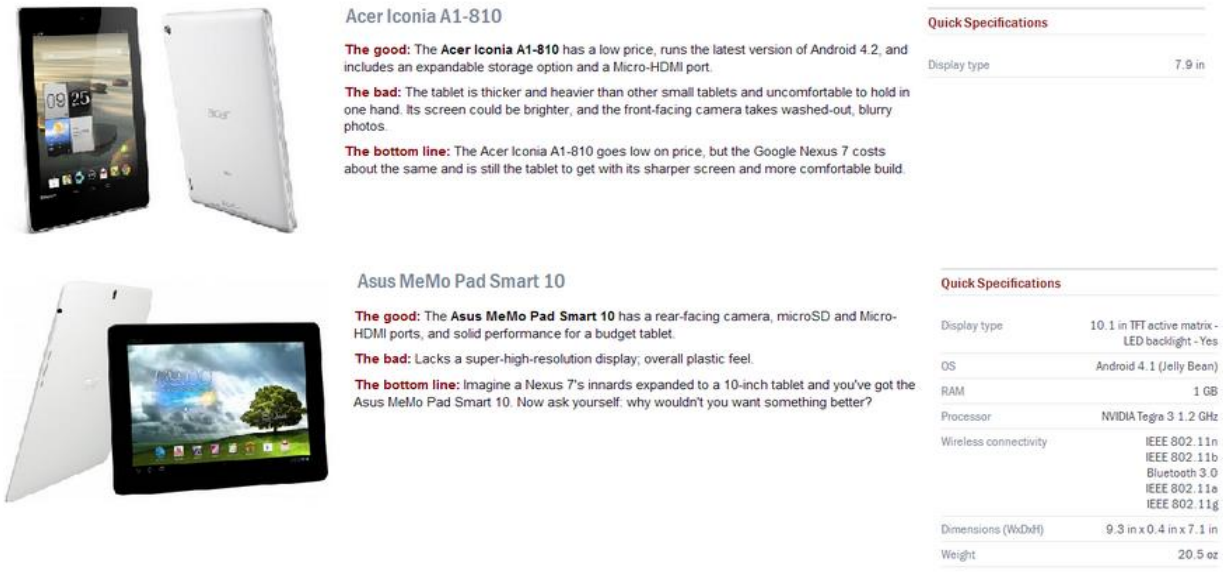
4.1 Method

One hundred and twelve participants (60 males, $M_{age} = 27.06$) were recruited online for the 2 (anticipated regret: low vs. high) x 2 (deliberation: no deliberation vs. deliberation) between-subjects experiment. They were randomly assigned to one of four conditions and awarded US$3.50 for their participation.

The task required participants to indicate the attractiveness and willingness to pay for two tablets and choose the better option. Specifically, they were asked to imagine that they were in the market for a tablet and have shortlisted two options. For realism, pictures and product information on two tablets adapted from the popular electronics review site, CNET.com was then presented (Figure 1). The tablets were pretested for equal attractiveness and willingness to pay on Amazon Mechanical Turk, $F < 1$ (see Appendix A).

Figure 1

Product options for Study 1



Anticipated regret was manipulated by the expectation of feedback on foregone options and an anticipated regret scale (e.g., Zeelenberg et al., 1996; Inman & Zeelenberg, 2002; Chen et al.,

2015). In the high anticipated regret condition, participants were told that they would discover which tablet was rated as the better option by CNET experts at the end of the study (adapted from Zeelenberg, 1999). To further incentivize participants, they were also told that only those who chose the better tablet would be given a chance to win a $50 Amazon voucher. Participants were also asked how upset and regretful they would feel if they made the wrong choice on a 9-point scale (1 = *not at all,* 9 = *extremely;* "How upset will you feel if you made the wrong choice", "If you made the wrong choice, how much will you regret?" α =. 97; adapted from Simonson, 1992). In contrast, participants in the low anticipated regret condition were simply told to review the information carefully.

Next, in the deliberation condition, participants were asked to list the pros and cons of both tablets. Those in the no deliberation condition simply moved on to the next part of the experiment (Carmon et al., 2003).

After completing the manipulations, we measured perceived attractiveness and willingness-to-pay for both options. To minimize order effects, the order in which the measures were presented was randomized. All participants indicated their perceived attractiveness of both tablets on a sliding scale ranging from 0 (*Very unattractive)* to 100 (*Very attractive*). We adapted the Becker-DeGroot-Marschak (BDM) method (Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964) to elicit participants' willingness-to-pay (WTP) for both product options. Specifically, we asked them if they would purchase the tablet at $50. If they answered "no", they indicated their WTP on a slider scale ranging from $0 to $49. If they answered "yes", they were asked if they were willing to pay $100. Contingent on their response, they were either asked if there were willing to pay higher amounts in $50 increments or indicate the amount they were willing to pay on a slider scale ranging from the minimum to the maximum amount they had

previously indicated (e.g., $50 - $99). Unlike the original BDM method, we did not randomly determine a price from a prespecified distribution and obliged participants to purchase the product if their stated WTP was lower or equal to the randomly determined price.

Next, participants chose between the tablets. We then provided feedback on the better option as suggested by CNET reviewers and measured experienced regret (1 = *not at all,* 9 = *very much;* "To what extent do you feel regret; Itzchakov & Van Harreveld, 2018). To check for demand effects, participants were asked to state the purpose of our study. Finally, demographic information was collected. All participants were debriefed, given a chance to win the $50 Amazon voucher, and thanked for their participation (see Appendix D for complete measures).

4.2 Results

4.2.1 Manipulation checks. As intended, participants in the high anticipated regret condition predicted significantly more regret than the scale midpoint ($M = 5.62$, $SD = 1.87$ vs. the scale midpoint of 5; $t(58) = 2.55$, $p = .01$, $d = .33$). Note that we did not measure anticipated regret in the low regret condition as the measurement itself constituted the manipulation.

4.2.2 The preferred option. We identified participants' preferences based on their final choice and coded $WTP_{preferred}$, $WTP_{foregone}$, $attractiveness_{preferred}$, $attractiveness_{foregone}$ accordingly. Since our hypotheses focused on WTP, results on the other measures are presented in Appendix D.

An ANOVA was also used to test the effects of anticipated regret and deliberation on WTP of the preferred option. The analysis yielded a significant main effect of anticipated regret on $WTP_{preferred}$, $F(1, 108) = 46.13$, $p < .001$, with participants in the high anticipated regret condition ($M_{highAR} = \$136.03$, $SD = \$70.09$) willing to pay significantly more than their counterparts in the low anticipated regret condition ($M_{lowAR} = \$62.30$, $SD = \$49.91$). Deliberation also had a

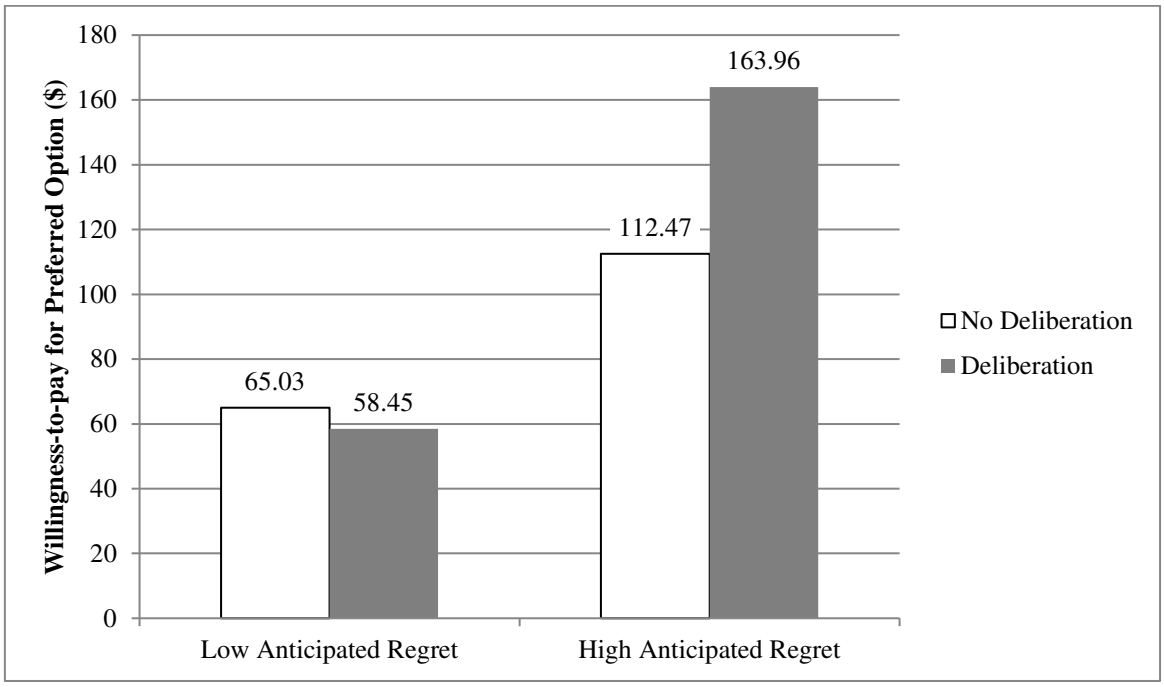
significant main effect on $WTP_{preferred,}$ $F(1, 108) = 3.98$, $p < .05$. Participants that deliberated ($M_{deliberate}$ = \$116.59, SD = \$98.44) were willing to pay significantly more for their preferred option than those who did not deliberate ($M_{no\text{-}deliberate}$ = \$89.13, SD = \$36.00).

Consistent with our hypothesis, there was a significant interaction effect of anticipated regret and deliberation on $WTP_{preferred,}$ $F(1, 108) = 6.65$, $p < .001$.In the high anticipated regret conditions, participants who deliberated ($M_{highAR\text{-}deliberate}$ = \$163.97, SD = \$92.32) were willing to pay significantly more for their preferred option than participants who did not deliberate ($M_{highAR\text{-}no\text{-}deliberate}$ = \$112.47, SD = \$28.15, $F(1, 108) = 11.18$, $p < .001$). The effect of deliberation attenuated in the low anticipated regret conditions, with no significant differences between deliberation and no deliberation conditions in the low anticipated regret conditions, $F < 1$.

Viewed from the other angle, participants who deliberated were willing to pay significantly more in the high anticipated regret condition ($M_{highAR\text{-}deliberate}$ = \$163.97, SD = \$92.32) than their counterparts in the low anticipated regret condition ($M_{lowAR\text{-}deliberate}$ = \$58.45, SD = \$71.92, $F(1, 108) = 38.85$, $p < .001$). Amongst participants that did not deliberate, those in the high anticipated regret condition (M = \$112.47, SD = \$28.15) were willing to pay significantly more for their preferred option that those in the low anticipated regret condition, (M = \$65.03, SD = \$26.04), $F(1, 108) = 10.20$, $p < .001$. This finding could suggest that participants in the high anticipated regret condition naturally deliberated (despite the lack of explicit instruction), increasing the price they were willing to pay.

Figure 2

2-way ANOVA results of Study 1



4.2.2 The foregone option.

An ANOVA on the effects of anticipated regret and deliberation on WTP for the foregone option yielded a non-significant interaction effect of anticipated regret and deliberation on $WTP_{foregone}$, $F < 1$.

4.3 Discussion

In support of our hypothesis, Study 1 shows that deliberating (vs. no deliberation) under high (vs. low) anticipated regret increases the price consumers are prepared to pay for their preferred option. However, Study 1 has some limitations. Incentivizing participants to choose in line with expert reviews might have induced alternative negative feelings such as anxiety in addition to anticipated regret. Study 2 replicates the effect of anticipated regret and deliberation on $WTP_{preferred}$ without such incentives to address these issues.

Although we argue that the effects of deliberating when anticipating regret will occur when options are equally attractive and challenging to differentiate, the options might be too similar for a meaningful choice. Given that difficult trade-offs are a crucial determinant of anticipated regret (Zeelenberg & Pieters, 2007; Zeelenberg et al., 1999), the lack of clear trade-offs between the options could also reduce the strength of the anticipated regret manipulations. Moreover, participants might not have deliberated since the product descriptions contained the pros and cons required by the deliberation task.

5. Study 2

To address these shortcomings of Study 1, Study 2 replicates the finding that deliberating under high anticipated regret increases WTP for the preferred option using a different anticipated regret manipulation, other products, and omitting incentives. We also ensured that the provided options had difficult trade-offs and highlighted product attributes rather than pros and cons; while overall being equally attractive.

5.1 Method

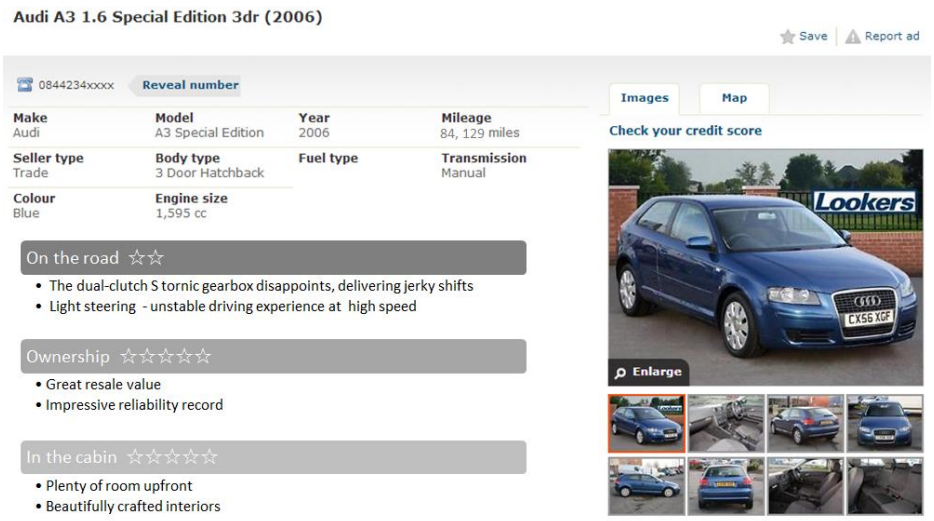
One hundred and fifty-nine participants (79 males), ranging from 17 to 62 years old, were recruited online for the experiment and were awarded US$2 for their participation. Similar to Study 1, a 2 (anticipated regret: high vs. low) x 2 (deliberation: deliberation vs. no deliberation) between-subjects design was also adopted. Participants were randomly assigned to one of the four conditions. To ensure that the effects of deliberating while anticipating regret were robust to incentives, participants were not incentivized to pick the best option.

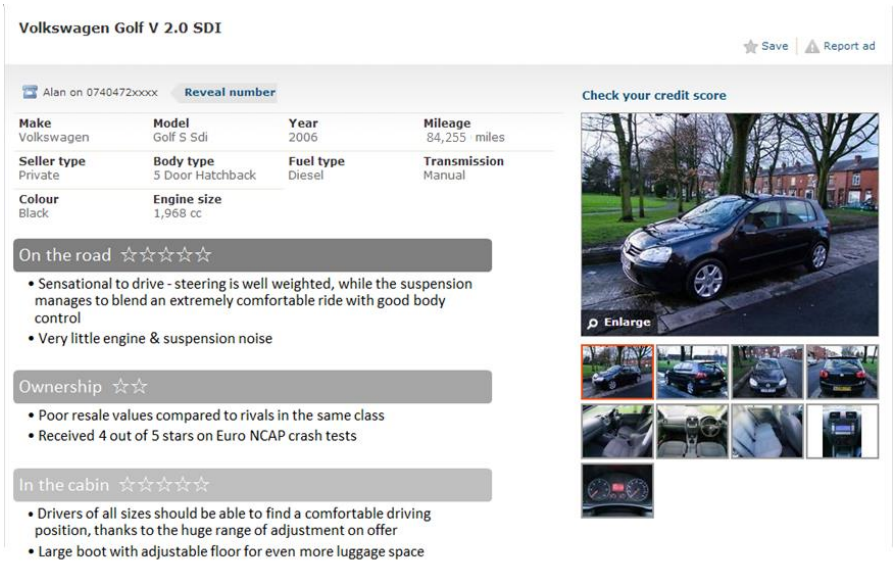
Like Study 1, the task required participants to evaluate two options on attractiveness and WTP and then choose an option. Instead of tablets, participants were presented with two second-hand cars. Participants were asked to imagine moving to the UK and thinking of purchasing a car off a

popular website. Based on a guide price ranging from £3699 to £7899, they have narrowed their options down to two equally attractive cars with pictures and attribute information. To address the lack of clear trade-offs between options in Study 1, choosing between these two car options required difficult trade-offs: one car had great resale value, whereas the other had better engine performance and handling (see Figure 3).

Figure 3

Product options used in Study 2





Anticipated regret was manipulated in these product descriptions. To ensure that our findings extend to other manipulations of anticipated regret, Study 2 adopted a different manipulation. As hasty searches are considered a poor decision-making strategy (Reb, 2008), participants in the regret condition were told that they shortlisted their options "after a quick search" to elicit anticipated regret. We also included anticipated regret manipulations that were adapted from Reb and Connolly (2009), where participants in the high anticipated regret condition were told the following:

> "As you make your decision, keep in mind that there is no guarantee that the product you pick will be right for you. You could find yourself with a car that you don't like, regretting your decision and wishing that you have preferred differently."

Since past research has established that expected feedback on post-decisional outcomes causes individuals to anticipate regret (Zeelenberg et al., 1996; Zeelenberg., 1999), participants in the high anticipated regret condition were told to expect feedback on whether their preferred car turned out to be inferior. They also jotted down how they would feel if they discovered that the foregone car turned out to be a better option (Inman & Zeelenberg, 2002; Shih & Schau, 2011).

In contrast, participants in the low anticipated regret condition were told that they arrived at the two options "after an extensive search." The instructions also did not mention any feedback on their choices.

To pretest this anticipated regret manipulation, 64 participants (23 female, 41 male, ranging from 20 to 67 years old) were recruited on Amazon Mechanical Turk. Participants were randomly assigned to low (vs. high) anticipated regret conditions. Subsequently, they indicated

how they felt while deciding on a 7-point scale (1= *completely disagree,* 7 = *completely agree*) using the following statements: "I want to make a justified decision," "There is a strong possibility that I'll regret my decision," "I'm afraid that I'll regret my decision," "I might blame myself for making this decision" and "I'm worried about making a choice" (Connolly, Reb, & Kausel, 2013; Simonson, 1992; Reb, 2008). These anticipated regret measures were averaged to create a composite score (α =.99). As predicted, participants in the high anticipated regret condition (M = 4.94, SD = 1.24) reported more anticipated regret than in the low anticipated regret condition (M = 4.27, SD = 1.68), $t(62)$ = -1.82, p =.07, d = -.45. We did not include a measured manipulation check for deliberation as it could interfere with our manipulation.

After reviewing the description of both cars, participants were randomly assigned to the no vs. deliberation conditions. Those in the deliberation condition listed the pros and cons of both options. Unlike Study 1, the product descriptions highlighted three product attributes rather than pros and cons to ensure that participants had to expend cognitive effort during deliberation. Participants in the no deliberation condition simply moved on to the next part of the experiment (Carmon et al., 2003). Next, all participants indicated WTP and attractiveness for both options. Similar to Study 1, participants indicated their WTP for both options using the adapted Becker-DeGroot-Marschak method (Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964). They also rated the attractiveness of both cars on a 7-point scale (1 = *not at all attractive*, 7 = *extremely attractive*) instead of a 100-point scale (0 = *not at all attractive*, 100 = *extremely attractive*) of Study 1.

Participants then had to choose between the two options. To check for demand effects, participants were also asked to state the purpose of our study. Finally, demographic information was collected. All participants were debriefed and thanked for their participation. In particular,

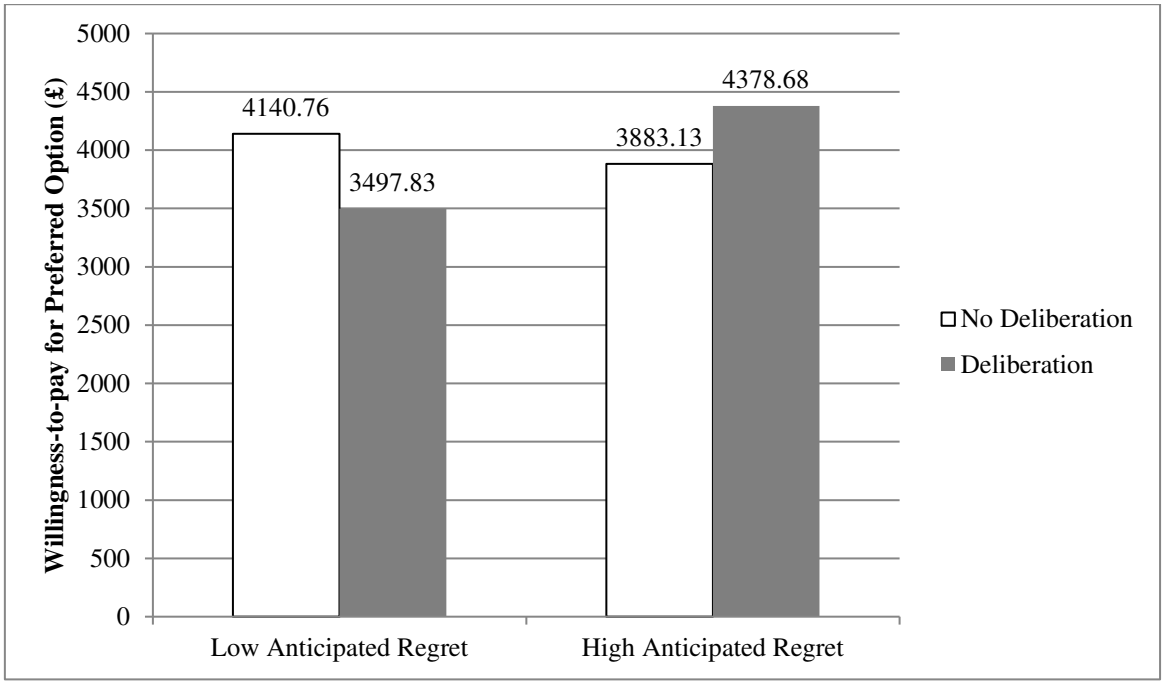
we explained to participants in the high anticipated regret conditions that no feedback on choice would be provided for the sake of time.

5.2 Results

5.2.1 The preferred option. ANOVA revealed a significant interaction effect of anticipated regret and deliberation on $WTP_{preferred}$, $F(1, 158) = 7.46$, $p < .001$, consistent with our hypothesis. When anticipated regret is high, participants who deliberated ($M_{highAR\text{-}deliberate}$ = £4378.68, SD = £843.23) were willing to pay more for their preferred option than those who did not deliberate ($M_{highAR\text{-}no\text{-}deliberate}$ = £3883.13, SD = £1286.09, $F(1,155) = 2.85$, $p = .09$). When anticipated regret was low, participants who deliberated were willing to pay significantly less than those who did not deliberate ($M_{lowAR\text{-}deliberate}$ = £3497.83, SD = £1684.34 vs. $M_{lowAR\text{-}no\text{-}deliberate}$ = £4140.76, SD = £1273.83, $F(1,155) = 4.72$, $p = .03$). Viewed from the other angle, amongst those that deliberated, participants in the high anticipated regret condition ($M_{highAR\text{-}deliberate}$ = £4378.68, SD = £843.24) were willing to pay significantly more than their counterparts in the low anticipated regret condition ($M_{lowAR\text{-}deliberate}$ = £3497.83, SD = £1684.34), $F(1, 155) = 9.23$, $p < .001$). These findings replicate Study 1, suggesting that deliberating under high anticipated regret inflates WTP for the preferred option. Results of the other measures are presented in Appendix E.

Figure 4

2-way ANOVA results of Study 2



5.2.2 The foregone option. ANOVA examining the effects of anticipated regret and deliberation on $WTP_{foregone}$ revealed a significant main effect of anticipated regret, $F(1, 158) = 7.76$, $p < .001$. Participants in the high anticipated regret condition (M_{highAR} = £3738.50, SD = £1114.69) were willing to pay significantly more for the foregone option than their counterparts in the low anticipated regret condition (M_{lowAR} = £3175.47, SD = £1423.25). No other effects were significant. More critically, there was no significant interaction effects of anticipated regret and deliberation on $WTP_{foregone}$, replicating Study 1.

5.3 Discussion

Study 2 replicates Study 1 with a different anticipated regret manipulation without incentives. Consistent with our predictions, we show that deliberating under high anticipated regret increases WTP for the preferred option compared to those that did not deliberate and those that deliberated in situations of low anticipated regret. By spreading alternatives and bolstering an

emerging preference, deliberating while anticipating regret increases the price consumers are willing to pay for their preferred option.

6. Study 3

Studies 1 and 2 support our hypotheses that deliberation (vs. no deliberation) increases $WTP_{preferred}$ in high (vs. low) anticipated regret. However, it could be argued that participants might not fully anticipate regret as they did not learn the outcomes of their choices at the end of the experiment. Study 3 addresses this limitation by providing participants with negative feedback of their choice at the end of the experiment. Moreover, Study 3 introduces a money-back guarantee to evaluate the robustness of our findings. Consumers are less willing to pay a premium when they are uncertain of how the purchase will turn out (Vigla et al., 2019). While PWYW retailers could reduce such uncertainties by allowing consumers to pay after the service experience (Vigla, 2019), this solution might not always be applicable. In such cases, retailers might adopt other quality cues such as money-back guarantees to reduce consumers' perceived risk (Suwelack et al., 2011). By offering a money-back guarantee, we test if deliberation and anticipated regret still increase WTP for the preferred option when quality cues are present.

6.1 Method

Two hundred and seventeen participants (137 females, 15 to 76 years old) were recruited online and were awarded US$2 for their participation. To test if the effects of anticipated regret and deliberation were moderated by the presence of a moneyback guarantee, a 2 (anticipated regret: low vs. high) x 2 (deliberation: no deliberation vs. deliberation) x 2 (money-back guarantee: no money-back guarantee vs. money-back guarantee) between-subjects design was adopted.

Like in Study 2, the task required participants to evaluate two options on WTP and attractiveness and then choose between them. The money-back guarantee and anticipated regret were manipulated in the product description. In the money-back guarantee condition, participants were told that one of the cars came with a six-month money-back guarantee. This guarantee was not mentioned in the no-money-back guarantee condition.

In the high anticipated regret conditions, the possibility of regret was repeatedly highlighted, and the two second-hand cars were shortlisted after "a quick search." While participants only expected feedback on their choices in Study 2, we provided actual feedback on the preferred cars at the end of Study 3. After choosing between the two cars, participants in the high anticipated regret conditions were told that their mechanic revealed that their preferred car is "fraught with problems" and that they could have been better off if they had preferred otherwise. The negative feedback was provided regardless of which car they chose. Conversely, in the low anticipated regret condition, the cars were shortlisted after "an extensive search," and the possibility of regret was never mentioned. After reviewing the product descriptions, participants were presented with the deliberation manipulations. The deliberation manipulation was exactly the same as Studies 1 and 2.

Similar to our previous studies, participants were asked to indicate their WTP using the adapted Becker-DeGroot-Marschak method (Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964) as well as the attractiveness of both cars on a 7-point scale (1 = *not at all attractive*, 7 =*extremely attractive*) before making a choice. They were then given feedback on their preferred car. All participants then filled in a regret manipulation check by indicating the extent they feel regret on a 7-point Likert scale (1 = *not at all,* 7 = *very much;* Itzchakov & Van Harreveld, 2018). We used a regret measure as participants are experiencing regret after

receiving feedback on their choice. Finally, all participants provided demographic information before being debriefed and paid.

6.2 Results

Participants in the high anticipated regret condition (M = 4.75, SD = 1.62) felt significantly more regret than their counterparts in the low anticipated regret condition (M = 2.17, SD = 1.38), $t(215) = -12.60$, $p < .001$. These results confirm that the manipulations were successful in evoking regret.

6.2.1 The preferred option. ANOVA was conducted to examine the effects of anticipated regret, deliberation, and money-back guarantee on the $WTP_{preferred.}$ There was no significant three-way interaction effect on $WTP_{preferred}$, $F(1, 209) = .73$, $p = .40$. Thus, offering a money-back guarantee did not significantly influence the effects of anticipated regret and deliberation on WTP for the preferred option.

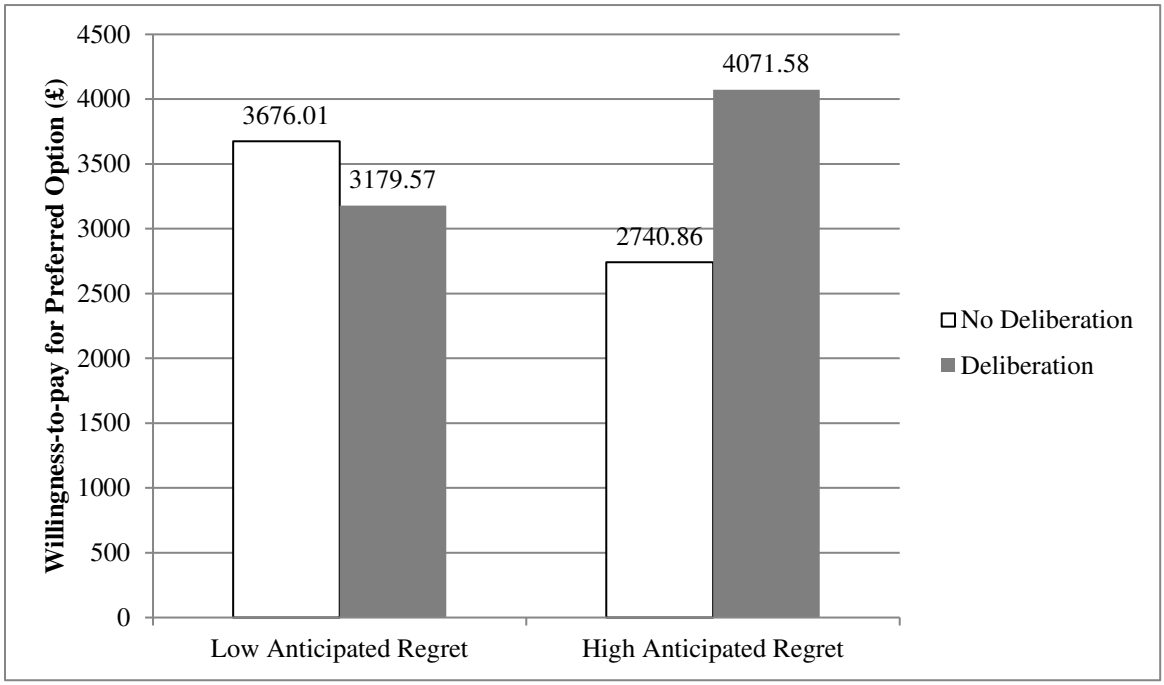
In line with our hypothesis, ANOVA also revealed a significant interaction effect of anticipated regret and deliberation on $WTP_{preferred}$, $F(1, 209) = 11.63$, $p < .001$. In the high anticipated regret conditions, participants who deliberated ($M_{highAR\text{-}deliberate}$ = £4071.58, SD = £253.69) were willing to pay significantly more for their preferred option than those who did not deliberate ($M_{highAR\text{-}no\text{-}deliberate}$ = £2740.86, SD = £272.70), $F(1, 209) = 12.77$, $p < .001$). The effects of deliberation on $WTP_{preferred}$ were attenuated in the low anticipated regret conditions, $F(1, 209) = 1.66$, $p = .20$.

Viewed from the other angle, participants who deliberated were willing to pay significantly more in the high anticipated regret condition ($M_{highAR\text{-}deliberate}$ = £4071.58, SD = £253.69) than

their counterparts in the low anticipated regret condition ($M_{lowAR\text{-}deliberate}$ = £3179.57, *SD* = £260.32), $F(1,209) = 6.02$, $p = .02$.

Figure 5

2-way ANOVA results of Study 3



6.2.2 The foregone option. To test for the effects of anticipated regret and deliberation on $WTP_{foregone}$, a 2(anticipated regret: low vs. high) x 2(deliberation: no deliberation vs. deliberation) x 2(money-back guarantee: no money-back guarantee vs. money-back guarantee) ANOVA was also conducted. The analysis only yielded a significant main effect of anticipated regret, $F(1, 209) = 2.39$, $p = .02$, where participants in the high anticipated regret condition (M_{highAR} = £3535.92, *SD* = £1454.76) were willing to pay significantly more for their foregone option than those in the low anticipated regret condition (M_{lowAR} = £3048.52, *SD* = £1724.48). The analysis revealed no other significant effects, *Fs* <1. Results on the other measures are presented in Appendix F.

6.4 Discussion

Consistent with our hypothesis, Study 3 replicates the main finding that deliberating under anticipated regret increases the price consumers are willing to pay for their preferred option. More importantly, we show that this effect occurs when consumers receive feedback on their choice. We also show that this effect replicates when money-back guarantees are offered.

7. Meta-analysis of 11 Studies

7.1 Meta-analysis procedure

We tested the effect of deliberating while anticipating regret in a series of 11 different studies with 930 participants. The characteristics of these studies are presented in Table 1. Since we examine the effects of deliberating while anticipating regret on WTP, we focus on the contrast between deliberating and no deliberation in situations of high anticipated regret (Hypothesis 1). Deliberation was manipulated as in the previous studies. Anticipated regret was manipulated either by highlighting the possibility of regret or providing expected feedback on the foregone option. Our dependent measure, $WTP_{preferred}$ is identical across studies.

Table 1.

Main characteristics of studies included in the meta-analysis.

Study	High Anticipated Regret – Deliberation			High Anticipated Regret - No Deliberation			Purchase	Ownership Type	Hedonic vs. Utilitarian	Online vs. Lab Studies
	Mean	SD	N	Mean	SD	N				
Study 1	163.96	92.32	27	112.47	28.15	32	Tablets	Ownership	Utilitarian	Online
Study2	4378.68	843.24	40	3883.13	1286.09	40	Second-hand cars	Ownership	Utilitarian	Online
Study 3	4071.58	1638.41	60	2761.44	2441.8	52	Second-hand cars	Ownership	Utilitarian	Online
Study 4	4005.02	1244.33	47	4071.77	1335.26	39	Second-hand cars	Ownership	Utilitarian	Online
Study 5	746.91	182.32	94	789.91	222.04	32	Studio apartment	Access	Utilitarian	Lab
Study 6	57.7	15.97	45	56.54	13.83	54	Bali villa	Access	Hedonic	Lab
Study 7	45.97	18.86	33	42.67	17.42	33	Bali villa	Access	Hedonic	Online
Study 8	39.38	21.27	28	36.18	21.71	21	Bali villa	Access	Hedonic	Online
Study 9	45.08	20.32	41	42.54	21.04	41	Rental apartment	Access	Utilitarian	Online
Study 10	62.07	30.18	33	65.41	33.37	44	Bali villa	Access	Hedonic	Online
Study 11	391.22	75.79	51	395.26	58.77	43	Bali villa	Access	Hedonic	Lab

We followed Cumming's recommendations in our meta-analytic approach (Cumming, 2014) and used R metafor package to conduct a random-effects model meta-analysis following restricted maximum-likelihood estimation (Viechtbauer, 2010). The effect size and its 95% confidence interval were computed for both deliberating in situations of high anticipated regret, and no deliberation in conditions of high anticipated regret by taking the mean differences and dividing them by the pooled standardized differences (Cohen's d). The difference was obtained by subtracting the $WTP_{preferred}$ in the no-deliberation-high-anticipated-regret condition from the deliberation-high-anticipated-regret condition. Hence, a positive effect indicates an increase in valuation as a consequence of deliberating while anticipating regret. We report the Z-value testing the null hypothesis that the mean effect $\mu = 0$ (Rosenthal, 1979). In addition, we used the random-effects model to test the homogeneity of the effect sizes across studies by means of the Q, I^2, and T^2 statistics. The Q statistic computes the total variability of the effect sizes between studies, weighted by the precision with which each effect size is measured. It is compared against a chi-square distribution to test for heterogeneity in the effect sizes across studies. The I^2 and T^2 statistics are derived from Q. I^2 measures the degree of variability in effect sizes across studies, correcting for the included studies. An I^2 statistic of 25% suggests low levels of heterogeneity, while 50% suggests moderate degrees of heterogeneity, and 75% suggests high levels of heterogeneity. The T^2 statistic is an estimate of τ^2, which reflects the variance of true effect size.

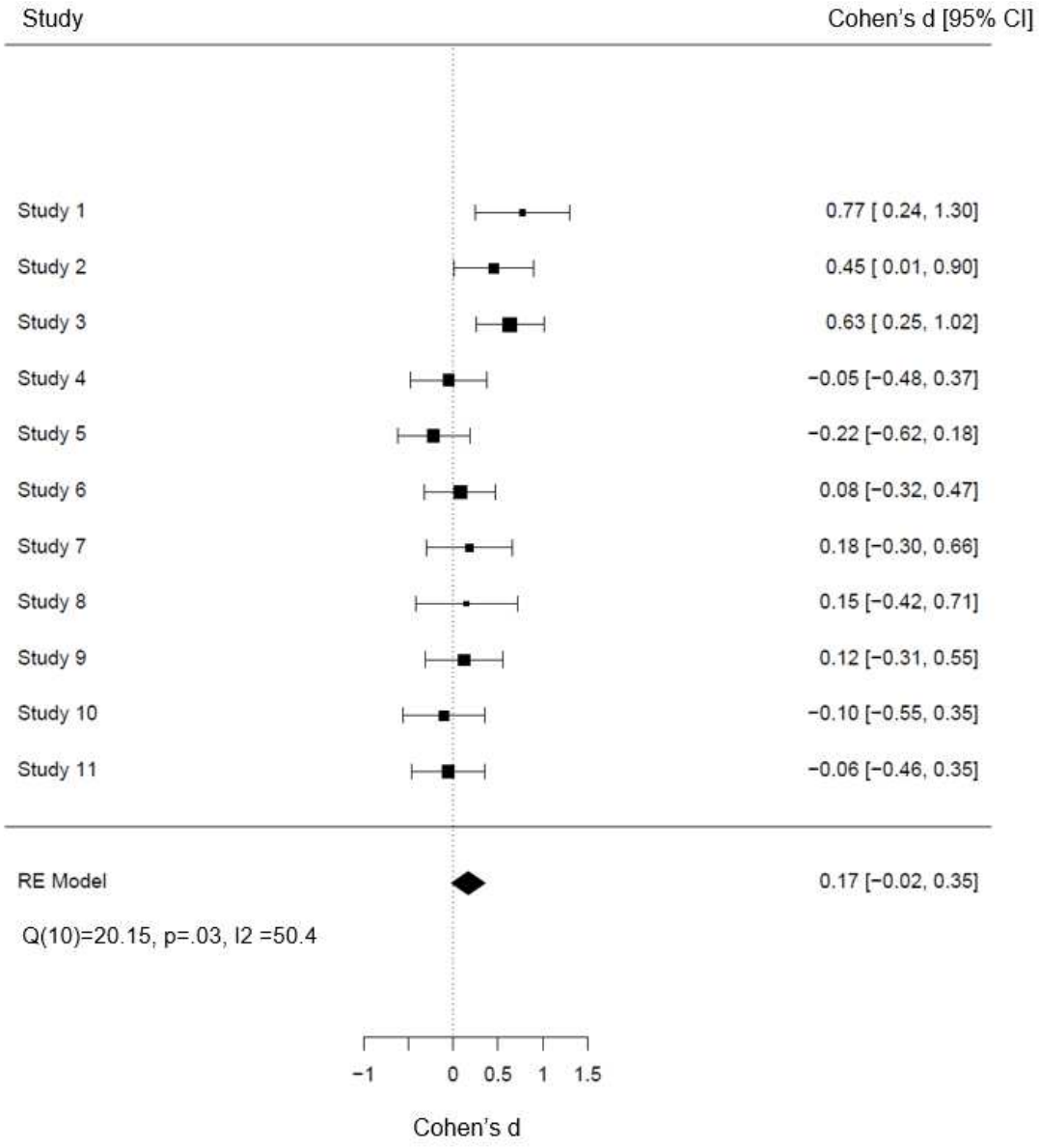
7.2 Results

The averaged corrected standardized mean difference for the effect of deliberating while anticipating regret on WTP for the preferred option is $d = 0.17$, 95% CI [-0.02, 0.35], $Z = 1.76$, $p = .08$ (see Figure 6 for a Forest plot of the effect sizes and confidence interval). This result

suggests that deliberating while anticipating regret increases WTP for the preferred option. In addition, the Q statistic is significant, $Q(10) = 20.15$, $p < .03$, and the I^2 statistic is moderate (50.4%), suggesting that the dispersion observed in effect size is due to true effect sizes and not simply random dispersion. Thus, the effect sizes are heterogeneous across various studies.

Figure 6

Forest plot for the effect of anticipated regret and deliberation on WTP for the preferred option.



7.3 Moderation

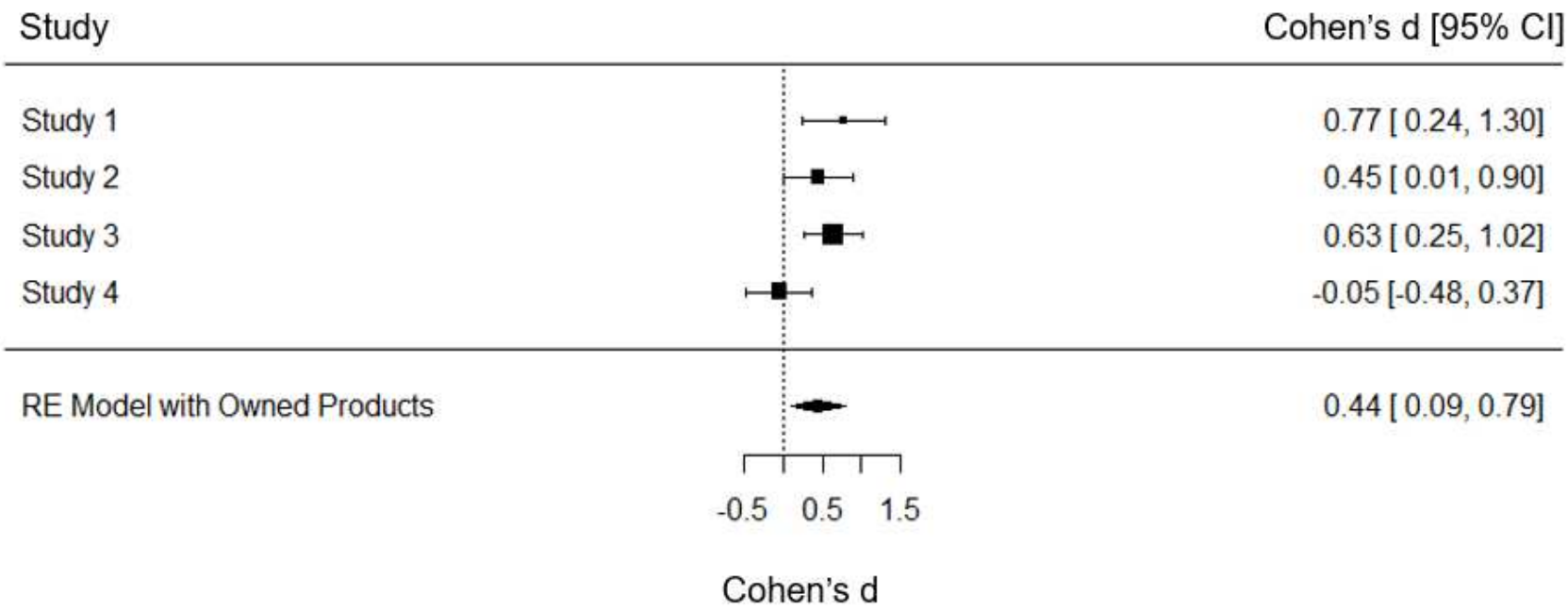
To examine if the heterogeneity is due to moderators, we also coded a few potential theoretical and methodological moderators such as ownership type (Bardhi & Eckhardt, 2017), hedonic vs. utilitarian purchases (Dhar & Wertenbroch, 2000), and data collection methods (i.e., online vs. lab). We categorized ownership type based on Bardhi and Eckhardt's (2017) definition of ownership vs. access. Ownership refers to a relationship between a person and a possession where the owner has full property rights. Consumers often identify with their possessions, which may become part of their extended self (Belk, 1988). Since the scenarios involved the purchase of tablets or cars, allowing ownership of a material product, studies 1 to 4 were coded as ownership. In contrast, access refers to temporary and circumstantial consumption where consumers gain access to products or services through rental payment (Bardhi & Eckhardt, 2017). As studies 5 to 11 involved renting student accommodation or holiday stays, there was no transfer of ownership, and participants paid to access these lodgings. Accordingly, studies 5 to 11 were coded as access.

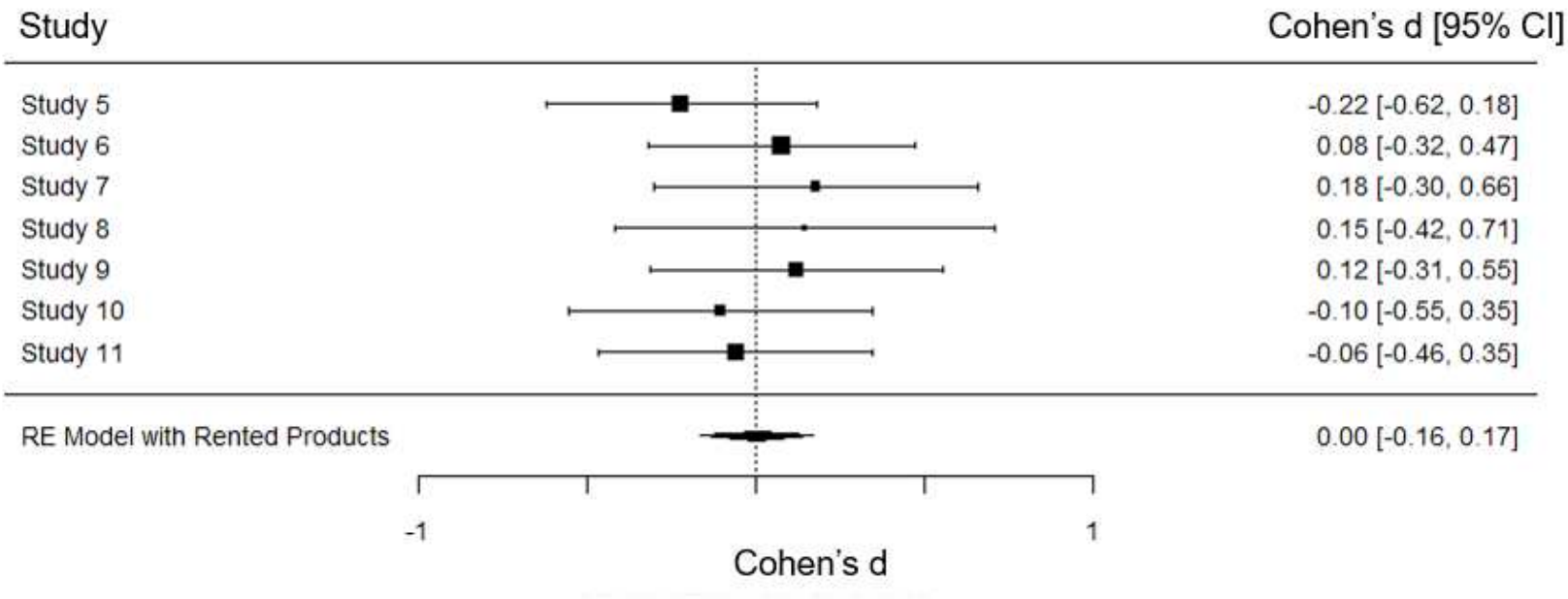
We conducted a mixed-effect model meta-analysis using ownership type as a moderator, using the same R metafor package (Viechtbauer, 2010). 82% of the total heterogeneity (r^2) can be accounted for by including ownership type as a moderator. The test of moderators is also significant (QM = 7.94, p = 0.005). The analysis with a Knapp and Hartung adjustment revealed that the effect was significant for ownership (d = .43, SE =.12, t = 3.59, p =.0003, CI[.20, .67], but not for access (d = .01, SE =.09, t = .06, p =.95, CI[-.17, .19]). The test for residual heterogeneity is not significant (QE =10.34, p = .32), suggesting that other moderators might not influence the willingness to pay (see Figure 7). These findings indicate that deliberation (vs. no

deliberation) increases WTP under high anticipated regret when individuals could own these purchases and not when they are simply renting them.

Figure 7

Forest plot for the effect of anticipated regret and deliberation on WTP for the preferred option for owned vs. access-based purchases.




Study
Cohen's d [95% CI]
Study 5
-0.22 [-0.62, 0.18]
Study 6
0.08 [-0.32, 0.47]
Study 7
0.18 [-0.30, 0.66]
Study 8
0.15 [-0.42, 0.71]
Study 9
0.12 [-0.31, 0.55]
Study 10
-0.10 [-0.55, 0.35]
Study 11
-0.06 [-0.46, 0.35]
RE Model with Rented Products
0.00 [-0.16, 0.17]
-1
1
Cohen's d

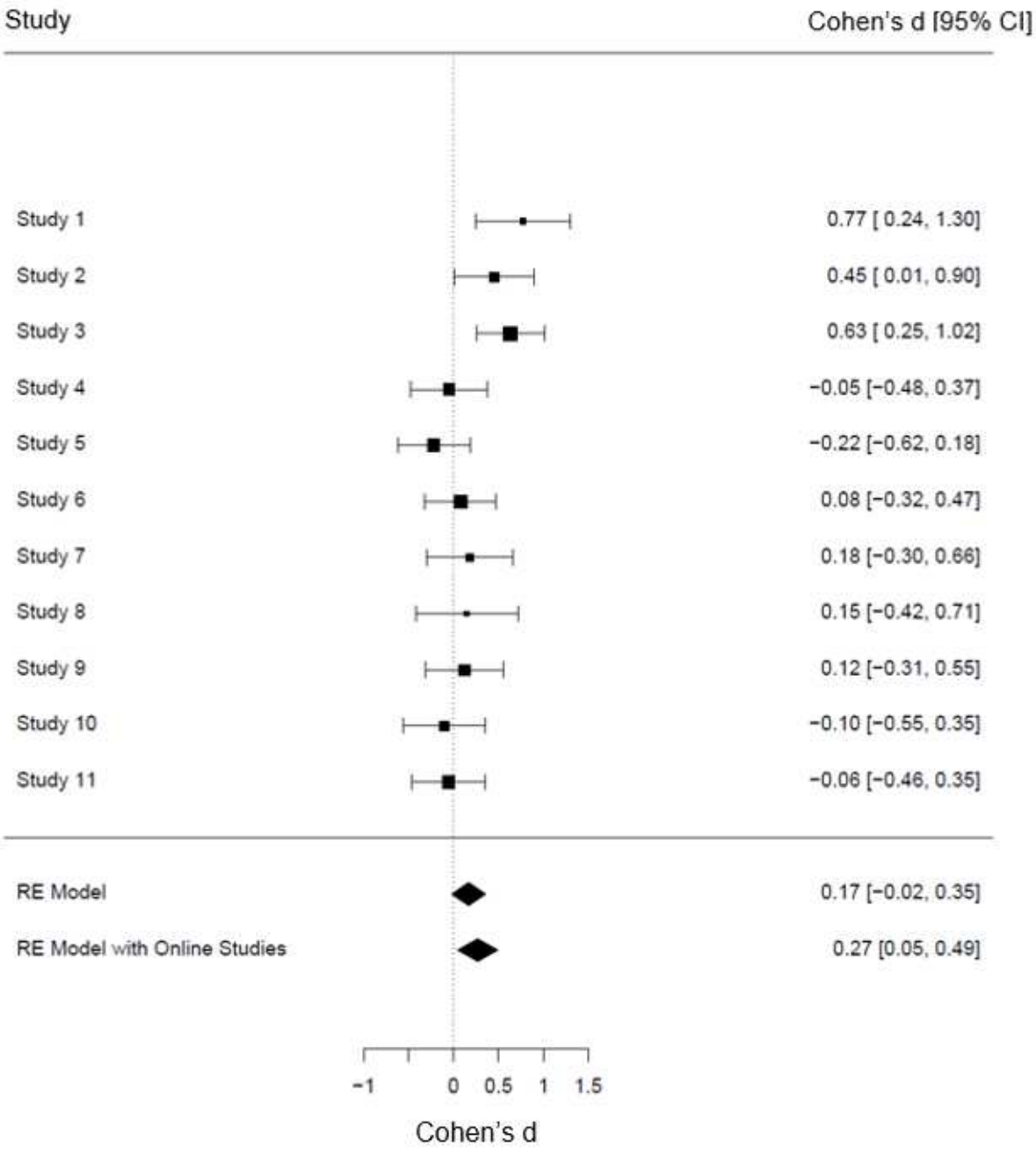
569

In addition to ownership type, our studies also varied in purchase type. We categorized purchases (i.e., tablets, second-hand cars, and student accommodation) as utilitarian when they were instrumental and functional. Conversely, purchases (i.e., renting Bali villas) that provided more fun and pleasure were categorized as hedonic (see Table 1 for details). We ran a separate mixed-effect model meta-analysis using hedonic vs. utilitarian purchases as a moderator. 10.14% of the total heterogeneity (r^2) can be accounted for by including hedonic vs. utilitarian purchases as a moderator. The test of moderators is not significant (QM = 1.69, p = 0.19). The test for residual heterogeneity is significant (QE =16.76, p = .05), suggesting that other moderators might influence the effects. Thus, there is no evidence that these purchases' hedonic vs. utilitarian nature moderated the effect of deliberation (vs. not) under high anticipated regret on WTP.

We also categorized studies in terms of data collection. Specifically, studies that were conducted on platforms such as SocialSci, Prolific Academic, Amazon Mechanical Turk were coded as online, while those conducted in the lab of a large European university were coded as lab studies. A separate mixed-effect model with data collection method as a moderator revealed that 38.74% of the total heterogeneity (r^2) could be accounted for by including online vs. lab studies as a moderator. The test of moderators was not significant (QM = 3.25, p = 0.07). The analysis with a Knapp and Hartung adjustment revealed that the effect was significant for online studies (d = .27, SE =.10, t(9) = 2.62, p =.02, CI[.04, .50], but not for lab studies (d = -.06, SE =.15, t(9) = -.43 p =.68, CI[-.42, .28]). The test for residual heterogeneity is not significant (QE =14.29, p = .11), suggesting that other moderators might not influence the effects. While these findings suggest that the effects were more robust in online than lab studies, the analysis should be interpreted with caution given the small number of lab studies conducted.

Figure 8.

Forest plot with of all studies vs. online studies



8. General Discussion

By allowing consumers to determine the price they are willing to pay, participative pricing strategies often require deliberation. Consumers need to deliberate over the benefits of paying the lowest price possible against the costs of appearing unfair and cheap (Gneezy et al., 2012;

Rabbanee et al., 2022). Consequently, such cognitive effort decreases purchase likelihood and sales, impeding the successful implementation of PWYW pricing (Wang et al., 2022). We propose a novel solution – anticipated regret. Across three studies and an internal meta-analysis, we show that deliberation increases the prices consumers are willing to pay for their preferred option when they anticipate regret. This effect persists across various anticipated regret manipulations, regardless of incentives and money-back guarantees, but seems most reliable for goods and not for services.

8.1 Theoretical contributions

Firstly, we contribute to participative pricing literature. As aforementioned, the deliberative effort required to decide a final price often fatigues consumers, reducing purchases (Wang et al., 2021; 2022). We show that deliberation could be beneficial when anticipated regret is high. Specifically, when consumers anticipate regret, deliberation increases the price consumers are prepared to pay for their preferred option. Since underpaying is an inherent risk in PWYW, deliberation and anticipated regret are novel factors that could aid the successful implementation of PWYW by boosting WTP. By doing so, we further the stream of research that has identified factors such as guilt (Kutner, 2015), prosocial concerns (Gneezy et al., 2012), reference prices (Johnson & Cui, 2013; Roy et al., 2021), payment timing (Viglia et a., 2019) that affect WTP in participative pricing. In particular, we extend the literature where the consumer's cognitive state is considered in participative pricing. While previous research has revealed that pick-your-price strategies, mental resources, and a high need-for-cognition could mitigate the issues of cognitive effort in PWYW pricing (Rathore et al., 2021; Wang et al., 2021; 2022), we identify another boundary condition - anticipated regret.

Secondly, we extend on the regret literature. While a considerable amount of theoretical (Bell, 1982; Loomes & Sugden, 1982; Savage, 1952) and empirical research (Connolly & Reb, 2003; Zeelenberg & Beattie, 1997) has examined the effects of regret on *choice*, this research has largely neglected to address how anticipated regret influences *valuation.* Our research attends to this research gap, by showing that anticipated regret and deliberation increase WTP for the preferred option.

Thirdly, we also broaden the scope of feelings in decision-making (e.g., Pham, 2007). Prior research showed that reliance on feelings during deliberation bolsters people's confidence in their preferences (Maglio & Reich, 2019; 2020). We show that relying on specific emotions such as anticipated regret during deliberation allows for the spreading of alternatives, increasing the price individuals are willing to pay for their preferred option. This is consistent with anticipated regret regulation strategies (Zeelenberg & Pieters, 2007). Extant research has shown that individuals try to avoid regret by making justifiable decisions (Connolly & Zeelenberg, 2002; Reb, 2008). For instance, individuals could base their decisions on previous experiences (Zeelenberg et al., 1996) or pick out branded global products (Simonson, 1992; Davvetas & Diamantopoulos, 2018). To minimize regret, individuals also engage in robust satisficing - ensuring a good enough outcome when things go awry (Schwartz, 2015). Individuals who anticipate regret collect more information and take significantly longer to reach a decision (Reb, 2008). Our research shows that individuals can construct their own choice when faced with anticipated regret and deliberation. Namely, we demonstrate a critical consequence of robust satisficing – increased WTP for the preferred option.

8.2 Managerial implications

Despite its increasing popularity, the successful implementation of participative pricing is fraught with challenges (Kim et al., 2009). As consumers tend to underpay, companies have incurred substantial losses experimenting with PWYW mechanisms (Viglia et al., 2019). Moreover, the cognitive effort involved in determining a price often deters consumers, reducing purchases and sales (Wang et al., 2022). Our findings suggest that managers can use deliberation inherent in participative pricing to boost WTP by highlighting anticipated regret. Since anticipated regret and deliberation increase WTP, its interactive effects could serve as a potential solution against underpaying in PAYW settings.

Managers could harness anticipated regret by introducing scarcity in their pricing strategies. Taking a page from the coupon redemption literature (Scheinbaum et al., 2019), limiting the time participative pricing is available could make consumers anticipate regret over non-usage. By encouraging deliberation in such situations of anticipated regret, managers could increase the price consumers are willing to pay. Our studies elicited anticipated regret by getting participants to expect feedback on their choices. In other words, participants anticipate regret as they know that they will find out if their foregone option turned out to be better. Managers could imitate this by getting consumers to sign up for post-purchase emails where they will inform consumers on how all their offerings have fared. Thus, consumers will expect to find out if their foregone option has performed better than their preferred option. Again, encouraging deliberation when consumers anticipate regret could increase the price they are willing to pay for their preferred options.

Extant research suggests that consumers often anticipate regret when purchasing generic over established brands (Simonson, 1992) and local over global brands (Davvetas & Diamantopoulous, 2018). Thus, managers of generic and local brands could utilize the anticipated regret consumers already feel towards their brands and encourage deliberation to

increase WTP. They could also provide comprehensive information that allows comparisons across their various offerings to promote deliberation and thus boost consumers' willingness to pay.

Past research has shown that uncertainty about the purchase is one of the impediments to profitability in participative pricing strategies. Thus, retailers need to provide quality assurances such as payment after consumption (Vigla et al., 2019) or money-back guarantees (Suwelack et al., 2011) to increase the price consumers are willing to pay. Given that money-back guarantees do not significantly affect how deliberation and anticipated regret affect WTP, retailers might not need to use such promotional tools to boost the price premium.

Furthermore, the meta-analysis also reveals that the effect of deliberation and anticipated regret on WTP is stronger for owned products than access-based services. Correspondingly, using deliberation and anticipated regret to boost the price consumers are willing to pay might be applicable for managers selling products that consumers can own rather than those who rent out services (e.g., holiday accommodation).

8.3 Limitations and further research

Future work could address several issues. Firstly, our tasks did not explicitly state the participative pricing strategy adopted in the hypothetical stores. Instead, we simply asked participants their WTP for both options. While this might increase the generalizability of our findings, especially in a PWYW context, future research can examine our effects in specific participative pricing contexts. For instance, would anticipated regret and deliberation still increase WTP in the pick-your-price context since there is less uncertainty about what prices

to offer (Rathore et al., 2022)? Secondly, our studies focused on choice situations where participants could choose between two options. Future research could examine if deliberation and anticipated regret could boost WTP single option situations where regret stems from the possibility of under/overpaying (Balseiro et al., 2019) or missing out on limited stock (Gabler, 2013).

Moreover, valuation could have subsequent implications on behavior beyond perceived attractiveness and willingness to pay it. By showing that anticipated regret affects valuation, our studies go beyond mere preferences. They show that individuals also find the option more attractive and are more willing to pay for it. High valuations may also translate into greater willingness to wait for the option if it is unavailable or increase desire for relevant add-ons. Such behaviors could prove beneficial to marketers. By encouraging deliberation while anticipating regret, retailers could increase valuation and facilitate purchases for subsequent add-on products. In addition, individuals could be more forgiving of inventory problems as they are more willing to wait in such scenarios. These intriguing possibilities could be topics for future investigation.

References

Balseiro, S. R., & Gur, Y. (2019). Learning in repeated auctions with budgets: Regret minimization and equilibrium. *Management Science*, *65*(9), 3952-3968.

Bardhi, F., & Eckhardt, G. M. (2017). Liquid consumption. *Journal of Consumer Research*, *44*(3), 582-597.

Becker, G. M., DeGroot, M. H., & Marschak, J. (1964). Measuring utility by a single-response sequential method. *Behavioral science*, *9*(3), 226-232.

Bell, D. E. (1982). Regret in decision making under uncertainty. *Operations research*, *30*(5), 961-981.

Bleichrodt, H., & Wakker, P. P. (2015). Regret theory: A bold alternative to the alternatives. *The Economic Journal*, *125*(583), 493-532.

Bleichrodt, H., Cillo, A., & Diecidue, E. (2010). A quantitative measurement of regret theory. *Management Science*, *56*(1), 161-175.

Brewer, N. T., DeFrank, J. T., & Gilkey, M. B. (2016). Anticipated regret and health behavior: A meta-analysis. *Health Psychology*, *35*(11), 1264.

Bullens, L., van Harreveld, F., Förster, J., & van der Pligt, J. (2013). Reversible decisions: The grass isn't merely greener on the other side; it's also very brown over here. *Journal of Experimental Social Psychology*, *49*(6), 1093-1099.

Cacioppo, J. T., & Petty, R. E. (1984). The elaboration likelihood model of persuasion. *ACR North American Advances*.

Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological bulletin*, *119*(2), 197.

Carmon, Z., Wertenbroch, K., & Zeelenberg, M. (2003). Option attachment: When deliberating makes choosing feel like losing. *Journal of Consumer research*, *30*(1), 15-29.

Chandran, S., & Morwitz, V. G. (2005). Effects of participative pricing on consumers' cognitions and actions: A goal theoretic perspective. *Journal of Consumer Research*, *32*(2), 249-259.

Chen, J., Teng, L., Liu, S., & Zhu, H. (2015). Anticipating regret and consumers' preferences for counterfeit luxury products. *Journal of Business Research*, *68*(3), 507-515.

Chiou-Wei, S. Z., & Inman, J. J. (2008). Do shoppers like electronic coupons?: A panel data analysis. *Journal of Retailing*, *84*(3), 297-307.

Connolly, T., & Reb, J. (2003). Omission bias in vaccination decisions: Where's the "omission"? Where's the "bias"?. *Organizational Behavior and Human Decision Processes*, *91*(2), 186-202.

Connolly, T., Reb, J., & Kausel, E. E. (2013). Regret salience and accountability in the decoy effect. *Judgment and Decision making*, *8*(2), 136.

Cumming, G. (2014). The new statistics: Why and how. *Psychological science*, *25*(1), 7-29.

Davvetas, V., & Diamantopoulos, A. (2017). "Regretting your brand-self?" The moderating role of consumer-brand identification on consumer responses to purchase regret. *Journal of Business Research*, *80*, 218-227.

Davvetas, V., & Diamantopoulos, A. (2018). "Should have I bought the other one?" experiencing regret in global versus local brand purchase decisions. *Journal of International Marketing*, *26*(2), 1-21.

Dhar, R., & Gorlin, M. (2013). A dual-system framework to understand preference construction processes in choice. *Journal of Consumer Psychology*, *23*(4), 528-542.

Dhar, R., & Wertenbroch, K. (2000). Consumer choice between hedonic and utilitarian goods. *Journal of marketing research*, *37*(1), 60-71.

Diecidue, E., & Somasundaram, J. (2017). Regret theory: A new foundation. *Journal of Economic Theory*, *172*, 88-119.

Gabler, C. B., & Reynolds, K. E. (2013). Buy now or buy later: the effects of scarcity and discounts on purchase decisions. *Journal of Marketing Theory and Practice*, *21*(4), 441-456.

Gabler, C. B., Landers, V. M., & Reynolds, K. E. (2017). Purchase decision regret: Negative consequences of the Steadily Increasing Discount strategy. *Journal of Business Research*, *76*, 201-208.

Gilbert, D. T., & Ebert, J. E. (2002). Decisions and revisions: The affective forecasting of changeable outcomes. *Journal of personality and social psychology*, *82*(4), 503.

Gilovich, T., & Medvec, V. H. (1995). The experience of regret: what, when, and why. *Psychological review*, *102*(2), 379.

Gneezy, A., Gneezy, U., Nelson, L. D., & Brown, A. (2010). Shared social responsibility: A field experiment in pay-what-you-want pricing and charitable giving. *Science*, *329*(5989), 325-327.

Inman, J. J., & McAlister, L. (1994). Do coupon expiration dates affect consumer behavior?. *Journal of Marketing Research*, *31*(3), 423-428.

Itzchakov, G., & Van Harreveld, F. (2018). Feeling torn and fearing rue: Attitude ambivalence and anticipated regret as antecedents of biased information seeking. *Journal of Experimental Social Psychology*, *75*, 19-26.

Janis, I. L., & Mann, L. (1977). *Decision making: A psychological analysis of conflict, choice, and commitment*. Free press.

Johnson, J. W., & Cui, A. P. (2013). To influence or not to influence: External reference price strategies in pay-what-you-want pricing. *Journal of Business Research*, *66*(2), 275-281.

Kim, J. Y., Natter, M., & Spann, M. (2009). Pay what you want: A new participative pricing mechanism. *Journal of Marketing*, *73*(1), 44-58.

Kunter, M. (2015). Exploring the pay-what-you-want payment motivation. *Journal of Business Research*, *68*(11), 2347-2357.

Landman, J. (1993). *Regret: The persistence of the possible*. Oxford University Press.

Loomes, G., & Sugden, R. (1982). Regret theory: An alternative theory of rational choice under uncertainty. *The economic journal*, *92*(368), 805-824.

Maglio, S. J., & Reich, T. (2019). Feeling certain: Gut choice, the true self, and attitude certainty. *Emotion*, *19*(5), 876.

Maglio, S. J., & Reich, T. (2020). Choice protection for feeling-focused decisions. *Journal of Experimental Psychology: General*, *149*(9), 1704.

Meloy, M. G. (2000). Mood-driven distortion of product information. *Journal of Consumer Research*, *27*(3), 345-359.

Mikels, J. A., Maglio, S. J., Reed, A. E., & Kaplowitz, L. J. (2011). Should I go with my gut? Investigating the benefits of emotion-focused decision making. *Emotion*, *11*(4), 743.

Mourali, M., Yang, Z., Pons, F., & Hassay, D. (2018). Consumer power and choice deferral: The role of anticipated regret. *International Journal of Research in Marketing*, *35*(1), 81-99.

Pham, M. T. (2007). Emotion and rationality: A critical review and interpretation of empirical evidence. *Review of general psychology*, *11*(2), 155-178.

Pieters, R., & Zeelenberg, M. (2005). On bad decisions and deciding badly: When intention–behavior inconsistency is regrettable. *Organizational Behavior and Human Decision Processes*, *97*(1), 18-30.

Rabbanee, F. K., Roy, R., & Sharma, P. (2022). Contextual differences in the moderating effects of price consciousness and social desirability in pay-what-you-want (PWYW) pricing. *Journal of Business Research*, *141*, 13-25.

Rathore, H., Jakhar, S. K., Kumar, S., & Kumar, M. E. (2022). Pay-what-you-want versus pick-your price: The interplay between participative pricing strategies and consumer's need for cognition. *Journal of Business Research*, *141*, 73-84.

Reb, J. (2008). Regret aversion and decision process quality: Effects of regret salience on decision process carefulness. *Organizational Behavior and Human Decision Processes*, *105*(2), 169-182.

Roese, N. J., & Summerville, A. (2005). What we regret most... and why. *Personality and Social Psychology Bulletin*, *31*(9), 1273-1285.

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological Bulletin*, *86*(3), 638.

Roy, R., Sharma, P., Chan, R. Y., & Potdar, V. (2021). Exploring the role of spotlight effect in pay-what-you-want (PWYW) pricing—An anchoring and adjustment perspective. *Psychology & Marketing*, *38*(5), 866-880.

Russo, J. E., Carlson, K. A., Meloy, M. G., & Yong, K. (2008). The goal of consistency as a cause of information distortion. *Journal of Experimental Psychology: General*, *137*(3), 456.

Russo, J. E., Meloy, M. G., & Medvec, V. H. (1998). Predecisional distortion of product information. *Journal of Marketing Research*, *35*(4), 438-452.

Sameeni, M. S., Ahmad, W., & Filieri, R. (2022). Brand betrayal, post-purchase regret, and consumer responses to hedonic versus utilitarian products: The moderating role of betrayal discovery mode. *Journal of Business Research*, *141*, 137-150.

Scheinbaum, A. C., Shah, P., Kukar-Kinney, M., & Copple, J. (2020). Regret and nonredemption of daily deals: Individual differences and contextual influences. *Psychology & Marketing*, *37*(4), 535-555.

Schwartz, B. (2015). What does it mean to be a rational decision maker. *Journal of Marketing Behavior*, *1*(2), 113-145.

Seo, K., Go, S., & Kim, B. (2020). Pricing strategies under markets with time gap between purchase and consumption. *Journal of Business Research*, *120*, 312-320.

Shih, E., & Schau, H. J. (2011). To justify or not to justify: the role of anticipated regret on consumers' decisions to upgrade technological innovations. *Journal of Retailing*, *87*(2), 242-251.

Simonson, I. (1992). The influence of anticipating regret and responsibility on purchase decisions. *Journal of consumer research*, *19*(1), 105-118.

Somasundaram, J., & Diecidue, E. (2017). Regret theory and risk attitudes. *Journal of risk and uncertainty*, *55*(2), 147-175.

Suwelack, T., Hogreve, J., & Hoyer, W. D. (2011). Understanding money-back guarantees: Cognitive, affective, and behavioral outcomes. *Journal of retailing*, *87*(4), 462-478.

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of statistical software*, *36*(3), 1-48.

Viglia, G., Maras, M., Schumann, J., & Navarro-Martinez, D. (2019). Paying before or paying after? Timing and uncertainty in pay-what-you-want pricing. *Journal of Service Research*, *22*(3), 272-284.

Wamsler, J., Natter, M., & Algesheimer, R. (2022). Transitioning to dynamic prices: Should pricing authority remain with the company or be delegated to the service employees instead?. *Journal of Business Research*, *139*, 1476-1488.

Wang, C. X., Beck, J. T., & Yuan, H. (2021). The Control–Effort Trade-Off in Participative Pricing: How Easing Pricing Decisions Enhances Purchase Outcomes. *Journal of Marketing*, 0022242921990351.

Wang, C. X., Yuan, H., & Beck, J. T. (2022). Too tired for a good deal: How customer fatigue shapes the performance of Pay-What-You-Want pricing. *Journal of Business Research*, *144*, 987-996.

Wegener, D. T., & Chien, Y. W. (2013). Elaboration and choice. *Journal of Consumer Psychology*, *23*(4), 543-551.

Wertenbroch, K., & Skiera, B. (2002). Measuring consumers' willingness to pay at the point of purchase. *Journal of marketing research*, *39*(2), 228-241.

Zeelenberg, M. (1999). Anticipated regret, expected feedback and behavioral decision making. *Journal of behavioral decision making*, *12*(2), 93-106.

Zeelenberg, M. (2015). Robust satisficing via regret minimization. *Journal of Marketing Behavior*, *1*(2), 157-166.

Zeelenberg, M. (2018). Anticipated regret: A prospective emotion about the future past. In G. Oettingen, A. T. Sevincer, & P. Gollwitzer (Eds.), *The psychology of thinking about the future* (pp. 276–295). The Guilford Press.

Zeelenberg, M., & Beattie, J. (1997). Consequences of regret aversion 2: Additional evidence for effects of feedback on decision making. *Organizational Behavior and Human Decision Processes*, *72*(1), 63-78.

Zeelenberg, M., & Pieters, R. (2007). A theory of regret regulation 1.0. *Journal of Consumer psychology*, *17*(1), 3-18.

Zeelenberg, M., Beattie, J., Van der Pligt, J., & De Vries, N. K. (1996). Consequences of regret aversion: Effects of expected feedback on risky decision making. *Organizational behavior and human decision processes*, *65*(2), 148-158.

Zeelenberg, M., Van den Bos, K., Van Dijk, E., & Pieters, R. (2002). The inaction effect in the psychology of regret. *Journal of personality and social psychology*, *82*(3), 314.

Appendix

Appendix A: Pretest 1 – Printers for Study 1

We recruited 28 (21 male, ranging from 20 to 64 years old) participants on Amazon Mechanical Turk to rate ten tablets on willingness-to-pay and attractiveness. Identical to Study 1, pictures and product information on the tablets adapted from the popular electronics review site, CNET.com. The tablets were presented in random order to prevent order effects.

Results.

From these ten tablets, we selected two tablets that were closest in WTP and attractiveness for Study 1. A t-test confirmed that there is no significant difference between the tablets in attractiveness ($M_{tablet1}$ = 3.07, SD =1.41 vs. $M_{tablet2}$ = 2.86, SD =0.85; $t(27)$ =.47; d =.14) and willingness-to-pay ($M_{tablet1}$ =278.39, SD = 135.61 vs. $M_{tablet2}$ = 246.14, SD=110.13; $t(27)$ = 1.11, p =.28; d =.21)

Appendix B: Anticipated Regret Manipulations Validation Test

Method

As pre-registered (https://aspredicted.org/WLG_Q13), 100 participants were recruited on Amazon Mechanical Turk for a one-factor (low anticipated regret vs. high anticipated regret) between-subjects experiment. Following the pre-registered plan, we discarded the responses of three participants who failed the attention check (final sample, n = 97, M_{age} = 39.27,

40.2% female). Similar to Study 1, these participants were asked to imagine that they needed to purchase a printer and shown two options along with pictures and descriptions adapted from online information. The presentation of the printers was counterbalanced to prevent order effects. Participants were randomly assigned to one of the following conditions:

Low Anticipated Regret Condition.

Imagine yourself in the following scenario.
With the Covid pandemic, you find yourself working from home more often.
You need a compact printer.

After an **extensive search** online, you find the following printers within your $50 to $70 budget:

High Anticipated Regret Condition.

Imagine yourself in the following scenario.
With the Covid pandemic, you find yourself working from home more often.
You need a compact printer.

After a **quick search** online, you find the following printers that are within your $50 to $70 budget:

Canon PIXMA TS3350 Multifunction WiFi Printer

About this item

- Compact and connected - Enjoy multifunctionality and smooth wireless connectivity. Print, scan and connect to the cloud via the Canon Print app or get printing with AirPrint (iOS) and Morea (Android)
- Print more - Enjoy the convenience of fine cartridges and extend time between ink top-ups with optional XL replacements
- Simple set-up - With wireless connectivity at the touch of a button, intuitive 1.5" Mono LCD and even easier set-up, it's never been simpler to get started
- Maximise savings - Save money and minimise waste thanks to cost-effective printing. Enjoy up to 50% cost savings when you use optional XL ink cartridges and save on paper with auto 2-sided printing
- Creative capability - stock up with 5"x5" square, stickable and magnetic media and try out the creative options of easy-photo print Editor and creative park

HP 5AR83B DeskJet 2710 All-in-one Printer with Wireless Printing

About this item

- Print, scan and copy
- Save up to 70 Percent on ink (HP 305 inks) with HP Instant Ink and never run out of ink; ordered by your printer, delivered to your door, 2 months trial included
- With HP Smart app, print and scan from virtually anywhere: Print documents, photos from the cloud, social media, scan with your smartphone camera
- Get better range and faster, more reliable connections using dual-band Wi-Fi with self-reset. Get started fast with simple setup that guides you through each step, using HP Smart app

As you make your decision, keep in mind that there is **no guarantee that the product you pick will be right for you.**
You could find yourself with a product that you don't like, **regretting your decision and wishing that you have chosen differently**

After choosing between the printers, participants in the high anticipated regret conditions also jotted down how they would have felt if they found that their foregone option was better. We used this thought elicitation protocol in this pretest instead of anticipated regret scales to elicit anticipated regret to minimize demand effects. Prior research have shown that anticipated regret scales and thought elicitation successfully manipulate anticipated regret (e.g., Chen, Teng, Liu & Zhu, 2015; Shih & Schau, 2011; Zeelenberg et al., 1996; Inman & Zeelenberg 2002)

To assess anticipated regret, all participants responded to Tsiros & Mittal's (2000) anticipated regret scale, "Do you anticipate feelings of regret, think you will be disappointed with your decision, think you will be unhappy with your decision?" (1 = *not at all*, 7 = *Very likely*; $\alpha = .92$).

Results.

A t-test confirmed that participants in the high anticipated regret condition anticipated more regret than their counterparts in the low anticipated regret condition (M_{highAR}= 4.13, *SD* = 1.48 vs. M_{lowAR} = 3.27, *SD* = 1.82; *t*(95) = -2.56, *p* =.012, *d* = -.52)

Appendix C: Deliberation Validation Test

Method

172 participants were recruited on Prolific Academic for this one-factor (no deliberation vs. deliberation) between-subject design. Similar to Studies 2 and 3, all participants were asked to imagine that they were moving to the UK and were thinking of purchasing a car off a popular bidding site. Based on a guide price ranging from £3699 to £7899, they have narrowed their options down to two equally attractive cars with difficult trade-offs. Next, participants were randomly assigned into one of two conditions. In the deliberation condition, participants listed the pros and cons of both options. To ensure that the tasks were equivalent, participants in the no-deliberation condition listed the pros and cons of unrelated products, online calendars.

Results

We operationalized deliberation via the cognitive process dimension using LIWC 2007 (e.g., think, because, should, always, maybe; Pennebacker, Booth, & Francis, 2007). As intended, participants in the deliberation condition used more words related to cognitive process than their counterparts in the no-deliberation condition ($M_{deliberation}$ = 11.59, *SD* = 7.04 vs. $M_{no\text{-}deliberation}$ = 5.45, *SD* = 5.35; *F*(1, 169) = 52.13, *p* <.001, η^2= .24), controlling for word count.

Appendix D: Study 1

Complete measures

Anticipated Regret.
- How upset will you feel if you made the wrong choice? (1 = "not at all", 9 = "Extremely")
- If you made the wrong choice, how much will you regret? (1 = "not at all", 9 = "Extremely")

Deliberation.
- List the pros and cons of the ASUS tablet.
- List the pros and cons of the Acer tablet.

Attractiveness.
- How attractive is the Acer tablet (0 = "Very unattractive", 100 = "Very attractive").
- How attractive is the ASUS tablet (0 = "Very unattractive", 100 = "Very attractive").

Willingness-to-pay (adpated Becker-DeGroot-Marschak (BDM) method; Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964).
- Will you pay $x for the ASUS tablet? (No vs. Yes)
- How much are you willing to pay for the ASUS tablet? (slider scale)
- Will you pay $x for the Acer tablet? (No vs. Yes)
- How much are you willing to pay for the Acer tablet? (slider scale)

Choice.
- Please indicate again which tablet would you purchase?

Experienced Regret.
- To what extent do you feel regret? (1 = "not at all", 9 = "Very much")

Research purpose
- What do you think is the purpose of this study? _____

*Note that measures with solid bullet points were counterbalanced.

Results

Experienced regret. ANOVA revealed no significant main effects of deliberation and anticipated regret on experienced regret. The interaction effect was also non-significant, $F(1, 111) = 2.88$, $p = .09$. Amongst participants who did not deliberate, those in the high anticipated regret conditions experienced more regret than those in the low anticipated regret conditions ($M_{highAR} = 3.75$, $SD = 2.45$ vs. $M_{lowAR} = 2.68$, $SD = 2.11$; $F(1, 108) = 3.55$, $p = .06$.

Attractiveness. Based on their final choice, we coded WTP_{chosen}, $WTP_{foregone}$, $attractiveness_{chosen}$, $attractiveness_{foregone}$ accordingly. Given that WTP and attractiveness are theoretically

correlated variables, a MANOVA was used to investigate the effects of anticipated regret and deliberation on WTP and attractiveness of the chosen option. We found a significant main effect of anticipated regret, *Wilk's lambda* = .70, $F(2, 107) = 23.48$, $p < .001$. Deliberation did not have a significant effect, $F < 1$. Crucially, MANOVA also revealed a significant interaction effect of anticipated regret and deliberation, *Wilk's lambda* = .94, $F(2, 107) = 3.72$, $p < .001$. ANOVA revealed no significant effects of anticipated regret and deliberation on attractiveness of the chosen option, all $Fs < 1$.

To examine the effects of anticipated regret and deliberation on WTP and attractiveness of the forgone option, a MANOVA was adopted. The analysis revealed a significant interaction effect of anticipated regret and deliberation on valuation, *Wilk's lambda* = .92, $F(2, 107) = 4.70$, $p = .01$. No other significant effects were found. ANOVA also revealed no significant effects of anticipated regret and deliberation on the attractiveness of the foregone option, $F < 1$.

Appendix E: Study 2

Complete measures

Anticipated Regret.

- Jot down how it will feel if you discover that the car you've foregone turned out to be better. _____

Deliberation.

- List the pros and cons of this car.

Attractiveness.

- To what extent do you find this car attractive? (1 = "not at all attractive", 7 = "extremely attractive").

Willingness-to-pay (adpated Becker-DeGroot-Marschak (BDM) method; Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964).

- Will you pay $x for this car? (No vs. Yes)
- How much are you willing to pay for this car? (slider scale)

Choice.

- Which car do you prefer? (Car 1, Car 2)

Research purpose.

- What do you think is the purpose of this study? _____

*Note that measures with solid bullet points were counterbalanced

Results

Attractiveness. ANOVA revealed no significant interaction effects of anticipated regret and deliberation on the attractiveness of the chosen option, $F(1,158) = 3.07$, $p = .08$. There was no significant effects of anticipated regret and deliberation on the attractiveness of the foregone option, $F < 1$.

Appendix F: Study 3

Complete measures

Deliberation.

- List the pros and cons of this car
  *repeated for both options

Attractiveness.

- To what extent do you find this car attractive? (1 = "not at all attractive", 7 = "extremely attractive").
  *repeated for both options

Willingness-to-pay (adpated Becker-DeGroot-Marschak (BDM) method; Wertenbroch & Skiera, 2002; Becker, DeGroot, & Marschak, 1964).

- Will you pay $x for this car? (No vs. Yes)
- How much are you willing to pay for this car? (slider scale)
  *repeated for both options

Choice.

- Which car do you prefer? (Car 1, Car 2)

Experienced Regret.

- To what extent do you feel regret? (1 = "not at all", 9 = "Very much")

Research purpose.

- What do you think is the purpose of this study? _____

Results

Attractiveness. ANOVA revealed a significant interaction effect of anticipated regret and deliberation on attractiveness of the chosen option, $F(1, 209) = 10.94$, $p < .001$. When anticipated regret was high, participants who deliberated ($M_{highAR\text{-}deliberate} = 4.75$, $SD = .22$) found their

chosen option significantly more attractive than their counterparts who did not deliberate ($M_{highAR\text{-}no\text{-}deliberate}$= 3.76, SD = .24, $t(213) = 3.07$, p <.001). Amongst those who deliberated, participants in the high anticipated regret condition ($M_{highAR\text{-}deliberate}$ = 4.75, SD = .22) found their chosen option significantly more attractive than their counterparts in the low anticipated regret condition ($M_{lowAR\text{-}deliberate}$ = 4.12, SD = .22, $t(213) = 2.01$, p =.05). An ANOVA also showed no significant effects on the attractiveness of the foregone option, Fs <1.