

SUSTAINABILITY EFFORTS WITH CONSUMERS

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by

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Dedicated to my parents, whose constant presence and support have illuminated every step of this remarkable journey.

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The journey toward completing my dissertation and earning my Ph.D. has undoubtedly been an exhilarating ride. Throughout its course, the mantra "This, too, shall pass" has been my steadfast companion along the journey. Admittedly, not every step has been paved with sheer delight, but I can confidently affirm that this phase has been a period of unparalleled personal and scholarly growth.

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SUMMARY

Despite unprecedented economic and societal growth based on a conventional model of development, accumulating evidence makes clear that “business as usual” is no longer sustainable. Inarguably, companies play a critical role in driving sustainable development, and more and more companies are changing the way they operate to focus more on environmental protection and social inclusion in the pursuit of sustainability. However, changing business practices alone is not enough. Achieving sustainability requires a shift in consumer values and behaviors as well. Central to my dissertation is the notion that firms and consumers can work together to build a more environmentally and socially sustainable society.

In my dissertation, I investigate ways that companies can effectively engage consumers in their sustainability efforts with a particular emphasis on establishing strong relationships with consumers in the pursuit of sustainability. The first chapter of my dissertation examines the benefits of acknowledging customer participation in various company circular economy initiatives such as take-back programs, product repair programs, and reusable takeout container programs. Across seven studies, including both lab experiments and a field experiment, I demonstrate that when a company explicitly acknowledges their customers’ participation in its circular economy programs, customers feel that they are valued as a partner by the company in their joint efforts toward sustainability. The enhanced feelings of social worth lead customers to perceive the company as more sustainable and to increase their future participation intentions as well as

actual participation with the company. As the demand grows for “circular economy,” my findings offer companies a viable and straightforward way to strengthen their sustainable image and encourage persistent consumer sustainable behavior.

The second chapter focuses on the positive impact of balanced efforts between companies and consumers in Corporate Social Responsibility (CSR) initiatives. Specifically, I hypothesize that compared to instances where either a company or a consumer more unilaterally advances a CSR effort, companies and consumers engaging in more balanced efforts will lead consumers to perceive the CSR initiative as both fair and belonging jointly to company and consumer. As such, I ultimately predict that CSR initiatives that balance company and consumer efforts will lead consumers to feel greater cohesiveness with the company. Through three studies involving both real company CSR initiatives and hypothetical scenarios, I demonstrate the positive effect of balanced company and consumer CSR efforts on consumer perceptions of cohesiveness and the subsequent purchase intentions with the company.

CHAPTER 1. RECEIVED! THE EFFECT OF ACKNOWLEDGMENT ON CUSTOMER PARTICIPATION IN THE CIRCULAR ECONOMY

1.1 Introduction

Consumers today have unprecedented material abundance, which is possible because of technological progress that allows for the exponentially efficient production of goods. Despite the many advantages of this material abundance, the exploitation of natural resources to meet growing consumption levels impose considerable strain on the earth, causing serious environmental problems, including climate change. These repercussions have led businesses to rethink their traditional linear nature of manufacturing products, with an increasing number of companies turning to a circular economy, which stresses the continuous reuse of products and materials to reduce environmental impacts (McDonough and Braungart 2010).

For the circular economy to succeed, companies must engage customers in the process to capture the material at the end of use before disposition (Camacho-Otero et al. 2020). As such, more and more companies have take-back programs that encourage customers to responsibly recycle their used products (e.g., clothing, electronic devices, coffee capsules, cleaning products, cosmetics, and water filters) by returning them to the company via shipping or retail stores. Some companies provide product repair programs that extend product lifetime, thus postponing product replacement. While not yet as

prevalent, restaurants and coffee shops are increasingly trying to phase out single-use takeout containers and cups with reusable counterparts to reduce the waste from the ever-increasing consumption of single-use disposable containers (Greenbiz 2021). Each of these circular economy programs provides an opportunity for customers to partner with companies in sustainability.

How do customers respond to circular economy initiatives? This question is critical since the success of such programs, and subsequently the benefits to the environment ultimately depends on persistent customer participation. Prior research has offered insights for companies encouraging customer participation in their sustainability initiatives (Iyer and Kashyap 2007; Mashhadi et al. 2016; Van Nes and Cramer 2005; Wang and Hazen 2016; White and Simpson 2013; Winterich, Nenkov, and Gonzales 2019). However, initial participation is not enough; *persistent* participation is key to circular economy programs as the circular system cannot be sustained by one-time customer action (White, Habib, and Hardisty 2019). For instance, Starbucks' logo-emblazoned paper and plastic cups are, in some ways, ubiquitous symbols of a throwaway society. To reduce the usage of these cups, Starbucks is planning to launch the Borrow-A-Cup program whereby instead of a customer taking a single-use disposable cup, they borrow a reusable cup for a small deposit and return it to a store after use (CNN Business 2022). While Starbucks' movement is meaningful, *persistent* customer participation is still key to reducing the considerable environmental impact of disposable cups. That is, even if a customer tries a reusable cup, they can easily go back to single-use cups, mitigating the potential impact of the company's initiative. As such, launching a circular economy program and incentivizing initial customer participation is insufficient to bring about a persistent circular system.

In this regard, I propose a simple yet effective action that companies can take to positively impact their sustainability image and encourage continued participation from customers in their circular economy programs: acknowledgment. I argue that when a company acknowledges customers' participation in its circular economy program, customers feel social worth, leading them to (1) perceive the company as more sustainable, and (2) have greater intentions to participate in the circular economy program again in the future. Although one may assume that companies would already be acknowledging participation given it is seemingly simple to do with potential benefits, acknowledgment is not as prevalent as one might expect. In an exploratory test, I recruited 182 participants on CloudResearch who indicated they had participated in a circular economy program with companies such as Amazon, Apple, Best Buy, H&M, Nike, Staples, and Walmart, to name a few. Over half (94/182, or 52%) of these participants stated that the company did not acknowledge their efforts in any way. However, the 48% who indicated that they were acknowledged had greater sustainability perceptions of the company ($M_{\text{acknowledgment}} = 5.71$ vs. $M_{\text{no acknowledgment}} = 4.54$; $F(1, 180) = 37.32, p < .001$), and were more willing to continue recycling with the company ($M_{\text{acknowledgment}} = 5.97$ vs. $M_{\text{no acknowledgment}} = 5.53$; $F(1, 180) = 4.38, p = .04$), compared to those who indicated they received no acknowledgment. While these results are correlational, they are an initial indicator that many companies could potentially benefit from incorporating acknowledgment into their circular economy programs.

The results of this research have important substantive implications. The findings of this research indicate that a company should employ acknowledgment in its circular economy program to both strengthen the perception of itself as a sustainable company and

to encourage customers' future participation. The acknowledgment does not need to be effortful as automated acknowledgments are found to be effective. The critical piece is that the acknowledgment leads customers to feel valued as a partner with the company. This social worth experienced by customers following acknowledgment not only increases company sustainability perceptions but subsequently increases positive word of mouth (WOM) about the circular economy program and engagement in other company sustainability initiatives. Importantly, if a company does not have an acknowledgment program in place for their circular economy program, they can elicit social worth among customers by acknowledging their value to the company more generally. Lastly, the results of this suggest that incorporating acknowledgment of customer participation can benefit companies financially by increasing materials and product recovery, creating more sales opportunities, and stimulating customer interest in sustainable product options.

This research also makes theoretical contributions. First, as noted earlier, marketers and researchers have primarily paid attention to initiating consumers' sustainable behavior (Iyer and Kashyap 2007; Van Nes and Cramer 2005; Wang and Hazen 2016). However, such behavior should not be thought of as a one-time action but rather should be repeated persistently to form a habit and lifestyle (White et al. 2019). I propose acknowledgment is an action companies can take after an initial sustainable behavior by a customer to make their behavior more persistent. Second, this research adds to the acknowledgment literature. While prior work on acknowledgment has focused on its effect on a benefactor's perception of herself (Bennett 2006; McCullough et al. 2001; Merchant, Ford, and Sargeant 2010; Winterich, Mittal, and Aquino 2013), this research examine how acknowledgment impacts a benefactor's view of the beneficiary. Third, this research advances research on

company sustainability image. While prior work has examined various aspects of company sustainability efforts that contribute to how consumers perceive companies' sustainability (for a review, see Sen, Du, and Bhattacharya 2016), this research highlights a relational route companies can take to strengthen their sustainable image in customers' minds. In doing so, this research adds to the literature on social worth (Rosenberg 1985; Rosenberg and McCullough 1981), which has not previously examined the impact on evaluations of relationship partners, particularly for customer-company relationships. I demonstrate that acknowledgment from the company induces customers' feelings of social worth, which has a positive impact on customers' perceptions of the interaction partner, or the company in this case.

1.2 Theoretical Development

Defined as the beneficiary's action of expressing or displaying gratitude or appreciation for a benefit provided by a benefactor (Grant and Gino 2010), acknowledgment is shown to have positive effects on various relationships. Research on interpersonal relationships has found that partners who acknowledge are perceived to be more responsive (i.e., understanding, validating, and caring), resulting in more satisfying relationships (Algoe 2012; Algoe, Fredrickson, and Gable 2013). Acknowledgment also promotes prosocial behavior by reinforcing the benevolence and moral identities of those who are acknowledged (McCullough et al. 2001; Winterich et al. 2013). When donations are acknowledged, donors feel less taken for granted (Chmielewski et al. 2012). As a result, donors are more likely to have positive and satisfying donation experiences, become more loyal to the charitable organization (McGrath 2011; Merchant et al. 2010), and make

frequent and generous future donations (Bennett 2006). In a similar vein, customers are more likely to make future purchases when they are thanked (Carey et al. 1976).

Acknowledgment recognizes the customer's engagement with the firm. When customers participate in a company's circular economy initiative, they are in essence engaging with the firm in a joint effort as partners in pursuit of sustainability. Thus, I theorize that the company's acknowledgment of customer participation in its initiative conveys important relational information to customers that critically influences their perceptions of the company and future interactions with the company (Algoe 2012). That is, acknowledgment increases how much customers feel they are valued and appreciated as partners by the company in their joint sustainability efforts, which I define as social worth (Rosenberg and McCullough 1981).

For customers to participate in a company's circular economy initiatives such as product take-back, repair, or reuse programs, they must expend voluntary effort. Customers choose to forego easier ways of disposing of or replacing used or broken products and make conscious efforts to collect and return products to companies to get them recycled, repaired, or reused. These efforts and time expenditures go unnoticed when the company does not acknowledge customer participation. In fact, without acknowledgment, no meaningful interaction occurs between the company and individual customers as their efforts end up unilaterally complying with the company's solicitation for broad consumer participation in its circular economy initiative.

In contrast, acknowledging customer participation provides a valuable opportunity for the company to connect with customers and, importantly, increase customer perceptions

of social worth. Perceptions of social worth arise through individuals' observations and interpretations of others' attending behaviors toward them during their social interactions (Rayle 2005; Marshall 2001). When individuals perceive they are noticed by others, important to others, and others rely and depend on them in their interactions, feelings of social worth develop (Rosenberg and McCullough 1981). A company's acknowledgment signifies that the company recognizes and appreciates the effort customers put forth to aid the company in its joint effort toward sustainability (Grant and Gino 2010; McCullough et al. 2001).

Social worth is important because people have a natural desire to feel connected to and valued by others (Leary and Baumeister 2000; Ryan and Deci 2000). Individuals who perceive themselves as valued in relationships feel a greater sense of belongingness and relatedness and feel good about themselves and their relationships (Demir and Davidson 2013; Flett 2022; Mak and Marshall 2004; Marshall 2001). However, research has been relatively limited in examining the impact of social worth on individuals' perceptions of their relationship partners. Thus, it is not immediately clear how increasing social worth via acknowledgment in a circular economy program will impact sustainability perceptions and future participation.

Prior research has found that validation in a relationship is critical in that simply being liked by another person can lead to the reciprocal liking of that person as it signals an opportunity for individuals to be included and valued by others (Eastwick and Finkel 2009). Additionally, past researchers have found that people tend to evaluate those closely connected to them more favorably (Tajfel 1970; Hewstone, Rubin, and Willis 2002). Since feeling valued as a partner by the company signifies that customers have meaningful

connections with the company (Demir and Davidson 2013; Marshall 2001), it stands to reason that social worth will positively influence customers' perceptions of the company. Indeed, work on joint sustainability efforts showed that customers who partnered with a company in sustainability not only viewed the company more favorably but also increased their perceptions of company sustainability (Cha, Yi, and Bagozzi 2016; Lee, Kim, and Kim 2021). In sum, I posit that customers' feelings of social worth, induced by the company's acknowledgment of their participation in a circular economy program, will have a positive influence on their sustainability perceptions of the company.

In addition to enhancing customers' perceptions of company sustainability, I propose that customers' social worth will positively influence their repeat participation in the company's circular economy initiative. Prior work on interpersonal relationships has shown that individuals who feel significant in the relationship are more motivated to be involved in the relationship and make investments in the relationship (Grant and Gino 2010; Mak and Marshall 2004). Along similar lines, organizational researchers found that workers who feel they matter in their workplace find their jobs to be more meaningful and rewarding, which in turn positively influences their motivation to contribute to the organization and their actual performance (Grant 2008; Grant et al. 2007; Rhoades and Eisenberger 2002). Furthermore, when customers collaborate with a company in co-creation, they are shown to become more committed to the company (Cossio-Silva et al. 2016). These findings suggest that increased feelings of social worth from acknowledgment will positively influence customers' subsequent participation in the company's circular economy initiatives. I predict the following:

H1: A company's acknowledgment of customer participation in its circular economy program will a) increase company sustainability perceptions and b) increase subsequent participation in the program.

H2: Feelings of social worth will mediate the effect of acknowledgment on a) company sustainability perceptions and b) subsequent participation in the program.

In sum, the conceptual model posits that when a company acknowledges customers' participation in its circular economy initiatives, customers perceive greater social worth, which in turn positively increases their sustainability perceptions of the company and their future participation intentions with the company (Figure 1). I also examine various downstream consequences, which I discuss in the corresponding studies.

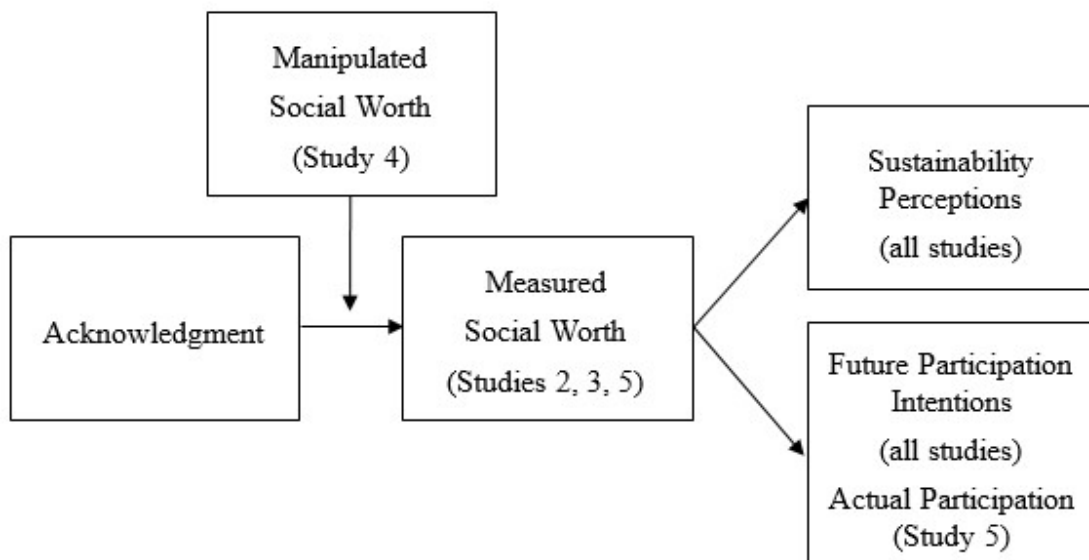


Figure 1 Conceptual Map

1.3 Overview of Studies

I demonstrate the effect of acknowledgment on customers' perceptions of company sustainability and future participation intentions in seven studies. Studies 1A and 1B provide an initial demonstration of the acknowledgment effect in the context of recycling take-back programs with both fictitious and real brands across two different product categories (clothing and coffee capsules). Study 1C demonstrates the acknowledgment effect on downstream WOM. Study 2 replicates the acknowledgment effect in a product repair program and provides evidence for social worth as the process underlying the effect. Study 3 replicates social worth as the underlying mechanism and demonstrates the effect of acknowledgment on a downstream sustainable customer behavior (i.e., choice of sustainable delivery). Study 4 provides convergent support for social worth as the underlying mechanism through a moderation-of-process design and examines another downstream effect: customers who are acknowledged indicate a greater willingness to participate in a company's new sustainability initiative. Finally, study 5 demonstrates the acknowledgment effect in a field experiment in a university dining hall. Across seven studies, I find converging evidence of the acknowledgment effect on company sustainability perceptions, future participation intentions, and actual continued customer participation in a circular economy program. See Table 1 for a summary of the results.

Table 1 Summary of Study Results: Cell Means by Condition

Study 1A (N = 260; 56.2% Women; M _{age} = 36.88 Years)		
Sustainability Perceptions	No Acknowledgment	Acknowledgment
No Advertisement	5.58 ^a (.92)	6.03 ^b (.79)
Advertisement	5.52 ^a (.99)	5.92 ^b (1.13)
Future Recycling Intentions	No Acknowledgment	Acknowledgment
No Advertisement	5.28 ^a (1.65)	6.20 ^b (.88)

Advertisement	5.10 ^a (1.78)	5.92 ^b (1.32)
Study 1B (N = 285; 52.8% Women; M _{age} = 40.33 Years)		
	No Acknowledgment	Acknowledgment
Sustainability Perceptions	5.41 ^a (1.40)	5.73 ^b (1.07)
Future Recycling Intentions	5.94 ^a (1.45)	6.41 ^b (.95)
Study 1C (N = 246; 49.2% Women; M _{age} = 42.54 Years)		
	No Acknowledgment	Acknowledgment
Sustainability Perceptions	5.28 ^a (1.38)	5.76 ^b (1.03)
Future Recycling Intentions	4.84 ^a (2.00)	5.79 ^b (1.55)
WOM	66.4% ^a	79.3% ^b
Number of People to Tell	2.44 ^a (2.73)	2.95 ^b (2.40)
Study 2 (N = 371; 62.3% Women; M _{age} = 41.62 Years)		
Sustainability Perceptions	No Acknowledgment	Acknowledgment
Before Product Repair	5.55 ^a (1.21)	5.88 ^b (.92)
After Product Repair	5.65 ^{ab} (1.01)	5.87 ^b (1.07)
Future Repair Intentions	No Acknowledgment	Acknowledgment
Before Product Repair	5.62 ^a (1.34)	6.07 ^b (.98)
After Product Repair	5.80 ^a (1.13)	6.22 ^b (.98)
Social Worth	No Acknowledgment	Acknowledgment
Before Product Repair	4.51 ^a (1.62)	5.45 ^b (1.16)
After Product Repair	4.66 ^a (1.58)	5.37 ^b (1.39)
Study 3 (N = 198; 53.0% Women; M _{age} = 37.94 Years)		
	No Acknowledgment	Acknowledgment
Sustainability Perceptions	5.13 ^a (1.36)	5.72 ^b (1.00)
Future Recycling Intentions	4.84 ^a (1.70)	5.78 ^b (1.35)
Sustainable Delivery	73% ^a	84.7% ^b
Social Worth	3.69 ^a (1.66)	5.14 ^b (1.36)
Study 4 (N = 397; 59.2% Women; M _{age} = 41.20 Years)		
Sustainability Perceptions	No Acknowledgment	Acknowledgment
No Social Worth	5.28 ^a (1.21)	5.77 ^b (1.01)
Social Worth	5.38 ^{ab} (1.16)	5.61 ^b (1.33)
Future Recycling Intentions	No Acknowledgment	Acknowledgment
No Social Worth	4.78 ^a (1.85)	5.76 ^b (1.44)
Social Worth	5.32 ^b (1.48)	5.59 ^b (1.61)
Jean Repair Intentions	No Acknowledgment	Acknowledgment
No Social Worth	5.04 ^a (1.75)	5.63 ^b (1.46)
Social Worth	5.64 ^b (1.54)	5.36 ^b (1.69)
Study 5 (N = 86; 46.5% Women)		
	No Acknowledgment	Acknowledgment
Sustainability Perceptions	5.18 ^a (1.45)	5.76 ^b (1.15)
Future Reuse Intentions	5.82 (1.44)	6.12 (1.31)
Actual Future Reuse	22.2% ^{a*}	42.1% ^{b*}
Social Worth	5.28 ^{a*} (1.28)	5.79 ^{b*} (1.21)

Note. Standard deviations are reported in parentheses. Different superscripts indicate significance at $p < .05$. *indicates significance at $p < .10$.

1.4 Study 1A

Study 1A examines the focal prediction in a company take-back program context. I predicted that when a company acknowledges customers' participation in the take-back program, customers will both perceive the company to be more sustainable and have greater intentions to participate in the company's circular economy initiative again in the future. To test this prediction, I manipulate whether participants receive an email acknowledging their participation. Importantly, any company communication, not just an acknowledgment, could drive the observed effects so I cross the company acknowledgment email with an advertisement email. I only predict the main effect of acknowledgment, such that participants in the two conditions with acknowledgment will have greater sustainability perceptions of the company and future recycling intentions with the company than those in the no acknowledgment conditions, regardless of whether they receive a company advertisement email.

Participants and Procedure

The final sample comprised 260 participants recruited from CloudResearch in exchange for a small payment. See Appendix A for details on sample characteristics and exclusions for this and all subsequent studies.

Participants were randomly assigned to one condition in a 2 (acknowledgment: yes vs. no) x 2 (advertisement: yes vs. no) between-subjects design. In all conditions, participants imagined that they frequently bought clothes from a fictitious clothing brand, Frais. Participants viewed an image of an email from Frais that encouraged recycling of their unwanted clothing using Frais' prepaid mailing labels before imagining that they

decided to participate in Frais' recycling program. Then participants pictured collecting their unwanted clothes and dropping them off at the UPS store. Participants read that they noticed their returned clothes were delivered thanks to the UPS tracking system. This additional information was intended to ensure that all participants were aware that the company received their returned products. Participants in the acknowledgment condition read that they got an email from Frais acknowledging the receipt of the clothes and thanking them for participating in the recycling program. Participants in the advertisement condition read that a few weeks later, they got an email from Frais advertising the company's new arrivals. Participants in the acknowledgment + advertisement condition read that they got an email from Frais thanking them for participating in their recycling program with information about the company's new arrivals. In the no acknowledgment condition, no further information was provided to participants. Thus, participants either (1) read that they received an email acknowledging their recycling, (2) read that they received an email advertisement from the company, (3) read that they received an email acknowledging their recycling with an advertisement from the company, or (4) were not provided with any further information. Complete stimuli can be found in Appendix B.

Next, participants rated their agreement with five statements intended to measure sustainability perceptions of the company (e.g., "Frais is concerned about the environment," and "Frais is concerned about sustainability;" $\alpha = .92$; see Appendix C for all items for this and all subsequent measures). Participants also indicated their future recycling intentions with the company by answering: "How likely would you be to recycle with Frais again if you had more unwanted clothes?" and "How willing are you to continue

recycling with Fraix in the future?" ($r = .94$).¹ They also completed a manipulation check for acknowledgment. For brevity, all manipulation check results are included in Appendix E. All measures were rated on seven-point Likert scales.

Results

Sustainability perceptions. In support of H1a, a two-way ANOVA revealed a significant main effect of acknowledgment on sustainability perceptions ($F(1, 256) = 12.57, p < .001$). Participants in the acknowledgment condition perceived Fraix as more sustainable compared to those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 5.98$ vs. $M_{\text{no acknowledgment}} = 5.55$). As expected, the main effect of advertisement was not significant ($F(1, 256) = .58, p = .45$), nor was the interaction of acknowledgment with advertisement ($F(1, 256) = .05, p = .83$). Importantly, the effect of advertisement in the no acknowledgment condition was not significant ($M_{\text{no acknowledgment}} = 5.58$ vs. $M_{\text{advertisement}} = 5.52; F(1, 256) = .15, p = .70$), suggesting that it is specifically acknowledgment and not any form of company communication that increases sustainability perceptions.

Future recycling intentions. In support of H1b, a two-way ANOVA revealed a significant main effect of acknowledgment on future recycling intentions ($F(1, 256) = 23.34, p < .001$). Participants in the acknowledgment condition had greater intentions to continue recycling with the company compared to those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 6.06$ vs. $M_{\text{no acknowledgment}} = 5.19$). There was no significant main

¹ I also measured brand attitude and purchase likelihood in this study and all subsequent studies except for study 5. Brand attitude results followed similar patterns as sustainability perceptions and future participation intentions, whereas purchase likelihood did not. I include brand attitude and purchase intention results for this and the remaining studies in Appendix D.

effect of advertisement ($F(1, 256) = 1.65, p = .20$), nor a significant interaction of acknowledgment with advertisement ($F(1, 256) = .07, p = .79$). Again, the effect of advertisement in the no acknowledgment condition was not significant ($M_{\text{no acknowledgment}} = 5.28$ vs. $M_{\text{advertisement}} = 5.10; F(1, 256) = .51, p = .48$).

Discussion

Study 1A demonstrates that when customers are acknowledged for their participation in a company's take-back program, they perceive the company to be more sustainable and have greater future recycling intentions with the company. Furthermore, the acknowledgment effect holds when comparing both to receiving no company communication at all and receiving non-acknowledgment communication. These results show that the positive impact on sustainability perceptions and future recycling intentions occurs only when the company offers acknowledgment, and not when any kind of communication (such as an email advertisement) follows the recycling efforts of consumers. I use an advertising email in the no acknowledgment (control) condition in the subsequent experiments to keep company communications constant across conditions.

One could argue that companies who acknowledge customers' participation in circular economy programs may often do so using a more automated tracking messaging system, and therefore the acknowledgment emails in study 1A lack external validity. In a study reported in the Appendix (study W1, Appendix F), I included an automated acknowledgment condition and found that it had the same effect; participants who saw the automated acknowledgment email reported higher sustainability perceptions of the company and a greater likelihood of participating in the circular economy program again

in the future compared to those who were not acknowledged. There was no difference between the non-automated acknowledgment and the automated acknowledgment conditions.

1.5 Study 1B

The purpose of study 1B is to replicate the acknowledgment effect found in study 1A for a real brand (Nespresso) in a different product category (coffee capsules). I expect the acknowledgment effect to hold even when controlling for participants' prior brand experience.

Participants and Procedure

The final sample comprised 285 participants recruited from CloudResearch in exchange for a small monetary payment. Participants were randomly assigned to one of two conditions (acknowledgment: yes vs. no) in a between-subjects design.

All participants imagined they had a capsule coffee machine from Nespresso, from which they frequently ordered coffee capsules. Participants viewed an image of an email from Nespresso that encouraged the recycling of their used coffee capsules using Nespresso's prepaid mailing labels. Then participants imagined that they collected their used coffee capsules, dropped them off at the UPS store, and noticed that their returned coffee capsules were delivered thanks to the UPS tracking system. In the no acknowledgment condition, participants read that a few weeks later, they got an email from Nespresso advertising the company's new arrivals. In the acknowledgment condition, participants read that a few weeks later, they got an email from Nespresso acknowledging

the receipt of the returned coffee capsules, thanking them for recycling, with an advertisement about the company's new arrivals (see Appendix B).

After reading the scenario, participants completed the same measures of sustainability perceptions ($\alpha = .95$) and future recycling intentions ($r = .93$) from study 1A, as well as a manipulation check for acknowledgment (see Appendix E). Because Nespresso has an active capsule coffee recycling program, participants' prior experience with Nespresso could influence the extent to which they perceive Nespresso as sustainable and are willing to continue recycling with Nespresso, so I also asked participants whether they currently used Nespresso, had heard of Nespresso's recycling program, or had ever participated in Nespresso's recycling program (Yes or No) as control variables.² Importantly, I note that Nespresso does not currently acknowledge its customers' participation in its capsule recycling program.

Results

Sustainability perceptions and future recycling intentions. I conducted a one-way ANOVA both on sustainability perceptions and future recycling intentions with acknowledgment as the independent variable. Participants in the acknowledgment condition perceived Nespresso as more sustainable than those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 5.73$ vs. $M_{\text{no acknowledgment}} = 5.41$; $F(1, 283) = 4.74$, $p = .03$). Participants in the acknowledgment condition were also more likely to continue recycling with Nespresso than those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 6.41$ vs.

² 17.5% (50/285) of participants indicated they currently use the Nespresso machine and its coffee capsules, 12.3% (35/285) indicated they had heard of Nespresso's recycling program before, and 7% (20/285) indicated they had participated in Nespresso's recycling program.

$M_{\text{no acknowledgment}} = 5.94$; $F(1, 283) = 10.48$, $p = .001$). These findings support H1a and H1b. Furthermore, these results hold ($ps < .05$) when including covariates (brand usage, brand recycling program familiarity, and participation) and none of the covariates were significant ($ps > .27$).

Discussion

Study 1B replicates the acknowledgment effect found in study 1A for a real brand in a different product category. The effect holds even when controlling for participants' prior experience with the company and its recycling program.

Across two studies I have demonstrated the acknowledgment effect: acknowledgment increases customers' sustainability perceptions of the company and their intentions to participate in the company's circular economy program again in the future. I next test the focal effect as well as the downstream effect of acknowledgment on customer word-of-mouth (WOM) about the company's recycling program.

1.6 Study 1C

This study examines a downstream behavioral consequence of the acknowledgment effect: customers' willingness to spread WOM about the company's circular economy program. While encouraging current customers to continually participate in the company's circular economy program is vital for the program's success, making more consumers aware of the program is also crucial. One of the effective ways to attract new customers is through WOM from the existing customers (Van den Bulte and Wuyts 2009). Accordingly,

I examine customer WOM as a downstream consumer behavior resulting from acknowledgment.

So far, I have established that acknowledging customers' participation in a company's circular economy initiative enhances their sustainability perceptions of the company. Prior research has demonstrated that when consumers perceive a company to be socially responsible, they are more likely to say positive things about the company, recommend the company and its offerings, and encourage others to do business with the company (Lombart and Louis 2014; Park, Kim, and Kwon 2017; Stanaland, Lwin, and Murphy 2011). Therefore, I propose that when a company acknowledges customers for their recycling, customers will be more likely to tell others about the company's recycling program.

Participants and Procedure

The final sample comprised 246 participants recruited from CloudResearch in exchange for a small payment. Participants were randomly assigned to one of two conditions (acknowledgment: yes vs. no) in a between-subjects design.

Similar to study 1A, all participants imagined that they recycled used clothing with Fraix and noticed that their returned clothes were delivered thanks to the UPS tracking system. In the no acknowledgment condition, participants read that a few weeks later, they got an email from Fraix advertising the company's new arrivals. In the acknowledgment condition, participants read that they got an email from Fraix thanking them for participating in their recycling program with information about the company's new arrivals (Appendix B).

Participants then indicated whether they would tell their friends or family about Fraiss' recycling program (Yes or No). All participants were asked to list the first names or initials of the people they would talk to about Fraiss' recycling program (up to ten people). They were explicitly told that they did not have to list anyone if they would not want to tell anyone. Then they indicated their perceptions of company sustainability and future recycling intentions using the same measures from the previous studies ($\alpha_{\text{sustainability perception}} = .96$; $r_{\text{future recycling intentions}} = .96$). They also completed a manipulation check for acknowledgment (see Appendix E).

Results

Sustainability perceptions and future recycling intentions. Consistent with prior studies, participants in the acknowledgment condition perceived Fraiss as more sustainable ($M_{\text{acknowledgment}} = 5.76$ vs. $M_{\text{no acknowledgment}} = 5.28$; $F(1, 244) = 9.41, p = .002$) and were more willing to continue recycling with Fraiss ($M_{\text{acknowledgment}} = 5.79$ vs. $M_{\text{no acknowledgment}} = 4.84$; $F(1, 244) = 17.45, p < .001$) compared to those in the no acknowledgment condition, again providing support for H1a and H1b.

WOM. As expected, a binary logistic regression revealed that participants in the acknowledgment condition were more likely to say they would tell their friends or family about Fraiss' recycling program (79.3%) than those in the no acknowledgment condition (66.4%; $b = .66$, Wald $\chi^2(1) = 5.12, p = .02$). I also counted the number of the people participants listed as people they would tell about Fraiss' recycling program. A relatively large proportion of participants (27.6%) did not list anyone, and since this dependent variable was censored between 0 and 10 people, I analyzed the data using a Tobit regression

model with zero as a lower limit and ten as an upper limit. Results revealed that participants in the acknowledgment condition listed more people than those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 2.95$ vs. $M_{\text{no acknowledgment}} = 2.44$; $b = .92$, $t(244) = 1.95$, $p = .05$), indicating acknowledgment increases WOM.

Discussion

Study 1C demonstrates a behavioral outcome of the acknowledgment effect. Specifically, acknowledging customers' recycling not only increased the likelihood that they would tell others about the company's recycling program but also increased both the likelihood and amount of WOM about the program that customers were willing to spread.

Across three studies I have demonstrated the acknowledgment effect in one circular economy context—company recycling take-back programs. In the next study, I aim to generalize the acknowledgment effect in a different circular economy context—repair services. More importantly, I also test whether social worth underlies the acknowledgment effect.

1.7 Study 2

The purpose of study 2 was to replicate the findings from the previous studies while using a different circular economy context—a product repair program—and to provide evidence for the underlying role of social worth. Product repair services help consumers postpone product replacement and lengthen the product lifespan (Godfrey, Price, and Lusch 2022). Consequently, product repairs reduce virgin materials required to make new

products, reducing the environmental pressure on the earth (Ackermann, Mugge, and Schoormans 2018; Den Hollander, Bakker, and Hultink 2017).

Unlike take-back programs where companies could acknowledge customer participation only after receiving customers' returned products, repair programs allow companies to acknowledge participation at two different times: before repair when a company receives the returned product, and after repair when the product is being returned to the customer. I randomize acknowledgment to occur at either time but do not expect the timing to matter. I only expect a main effect of acknowledgment, such that acknowledged participants would have greater sustainability perceptions of the company and future repair intentions compared to those who were not acknowledged, regardless of the timing of the acknowledgment. I also measured feelings of social worth to test the proposed process through traditional mediation.

Participants and Procedure

The final sample comprised 371 participants recruited from CloudResearch in exchange for a small payment. Participants were randomly assigned to a condition in a 2 (acknowledgment: yes vs. no) x 2 (communication timing: before repair vs. after repair) between-subjects design.

In all conditions, participants imagined that they had a small laser printer from a fictitious electronic appliance brand, Zuber. Then they imagined that they realized their printer was not working properly and that they either needed to replace it with a new one or get it repaired. They read that as they did not want to throw it away and create e-waste, they decided to get it fixed and found Zuber's repair service on its website. Then

participants read that they printed out a prepaid mailing label from Zuber's website, packed their printer, and dropped it off at the UPS store. Participants were told that they noticed that their returned printer was delivered thanks to the UPS tracking system. Participants in the no acknowledgment/before repair condition read that a few days later, they got an email from Zuber advertising their holiday deals. Participants in the acknowledgment/before repair condition saw the same email, but with the added acknowledgment manipulation that Zuber received their printer and thanked them for using Zuber's repair service. In both conditions, participants read that they got their repaired printer back from Zuber a few weeks later.

In the no acknowledgment/after repair condition, participants read that they received their printer back from Zuber a few weeks later, and then received the advertisement for the holiday deals. In the acknowledgment/after repair condition, participants read that they received their printer back from Zuber a few weeks later, and then received an email thanking them for using Zuber's repair service (see Appendix B).

After reading the scenario, participants completed the measure of sustainability perceptions ($\alpha = .95$) and indicated their future repair intentions with the company by answering: "How likely would you be to repair products with Zuber again?" and "How willing are you to fix products with Zuber in the future?" ($r = .89$). Then participants rated their agreements with two statements about their feelings of social worth (Grant and Gino 2010; "I feel valued (as a partner) by Zuber," "I feel appreciated (as a partner) by Zuber;" $r = .94$). Participants also responded to alternative process measures: shared values (Maxham and Netemeyer 2003; 4 items; "Zuber has the same values as I do with regard to sustainability.;" $\alpha_{\text{shared values}} = .98$), shared commitments (Mathieu et al. 2015; 3 items;

“Zuber and I concentrate on getting sustainability tasks done.”; $\alpha_{\text{shared commitments}} = .96$), and self-brand connection (Escalas and Bettman 2005; 6 items; “Zuber reflects who I am.”; $\alpha_{\text{self-brand connection}} = .95$). Lastly, they completed a manipulation check for acknowledgment (see Appendix E). All the measures were rated on seven-point Likert scales.

Results

Sustainability perceptions. Again, in support of H1a, a two-way ANOVA revealed a significant main effect of acknowledgment on sustainability perceptions ($F(1, 367) = 6.17, p = .01$). Participants in the acknowledgment condition perceived the company as more sustainable compared to those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 5.88$ vs. $M_{\text{no acknowledgment}} = 5.60$). As expected, the main effect of communication timing was not significant ($F(1, 367) = .18, p = .68$), nor was the interaction of acknowledgment with communication timing ($F(1, 367) = .20, p = .66$).

Future repair intentions. In support of H1b, a two-way ANOVA revealed a significant main effect of acknowledgment on future repair intentions with the company ($F(1, 367) = 13.88, p < .001$). Participants in the acknowledgment condition had greater intentions to continue repairing products with the company compared to those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 6.15$ vs. $M_{\text{no acknowledgment}} = 5.71$). There was no significant main effect of communication timing ($F(1, 367) = 2.03, p = .16$), nor a significant interaction of acknowledgment with communication timing ($F(1, 367) = .02, p = .89$).

Social worth. A two-way ANOVA revealed a significant main effect of acknowledgment on social worth ($F(1, 367) = 30.30, p < .001$). Participants in the acknowledgment condition felt greater social worth compared to those in the no acknowledgment condition ($M_{\text{acknowledgment}} = 5.41$ vs. $M_{\text{no acknowledgment}} = 4.58$). There was no significant effect of communication timing ($F(1, 367) = .07, p = .79$), nor a significant interaction of acknowledgment with communication timing ($F(1, 367) = .61, p = .44$).

Mediation analysis. To test the mediating path from acknowledgment to social worth to sustainability perceptions and future repair intentions, I ran two mediation models (Process model 4: Hayes 2013). Since communication timing did not significantly affect the dependent variables or mediator, it is only included as a control variable in the mediation analyses. Bootstrap mediation tests revealed positive and significant indirect effects of acknowledgment on sustainability perceptions of the company ($b = .36, SE = .07, 95\% CI = [.2255, .5210]$) and future repair intentions with the company ($b = .38, SE = .08, 95\% CI = [.2320, .5523]$), verifying the proposed mediating pathway and supporting H2.

Though this provides support for social worth, I conducted additional mediation analysis with the alternative mechanisms of shared values, shared commitments, and self-brand connection in a parallel mediation model with social worth. With sustainability perceptions as the dependent variable, social worth was significant ($b = .24, SE = .06, 95\% CI = [.1336, .3707]$). Shared values was also significant ($b = .09, SE = .05, 95\% CI = [.0077, .2098]$) but was weaker than social worth (.09 vs. .24). Neither shared commitments nor self-brand connection was significant ($95\% CI_{\text{shared commitments}} = [-.0500, .0846]$; $95\% CI_{\text{self-brand connection}} = [-.1047, .0059]$). The same pattern emerged with future recycling intentions

as the dependent variable. Social worth was significant ($b = .28$, $SE = .07$, $95\% \text{ CI} = [.1552, 4146]$). Shared values was also significant ($b = .11$, $SE = .06$, $95\% \text{ CI} = [.0096, 2425]$) but was weaker than social worth (.11 vs. .28). Neither shared commitments nor self-brand connection were significant ($95\% \text{ CI}_{\text{shared commitments}} = [-.0936, 0366]$; $95\% \text{ CI}_{\text{self-brand connection}} = [-.0409, 0275]$). Thus, social worth mediates the effect even accounting for alternative mechanisms, though shared values also plays a role, albeit a lesser role than social worth.

Discussion

The results of study 2 demonstrate the acknowledgment effect is generalizable to other circular economy contexts (e.g., product repair service). Also, as expected, the effect of acknowledgment held regardless of the communication timing in the product repair service context. Importantly, study 2 also provides initial evidence that the acknowledgment effect is driven by increased feelings of social worth, supporting the proposed theoretical model.

To this point, I have demonstrated the effect of acknowledgment on customers' sustainability perceptions of the company, their intentions to continue participating in its circular economy initiatives, as well as its downstream behavioral effect on customer WOM. From the perspective of advancing the circular economy, while increasing repeat customer participation in and WOM about the company's focal circular economy program is important, there are several other ways in which customers can meaningfully contribute to advancing sustainability with the company. For example, customers can use clothing repair services to lengthen the lifespan of their clothes while also recycling their used clothes with a clothing company, purchasing products made of recycled materials,

choosing more sustainable delivery options, and more. Prior researchers have shown that consumers are more likely to take action with companies perceived as socially responsible (Bhattacharya, Korschun, and Sen 2009; Lichtenstein, Drumwright, and Braig 2004). Consumers are more willing to purchase products (Mohr and Webb 2005; Sen and Bhattacharya 2001), pay a price premium for the products from socially responsible companies (Bhattacharya and Sen 2004), and support issues or causes that these companies are involved with (Lichtenstein et al. 2004). These findings suggest that an enhanced sustainability image induced by acknowledging customers' participation should increase customers' interest and engagement in the company's additional circular economy initiatives that require customer participation. In the next study, I replicate the acknowledgment effect and extend the effect to customers' additional sustainable behaviors with a company.

1.8 Study 3

The objective of study 3 was to test the effect of acknowledgment on a downstream sustainable customer behavior (i.e., choice of sustainable delivery). Today, consumers are accustomed to and expect fast shipping on their online orders. While fast delivery is convenient and has become readily available to consumers, hidden environmental costs are substantial. With longer shipping times, online retailers can consolidate deliveries and fully load their delivery trucks, which replaces multiple individual trips to and from stores with a single delivery trip, reducing greenhouse gas emissions substantially (Edwards and McKinnon 2009; Wygonik and Goodchild 2012). However, if consumers choose a fast delivery option such as same-day or two-day delivery, online retailers do not have enough time to wait for all products and consolidate them into fewer delivery trips. Instead, they

must send out trucks filled with less than their capacity, generating more traffic and emissions. Thus, consumers can lessen the environmental impact of their online shopping by choosing a slower delivery option (Heffernan 2021; Earth.Org 2021). I examine customers' choice of a sustainable delivery option as a downstream consequence of acknowledgment. I expect that when a company acknowledges customers' participation in the company's circular economy program, customers feel greater social worth, which in turn positively enhances their perceptions of company sustainability, ultimately increasing their sustainable choices with the company (i.e., sustainable delivery choice).

Participants and Procedure

The final sample comprised 198 participants recruited from CloudResearch in exchange for a small payment. Participants were randomly assigned to one of two conditions (acknowledgment: yes vs. no) in a between-subjects design.

The experimental design was similar to study 1C. After asking participants to imagine participating in a clothing brand Frais' take-back program, participants in the no acknowledgment condition read that they got an email from Frais advertising the company's new arrivals. In the acknowledgment condition, participants read that they got an email from Frais thanking them for participating in their recycling program with information about the company's new arrivals (see Appendix B). Just like in study 2, participants then indicated their perceptions of company sustainability, future recycling intentions, feelings of social worth, and three alternative process measures ($\alpha_{\text{sustainability perception}} = .96$; $r_{\text{future recycling intentions}} = .95$; $r_{\text{social worth}} = .97$; $\alpha_{\text{shared values}} = .95$; $\alpha_{\text{shared commitments}} =$

.94; $\alpha_{\text{self-brand connection}} = .95$). They also completed a manipulation check for acknowledgment (see Appendix E).

Then participants were asked to imagine that they picked out four items to purchase from Frais' website. Upon filling out their shipping address and payment method, they were prompted to choose a delivery option. They were told that two of the items they chose were in stock and ready to be shipped while the remaining two items were currently being restocked, and it would take up to two more days to be shipped. At this point, participants were asked to choose between two delivery options, one in which they could get their items as they become available in three separate shipments, and one in which they would get their items all together in one shipment that would take an extra two days to be delivered. Participants were explicitly told by Frais that choosing the option with all the items in one shipment was a more sustainable delivery option as it helps to save the carbon emissions and the number of boxes and packing materials required for delivery (see Appendix B). All the measures were rated on seven-point Likert scales except for the sustainable delivery choice (a binary choice).

Results

Sustainability perceptions, future recycling intentions, and social worth. Consistent with prior studies, participants in the acknowledgment condition perceived Frais as more sustainable ($M_{\text{acknowledgment}} = 5.72$ vs. $M_{\text{no acknowledgment}} = 5.13$; $F(1, 196) = 12.26$, $p = .001$) and were more willing to continue recycling with Frais ($M_{\text{acknowledgment}} = 5.78$ vs. $M_{\text{no acknowledgment}} = 4.84$; $F(1, 196) = 18.77$, $p < .001$) compared to those in the no acknowledgment condition. These findings support H1a and H1b. Participants in the

acknowledgment condition also reported greater social worth ($M_{\text{acknowledgment}} = 5.14$ vs. $M_{\text{no acknowledgment}} = 3.69$; $F(1, 196) = 44.96$, $p < .001$) compared to those in the no acknowledgment condition.

Sustainable delivery option. As predicted, a binary logistic regression revealed that participants in the acknowledgment condition were more likely to choose the sustainable delivery option (84.7%) than those in the no acknowledgment condition (73%; $b = -.72$, Wald $\chi^2(1) = 3.96$, $p = .05$).

Mediation analysis. Bootstrap mediation tests with social worth revealed positive and significant indirect effects on sustainability perceptions and future recycling intentions, again verifying the mediating pathway I proposed in H2 (sustainability perception: $b = .73$, $SE = .13$, 95% $CI = [.4886, .9931]$; future recycling intentions: $b = .86$, $SE = .17$, 95% $CI = [.5608, 1.2240]$; Process model 4: Hayes 2013). I also ran a serial mediation model to test the mediating path for the acknowledgment effect on sustainable delivery choice (acknowledgment \rightarrow social worth \rightarrow sustainability perception \rightarrow sustainable delivery choice; Process model 6: Hayes 2013). The bootstrap mediation test revealed a positive and significant indirect effect, verifying the full mediating pathway ($b = .33$, $SE = .15$, 95% $CI = [.0774, .6831]$). I also conducted a test of the causal chain by reordering social worth and sustainability perception, but the reverse causal chain was not significant ($b = -.14$, $SE = .11$, 95% $CI = [-.4030, .0097]$).

As in study 2, I also conducted mediation analysis with the alternative mechanisms of shared values, shared commitments, and self-brand connection in a parallel mediation model with social worth. With sustainability perceptions as the dependent variable, social

worth was significant ($b = .42$, $SE=.13$, $95\% CI = [.1900, 6801]$). Shared values was also significant ($b = .12$, $SE=.08$, $95\% CI = [.0030, 3104]$) but was weaker than social worth (.12 vs. .42). Neither shared commitments nor self-brand connection was significant ($95\% CI_{\text{shared commitments}} = [-.0062, 3429]$; $95\% CI_{\text{self-brand connection}} = [-.1946, 0131]$). With future recycling intentions as the dependent variable, only social worth was significant ($b = .55$, $SE=.17$, $95\% CI = [.2453, 9076]$). None of the other variables were significant ($95\% CI_{\text{shared values}} = [-.0275, 3343]$; $95\% CI_{\text{shared commitments}} = [-.1220, 3170]$; $95\% CI_{\text{self-brand connection}} = [-.1580, 1920]$). Also, serial mediation models to test the acknowledgment effect on sustainable delivery choice with these alternative mediators did not reveal significant indirect effects ($95\% CI_{\text{shared values}} = [-.0944, 1618]$; $95\% CI_{\text{shared commitments}} = [-.0904, 2532]$; $95\% CI_{\text{self-brand connection}} = [-.0152, 3068]$).

Discussion

Study 3 provides additional evidence in support of the theoretical model by replicating the mediation results of study 2 in a different circular economy context (i.e., take-back program). It also shows that the acknowledgment effect on company sustainability perceptions leads to an important downstream consequence of customers' sustainable choices outside the focal take-back or circular economy program. Specifically, when customers are acknowledged for their participation in the company's circular economy program, they are more likely to opt for a sustainable delivery choice despite the inconvenience of waiting longer for the product delivery.

Studies 2 and 3 both tested the proposed process mechanism (social worth) through traditionally measured mediation, finding support for social worth while also ruling out

alternative mechanisms. In the next study, I test the proposed mechanism through a moderation-of-process design by manipulating feelings of social worth.

1.9 Study 4

The purpose of study 4 (preregistration: https://aspredicted.org/VLP_2QN) is to provide further evidence of the process for the acknowledgment effect through moderation (Spencer, Zanna, and Fong 2005). The theory of this research and previous findings suggest that acknowledgment of customer participation increases feelings of social worth, which in turn leads to increased perceptions of company sustainability and future participation intentions in the company's circular economy program. In this study, I manipulate the company's communication of appreciation to their customers for being valued customers. If the increased sustainability perceptions and future participation intentions with the company are driven by feelings of social worth, then feeling appreciated for being a valued customer in the no acknowledgment condition should lead them to perceive the company as more sustainable and make them more willing to continue participating in the company's circular economy programs in the future, similar to when they are acknowledged for their participation. I also examine another downstream consequence of acknowledgment: willingness to participate in a company's new circular economy initiative. I expect that acknowledging customers' participation or directly signaling social worth should lead customers to be more interested in taking part in the company's other circular economy initiatives.

Participants and Procedure

The final sample comprised 397 participants recruited from CloudResearch in exchange for a small payment. Participants were randomly assigned to one of four conditions in a 2 (acknowledgment: yes vs. no) x 2 (social worth: yes vs. no) between-subjects design.

The experimental procedure was similar to studies 1C and 3. After asking participants to imagine that they participated in Frais' recycling program, participants in the no acknowledgment condition read that a few weeks later, they got an email from Frais about their holiday deals. Participants in the acknowledgment condition saw the same email but also read that Frais received their unwanted clothing and thanked them for participating in their recycling program in the email. In the social worth condition, participants also read words of appreciation from the company for being their valued customer. In the no social worth condition, participants were not provided with these words of appreciation (see Appendix B). After reading the scenario, participants indicated their sustainability perceptions ($\alpha = .96$) and future recycling intentions with the company ($r = .95$). Participants also completed manipulation checks for both social worth and acknowledgment (see Appendix E).

Lastly, participants were asked to imagine that while browsing Frais' website, they found out that Frais offers free repairs for all jeans purchased from Frais and that they realized they had a pair of Frais jeans that needed to be repaired. Participants indicated their likelihood of getting their jeans repaired with Frais (How likely are you to take your jeans to Frais Repair Shop or Frais' Repair Partner for a repair?). All the measures were rated on seven-point Likert scales.

Results

Sustainability perceptions and future recycling intentions. A two-way ANOVA revealed a main effect of acknowledgment ($M_{\text{acknowledgment}} = 5.69$ vs. $M_{\text{no acknowledgment}} = 5.33$; $F(1, 393) = 9.24, p = .003$) on sustainability perceptions. There was no main effect of social worth ($F(1, 393) = .10, p = .75$) nor interaction of acknowledgment with social worth ($F(1, 393) = 1.21, p = .27$). Though the interaction was not significant, I find the expected pattern. In support of H1a, in the no social worth condition, the effect of acknowledgment was significant ($M_{\text{acknowledgment}} = 5.77$ vs. $M_{\text{no acknowledgment}} = 5.28$; $F(1, 393) = 8.63, p = .004$), consistent with prior studies. In the social worth condition, the effect of acknowledgment was not significant ($M_{\text{acknowledgment}} = 5.61$ vs. $M_{\text{no acknowledgment}} = 5.38$; $F(1, 393) = 1.87, p = .17$). Unexpectedly, social worth (i.e., general words of appreciation) did not significantly increase sustainability perceptions in the no acknowledgment condition ($M_{\text{social worth}} = 5.38$ vs. $M_{\text{no social worth}} = 5.28$; $F(1, 393) = .30, p = .58$). In the acknowledgment condition, social worth also did not increase sustainability perceptions ($M_{\text{social worth}} = 5.61$ vs. $M_{\text{no social worth}} = 5.77$; $F(1, 393) = 1.01, p = .32$), which was expected since customers already experienced social worth from the acknowledgment.

In terms of future recycling intentions, however, the results aligned with my expectations. A two-way ANOVA revealed a main effect of acknowledgment ($M_{\text{acknowledgment}} = 5.67$ vs. $M_{\text{no acknowledgment}} = 5.05$; $F(1, 393) = 14.85, p < .001$), and an interaction of acknowledgment with social worth ($F(1, 393) = 4.88, p = .03$). There was no main effect of social worth ($F(1, 393) = 1.30, p = .25$). In the no social worth condition, the effect of acknowledgment was significant ($M_{\text{acknowledgment}} = 5.76$ vs. $M_{\text{no acknowledgment}} = 4.78$; $F(1, 393) = 18.51, p < .001$), supporting H1b. In the social worth condition, the effect

of acknowledgment was not significant ($M_{\text{acknowledgment}} = 5.59$ vs. $M_{\text{no acknowledgment}} = 5.32$; $F(1, 393) = 1.34, p = .25$). Importantly and consistent with my theorizing, social worth increased future recycling intentions in the no acknowledgment condition ($M_{\text{social worth}} = 5.32$ vs. $M_{\text{no social worth}} = 4.78$; $F(1, 393) = 5.57, p = .02$). In contrast, within the acknowledgment condition, the effect of social worth was not significant ($M_{\text{social worth}} = 5.59$ vs. $M_{\text{no social worth}} = 5.76$; $F(1, 393) = .57, p = .45$).

Jean repair intentions. A two-way ANOVA revealed only an interaction of acknowledgment with social worth ($F(1, 393) = 7.26, p = .01$). There was no main effect of acknowledgment ($F(1, 393) = .94, p = .33$), nor a main effect of social worth ($F(1, 393) = 1.05, p = .31$). In the no social worth condition, the effect of acknowledgment was significant ($M_{\text{acknowledgment}} = 5.63$ vs. $M_{\text{no acknowledgment}} = 5.04$; $F(1, 393) = 50.27, p < .001$). In the social worth condition, the effect of acknowledgment was not significant ($M_{\text{acknowledgment}} = 5.36$ vs. $M_{\text{no acknowledgment}} = 5.64$; $F(1, 393) = 1.48, p = .23$). As expected, social worth increased jean repair intentions in the no acknowledgment condition ($M_{\text{social worth}} = 5.64$ vs. $M_{\text{no social worth}} = 5.04$; $F(1, 393) = 6.87, p = .01$). In contrast, within the acknowledgment condition, the effect of social worth was not significant ($M_{\text{social worth}} = 5.36$ vs. $M_{\text{no social worth}} = 5.63$; $F(1, 393) = 1.40, p = .24$).

Discussion

Overall, study 4 provides additional evidence for the proposed mechanism of social worth via manipulation. Specifically, I found that when a company communicates its appreciation to customers (i.e., expresses they value the customer and find them to be a worthy partner), customers report a greater likelihood of participating in a company's focal

circular economy program again, as well as a greater interest in taking part in a company's other circular economy initiative. In sum, increasing customers' social worth through a general expression of appreciation has a similar effect as specifically acknowledging their participation in the company's circular economy program. While the interaction was not significant for sustainability perceptions, the overall findings in study 4 support my theorizing that the acknowledgment effect arises because of the increased feelings of social worth. However, a limitation of this and previous studies is that customer participation and behaviors were hypothetical. I address this limitation in study 5 by testing the effect in the field.

1.10 Study 5

Study 5 (preregistration: https://aspredicted.org/XRZ_LHR) examines the acknowledgment effect in a field setting: a university dining services' reusable takeout container program. The dining services at a large US public university offers guests getting takeout the option of a reusable container instead of a Styrofoam container. Returned containers are washed and reused up to 1,000 times, which could potentially replace a considerable usage of single-use Styrofoam containers. A research assistant intercepted students leaving the dining hall with a reusable container and either did or did not acknowledge their participation in the program. I predict that acknowledging individuals' participation in the reusable container program will lead them to perceive the university dining services as more sustainable, have greater intentions to continue using reusable containers in the future, and increase their actual reusable container usage. I also predicted feelings of social worth to mediate the acknowledgment effect.

Participants and Procedure

A total of 86 participants at a public university participated in this study in a one-way (acknowledgment: yes vs. no) between-subjects design. The study took place in one of the university's residential dining halls during the first week of the second summer session of 2022. Participants were primarily students (94.2%) who came to the dining hall for dinner. A research assistant was present in the dining hall and approached anyone leaving with a reusable takeout container. If the person agreed to complete the survey, the research assistant randomly assigned participants to one of two experimental conditions (acknowledgment or no acknowledgment). In the acknowledgment condition participants were told, "Thank you so much for choosing a reusable takeout container and participating in the [program name] program." The research assistant then gave participants an iPad to use to complete the Qualtrics survey, which began by thanking them again for their participation (see Appendix B). In the no acknowledgment condition, the research assistant replied, "Ok," and handed the iPad to the participant with the no acknowledgment survey on the screen. If the person preferred not to participate at the moment, the research assistant replied with, "Ok. Let me give you a QR code that takes you to the survey, in case you have a few minutes later to complete it." The research assistant would then randomly assign people to one of the acknowledgment conditions. To participants in the acknowledgment condition, the research assistant said, "Thank you so much for choosing a reusable takeout container and participating in the [program name] program" before handing them a sticker with a QR code for the acknowledgment survey. To participants in the no acknowledgment

condition, the research assistant said, “Ok” before handing them a sticker with a QR code for the no acknowledgment survey.³

In the survey, participants indicated their perceptions of the university dining services’ sustainability ($\alpha = .95$), intentions to continue using the reusable containers in the future (“How likely are you to continue using [program name] reusable containers?”), and feelings of social worth ($r = .92$). Lastly, participants indicated whether they were acknowledged for their participation in the reusable container program (“Were you acknowledged for your participation in the [program name] program (usage of the reusable container)?”; See Appendix E). All the measures were rated on seven-point Likert scales except for the acknowledgment manipulation check (a binary choice: yes or no). I also tracked participants’ continued participation in the reusable container program over the course of approximately one month. Participants had to swipe their ID each time they took or returned a reusable container. I received this individual usage history of reusable containers from the university dining services and matched participants’ IDs captured in the survey.

Results

Sustainability perceptions, future reuse intentions, and social worth. In support of H1a, participants in the acknowledgment condition perceived the university’s dining services as more sustainable ($M_{\text{acknowledgment}} = 5.76$ vs. $M_{\text{no acknowledgment}} = 5.18$; $F(1, 84) = 4.15, p = .05$). Although there is directional evidence, participants in the acknowledgment condition did not report significantly greater intentions to continue using the reusable

³ Most participants (83/86, or 96.5%) completed the survey on-site.

containers in the dining hall ($M_{\text{acknowledgment}} = 6.12$ vs. $M_{\text{no acknowledgment}} = 5.82$; $F(1, 84) = 1.16$ $p = .29$) compared to those in the no acknowledgment condition. Lastly, acknowledged participants felt marginally more social worth ($M_{\text{acknowledgment}} = 5.79$ vs. $M_{\text{no acknowledgment}} = 5.28$; $F(1, 84) = 3.49$, $p = .07$) compared to those in the no acknowledgment condition.⁴

Mediation analysis. Bootstrap mediation tests with social worth revealed positive and significant indirect effects on sustainability perceptions again verifying the mediating pathway I proposed in H2a (sustainability perception: $b = .33$, $SE = .19$, 95% CI = [.0074, .7281]; Process model 4: Hayes 2013). However, social worth did not significantly mediate the acknowledgment effect on future reuse intentions (95% CI = [-.0372, .2584]).

*Future actual reuse.*⁵ In support of H1b, a binary logistic regression revealed that participants in the acknowledgment condition were marginally more likely to use a reusable container again (42.1%) compared to those in the no acknowledgment condition (22.2%; $b = .93$, Wald $\chi^2(1) = 3.25$, $p = .07$).

Discussion

⁴ I note that the preregistration for this study stated that I would exclude all participants that failed the acknowledgment manipulation check. However, 79.5% of participants in the no acknowledgement condition reported being acknowledged. Due to this, I deviated from the preregistration and included all respondents with no exclusions in the analysis reported above. However, if I follow the preregistration and exclude participants based on the manipulation check, the pattern remains (N = 48; actual reuse: $p = .27$; sustainability perceptions: $p = .06$; future reuse intentions: $p = .25$; and social worth: $p = .07$; see Appendix G).

⁵ Due to missing information necessary for tracking for some participants ($n = 12$), I report actual reuse results based on the continued participation of the remaining 74 participants (Acknowledgment = 38; No acknowledgment = 36).

In this field study, I replicate the pattern of previous results based on real customer participation in a circular economy initiative. Due to the relatively small sample size in this study, I acknowledge that many of the results were directionally or marginally significant. Notwithstanding, I find that acknowledging individuals' participation in a university dining service makes them feel more valued as partners, leading them to view the dining services as more sustainable. Importantly, I find that acknowledgment of individuals' participation in the reusable containers program increases their actual continued usage of the containers. Thus, study 5 demonstrates the robustness of the acknowledgment effect in an actual field setting with real consumer behavior.

While the effect of acknowledgment on future actual reuse was marginally significant, it is worth noting that acknowledging individuals' participation in the reusable takeout container program doubled the number of individuals engaging in repeat use of reusable containers. To put it more concretely, if 10,000 individuals participate in the reusable takeout container program each semester and use only one container a week, acknowledging their participation will help reduce Styrofoam container usage by almost 30,000 containers each semester ($10,000 \times (42.1\% - 22.2\%) \times 15 \text{ weeks} = 29,850$ containers). Thus, the impact of acknowledgment on reducing the usage of disposable containers would be considerable.

1.11 General Discussion

Across seven studies, I show that when a company acknowledges customers' participation in its circular economy program, it increases customers' feelings of social worth. This, in turn, positively influences customers' sustainability perceptions of the

company and their intentions to continue participating in the company's circular economy program in the future. Importantly, I find real behavioral evidence that acknowledgment leads to an increase in actual continued participation from customers. I also demonstrate that acknowledgment increases customers' intention to spread WOM about the company's circular economy program and to engage in its other initiatives that further advance sustainability. Overall, these findings provide an actionable measure that companies can implement in their circular economy programs with customers.

Substantive Implications

The current research has implications for companies offering circular economy programs with customers. There is an increasing emphasis on companies shifting away from the traditional linear economy to a circular economy. However, most attention has been focused on the company's side of circularity, finding ways to innovate business models, processes, and products to close material loops (Camacho-Otero et al. 2020). Thus, circular economy programs that involve customer participation provide opportunities for companies to engage customers to play a more active role in advancing the circular economy while they responsibly reuse, repair, and recycle products customers have used or no longer want. Some companies currently run such programs voluntarily, but such practices will become even more common with the expanding adoption of Extended Producer Responsibility legislation, which places the responsibility for the treatment and disposal of consumer products on producers, manufacturers, and retailers.

Companies' circular economy programs that encourage customer participation rely on customers who must return the used product to the company to be reused, recycled, or

repaired (or otherwise re-entered into the production process). I suggest acknowledgment of customer participation as one effective practice to make customer participation more persistent, which is critical to the program's success. Each company may take different acknowledgment approaches (e.g., in-person gratitude expression, thank you card or note, acknowledgment email, rewards, etc.) to boost customers' feelings of social worth. Regardless of the acknowledgment types, for companies to implement acknowledgment of customer participation, they must plan for and incorporate acknowledgment into their circular economy programs, which requires an investment of resources. For instance, to offer in-person acknowledgment, companies will need to arrange additional employees responsible for overseeing customer participation on-site and conveying acknowledgment to customers each time they participate in the company's circular economy program. In the case of mail-in circular economy programs, companies will initially have to bear the fixed costs to set up the system that will allow tracking the returned products and acknowledging customers' participation via email. Although acknowledgment implementation costs may be feasible for some companies, they may not be feasible for all. The findings in study 4 suggest that if acknowledgment is not a viable option, companies can convey general appreciation to their customers to increase customers' perceptions of social worth. However, companies may need to proceed with caution if they take this route. This is because conveying the idea that the company values customers' business with them could come across as a promotion or persuasion strategy to customers, mitigating its positive impact.

The findings of this research also suggest that acknowledging customers' participation not only has a positive influence on shaping their perceptions of the company

and encouraging their future participation intentions, but also can encourage these customers to be ambassadors of the company's circular economy programs by spreading WOM. Moreover, acknowledgment of customer participation can further encourage customer sustainable choices and behaviors with the company, such as opting into a more sustainable delivery choice and participating in a company's new sustainable initiatives.

Finally, an implication of the current research findings is that acknowledging customer participation may bring financial benefits to companies in various ways. Acknowledgment can increase repeat customer participation in take-back programs, which allows companies to recover more materials from customers' returned products that can be either sold or reintroduced to manufacture more products or resell the returned products without having to manufacture them from raw materials. Also, in the case of reusable takeout container programs, acknowledging customers can help bring more customers back to stores to return their used reusable containers, which can be potential opportunities for making more sales. Furthermore, more and more companies are trying to incorporate more recycled materials into their products (e.g., clothing made of recycled materials). As acknowledging customer participation encourages further customer engagement with the company's other sustainability initiatives, customers may show more interest in purchasing these sustainable options.

Theoretical Contributions

The current research also makes several theoretical contributions. First, as opposed to prior research that examined how to *initiate* sustainable consumer behavior (Iyer and Kashyap 2007; Van Nes and Cramer 2005; Wang and Hazen 2016), I investigate a way to

make sustainable consumer behavior *sustainable*. In their comprehensive framework, White et al. (2019) point out the importance of making consumers' sustainable behavior persistent. Similarly, according to the survey of the world's leading brands, several companies are working on encouraging consumer behavior change towards more sustainable lifestyles, and several consumer behaviors related to circularity are cited as important foci of these brands (Sustainable Lifestyles Frontier Group 2013). In response to this call, this research provide a simple way for managers to make consumers' sustainable behavior more persistent by strengthening customers' commitment to the company's circular economy programs through acknowledgment.

Second, this research advance prior research on acknowledgment. Although acknowledgment is a dyadic social interaction between the beneficiary and benefactor, most previous work on acknowledgment has examined how it influences the way the targets of the acknowledgment (i.e., benefactor) feel and think of themselves (Bennett 2006; McCullough et al. 2001; Merchant et al. 2010; Winterich et al. 2013). The benefactor's perceptions of the person or organization that expresses acknowledgment (i.e., beneficiary) have been less examined. This work fills this gap by showing that a company's acknowledgment of customers' participation in the company's circular economy program positively influences their sustainability perceptions of the company.

Third, this research suggests a relational route companies can take to enhance their sustainability image. Extensive prior research has examined various factors that influence how consumers perceive companies in terms of sustainability and corporate social responsibility: the perceived fit between a sustainability initiative and the company, types of company sustainability efforts and engagements, the degree of company involvement,

the centrality of sustainability in company's values and activities, and more (for a review, see Sen et al. 2016). All these factors more or less depend on actual company sustainability efforts. However, this research finds that holding the actual company sustainability effort in its circular economy initiative constant, companies could further enhance their sustainability image by boosting customers' social worth.

Lastly, this research advances prior research on social worth. People's feelings of social worth reflect what they think their interaction partners think of them and treat them (Rosenberg 1985). Thus, interaction partners play a critical role in influencing individuals' social worth. However, previous work on social worth has not examined how individuals' sense of social worth affects how they view their interaction partners. This is surprising given that the partners are the ones who validate individuals' values in relationships. Since feelings of social worth have a profound impact on people's self-views and wellness (Demir and Davidson 2013; France and Finney 2009; Mak and Marshall 2004; Marshall 2001), one could reasonably predict that individuals will form positive attitudes toward the person who validates their values in their relationships. This work fills this gap by showing that individuals' feelings of social worth positively influence their perceptions of the interaction partner.

Future Research Directions

The present research has left some questions unanswered that I hope future research will address. In this research, I only examined simple acknowledgment without monetary compensation (e.g., discount off a future purchase), which some companies offer as an incentive for customers to participate in their circular economy programs. While monetary

compensation is one form of acknowledgment, there is reason to believe it might operate differently than mere acknowledgment. Past research has found that monetary incentives can shift consumers' attention to a cost-benefit analysis before engaging in sustainable behavior ("what's in it for me?") (Bolderdijk and Steg 2015; Gneezy, Meier, and Rey-Biel 2011). Relatedly, the effects of monetary incentives are shown to be short-lived such that the desired sustainable behavior, such as recycling, usually lasts only if the incentive lasts (Hornik et al. 1995; Iyer and Kashyap 2007). These suggest that the relational benefits accrued from the acknowledgment may not be reaped with monetary compensation as rather than valuing their relationships with the company, customers could become focused on what they get out of the recycling program when they are compensated. Given that monetary rewards are occasionally employed in circular economy programs, future research should investigate the effect of compensating for customers' participation.

Also, I examined the effect of acknowledging customer participation in a company's circular economy program on their sustainability perceptions of the company and future participation intentions for a single occasion. However, repeated acknowledgment may be less effective as people find less utility in the same feedback they get from the company each time they participate. Alternatively, each time customers receive acknowledgment from the company for their participation, customers may be reminded of the fact that they are valued as a partner and their contributions matter to the company. Thus, repeated acknowledgment may remain effective over an extended time. It would be interesting to investigate the long-term and repeated effect of acknowledgment in future research.

Another avenue for future research is the effect of acknowledgment on consumers' sustainable efforts with other companies or general sustainable behavior. In the current research, I focused on how acknowledging customers' participation in a company's circular economy increases customers' feelings of being valued by the company. Such feelings of social worth are equivalent to interpersonal mattering (i.e., mattering to specific other individuals), which impacts one's perceptions of and future interactions with another person or entity in a relationship. Indeed, I found that greater customers' feelings of social worth elicited by a company's acknowledgment led customers to view the company as more sustainable and have greater intentions to continue making sustainable efforts with the company. However, it could be the case that a company's acknowledgment also positively influences customers' societal mattering (i.e., feelings of making a difference in society, thus mattering in a broad sense to society; Rosenberg 1985). These feelings of societal mattering may positively reinforce customers' desired sustainable behavior more generally beyond sustainability efforts with the company; customers may be more likely to make sustainable efforts in their daily lives or engage in other companies' circular economy programs. Future research could further examine the potential spillover effects of acknowledgment.

CHAPTER 2. THE EFFECT OF BALANCED SUSTAINABILITY EFFORTS BETWEEN CONSUMER AND FIRM ON CONSUMER- COMPANY COHESIVENESS

2.1 Introduction

Corporate Social Responsibility (CSR) is a firm's commitment to improving community well-being through discretionary business practices and contributions of corporate resources (Kotler, Hessekiel, and Lee 2012). To fulfill their social responsibility, companies engage in various CSR initiatives, such as making a direct contribution to a charity or cause (Ellen, Mohr, and Webb 2000; Hildebrand et al. 2017; Sen, Bhattacharya, and Korschun 2006) or adopting more sustainable procedures and policies in their business operations (Ahn and Lee 2019; Wang, Krishna, and McFerran 2017). Companies may also encourage their employees to volunteer at community organizations and causes by providing time off (Bhattacharya, Sen, and Korschun 2008). In such cases, companies unilaterally contribute to environmental and societal sustainability without direct consumer involvement. However, companies do sometimes encourage consumers to play a part in collaborative, joint sustainability efforts. For example, hotels often ask consumers to reuse hotel towels, grocery stores may ask consumers to bring their own bags, and companies may invite consumers to make donations, sign petitions, work together in fundraising for charities, and so on. There are plenty of opportunities for consumers to personally contribute to societal and environmental efforts by taking part in a firm's CSR initiatives. As the burden of sustainable behavior in CSR initiatives is thus somewhat fluid between a

company and consumers, how might the balance between consumer and company efforts extended in CSR initiatives influence consumers' relationships with the company?

Consider these three cases, each intended to help provide clean water in developing countries: 1. A company makes donations of clean drinking water 2. A company donates one day of clean drinking water for every unit of product purchased by consumers, or 3. A company asks for a donation from consumers to help provide clean drinking water. All three CSR initiatives have the same goal of providing clean water to those in need. However, the level of consumer and company contributions varies in each initiative. While the company or the consumers predominantly contribute to the initiative in the first and the last case, respectively, in the second case, both put forth a relatively more balanced effort toward the initiative. I argue that, compared to instances where either a company or a consumer more unilaterally advances a CSR effort, companies and consumers engaging in more collaborative efforts will lead consumers to perceive the CSR initiative as both fair and belonging jointly to company and consumer. As such, I ultimately predict that CSR initiatives that balance company and consumer effort will lead consumers to feel greater cohesiveness with the company.

The current research has substantive implications. The findings highlight that when a company asks consumers to participate in their CSR initiative, they should also make comparable efforts to strengthen consumers' sense of cohesion with the company. This can lead to various positive outcomes, including increased purchase intentions with the company as demonstrated in a later study. Notably, the appeal of balanced CSR efforts may vary among consumers based on their actual participation in the company's CSR initiatives. Specifically, the positive impact of balanced CSR efforts is more pronounced

among consumers who willingly participate, while it may not resonate as strongly with those less inclined to engage. Furthermore, this research contributes to the CSR literature by adopting a fresh perspective, viewing CSR initiatives as collaborative endeavors between consumers and companies. This approach enables exploration of group-related constructs borrowed from organizational research, such as collective psychological ownership and cohesiveness, which have remained unexplored yet helpful in understanding consumer reactions to CSR. Moreover, unlike prior studies that focused solely on perceived benefits or costs of consumer engagement in a company's CSR initiatives (Andrews et al. 2014; Folse, Niedrich, and Grau 2010; Howie et al. 2018; Wang et al. 2017; Wang et al. 2018), this study examines both aspects concurrently, revealing their distinct and individual contributions to consumers' sense of cohesion with the company.

2.2 Theoretical Development

Joint CSR Efforts as a Group Work and Cohesion

The notion of consumer participation, engagement, or involvement in CSR initiatives is not necessarily new, as researchers have examined the role of consumer efforts in CSR initiatives (Ahn and Lee 2019; Howie et al. 2018; Jarvis et al. 2017), as well as the role of company efforts, separately (Brown and Dacin 1997; Chernev and Blair 2015; Joireman et al. 2015; Sen and Bhattacharya 2001). However, there is a dynamic relationship between company and consumer effort that favors considering both inputs jointly. When a company invites consumers to take part in its CSR initiative, the company and consumers become collaborators, performing work together for the shared goal of

contributing to the societal good. This is consistent with the definition of joint effort, a situation in which two or more agents act together with the purpose of achieving a shared goal (Tuomela and Miller 2020). As such, I conceptualize consumer engagement in a company's CSR initiative as joint work between consumers and the company.

Adopting a group-work perspective of the CSR initiative not only updates the prediction of consumer evaluations by jointly considering inputs but helps raise questions that are fundamentally distinct from prior conceptualizations. The recognition of company and consumer as joint actors or collaborators in CSR efforts begets the evaluation of the company as a teammate or work partner in a group entity (Cropanzano, Li, and Benson 2011). Thus, questions are no longer simply “do I (consumer) like the initiative or the company?”, or “is the company doing a good job in its CSR initiative?” Rather, company assessments can naturally become more akin to a peer or teammate evaluation, including feelings of group cohesion. In this research, I propose that joint CSR efforts affect these feelings of consumer-company cohesion on the part of participating consumers.

Cohesion, generally, is “the total field of forces which act on (group) members to remain in the group” (Festinger, Schachter, and Back 1950). More specifically, cohesion refers to “the degree of member integration or bonding in which members share a strong commitment to one another and/or to the purpose of the team” (Zaccaro, Rittman, and Marks 2001). Cohesion has been a key construct to understanding group processes, including group performance and productivity, group identity, attitudes toward the group, and retention in organizational research (Beal et al. 2003; Forsyth 2021; Mathieu et al. 2015). As joint CSR efforts take the form of group work between consumers and a

company, I borrow this concept from organizational research to investigate consumers' feelings of cohesion with the company.

According to prior research, feelings of cohesiveness emerge in a group from two main sources: task-based cohesiveness and interpersonal cohesiveness. Task-based cohesiveness represents the degree to which the task allows the group to attain important goals or the degree to which a shared commitment to the group's task exists. Interpersonal cohesiveness reflects the degree to which positive relationships exist among the group members (Beal et al. 2003; Zaccaro and Lowe 1988). I propose that when a company encourages consumers to engage in balanced CSR efforts, it fosters a sense of joint ownership of the initiative with the company. As a result, consumers feel a heightened responsibility towards the initiative, leading to a stronger sense of shared commitment with the company (referred to as task-based cohesiveness). Additionally, I argue that in CSR initiatives where consumers and the company demonstrate more balanced efforts, consumers perceive the initiative as fair. This perception positively impacts their views of the company as a collaborative partner, leading to increased attachment to the company (known as interpersonal cohesiveness).

Balanced Consumer and Company Effort and Collective Psychological Ownership

Extensive research on CSR has established that CSR initiatives generally enhance relationships with consumers. Consumers observe and learn about what a company does to contribute to society and thus form favorable attitudes and perceptions of the company (Bhattacharya, Korschun, and Sen 2009; Brown and Dacin 1997). However, such evaluations generally result from passive recognition of a company's CSR activities and

communications. Alternatively, if consumers participate in a company's CSR initiative, they are no longer passive observers of its CSR efforts. Participating consumers actively learn about and contribute to causes that the company supports, make monetary and non-monetary donations (Andrews et al. 2014; Folse, Niedrich, and Grau 2010), and/or make more long-term behavioral changes in response to the company's urging and behavioral change campaigns (Kotler et al. 2012). Upon doing so, consumers become part of the initiative, making efforts along with the company. The transition of consumers from observers to actors in a company's CSR initiative has important implications for how they perceive the cause, offering a degree of collective psychological ownership of the initiative.

“Collective psychological ownership” is the sense that an object is a shared possession of and belongs to the group, rather than a singular entity (Pierce and Jussila 2010). In the current research context, that object is a joint CSR initiative. In principle, a CSR initiative belongs to the company that initially planned and developed it. However, I propose that when consumers are encouraged to make shared efforts in a company's CSR initiative, they are more likely to feel collective ownership of the initiative along with the company.

Past research has found that people develop psychological ownership towards various possessions (Belk 1988; Dittmar 1992; Pierce, Kostova, and Dirks 2001). While these may include tangible objects, the target of psychological ownership can also be non-tangible entities, such as ideas, creations, labor, work, people, etc. (Isaacs 1933). In particular, focusing on the relationship between work and psychological ownership, Locke (1690) long ago noted that because individuals own their labor, they feel they own the outcome of that labor. In a similar vein, when people invest their energy, time, effort, and

attention into an object, it can become a part of their selves, leading them to develop feelings of identification with that object (Csikszentmihalyi and Halton 1981; Durkheim 1957). As such, a sense of psychological ownership is derived from investing one's self into the target of ownership.

When multiple individuals jointly contribute to the same objective, a related sense of *collective* psychological ownership (it is "ours") can emerge in the minds of those individuals. Such collective psychological connections develop as participants recognize the collaboration for a common cause (joint CSR initiative in this case). As individuals collectively invest in a joint effort, a sense of both group identity and group ownership of the work can arise implicitly (Durkheim 1957; Pierce and Jussila 2010). Thus, when a company encourages consumers to make joint, shared efforts in a CSR initiative, it is possible for consumers to feel a sense of ownership of the initiative along with the company ("our" initiative). Such a sense of collective ownership should most naturally emerge when the effort is more equitably balanced between consumers and the company, facilitating feelings of interdependence (Baron, Kerr, and Miller 1992).

H1: Balanced consumer and company effort in a company's CSR initiative will increase consumers' collective psychological ownership of the initiative.

Collective Psychological Ownership and Task-Based Cohesion

Collective psychological ownership of a CSR initiative could affect appraisals of the initiative itself, as well as task-based cohesion with the sponsoring company. Task-based cohesion is defined as the extent to which the task allows the group to achieve important goals or the extent to which a shared commitment to the group's task exists (Beal

et al. 2003; Zaccaro and Lowe 1988). Generally speaking, collective psychological ownership positively influences attitudes and behaviors of those who experience this shared ownership (Nuttin Jr. 1987). Not only do individuals feel positively towards the collectively owned objects (or the CSR initiatives in this case), but they also view their possessions as part of the extended self (Belk 1988; Dittmar 1992). Importantly, feelings of ownership trigger a sense of responsibility for the possessions individuals own. That is, individuals feel responsible for investing time and energy to maintain, protect, and enhance their possessions (Pierce et al. 2001). Collectively these suggest that the more consumers feel collective ownership of a CSR initiative, the more it should become an important goal for them to advance that initiative with the company (Avey et al. 2009; Van Dyne and Pierce 2004). As working together with the company towards an initiative advances this goal, consumers should feel an enhanced relationship with the company because of the shared task. Thus, I expect consumers' collective psychological ownership to increase their sense of shared commitment to the initiative with the company (i.e., task-based cohesiveness).

H2: Collective psychological ownership in CSR initiatives will positively influence task-based cohesiveness between consumer and company.

Balanced Consumer and Company Effort and Fairness Perceptions

Despite the positive effect joint CSR initiative may have on task-based cohesiveness, asking consumers to make efforts could have drawbacks. In consumer sustainability efforts, there is a nagging, persistent gap between consumer attitude and action (White, Habib, and Hardisty 2019). While consumers say they are interested in

sustainability, their attitudes do not necessarily translate into their sustainable actions. One of the main reasons underlying this attitude-action gap is that consumers resist engaging in sustainability efforts when doing so entails personal costs (i.e., monetary and/or non-monetary costs such as money, time, and effort; Ahn and Lee 2019; Habel et al. 2016; Howie et al. 2018). Wang et al. (2017) found that a firm's request to save resources (e.g., a hotel asking patrons to turn off the lights when leaving the room) created consumer reactance, which negatively influenced their energy conservation. Researchers even demonstrated that when asked to expend efforts in an environmental cause, consumers engaged in defensive denial and reduced their beliefs about the importance of the cause to avoid expending costly efforts for a good cause without having to feel bad about it (Howie et al. 2018; Tyler, Orwin, and Schurer 1982).

In contrast to the persistent gap between their attitudes and actual sustainable behavior, consumers' expectations for companies engaging in CSR are consistently increasing. These days, consumers expect sustainability almost as a starting point for companies (Forbes 2011). Given such consumer expectations, researchers demonstrated that at times consumers perceive the company's request for consumers' efforts as unfair (Habel et al. 2016; Wang et al. 2018). This is because consumers can view the company as passing along their shares of sustainability efforts to consumers (Habel et al. 2016), leading them to question the company's motives for engaging in CSR activities and their potential gains from requesting consumer efforts (Wang et al. 2018). Thus, when asking consumers to take part in a company's CSR initiative, it is crucial that the company dispels such consumers' potential doubts and to shows that they are a fair working partner in pursuit of the initiative.

Consumers' fairness perception in the context of company CSR initiative is the extent to which the company's CSR initiative is deemed just (Bolton, Warlop, and Alba 2003; Xia, Monroe, and Cox 2004). According to equity theory, people judge an outcome as fair when their own input/output ratio is comparable to that of some referents (Adams 1965). This suggests that when asked to expend efforts in a company's CSR initiative, consumers would compare their own outcomes and inputs to that of the company. However, the outcome is not always clear for both consumers and the company when it comes to CSR efforts, as these efforts are directed towards contributing to causes that may be harder to track or more dispersed in their effects. Fairness Heuristic Theory theorizes that when outcome information is not available or uncertain, people rely on other available information to evaluate the fairness of the situation (Van den Bos 2001). Following this logic, I propose that consumers rely on their perceptions of how much effort is required from consumers and how much effort the company makes in the initiative in the joint CSR context to assess fairness. With this input information, when consumers perceive that the company makes comparable contributions to the initiative, their fairness perceptions should increase.

H3: Balanced consumer and company effort in a company's CSR initiative will increase consumers' perceptions of fairness.

Fairness Perception and Interpersonal Cohesion

People generally like to interact with those who have fair minds. Fairness is an important quality to consider, especially when working with others, as unfair treatment leads to various adverse work-related outcomes. When people perceive that they are not

being treated fairly at work, they demonstrate poor work attitudes (Cohen-Charash and Spector 2001), report greater stress (Cropanzano and Wright 2011), show lower job performance, and even engage in counterproductive work behaviors (Cohen-Charash and Mueller 2007). In contrast, perceived fairness leads to better work performance and results in various positive interpersonal outcomes. Fair treatment conveys that one is valued and respected by the group, which generates positive feelings such as loyalty and commitment toward each other (Cropanzano et al. 2011; Lawler 2001). These findings suggest that when consumers perceive that a company strives to be a fair working partner in a joint CSR effort, they should view the company in a more positive light and feel more attached to the company. This then will influence consumers' decision to stay in the relationships with the company. Thus, I expect that consumers' fairness perceptions increase their sense of interpersonal cohesiveness with the company.

H4: Perceived fairness in joint-effort CSR initiatives will positively influence interpersonal cohesiveness.

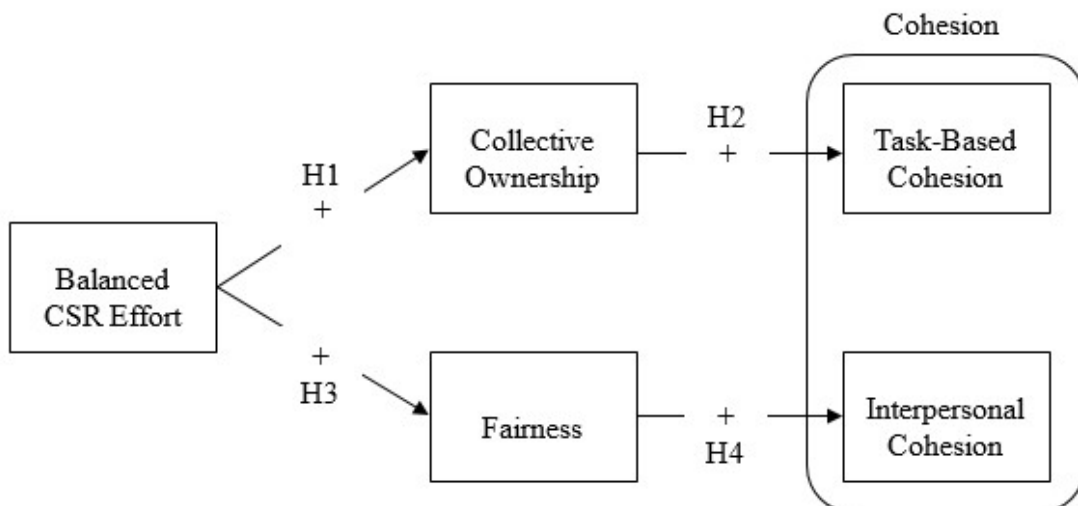


Figure 2 Conceptual Framework

The conceptual framework (Figure 2) above depicts how balanced consumer and company effort positively influence consumers' collective psychological ownership and fairness perceptions of the company's CSR initiative, which then affects their sense of cohesion with the company.

2.3 Overview of Studies

Three studies demonstrate the effect of balanced CSR efforts between consumers and a company on consumers' sense of cohesiveness with the company. Study 1 provides preliminary evidence of this effect using real company CSR initiative announcements. Study 2 further demonstrates the effect of balanced CSR efforts on consumers' cohesion with the company by utilizing a hypothetical CSR initiative scenario, which allows for consideration of the inherent variability in consumers' perceptions of effort balance between themselves and the company. In contrast to the first two studies, study 3 manipulates the level of effort balance between consumers and the company and investigates its downstream consequence on consumers' purchase intentions. Additionally, the moderating role of consumer participation in the company's CSR initiative is explored in Study 3. The collective findings from all three studies demonstrate that balanced CSR efforts significantly impact consumers' sense of cohesion with the company, subsequently influencing their purchase intentions.

2.4 Study 1

Study 1 aims to provide preliminary evidence for the proposed positive effect of balanced (vs. imbalanced) consumer and company efforts in a company's CSR initiative. Although the focal variable of interest was not directly measured, the study assessed

consumers' feelings of togetherness in a given company's CSR initiative, which taps into the idea of collective ownership and sense of cohesion—both focal interests of the research. The study utilized real corporate social responsibility initiatives across multiple brands and product categories collected from CSRwire (CSRwire.com). I predicted that balanced perceived efforts between consumers and the brand in a company's CSR initiative would have a greater impact on consumers' feelings of togetherness with the company compared to imbalanced efforts.

Participants and Procedure

A total of 823 participants were recruited from CloudResearch (40.9% female) in exchange for a small payment. Participants were randomly assigned to review two of the 114 real CSR announcements made between 2002 and 2011, sourced from CSRwire. The final sample consisted of 1653 observations. They were asked to rate their perceptions of brand effort (“How much effort is the brand expending for this CSR (corporate social responsibility) initiative?”) and consumer effort (“How much effort must consumers expend to be involved in (or participate) in this CSR initiative?”) in each CSR announcement. Effort difference scores were calculated for each participant by subtracting the perceived brand effort from the perceived consumer effort. Perceived effort balance between consumer and company increased as the difference score approached zero. Negative values of the difference score indicated more imbalanced brand effort, while positive values meant more imbalanced consumer effort. Participants also indicated their feelings of togetherness in a brand's given CSR initiative (“To what extent do you feel like you and this brand are in this CSR initiative together?”). All measures were rated on seven-point Likert scales.

Results

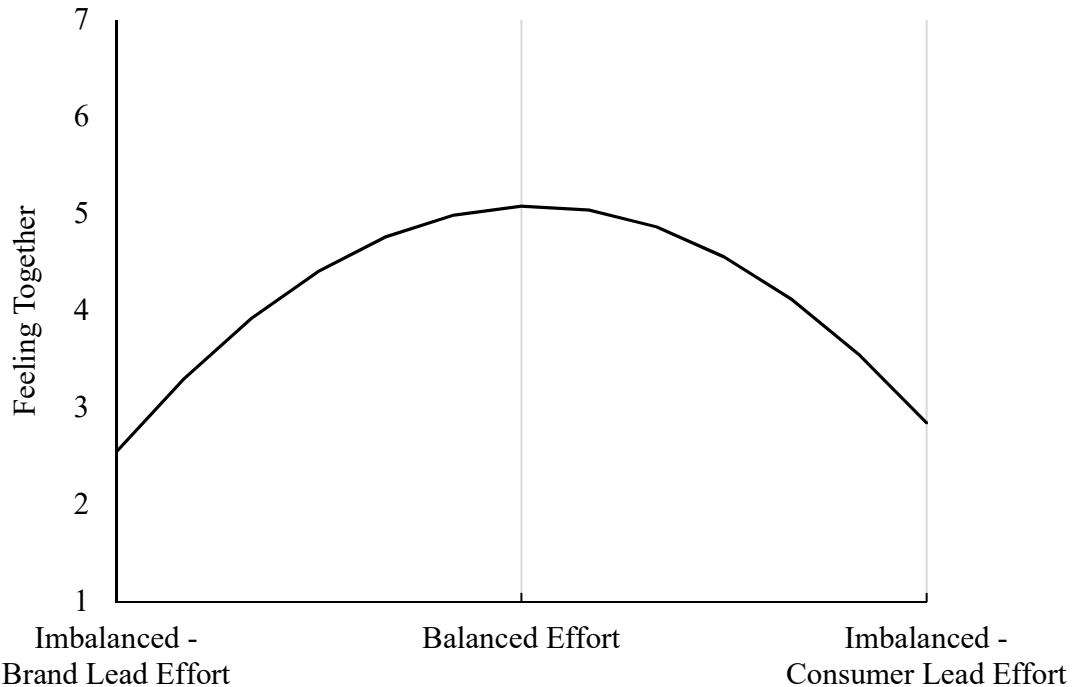


Figure 3 Quadratic Effect of Effort Difference (Perceived Consumer Effort – Perceived Brand Effort) on Feeling Together

To examine the effect of balanced consumer and brand efforts on consumers' feelings of togetherness in a company's CSR initiative, a regression analysis was conducted with the effort difference score as the independent variable and feelings of togetherness as the dependent variable. The regression model assessed both the linear and quadratic effects of the effort difference score on feelings of togetherness. The analysis revealed a significant positive linear effect ($\beta = .13, p < .001$) and a significant negative quadratic effect ($\beta = -.07, p < .001$) of the effort difference score on consumers' feelings of togetherness, suggesting a curvilinear effect of effort difference on consumers' feelings of togetherness. For better understanding, the effort difference was plotted against consumers' feelings of togetherness (Figure 3). As shown in Figure 3, as the imbalanced brand effort becomes

more balanced, consumers' feelings of togetherness increase. However, approximately after reaching a balanced effort point where imbalanced consumer-led effort starts to become greater, consumers' feelings of togetherness decrease.

To further examine the quadratic effect of balanced consumer and brand efforts on consumers' feelings of being together in a company's CSR initiative, participants' perceptions of consumer effort (CE) and brand effort (BE) were dichotomized into high (> 4) and low (≤ 4) effort levels. This allowed for a comparison between the impact of balanced effort (high CE & high BE) and imbalanced efforts, including consumer-led effort (high CE & low BE) and brand-led effort (low CE & high BE).

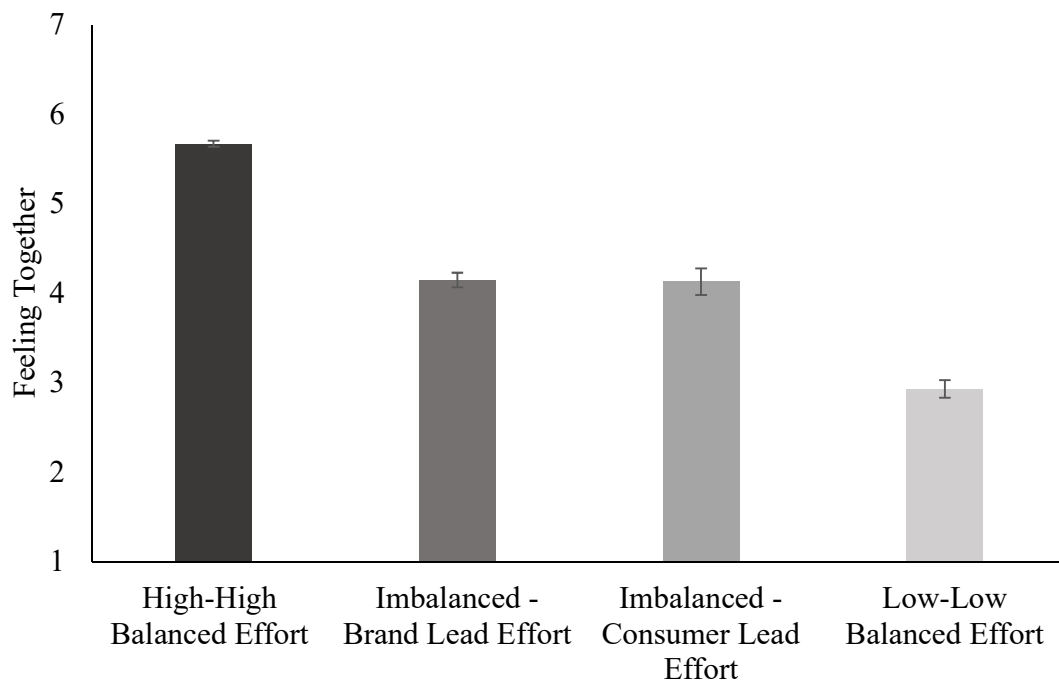


Figure 4 Feeling Together by Effort Balance (vs. Imbalance)

A one-way ANOVA on feelings of togetherness with effort level as the independent variable revealed a significant difference between the groups ($F(3, 1653) = 323.09, p < .001$). Participants who perceived a balanced effort between themselves and the brand (high CE & high BE) reported significantly greater feelings of togetherness in the brand's CSR initiative ($M = 5.67, SD = 1.04$) compared to those who perceived imbalanced brand lead effort ($M = 4.15; F(1, 1649) = 369.76, p < .001$) and those who perceived imbalanced consumer lead effort ($M = 4.13; F(1, 1649) = 118.10, p < .001$). The difference between the two groups who perceived imbalanced effort was not significant ($F(1, 1649) = .02, p = .90$). Notably, although not formally predicted, individuals who perceived high-high balanced effort reported significantly greater feelings of being together with the company than those who perceived low-low balanced effort (low CE & low BE; $M = 2.93; F(1, 1649) = 798.32, p < .001$). This finding is not surprising because if both consumers and the brand invest little effort in the brand's CSR initiative, it becomes difficult for consumers to feel they are in the CSR initiative together with the brand, despite their efforts being similar.

Discussion

Study 1 provided preliminary evidence that balanced consumer and brand CSR efforts lead to greater feelings of togetherness compared to when consumers and the brand make imbalanced CSR efforts. Although the focal dependent variable did not directly capture the focal dependent variable or process variable of interest, the increased feelings of togetherness are conceptually aligned with the idea of collective ownership and sense of cohesion. Therefore, it is reasonable to predict that the findings of Study 1 can be extended

to the focal effect of balanced CSR efforts on the sense of cohesion with the company, which will be further explored in Study 2.

Study 1 explored various real company CSR initiatives to reflect how consumers would feel and perceive in response to real-world company initiatives. However, to investigate the proposed balanced CSR effort in a more controlled setting, Study 2 will utilize a single company CSR initiative scenario instead of multiple initiatives as in Study 1.

2.5 Study 2

Study 2 examines the focal prediction that the balance between consumer and brand efforts within a company's CSR initiative has a positive influence on consumers' sense of cohesion with the brand compared to imbalanced efforts. Unlike Study 1, which explored consumers' perceptions of various CSR initiatives across different companies, this study focuses on a single hypothetical company CSR initiative scenario. By adopting this approach, this study aims to uncover the variations in individuals' perceptions regarding the level of balance in efforts between consumers and the brand within the same CSR initiative. Recognizing the inherent variability in consumers' perceptions of effort balance between themselves and the brand, this study builds upon this understanding to formulate a prediction. Specifically, I hypothesize that when individuals perceive a balanced effort between themselves and the brand in a brand's CSR initiative, they will experience a stronger sense of cohesion with the brand compared to when they perceive imbalanced efforts.

Participants and Procedure

Two hundred participants were recruited from CloudResearch (47.2% female; $M_{age} = 39.06$) in exchange for a small payment. All participants were instructed to imagine themselves at a fictitious restaurant called True Food Café, located near their place, for a lunch takeout experience. In the scenario, participants visualized themselves standing in line to place their orders when they noticed signage promoting True Food Café's green takeout container initiative. The signage explained that the restaurant had implemented a program to reduce single-use takeout container usage by offering customers the option to use reusable takeout containers instead. To participate, customers were required to pay a \$1 deposit for the container, which would be refunded upon returning the container to True Food Café within 14 days. Additionally, participants learned that True Food Café professionally cleans and sanitizes the returned containers so customers can reuse them. For complete stimuli, please refer to Appendix H.

Following the scenario, participants rated their sense of cohesion with True Food Café (Mathieu et al. 2015; 6 items; “There is a feeling of unity and cohesion between me and True Food Café,” and “True Food Café and I pull together to accomplish environmental tasks;” $\alpha = .96$; see Appendix I for all items). Additionally, participants indicated their perceptions of their own efforts (“How much effort did you make to reduce the environmental impact of takeout container usage?”) as well as the brand's efforts (“How much effort did True Food Café make to reduce the environmental impact of takeout container usage?”) in reducing the environmental impact of takeout container usage. To determine the perceived balance of effort between the consumer and the brand, a single measure of effort difference was calculated for each participant by subtracting the perceived brand effort from the perceived consumer effort. The perceived effort balance

increases as the difference score approaches zero. A negative value of the difference score would indicate more imbalanced brand effort, while a positive value would suggest more imbalanced consumer effort. All measures were rated on seven-point Likert scales.

Results

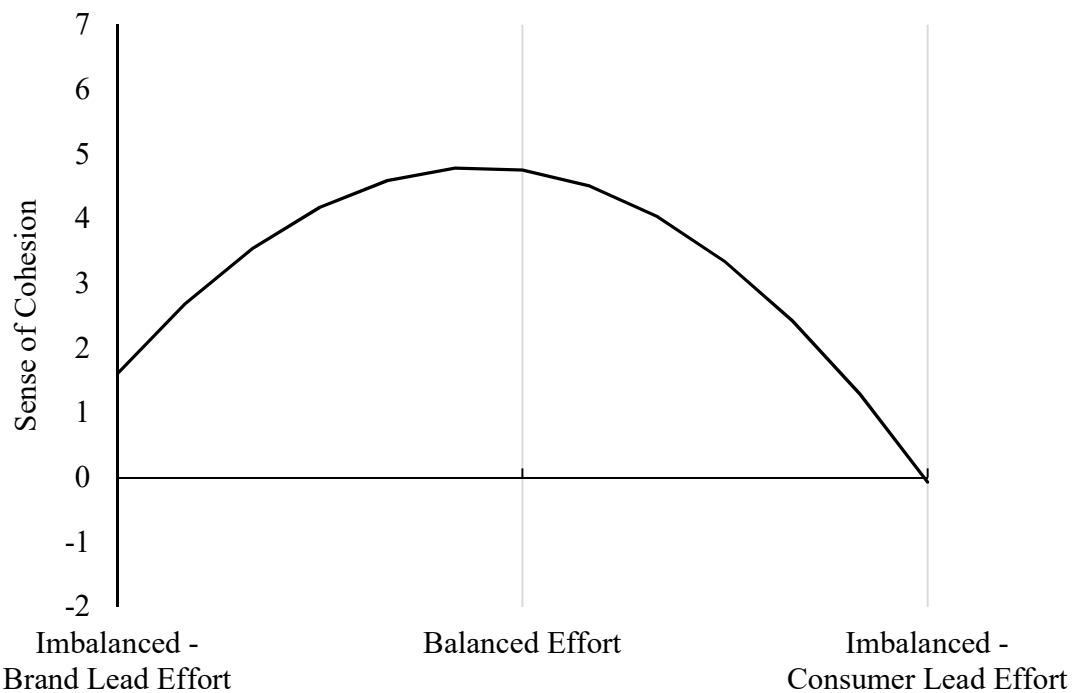


Figure 5 Quadratic Effect of Effort Difference (Perceived Consumer Effort – Perceived Brand Effort) on Sense of Cohesion

A regression analysis was conducted to examine the effect of balanced (vs. imbalanced) efforts on consumers' sense of cohesion with the brand. The effort difference score was used as an independent variable, while the sense of cohesion served as the dependent variable. The regression model assessed both the linear and quadratic effects of the effort difference on consumers' sense of cohesion. The analysis revealed a significant positive linear effect ($\beta = .14, p = .01$) and a significant negative quadratic effect ($\beta = -.11,$

$p < .001$) of the effort difference on consumers' sense of cohesion, suggesting a curvilinear relationship between the effort difference and consumers' sense of cohesion. Figure 5 visually represents this relationship. As the imbalanced brand effort becomes more balanced, consumers feel an increased sense of cohesion with the brand. However, consumers' sense of cohesion starts to decrease when they perceive imbalanced consumer effort compared to brand effort, approximately after reaching a point of balanced effort.

To explore this relationship further, participants' perceptions of consumer effort (CE) and brand effort (BE) were categorized into high (> 4) and low (≤ 4) effort levels. This allowed for a comparison between the impact of balanced efforts (high CE & high BE and low CE & low BE) and imbalanced efforts (high CE & low BE and low CE & high BE).

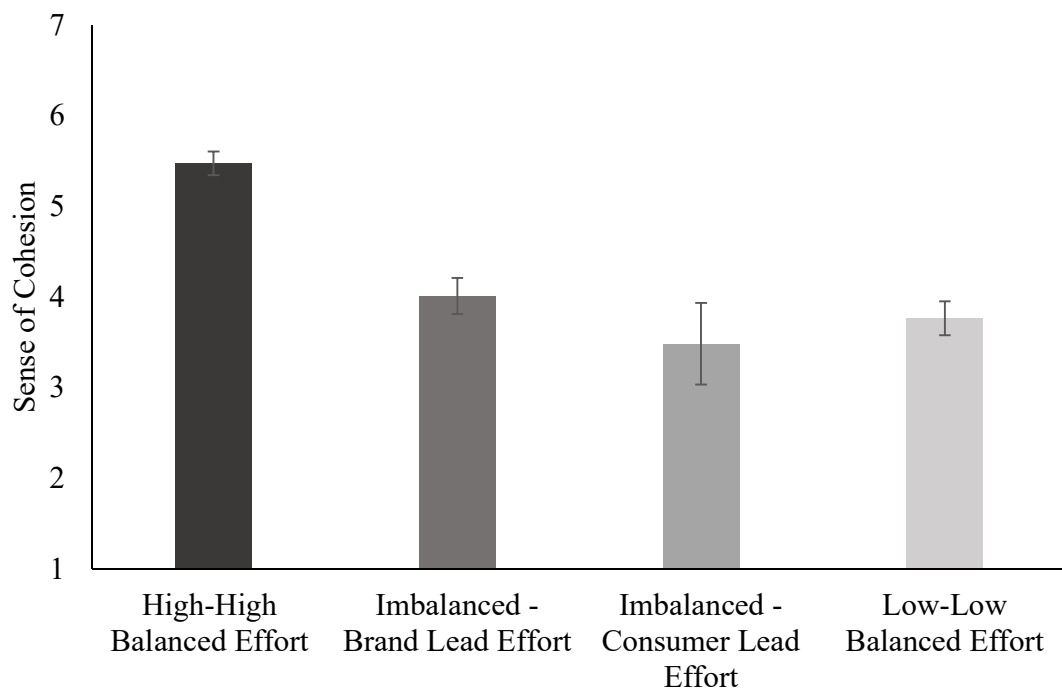


Figure 6 Sense of Cohesion by Effort Balance (vs. Imbalance)

A one-way ANOVA on sense of cohesion with effort level as the independent variable revealed a significant difference among the groups ($F(3, 196) = 18.49, p < .001$). Participants who perceived a balanced effort between themselves and the brand (high CE & high BE) reported a significantly greater sense of cohesion with the brand ($M = 5.48, SD = 1.02$) compared to those who perceived imbalanced brand lead effort ($M = 4.01, SD = 1.68; F(1, 196) = 33.92, p < .001$), imbalanced consumer lead effort ($M = 4.; F(1, 196) = 20.76, p < .001$), and low-low balanced effort (low CE & low BE; $M = 2.93, SD = ; F(1, 196) = 41.84, p < .001$). There was no significant difference among the latter three groups ($ps > .22$).

Discussion

Study 2 demonstrates that consumers who perceive a balanced effort in a company's CSR initiative experience a stronger sense of cohesion with the company. Interestingly, despite all participants reading about the same CSR initiative, they perceived different levels of effort balance between themselves and the company. Nonetheless, those who perceived a higher level of effort balance reported feeling more cohesive with the company compared to those who perceived imbalanced efforts or low balanced effort towards the initiative.

The findings from the first two studies provide support for the positive impact of balanced CSR efforts between consumers and a company. In these studies, participants' perceptions of consumer and brand efforts in a company's CSR initiative(s) were measured. Building upon this understanding, the next study will further explore the downstream consequences of balanced CSR efforts on consumers' purchase intention by manipulating

the level of effort balance between consumers and a brand. It is important to note that the previous studies demonstrated the positive effect of CSR effort balance without observing consumers' actual participation in the initiative. While these findings are significant, it remains unclear whether the positive effect of balanced CSR efforts holds true for both consumers who would actively choose to participate or not. While companies can develop CSR initiatives that require consumer participation, not all consumers choose to participate in the initiative and consumer participation has been shown to influence their feelings and perceptions towards companies' CSR initiatives (Cha et al. 2016; Ruiz de Maya, Lardín-Zambudio, and López-López 2016). Therefore, it is worthwhile to explore whether the observed positive effect of balanced CSR efforts on consumers' sense of cohesiveness might differ between participants and non-participants in a company's CSR initiative. Thus, the next study will delve into how consumer participation may interact with the proposed effect of balanced CSR effort.

2.6 Study 3

The goal of study 3 is to examine the positive downstream effect of balanced CSR efforts between consumers and a brand on consumers' likelihood to purchase the brand's products. By fostering a stronger sense of cohesion between consumers and the brand through their involvement in balanced CSR initiatives, it is anticipated that consumers will demonstrate a greater inclination to purchase products from the brand, considering their established sense of cohesion. Unlike the previous two studies, which measured consumers' perceptions of effort balance, this study manipulates the level of effort balance between consumers and a brand in CSR initiative to assess its influence on consumers' purchase likelihood for the brand's products. I expect that when consumers are asked to

engage in balanced CSR efforts with a brand, they will report a greater willingness to purchase products from the brand compared to when they are asked to take part in relatively imbalanced CSR efforts. Furthermore, this study explores how consumer participation would moderate the effect of balanced CSR efforts on purchase likelihood. I expect that the positive effect of balanced CSR efforts on consumer purchase likelihood would be more pronounced for individuals who actually participate, compared to those who opt not to participate.

Participants and Procedure

A total of 429 participants were recruited from Prolific in exchange for a small monetary payment. All participants were informed that the study was conducted in collaboration with an ostensibly real consumer products company, Avenir, as part of their “Next World” environmental initiative. Participants were provided with a brief introduction to Avenir, highlighting the company's longstanding commitment to environmental sustainability. They were further informed about Avenir's recent launch of the "Next World" initiative, which aimed to proactively benefit the planet through various initiatives.

Following this introduction, participants rated their familiarity with Avenir and its product (1 item; “How familiar are you with Avenir and its products?”) and purchase likelihood of Avenir’s products (1 item; How likely are you to consider purchasing Avenir products?) all on seven-point Likert scale. While familiarity ratings were not of primary interest, the purchase likelihood served as a baseline for subsequent data analysis.

After completing these initial evaluations, participants were thanked and told that before concluding, Avenir invites them to take action on an important environmental cause: the protection of wetlands. They were provided with information about the current situation, stating that various state governments in the United States were considering legislation that would weaken environmental protections for wetlands. These changes, driven by lobbying efforts, could repeal existing wetlands protections and limit the power of the Department of Environmental Management in national wetlands decisions. Additionally, participants were informed about the societal and environmental benefits associated with wetlands.

Subsequently, participants were randomly assigned to one of five effort conditions, each representing a different level of effort balance between consumers and Avenir, the brand. The brand's effort in its CSR initiative was manipulated by varying the amount of donation it would make towards wetlands protection. To manipulate consumer effort, participants were told that Avenir invited them to engage in one of two tasks: entering their initials (low consumer effort) or write a brief essay (high consumer effort) to show their support for continuing wetlands protections. The estimated time required for each task was also provided to strengthen the manipulation of consumer effort, emphasizing that entering initials would only take a second, while writing an essay would require approximately 2-5 minutes. To enhance the authenticity of the invitation, participants were assured that their petitions/thoughts and feelings would be automatically/formally delivered to lawmakers and leaders. The five effort conditions are described below (see table 2):

1. Unilateral Brand Effort (High BE & No CE): Participants were told that Avenir would donate \$500,000 to wetlands protection without any mention of involvement

required from the participants.

In the remaining four conditions, participants were told that Avenir invited them to participate in the initiative:

2. Imbalanced – Brand Lead Effort (High BE & Low CE): Participants were invited to enter their initials on an online petition to show their support for the cause. They were told that Avenir would donate \$250,000 to wetlands protection and contribute an additional \$25 for each consumer's petition signature, aiming for a total contribution of \$500,000.
3. Balanced Effort (High BE & High CE): Participants were invited to write a brief essay to indicate their support for the cause. They were told that Avenir would donate \$250,000 to wetlands protection and contribute an additional \$25 for each consumer's essay, aiming for a total contribution of \$500,000.
4. Imbalanced – Consumer Lead Effort (Low BE & High CE): Participants were invited to write a brief essay to indicate their support for the cause. They were told that Avenir would match each essay submission with a \$0.25 donation, up to a total of \$2,500, for wetlands protection.
5. Unilateral Consumer Effort (No BE & High CE): Participants were invited to write a brief essay in support of continuing wetlands protections without mentioning Avenir's effort.

Following the respective instructions, participants (excluding those in the 1) unilateral brand effort condition) indicated their willingness to participate in the initiative by either initialing a petition or writing an essay in support of wetlands protection (Yes or No). Participants who chose to participate then completed the corresponding task (initialing

petition or writing an essay). Complete stimuli can be found in Appendix H. Subsequently, all participants completed the same measure of their likelihood to purchase Avenir's products using a seven-point Likert scale.

To determine the change in participants' likelihood to purchase the brand's products, the initial purchase likelihood (measured before the introduction of the CSR initiative) was subtracted from the final purchase likelihood (evaluated after reading and/or participating in the brand's environmental initiative). This measure provides insights into the extent to which participants' purchase likelihood changed in response to the brand's initiative. A positive change indicates an increase in purchase likelihood, while a negative change indicates a decrease.

Table 2 Experimental Conditions (Study 3)

Brand Effort	Consumer effort		
	No	Low	High
No			5
Low			4
High	1	2	3

Results

Pretest. A separate pretest was conducted to validate the manipulation of effort. One hundred participants on Prolific were randomly assigned to one of two conditions

(consumer effort: high vs. low) in a one-way between-subjects design. Participants were presented with the same introduction to the brand Avenir as in the main study and were invited to take part in the initiative. In the high consumer effort condition, participants were invited to write a brief essay expressing their support for the cause. In the low consumer effort condition, participants were invited to enter their initials on an online petition to show their support for the cause. In both conditions, participants were told that the company has pledged some fixed amount per consumer essay/petition to wetlands protection.

Following this, participants were asked to indicate the amount at which they would consider the company's donation per essay or petition to be too little or too much, using US dollar amounts. Outliers were removed using the 3 IQR (interquartile) method. The pretest results revealed that participants considered \$3.56 to be too little and \$32.98 to be too much for the company to pay per essay. For the petition, participants felt that \$.73 was too little and \$23.93 was too much for the company to contribute.

These pretest results confirm that effort manipulation is appropriate. the appropriateness of the effort manipulation. Specifically, a company donation of \$25 per petition in the (2) Imbalanced - Brand Lead Effort condition would be considered imbalanced brand effort (as \$25 exceeds the upper limit of participants' perceived acceptable range of \$23.93). On the other hand, company donations of \$25 and \$.25 per essay in the (3) Balanced Effort and (4) Imbalanced - Consumer Lead Effort conditions, respectively, would be considered as balanced effort and imbalanced consumer effort based on the pretest results (as \$25 falls within the acceptable range and \$.25 is below the lower limit of participants' perceived acceptable range).

Participation Choice. Aside from the 1) unilateral brand effort condition (N = 97), of the 332 participants in the analysis, 140 (42.17%) chose to participate in Avenir’s CSR initiative. Participation details by effort condition are presented in figure 7.

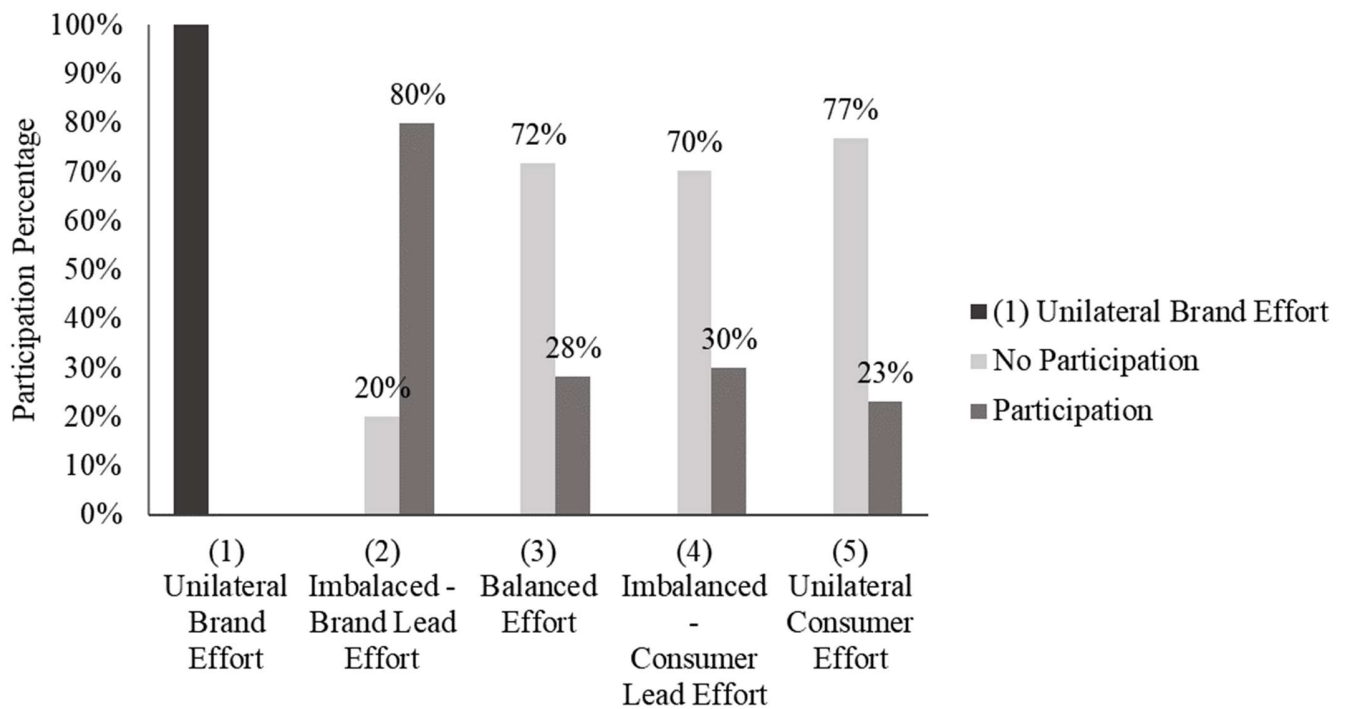


Figure 7 Participation Percentage as a Function of Effort Condition

Purchase Likelihood Change. A two-way ANOVA was conducted to analyze the effect of effort condition and participation on participants' purchase likelihood change. The results revealed a significant main effect of effort condition ($M_{(2)\text{imbalanced} - \text{brand lead effort}} = .55$ vs. $M_{(3)\text{balanced effort}} = .40$ vs. $M_{(4)\text{imbalanced consumer effort}} = .21$ vs. $M_{(5)\text{Unilateral consumer effort}} = .48$; $F(3, 324) = 2.79, p = .04$) and a main effect of participation ($M_{\text{participation}} = .60$ vs. M_{no}

participation = .28; $F(1, 324) = 6.37, p = .01$). Importantly, however, these main effects were qualified by a significant interaction between effort condition and participation ($F(3, 324) = 9.39, p < .001$; see figure 9).

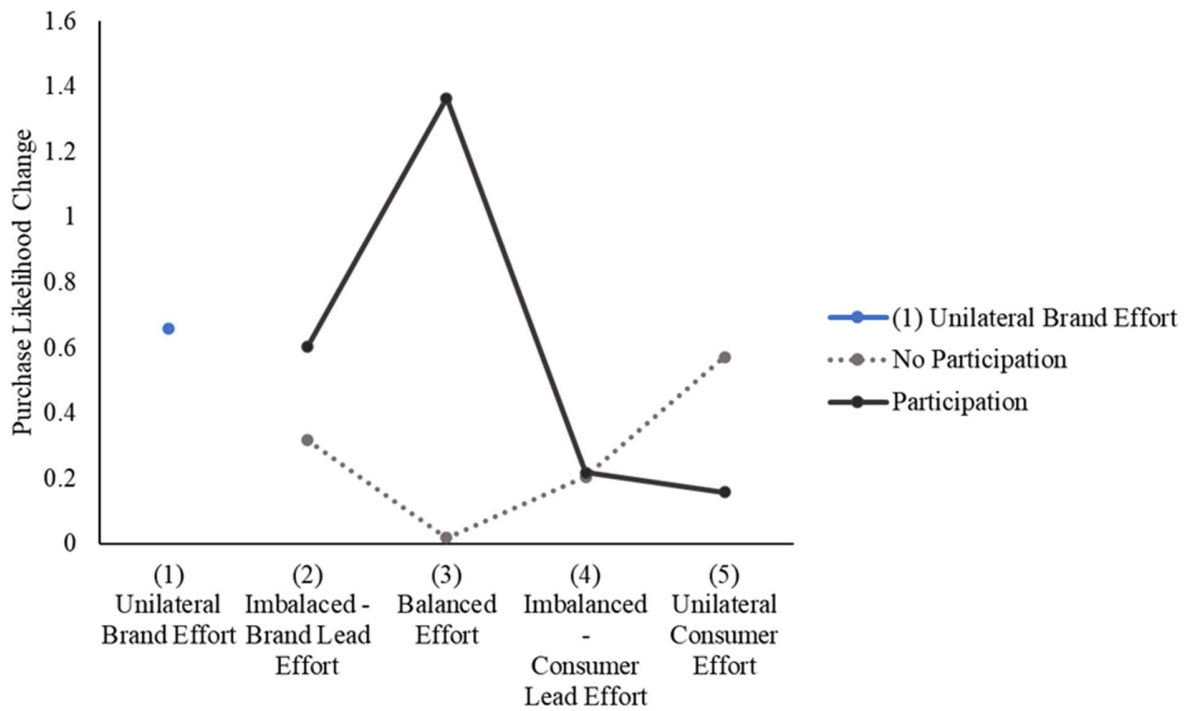


Figure 8 Purchase Likelihood Change as a Function of Effort Condition and Participation

Among participants who chose to participate in the brand’s CSR initiative, those in the (3) balanced effort condition showed the greatest increase in purchase likelihood ($M = 1.37$). This increase was significantly greater than participants in the other effort conditions, including the (1) unilateral brand effort condition ($M = .66, p = .007$), the (2) imbalanced - brand lead effort condition ($M = .61, p = .001$), the (4) imbalanced - consumer lead effort condition ($M = .22, p < .001$), and the (5) unilateral consumer effort condition ($M = .16, p < .001$).

In contrast, among participants who did not choose to participate, those in the (3) balanced effort condition exhibited the least increase in purchase likelihood for the brand's products ($M = 0.02$). This increase was significantly lower than participants in the (1) unilateral brand effort condition ($M = .66, p < .001$) and the (5) unilateral consumer effort condition ($M = .57, p = .002$). While not statistically significant, participants in the (3) balanced effort condition showed a directionally lower increase in purchase likelihood compared to those in the (2) imbalanced - brand lead effort condition ($M = 32, p = .24$) and the (4) imbalanced - consumer lead effort condition ($M = 20, p = .31$).

Looking at the results from another perspective, consumer participation in the brand's CSR initiative had a significant and positive impact on participants' purchase likelihood change, but only in the (3) balanced effort condition ($M = 1.35, p < .001$). In the other three effort conditions, consumer participation did not have a significant effect on purchase likelihood change ($ps > .10$).

Discussion

Study 3 demonstrates a downstream outcome of the balanced CSR efforts between consumers and a brand. Specifically, balanced CSR efforts positively influenced participants' purchase likelihood for the brand's products. Importantly, the results reveal that the effect of balanced CSR efforts on purchase likelihood is contingent upon consumer participation. Specifically, among participants who actively participated in the brand's CSR initiative, those engaged in balanced CSR efforts with the brand exhibited a greater increase in their purchase likelihood compared to those involved in relatively imbalanced CSR efforts, including participants who became aware of the brand's unilateral CSR

efforts. However, this effect was reversed for participants who did not choose to participate. That is, for participants who chose not to participate, the balanced CSR efforts did not positively increase their purchase likelihood compared to imbalanced CSR efforts. Rather, for non-participants, a brand's CSR initiative that required balanced CSR efforts actually led to reduced purchase likelihood compared to initiatives that required imbalanced CSR efforts from consumers.

2.7 General Discussion

Across three studies, I provide compelling evidence for the positive impact of balanced CSR efforts. Specifically, the research reveals that when companies encourage consumers to make balanced efforts in their CSR initiatives, rather than expending unilateral CSR efforts on their own or requesting unilateral CSR efforts from consumers, a sense of cohesiveness is fostered between consumers and the company. Subsequently, consumers are more likely to show a heightened interest in purchasing the company's products. This positive effect of balanced CSR efforts was consistently observed across various real and hypothetical CSR initiatives, including those focused on environmental and societal sustainability. This highlights the robustness of the findings and their applicability to diverse CSR campaigns. Importantly, the findings of study 3 suggest that the positive effect of balanced CSR efforts between consumers and a company is primarily driven by consumers who are inclined to actively engage in the company's CSR initiatives.

This research has substantive implications for companies seeking to involve consumers in their CSR initiatives. While many companies are embracing the idea of consumer participation in their CSR efforts, they often face challenges in eliciting positive

responses from consumers. Some consumers may exhibit reluctance to be reluctant to participate due to a perceived burden of expanding their efforts or perceive that companies are merely passing on their responsibility to consumers. To overcome these challenges and strengthen the relationship with consumers through CSR initiatives, companies must not only request effort from consumers but also demonstrate their own commitment by actively engaging in a comparable effort. This fosters a sense of cohesion from consumers, resulting in positive outcomes such as increased purchase intentions among consumers.

However, it is important to recognize that balanced CSR efforts may not resonate equally with all consumers. The research findings suggest that the desired positive effect holds primarily for consumers who are already inclined to participate willingly. On the other hand, for consumers less inclined to participate, demanding balanced CSR efforts from them may have a counterproductive effect. This leaves companies with two broad approaches: firstly, they can focus on consumers who place a higher value on sustainability and are more enthusiastic about the company's cause in their CSR initiatives. Alternatively, companies can devise strategies to persuade consumers who may be less sustainability-oriented or involved in the cause to take part in the company's initiative. For instance, previous research has shown that requesting donations locally in cause-related marketing campaigns can signal tangible and immediate impacts to consumers, thereby encouraging engagement from a broader consumer segment (Grau and Folse 2007). Employing such strategies is desirable as it enables companies to tap into consumers less engaged in sustainability while simultaneously expanding the consumer segment that responds positively to CSR initiatives requiring balanced efforts.

The current research also makes several theoretical contributions to CSR literature. While the majority of prior work examining consumer involvement in a company's CSR initiatives has primarily focused on consumer efforts without explicitly considering company efforts simultaneously (for a notable exception, Wang et al. 2017), this study takes a novel approach. Specifically, it examines the element of consumer involvement in a company's CSR initiatives and recognizes that CSR efforts are a potential joint endeavor between consumers and the company. Unlike past research that only measured (Ahn and Lee, 2020) or manipulated consumer efforts (Cha et al., 2015; Howie et al., 2018; Ruiz de Maya et al., 2016), this study departs from such approaches. It explicitly measures and manipulates both consumer and company efforts simultaneously, offering a more comprehensive understanding of the dynamics at play in CSR initiatives. Adopting the perspective that CSR initiatives represent a potential joint effort between consumers and a company allowed exploring group-related constructs borrowed from organizational research, including collective psychological ownership and cohesiveness, which are critical to understanding groups and group work. By doing so, this research sheds light on distinct and previously unexplored group psychological mechanisms through which consumers may interpret and react to a company's CSR.

Second, although engaging consumers in a company's CSR initiative can have both benefits and costs from a consumer perspective, past research has tended to examine perceptions of either benefits or costs exclusively (Andrews et al. 2014; Folse, Niedrich, and Grau 2010; Howie et al. 2018; Wang et al. 2017; Wang et al. 2018), or as the result of a moderating, contextual factor such as consumers' attributions of company CSR (intrinsic vs. extrinsic) or consumers' construal levels (Ahn and Lee 2019; Habel et al. 2016). This

work, however, takes a more comprehensive approach by simultaneously examining both perceived benefits and costs of engaging in a company's CSR initiative and predicts that both elements uniquely contribute to consumers' sense of cohesion with the company.

**APPENDIX A. DEMOGRAPHICS AND DATA SCREENING
INFORMATION (CHAPTER 1)**

Study	Initial N	# Screened*	Final N	% Women	Mean Age
1A	281	21	260	56.2	36.88
1B	301	16	285	52.8	40.33
1C	302	56	246	49.2	42.54
2	379	8	371	62.3	41.62
3	201	3	198	53.0	37.94
4	404	7	397	59.2	41.20
5	86	NA	86	46.5	NA

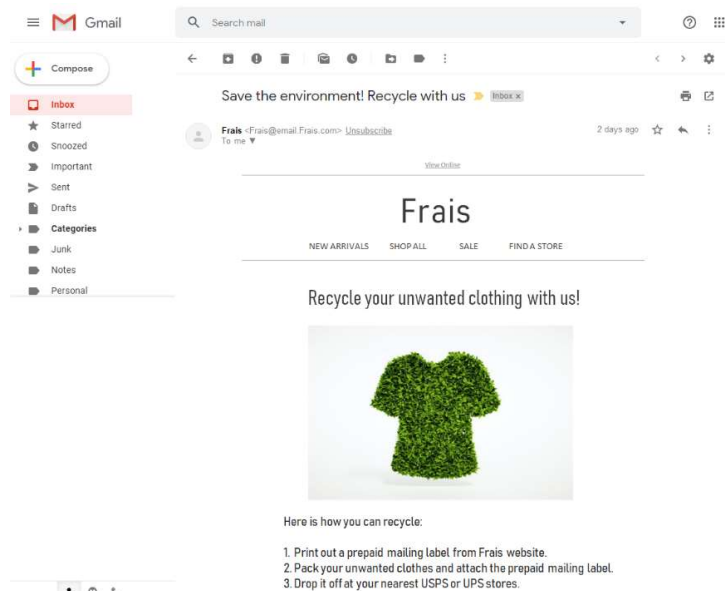
*Note. In all studies, apart from study 5, I screened participants who failed an attention check (e.g., “Please click on Strongly disagree to show that you are paying attention.”). I did not include an attention check question nor collect age information in study 5.

APPENDIX B. EXPERIMENTAL STIMULI USED IN ALL STUDIES

(CHAPTER 1)

STUDY 1A

Imagine that you frequently buy clothes from a casual clothing brand, Frais. One day, you received an email from Frais about their clothing recycling program. It says that Frais has a recycling program that encourages you to send back your unwanted clothes to them using their prepaid USPS or UPS mailing label.



(next page)

You realize that you no longer wear some shirts and pants you got from Frais. You decide to participate in their recycling program. You go on their website, print out a prepaid mailing label, pack your clothes, and send back your unwanted clothes by dropping them off at the UPS store near your place. After a few days, you notice that your returned clothes are delivered thanks to UPS tracking system.

(next page)

Acknowledgment Condition

A few weeks later, you get an email from Frais that says “We received your unwanted clothes. Thank you so much for participating in our recycling program.”

Advertisement Condition

A few weeks later, you get an email from Frais that says “We have new arrivals.”

Acknowledgment & Advertisement Condition

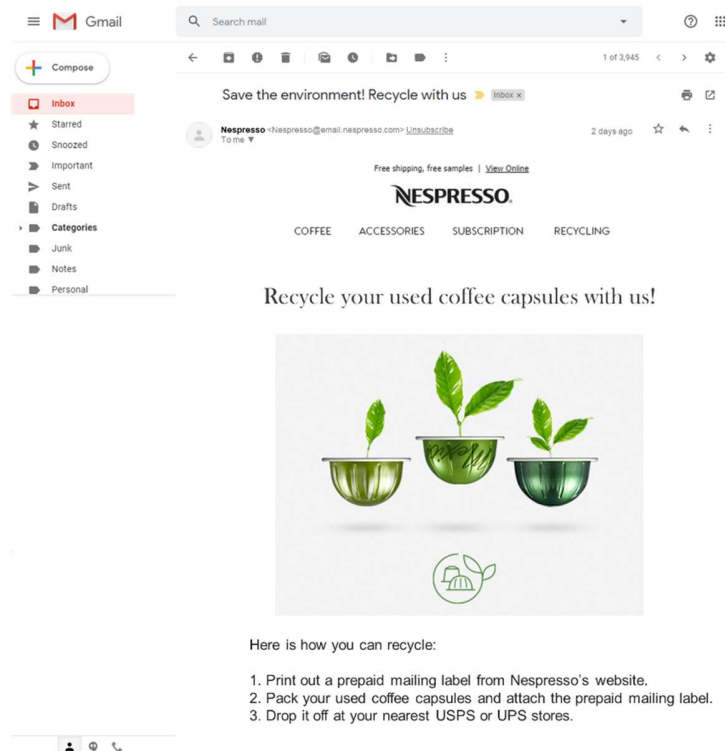
A few weeks later, you get an email from Frais that says “We received your unwanted clothes. Thank you so much for participating in our recycling program.” And as you scroll down, you see their new arrivals in the same email.

No acknowledgment Condition

(Participants in this condition proceeded straight to the measures.)

STUDY 1B

Imagine that you have a capsule coffee machine from Nespresso and you frequently order coffee capsules from them. One day, you received an email from Nespresso about their coffee capsule recycling program. It says that Nespresso has a recycling program that encourages you to send back your used coffee capsules to them using their prepaid USPS or UPS mailing label.



(next page)

Upon reading this email, you decide to collect your used coffee capsules to participate in their recycling program. After a while, you collect a good amount of used coffee capsules to send back to Nespresso for recycling. You go on their website, print out a prepaid mailing label, pack your used coffee capsules, and send them back by dropping them off at the UPS store near your place. After a few days, you notice that your returned coffee capsules are delivered thanks to the UPS tracking system.

(next page)

No Acknowledgment Condition

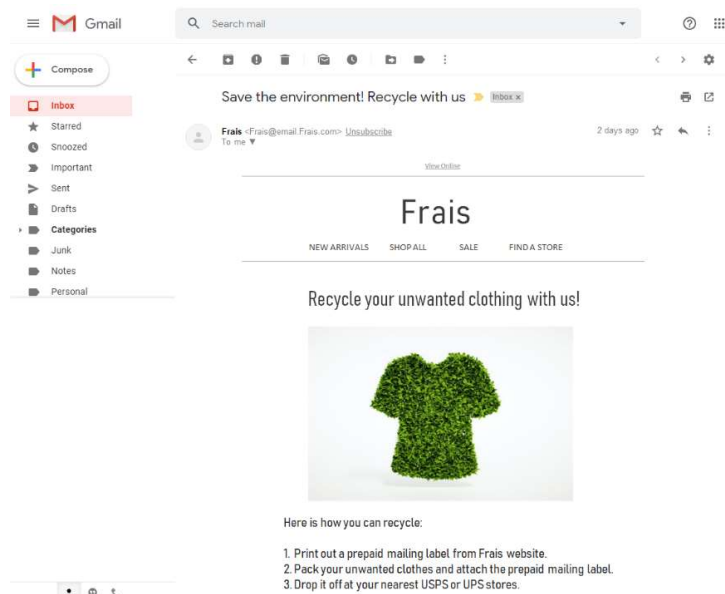
A few weeks later, you get an email from Nespresso that says “We have new arrivals.”

Acknowledgment Condition

A few weeks later, you get an email from Nespresso that says “We received your used coffee capsules. Thank you so much for participating in our recycling program.” And as you scroll down, you see their new arrivals in the same email.

STUDY 1C

Imagine that you frequently buy clothes from a casual clothing brand, Frais. One day, you received an email from Frais about their clothing recycling program. It says that Frais has a recycling program that encourages you to send back your unwanted clothes to them using their prepaid USPS or UPS mailing label.



(next page)

You realize that you no longer wear some shirts and pants you got from Frais. You decide to participate in their recycling program. You go on their website, print out a prepaid mailing label, pack your clothes, and send back your unwanted clothes by dropping them off at the UPS store near your place. After a few days, you notice that your returned clothes are delivered thanks to UPS tracking system.

(next page)

No Acknowledgment Condition

A few weeks later, you get an email from Fraiss that says “We have new arrivals.”

Acknowledgment Condition

A few weeks later, you get an email from Fraiss that says “We received your unwanted clothes. Thank you so much for participating in our recycling program.” And as you scroll down, you see their new arrivals in the same email.

STUDY 2

Imagine that you have a small laser printer from an electronic appliance brand, Zuber, at home. One day, you realize that your printer is not working properly. You try to fix it yourself, but it seems like you either need to replace it with a new one or get it repaired. As you do not want to throw away your printer and create e-waste, you decide to get it fixed.

(next page)

To find out about repair services, you go on Zuber’s website. On its printer repair service page, it says, “Extend your printer’s life and save the environment! When you have a problem with your gear, we encourage you to get it repaired rather than simply replace it. By doing so, you can help reduce environmental impact significantly.”

It also adds that “To get a repair service, you can either visit the nearest Zuber’s service center or mail in your printer using our prepaid UPS mailing label.”

(next page)

As the nearest service center is quite far, you decide to send back your printer to Zuber. You print out a prepaid mailing label from Zuber’s website, pack your printer, and send it to Zuber’s service team by dropping it off at the UPS store near your place. After a few days, you notice that your printer has arrived at Zuber thanks to the UPS tracking system.

(next page)

No Acknowledgment & Before Repair Condition

A couple of days later, you get an email from Zuber that says, “Get a jump on the holidays and save on supplies and accessories for your printer!”

(next page)

A few weeks later, you get your repaired printer back from Zuber.

Acknowledgment & Before Repair Condition

A couple of days later, you get an email from Zuber that says, “We received your printer, and we are currently fixing it before sending it back to you. Thank you so much for using our repair service.” And as you scroll down, you see their holiday deals on supplies and accessories for printers in the same email.

(next page)

A few weeks later, you get your repaired printer back from Zuber.

No Acknowledgment & After Repair Condition

A few weeks later, you get your repaired printer back from Zuber.

(next page)

On the same day, you get an email from Zuber that says, “Get a jump on the holidays and save on supplies and accessories for your printer!”

Acknowledgment & After Repair Condition

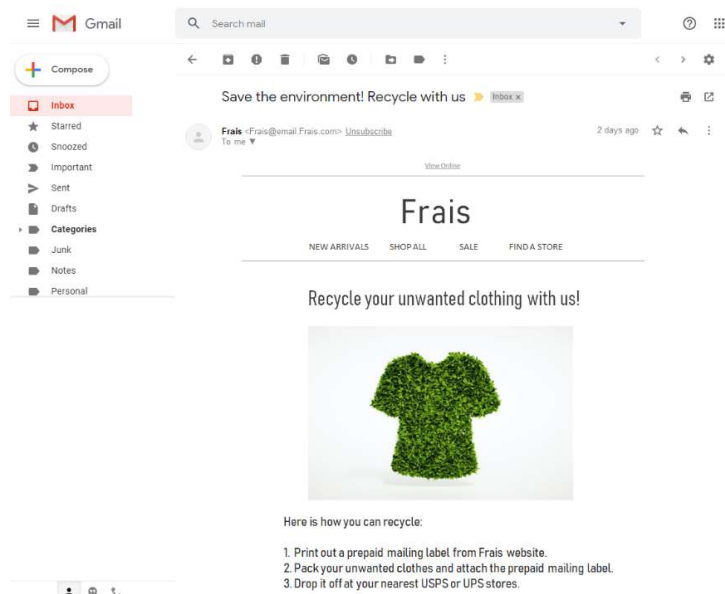
A few weeks later, you get your repaired printer back from Zuber.

(next page)

On the same day, you get an email from Zuber that says, “We fixed and sent your printer back to you. Thank you so much for using our repair service.” And as you scroll down, you see their holiday deals on supplies and accessories for printers in the same email.

STUDY 3

Imagine that you frequently buy clothes from a casual clothing brand, Frais. One day, you received an email from Frais about their clothing recycling program. It says that Frais has a recycling program that encourages you to send back your unwanted clothes to them using their prepaid USPS or UPS mailing label.



(next page)

You realize that you no longer wear some shirts and pants you got from Frais. You decide to participate in their recycling program. You go on their website, print out a prepaid mailing label, pack your clothes, and send back your unwanted clothes by dropping them off at the UPS store near your place. After a few days, you notice that your returned clothes are delivered thanks to UPS tracking system.

(next page)

No Acknowledgment Condition

A few weeks later, you get an email from Frais that says “We have new arrivals.”

Acknowledgment Condition

A few weeks later, you get an email from Frais that says “We received your unwanted clothes. Thank you so much for participating in our recycling program.” And as you scroll down, you see their new arrivals in the same email.

SUSTAINABLE DELIVERY CHOICE

Now imagine that you picked out four items to purchase from Frais. Upon filling out your shipping address and payment method, you are prompted to choose a delivery option. It says that two of the items you chose are in stock and ready to be shipped. However, the remaining two items are currently being restocked and it will take up to two more days to be shipped.

You could choose

Option 1. Get your items as they become available, which would entail three multiple shipping.

OR

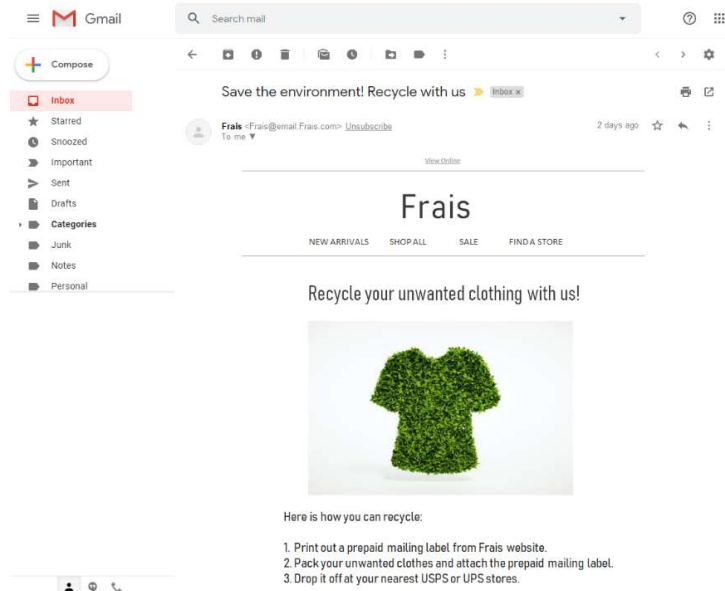
Option 2. Get your items at one time, which would entail one shipment and two more days of waiting.

Frais adds that choosing option 2 is a more sustainable delivery option as it helps to save the carbon emissions and the number of boxes and packing materials required for delivery.

STUDY 4

Imagine that you frequently buy clothes from a casual clothing brand, Frais. One day, you received an email from Frais about their clothing recycling program. It says that Frais has

a recycling program that encourages you to send back your unwanted clothes to them using their prepaid USPS or UPS mailing label.



(next page)

You realize that you no longer wear some shirts and pants you got from Fraix. You decide to participate in their recycling program. You go on their website, print out a prepaid mailing label, pack your clothes, and send back your unwanted clothes by dropping them off at the UPS store near your place. After a few days, you notice that your returned clothes are delivered thanks to UPS tracking system.

(next page)

No Acknowledgment & No Social Worth Condition

A few weeks later, you get an email from Fraix that says, “It’s the Holiday Season! Get a jump on the holidays and save on our favorite shirts and jeans!”

Acknowledgment & No Social Worth Condition

A few weeks later, you get an email from Frais that says “We received your unwanted clothing. Thank you so much for participating in our recycling program.”

And as you scroll down, you read “It’s the Holiday Season! Get a jump on the holidays and save on our favorite shirts and jeans!”

No Acknowledgment & Social Worth Condition

A few weeks later, you get an email from Frais that says, “It’s the Holiday Season! We just wanted to take a moment with the holiday season upon us to thank you for being our valued customer. We truly appreciate your loyalty and friendship. We look forward to serving you for many years to come! THANK YOU!”

And as you scroll down, you read “Get a jump on the holidays and save on our favorite shirts and jeans!”

Acknowledgment & Social Worth Condition

A few weeks later, you get an email from Frais that says, “We received your unwanted clothing. Thank you so much for participating in our recycling program.”

Frais adds that “It’s the Holiday Season! We just wanted to take a moment with the holiday season upon us to thank you for being our valued customer. We truly appreciate your loyalty and friendship. We look forward to serving you for many years to come! THANK YOU!”

And as you scroll down, you read “Get a jump on the holidays and save on our favorite shirts and jeans!”

JEAN REPAIR INTENTION

While browsing Frais' website, you find out that Frais offers free repairs for all jeans purchased from Frais. It says that you can simply wash your jeans and hand them in at your closest Frais Repair Shop or any of Frais' Repair Partners for free. You realize that you have a pair of Frais jeans that needs to be repaired.

STUDY 5

No Acknowledgment



This survey is about the (program name) reusable container program.

Acknowledgment

**Thank you for participating in our
(program name) program!**



This survey is about the (program name) reusable container program.

APPENDIX C. MEASURES USED IN ALL STUDIES (CHAPTER 1)

	Measures	Items	Studies
Dependent Variables	Sustainability Perceptions	<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • [Company name] is concerned about the environment. • [Company name] is concerned about sustainability. • [Company name] engages in sustainable practices. • [Company name] supports sustainability. • [Company name] is a “green” company. 	All studies
	Future Recycling Intentions	<ul style="list-style-type: none"> • How likely would you be to recycle with [company name] again if you collect/have more (used products)? (1 = “Extremely unlikely”; 7 = “Extremely likely”) • How willing are you to continue recycling with [company name] in the future? (1 = “Not at all”; 7 = “A great deal”) 	Studies 1A, 1B, 1C, 3, and 4
	Future Repair Intentions	<ul style="list-style-type: none"> • How likely would you be to repair with Zuber again? (1 = “Extremely unlikely”; 7 = “Extremely likely”) • How willing are you to fix products with Zuber in the future? (1 = “Not at all”; 7 = “A great deal”) 	Study 2
	Future Reuse Intention	<ul style="list-style-type: none"> • How likely are you to continue using [program name] reusable containers? (1 = “Very unlikely”; 7 = “Very likely”) 	Study 5
	Actual Future Reuse	Use of reusable containers after the survey (1 = “yes”; 0 = “no”)	Study 5
Mediator	Social Worth as a Partner (Grant and Gino 2010)	<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • I feel valued (as a partner) by [company name]. • I feel appreciated (as a partner) by [company name]. 	Studies 2 and 3
		<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • I feel valued (as a partner) by [university] dining services. • I feel appreciated (as a partner) by [university] dining services. 	Study 5

	Measures	Items	Studies
Alternative Mediators	Shared Values (Maxham and Netemeyer 2003)	<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • [Company name] has the same values as I do with regard to sustainability. • In general, my values and the values held by [Company name] are very similar in terms of sustainability. • I believe in the same sustainability values held and promoted by [company name]. • I share common sustainability values with [company name]. 	Studies 2 and 3
	Shared Commitments (Mathieu et al. 2015)	<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • [Company name] and I share a focus on sustainability tasks. • [Company name] and I concentrate on getting sustainability tasks done. • [Company name] and I pull together to accomplish sustainability. 	Studies 2 and 3
	Self-Brand Connection (Escalas and Bettman 2005)	<p>Please indicate your agreement with the statements below (7-point Likert scale):</p> <ul style="list-style-type: none"> • [Company name] reflects who I am. • I can identify with [Company name]. • I feel a personal connection to [Company name]. • I think [Company name] helps me become the type of person I want to be. • I consider [Company name] to be “me” (it reflects who I consider myself to be or the way that I want to present myself to others). • [Company name] suits me well. 	Studies 2 and 3
Downstream Consequences	Word of Mouth	<ul style="list-style-type: none"> • Would you tell your friends or family about Frais’ recycling program? (Yes or No) • Who would you tell about Frais’ recycling program? Please list the first names or initials of the person you would like to share about Frais’ recycling program down below. You can list as many as you would like. If you wouldn’t want to tell anyone, please leave it blank. 	Study 1C
	Sustainable Delivery Choice	<ul style="list-style-type: none"> • Which delivery option would you choose? 	Study 3

	Measures	Items	Studies
		Option 1: Get your items as they become available (three multiple shipping) Option 2: Get your items at once (one-time shipping with two more days of waiting)	
	Jean Repair Intention	<ul style="list-style-type: none"> How likely are you to take your jeans to Frais Repair Shop or Frais' Repair Partner for a repair? (1 = "Unlikely"; 7 = "Likely") 	Study 4

**APPENDIX D. ADDITIONAL MEASURES AND RESULTS IN
STUDIES 1-4 (CHAPTER 1)**

Measures	Items	Studies
Brand Attitude (MacKenzie and Lutz 1989)	Rate the brand [company name] on the items below. <ul style="list-style-type: none"> • 1 = “Bad”; 7 = “Good” • 1 = “Dislike”; 7 = “Like” • 1 = “Negative”; 7 = “Positive” • 1 = “Unfavorable”; 7 = “Favorable” 	Studies 1-4
Purchase Likelihood	• How likely are you to purchase clothing from Frais again? (1 = “Unlikely”; 7 = “Likely”)	Studies 1A, 1C, 3, and 4
	• How likely are you to purchase coffee capsules from Nespresso again? (1 = “Unlikely”; 7 = “Likely”)	Study 1B
	• How likely are you to purchase electronic appliances and supplies from Zuber? (1 = “Unlikely”; 7 = “Likely”)	Study 2

Study 1A (N = 260; 56.2% Women; M_{age} = 36.88 Years)		
Brand Attitude	No Acknowledgment	Acknowledgment
No Advertisement	5.39 ^a (1.17)	5.87 ^b (.89)
Advertisement	5.18 ^a (1.33)	5.84 ^b (1.14)
Purchase Likelihood	No Acknowledgment	Acknowledgment
No Advertisement	3.77 ^{ab} (1.72)	4.08 ^{b*} (1.99)
Advertisement	3.52 ^{a*} (1.62)	3.69 ^{ab} (1.87)
Study 1B (N = 285; 52.8% Women; M_{age} = 40.33 Years)		
	No Acknowledgment	Acknowledgment
Brand Attitude	5.50 (1.41)	5.69 (1.25)
Purchase Likelihood	3.77 (1.87)	3.85 (1.80)
Study 1C (N = 246; 49.2% Women; M_{age} = 42.54 Years)		
	No Acknowledgment	Acknowledgment
Brand Attitude	5.07 ^a (1.54)	5.79 ^b (1.04)
Purchase Likelihood	3.57 (1.71)	3.48 (1.98)
Study 2 (N = 371; 62.3% Women; M_{age} = 41.62 Years)		
Brand Attitude	No Acknowledgment	Acknowledgment
Before Product Repair	5.53 ^a (1.35)	6.02 ^{bc} (.99)
After Product Repair	5.86 ^{b*} (1.12)	6.13 ^{c*} (.94)
Purchase Likelihood	No Acknowledgment	Acknowledgment
Before Product Repair	5.27 ^a (1.44)	5.77 ^{b*} (1.11)
After Product Repair	5.46 ^{a*} (1.12)	5.91 ^b (1.12)
Study 3 (N = 198; 53.0% Women; M_{age} = 37.94 Years)		

	No Acknowledgment	Acknowledgment
Brand Attitude	5.24 ^a (1.38)	5.81 ^b (1.03)
Purchase Likelihood	4.90 ^a (1.49)	5.45 ^b (1.38)
Study 4 (N = 397; 42.0% Women; M_{age} = 41.20 Years)		
Brand Attitude	No Acknowledgment	Acknowledgment
No Social Worth	5.13 ^a (1.53)	5.97 ^c (1.14)
Social Worth	5.51 ^b (1.25)	5.74 ^c (1.35)
Purchase Likelihood	No Acknowledgment	Acknowledgment
No Social Worth	4.60 ^a (1.84)	5.77 ^c (1.26)
Social Worth	5.15 ^{b*} (1.42)	5.53 ^{c*} (1.59)

Note. Standard deviations are reported in parentheses. Different superscripts indicate significance at $p < .05$. *indicates significance at $p < .10$.

**APPENDIX E. MANIPULATION CHECK RESULTS IN ALL
STUDIES (CHAPTER 1)**

Study 1A (N = 260; 56.2% Women; M_{age} = 36.88 Years)		
Based on the scenario you read, how much did Frais acknowledge your participation in their recycling program?		
	No Acknowledgment	Acknowledgment
No Advertisement	3.82 ^a (2.03)	5.74 ^b (1.31)
Advertisement	3.40 ^a (2.19)	5.78 ^b (1.15)
Study 1B (N = 285; 52.8% Women; M_{age} = 40.33 Years)		
Based on the scenario you read, how much did Nespresso acknowledge your participation in their recycling program?		
	No Acknowledgment	Acknowledgment
	4.26 ^a (2.12)	6.17 ^b (1.02)
Study 1C (N = 246; 49.2% Women; M_{age} = 42.54 Years)		
Based on the scenario you read, how much did Frais acknowledge your participation in their recycling program?		
	No Acknowledgment	Acknowledgment
	3.27 ^a (2.10)	5.90 ^b (1.16)
Study 2 (N = 371; 62.3% Women; M_{age} = 41.62 Years)		
Based on the scenario you read, how much did Zuber acknowledge your usage of their printer repair service?		
	No Acknowledgment	Acknowledgment
Before Product Repair	3.06 ^a (1.84)	5.69 ^b (1.37)
After Product Repair	3.40 ^a (2.08)	5.65 ^b (1.35)
Study 3 (N = 198; 53.0% Women; M_{age} = 37.94 Years)		
Based on the scenario you read, how much did Frais acknowledge your participation in their recycling program?		
	No Acknowledgment	Acknowledgment
	2.75 ^a (1.91)	5.66 ^b (1.21)
Study 4 (N = 397; 42.0% Women; M_{age} = 41.20 Years)		
Based on the scenario you read, how much did Frais acknowledge your participation in their recycling program?		
	No Acknowledgment	Acknowledgment
No Social Worth	2.21 ^a (1.68)	5.46 ^c (1.32)
Social Worth	3.43 ^b (2.18)	5.53 ^c (1.45)
Social worth manipulation check		
<ul style="list-style-type: none"> • I feel valued (as a partner) by Frais. • I feel appreciated (as a partner) by Frais. 		
	No Acknowledgment	Acknowledgment
No Social Worth	3.56 ^a (1.72)	5.11 ^c (1.35)
Social Worth	4.63 ^b (1.49)	5.22 ^c (1.61)
Study 5 (N = 86; 46.5% Women)		
Were you acknowledged for your participation in the (program name) program (usage of the reusable container)?		
	No Acknowledgment	Acknowledgment
	20.5%	92.9%

Note. Except for study 5, all measures were rated on seven-point Likert scales. Standard deviations are reported in parentheses. Different superscripts indicate significance at $p < .05$. Numbers reported

in study 5 denote percentages of participants who correctly answered the manipulation check question.

APPENDIX F. STUDY W1 (CHAPTER 1)

The purpose of this study is to test the acknowledgment effect when the acknowledgment comes from an automated messaging system. Acknowledging customers' participation in company sustainability initiatives requires effort from the company as it must take steps to establish a process for acknowledgment communications to customers. I theorized that these extra steps convey the company's efforts to recognize and appreciate customers' contribution to the sustainability initiative, and therefore should increase customers' feelings of social worth as a partner with the company (Algoe 2012; Grant and Gino 2010). Given that an automated acknowledgment still shows the company's efforts to acknowledge customers' sustainability efforts with the company (De Wulf, Odekerken-Schröder, and Iacobucci 2001; Morales 2005), I expect it to have a similar positive impact on sustainability perceptions of the company and future participation intentions as the acknowledgment emails used in study 1A.

Participants and Procedure

The final sample comprised 199 participants (55.3% Female; $M_{age} = 39.42$) recruited from CloudResearch in exchange for a small monetary payment. Participants were randomly assigned to one of three conditions (acknowledgment: yes vs. no vs. automated).

Study W1 followed a similar paradigm to study 1A but utilized a different product category (coffee capsule). In all conditions, participants imagined they had a capsule coffee machine from a fictitious brand, Gusto D'oro, from which they frequently ordered coffee

capsules. After receiving an email from Gusto D'oro about their coffee capsule recycling program, participants imagined they recycled their used coffee capsules with Gusto D'oro. Participants in the no acknowledgment condition read an email advertisement about Gusto D'oro's new arrivals, while participants in the acknowledgment condition got an email from Gusto D'oro acknowledging their recycling of used coffee capsules along with an advertisement of its new arrivals. Participants in the automated acknowledgment condition also got an acknowledgment email from Gusto D'oro with the advertisement, but the email stated that it was auto-generated and that they should not reply to the email. The tracking information was also included in this email to make it salient that the email was automated, given many companies send automated emails with tracking information. Full stimuli can be found below.

After reading the scenario, participants completed measures of sustainability perceptions ($\alpha = .95$) and future recycling intentions ($r = .94$) modified from study 1A (see Appendix C), as well as a manipulation check for acknowledgment ("Based on the scenario you read, how much did Gusto D'oro acknowledge your participation in their recycling program?").

Results and Discussion

Manipulation check. A one-way ANOVA revealed a significant effect of acknowledgment condition on customers' perception of company's acknowledgment ($M_{\text{acknowledgment}} = 6.13$, $M_{\text{automated acknowledgment}} = 6.17$, $M_{\text{no acknowledgment}} = 2.92$; $F(2, 196) = 98.94$, $p < .001$). Participants in both the acknowledgment condition ($p < .001$) and the automated acknowledgment ($p < .001$) perceived greater company acknowledgment of

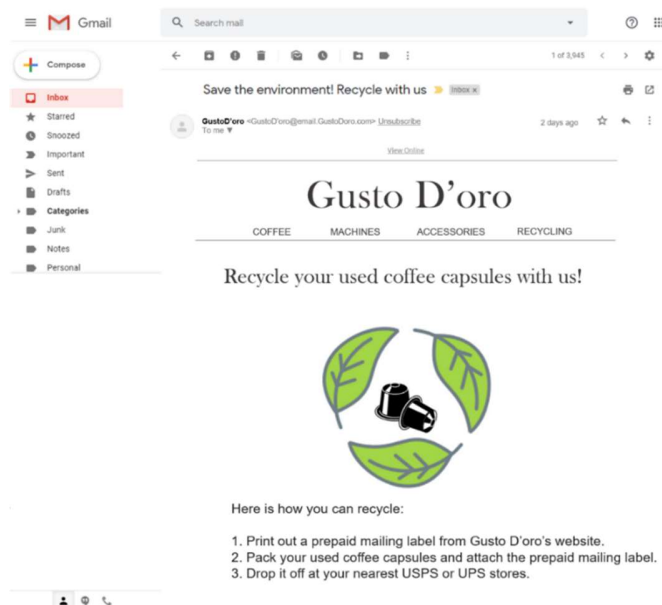
their recycling compared to those in the no acknowledgment condition with no difference between the traditional acknowledgment and automated acknowledgement conditions ($p = .87$).

Sustainability perceptions and future recycling intentions. A one-way ANOVA revealed a significant effect of acknowledgment condition on consumers' perceptions of company sustainability ($M_{\text{acknowledgment}} = 6.04$, $M_{\text{automated acknowledgment}} = 6.20$, $M_{\text{no acknowledgment}} = 5.44$; $F(2, 196) = 8.60$, $p < .001$) and future recycling intentions ($M_{\text{acknowledgment}} = 6.49$, $M_{\text{automated acknowledgment}} = 6.17$, $M_{\text{no acknowledgment}} = 5.74$; $F(2, 196) = 5.86$, $p = .003$). Participants in both the acknowledgment ($p = .002$) and the automated acknowledgment condition ($p < .001$) perceived Gusto D'oro as more sustainable compared to those in the no acknowledgment condition. Also, participants in both the acknowledgment ($p < .001$) and the automated acknowledgment condition ($p = .05$) were more willing to continue recycling with Gusto D'oro than those in the no acknowledgment condition. These findings support H1a and H1b. Participants in two acknowledgment conditions did not significantly differ from one another in their sustainability perceptions of the company ($p = .39$) nor their future recycling intentions ($p = .13$).

Discussion. This study demonstrates that, like the traditional acknowledgment email, the automated acknowledgment also effectively enhances a company's sustainability image and motivates customers' continued participation in their circular economy program. Thus, we can be assured that the findings of study 1A with traditional acknowledgment are valid regardless of whether the acknowledgement is automated.

STUDY WI STIMULI

Imagine that you have a capsule coffee machine from Gusto D'oro and you frequently order coffee capsules from them. One day, you received an email from Gusto D'oro about their coffee capsule recycling program. It says that Gusto D'oro has a recycling program that encourages you to send back your used coffee capsules to them using their prepaid USPS or UPS mailing label.

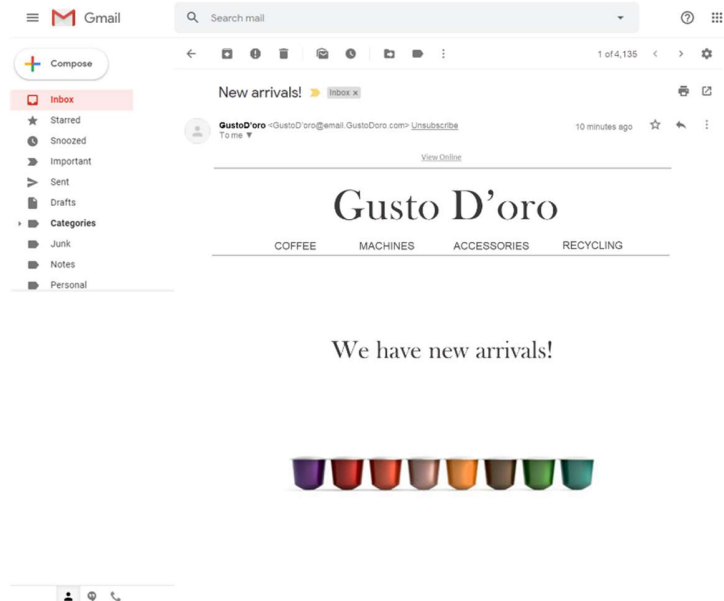


Upon reading this email, you decide to collect your used coffee capsules to participate in their recycling program. After a while, you collect a good amount of used coffee capsules to send back to Gusto D'oro for recycling. You go on their website, print out a prepaid mailing label, pack your used coffee capsules, and send them back by dropping them off at the UPS store near your place. After a few days, you notice that your returned coffee capsules are delivered thanks to UPS tracking system.

(next page)

No Acknowledgment Condition

A few weeks later, you get an email from Gusto D'oro that says “We have new arrivals.”



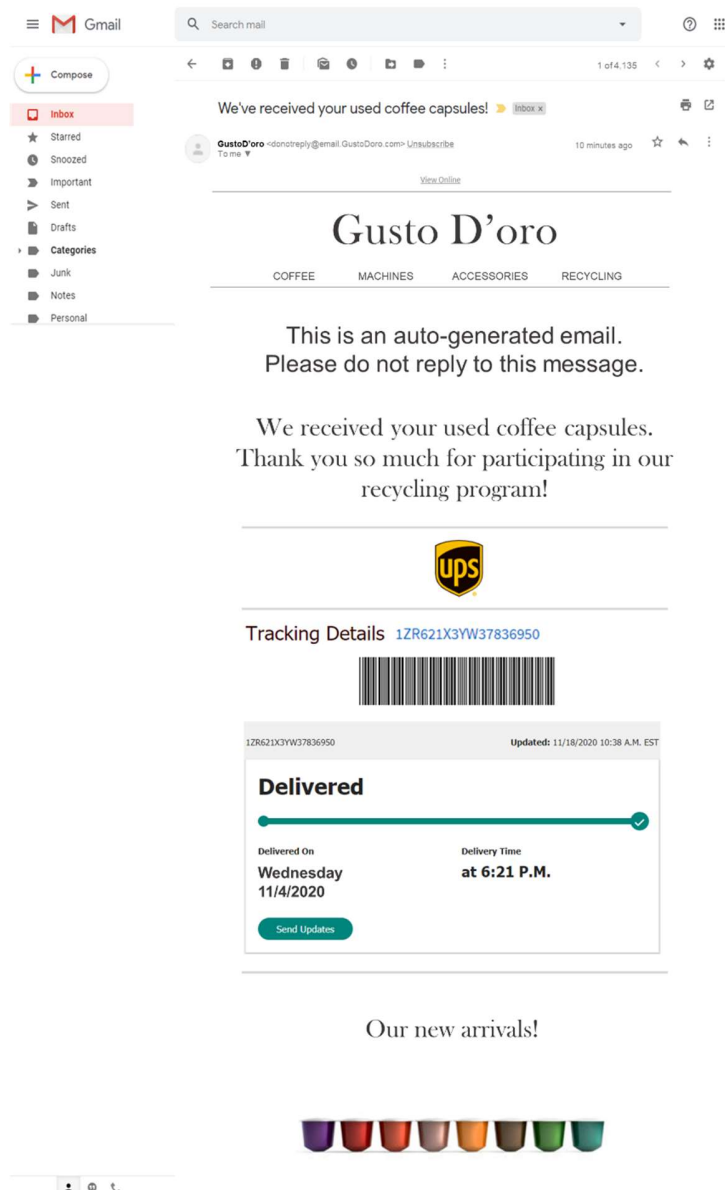
Acknowledgment Condition

A few weeks later, you get an email from Gusto D'oro that says “We received your used coffee capsules. Thank you so much for participating in our recycling program.” And as you scroll down, you see their new arrivals in the same email.



Automated Acknowledgment Condition

A few weeks later, you get an auto-generated email from Gusto D'oro that says “This is an auto-generated email. Please do not reply to this message. We received your used coffee capsules. Thank you so much for participating in our recycling program.” And as you scroll down, you see tracking information and their new arrivals in the same email.



APPENDIX G. STUDY 5 ADDITIONAL RESULTS FOR SCREENED SAMPLE (CHAPTER 1)

In study 5, I reported study results based on the entire sample. I also tested whether the results hold if I screen participants who incorrectly answered the acknowledgment manipulation check question, as stated in the preregistration for study 5.

The final sample comprised 48 participants after screening participants based on their responses to the acknowledgment check question: 39 in acknowledgment and 9 in no acknowledgment condition. I recognize this is unbalanced, which is why I deviated from the preregistration and retained all participants in the analysis reported in the main text. The research assistant reported that participants would often comment when finishing the survey that they thought the research assistant was supposed to have acknowledged them and would put Yes to “help them out.” Thus, participants that answered the manipulation check incorrectly in the no acknowledgment condition knew they weren’t acknowledged but answered incorrectly in an effort to help the research assistant.

Sustainability perceptions, future reuse intentions, and social worth. Similar to the results based on the entire sample, participants in the acknowledgment condition perceived the university’s dining services as more sustainable ($M_{\text{acknowledgment}} = 5.83$ vs. $M_{\text{no acknowledgment}} = 5.04$; $F(1, 46) = 3.67, p = .06$) in support of H1a. Again, participants in the acknowledgment condition did not report significantly greater intentions to continue using the reusable containers in the dining hall compared to those in the no acknowledgment condition, but there was a directional effect ($M_{\text{acknowledgment}} = 5.76$ vs. $M_{\text{no acknowledgment}} =$

4.89; $F(1, 46) = 1.36, p = .25$). Lastly, acknowledged participants felt marginally more valued as partners with the university's dining services ($M_{\text{acknowledgment}} = 5.76$ vs. $M_{\text{no acknowledgment}} = 4.89$; $F(1, 46) = 3.33, p = .07$) compared to those in the no acknowledgment condition.

Mediation analysis. Unlike the mediation analyses with all participants, social worth did not significantly mediate the effect of acknowledgment on sustainability perceptions and future reuse intentions (all CIs included zeros; H2 not supported).

*Actual future reuse.*⁶ Importantly, although not significant, a binary logistic regression revealed directional evidence that participants in the acknowledgment condition continued to use reusable container(s) more (41.7%) than those in the no acknowledgment condition (16.7%; $b = 1.27, \text{Wald } \chi^2(1) = 1.23, p = .27$).

⁶ Due to missing information necessary for tracking some participants ($n = 6$), I report actual reuse results based on the continued participation of the remaining 42 participants (Acknowledgment = 36; No acknowledgment = 6). While the percentages of participants that continued to reuse containers remained largely similar to the numbers using all participants in the main text, I believe a small sample size might have caused insignificant results.

**APPENDIX H. EXPERIMENTAL STIMULI USED IN STUDIES 2
AND 3 (CHAPTER 2)**

STUDY 2

Imagine that you are at a restaurant, True Food Café, near your place for lunch takeout. While waiting in line to order, you notice signage about True Food Café's green takeout container initiative.

It says that True Food Café runs its own reusable takeout container program to reduce single-use takeout container usage.



(next page)

On a closer look, you read that customers can use a reusable takeout container instead of a disposable counterpart with a \$1 deposit, which can be retrieved once they return the containers to True Food Café within 14 days.

You also read that once the containers are returned, True Food Café professionally cleans and sanitizes them so customers can reuse them.

STUDY 3

Consumer Opinions Survey

This study is being conducted on behalf of and in partnership with Avenir as a part of their "Next World" environmental initiative.

Avenir is a consumer products company headquartered in Europe specializing in personal health, personal care and hygiene products. Avenir makes a variety of high-quality consumer products.

Avenir has long been committed to environmental sustainability and has recently launched their "Next World" initiative in an effort to proactively benefit the planet with various initiatives. This survey is intended to help Avenir understand opinions and feelings that the public may have regarding environmental issues.



(next page/completed familiarity and cohesion measures)

Thank you.

Before concluding, Avenir invites you to take action right now on an important environmental cause.

Various state governments in the United States are currently considering legislation that would eliminate a great deal of environmental protections for wetlands.

Not only would these lobby-driven changes repeal wetlands protections, but they would limit the power of the Department of Environmental Management in decisions regarding national wetlands.



Wetlands provide an array of valuable benefits to society and the environment, including

- Sustaining a vast number of plant and animal species
- Improved water quality
- Reduced erosion and flooding
- Moderating the effects of climate change
- Providing places for people to hike, paddle, birdwatch, and enjoy outdoors

Unilateral Brand Effort Condition

Thus, Avenir will be donating \$500,000 to wetlands protection.

Imbalanced – Brand Lead Effort Condition

Thus, Avenir invites you to enter your initials to show your support for continuing wetlands protections.

It can be done right now as a part of this study. The petition will be automatically delivered to lawmakers and leaders.

This will take only a second.

Along with the petition, Avenir will donate \$250,000, as well as \$25 dollars per petition signature for a total goal contribution of \$500,000 to wetlands protection.

Balanced Effort Condition

Thus, Avenir invites you to write a brief essay to indicate your support for continuing wetlands protections. It can be done right now as a part of this study.

Your thoughts and feelings will be formally delivered to lawmakers and leaders along with other supporters' essays.

This would take approximately 2-5 minutes of your time.

Along with the essays, Avenir will donate \$250,000, as well as \$25 dollars per essay for a total goal contribution of \$500,000 to wetlands protection.

Imbalanced – Consumer Lead Effort Condition

Thus, Avenir invites you to write a brief essay to indicate your support for continuing wetlands protections.

It can be done right now as a part of this study. Your thoughts and feelings will be formally delivered to lawmakers and leaders along with other supporters' essays.

This would take approximately 2-5 minutes of your time.

Along with the essays, Avenir will match every essay submission with a \$0.25 cent donation to wetlands protection up to \$2,500 total.

Unilateral Consumer Effort Condition

Thus, Avenir invites you to write a brief essay to indicate your support for continuing wetlands protections.

It can be done right now as a part of this study.

Your thoughts and feelings will be formally delivered to lawmakers and leaders along with other supporters' essays.

This would take approximately 2-5 minutes of your time.

Low Consumer Effort

- *Imbalanced – Brand Lead Effort Condition*

Thank you for choosing to participate in the wetlands protection initiative!

Please enter your initials below to add your support for continuing wetlands protections.

The petition will be automatically delivered to lawmakers and leaders.

Initial of your first name

Initial of your last name

High Consumer Effort

- *Balanced Effort Condition*
- *Imbalanced – Consumer Lead Effort Condition*
- *Unilateral Consumer Effort Condition*

Thank you for choosing to participate in the wetlands protection initiative!

Please write a brief essay below to add your support for continuing wetlands protections.

Your thoughts and feelings will be added to those of other participants and delivered to lawmakers and leaders.

APPENDIX I. COHESION MEASURE USED IN STUDY 2

(CHAPTER 2)

SENSE OF COHESION (Mathieu et al. 2015)

Please indicate your agreement with the statements below regarding your relationship to Avenir (1 = “Strongly disagree”; 7 = “Strongly agree”):

- There is a feeling of unity and cohesion between me and Avenir.
- There is a strong feeling of belongingness between me and Avenir.
- I feel close to Avenir.
- Avenir and I share a focus on sustainability tasks.
- Avenir and I concentrate on getting sustainability tasks done.
- Avenir and I pull together to accomplish sustainability tasks.

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