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4 **The value of virtue signaling: Corporate sleight-of-hand positively influences consumers'**
5 **judgments about "social license to operate".**
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7 Sara Goto Gray[1], Bernadette Sütterlin[2], Michael Siegrist[2], and Joseph Árvai[1,3,4*]
8
9 [1] School for Environment and Sustainability,
10 University of Michigan
11
12 [2]Consumer Behavior Group,
13 Institute for Environmental Decisions, *and*
14 Department of Health Sciences and Technology
15 ETH Zürich
16
17 [3]Erb Institute for Global Sustainable Enterprise
18 School for Environment & Sustainability
19 Stephen M. Ross School of Business
20 University of Michigan
21
22 [4]Decision Research, Eugene, OR
23
24 [*]Corresponding Author
25 440 Church Street
26 Ann Arbor, MI, USA, 48109
27 e: JLArvai@umich.edu
28
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32 or perceived misdeeds. However, it is often the case that businesses are unwilling or unable to address
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34 benefits unfolding in areas unrelated to where the concerns or backlash initially arose. In this study, we
35 sought to test the effect of these indirect and direct responses to sustainability challenges on two
36 dependent variables: public perception of company reputation, and their willingness to grant a company
37 "social license" for future business activities. Compared to a business-as-usual control condition, and
38 across three company contexts, consumers provided favorable ratings of reputation, and were willing to
39 grant social license, when companies responded indirectly to a sustainability challenge. These results
40 highlight the powerful effect of indirect responses, which may be perceived as "greenwash", and the
41 importance of intuitive judgmental heuristics and individual value orientations when consumers form
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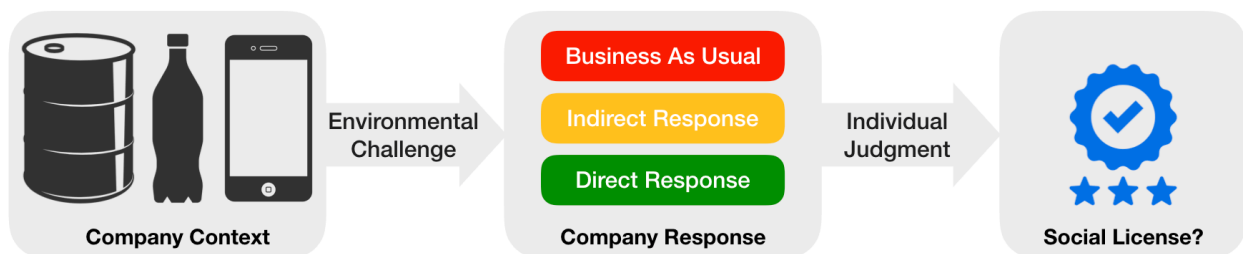54 **The value of virtue signaling: Corporate sleight-of-hand positively influences consumers'**
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73 **Graphical Abstract Image:**
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79 **1. Introduction**

80 When it comes to advancing global sustainability[1] goals, consumers' and regulators' expectations of

81 companies have been shifting over the past several decades. While it used to be the case that the success

82 of a company was tied almost exclusively to its profitability based on the quality of its products and

83 services, they are now judged by their ability to deliver on quality, while at the same time making

84 environmental and social progress. This shift in expectations is perhaps best exemplified by the evolution

85 of Ford Motor Company's consumer-facing identity from "Quality is Job 1" (the company's tagline

86 introduced in 1982) to marketing materials highlighting customers' ability to choose "any color you want,

87 as long as it's green" (a theme of Ford's marketing strategy introduced in 1998); today, Ford's corporate

88 mission is aligned with mobility to "make people's lives better".

89 A company's ability to meet consumers' and regulators' expectations regarding the protection of social

90 and environmental wellbeing depends, to a significant degree, upon its approach to business

91 sustainability. Business sustainability (interchangeably referred to as corporate social responsibility)

92 encompasses a suite of activities by corporations that go beyond the financial bottom-line. These

93 activities—which include stakeholder engagement, environmental protection, creating social value, etc.—

94 are generally geared toward achieving social or environmental goods (or counteracting social or

95 environmental harms), and are viewed as being worthwhile even if some marginal level of profit must be

96 sacrificed in the process (Steenkamp 2017).

97 Business sustainability as a core component of company operations has moved from the fringes to the

98 mainstream; it has gone from merely being a nice thing to do to a function of corporate governance that is

99 essential to a firm's long-term strategy, profitability, and survival. This transition is evident from the fact

100 that nearly 80% of Fortune 500 companies—from manufacturing and consumer goods to banking and

101 financial services—now issue sustainability reports in addition to, and often in concert with, financial

102 reporting. Overall, many firms view their business sustainability activities as central to their being

103 granted a "social license to operate" from their stakeholders, and from the communities within which they

104 operate (Wilburn and Wilburn 2011).

105 Social license in the context of corporate sustainability has proven to be a nebulous concept (Rooney et al.

106 2014), that lacks a clear and widely agreed-upon definition. At its core, it is akin to the amalgamation of

107 several factors (e.g., the overall level of public or consumer trust in a company and its leadership,

108 stakeholders' judgments about procedural fairness, the level of transparency of a company's practices, a

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[1] Framed according to United Nations 2030 Agenda for Sustainable Development (United Nations 2015), which includes social, environmental, and economic performance linked to seventeen "Sustainable Development Goals".

109   company's compliance with social norms and expectations, etc.) that together lead to generally positive

110   disposition toward a company and its approach to doing business; this, in turn, leads to relatively broad

111   acceptance of its current and proposed future activities (Wilburn and Wilburn 2011). Social license may

112   be limited to the communities that surround a company's operations (e.g., as is the case with extractive

113   activities like mining or oil and gas extraction), or it may be granted on a broader societal level (e.g., by

114   consumers in the case of high-profile products and services like foods and beverages and consumer

115   electronics).

116   Of particular interest to us is the observation that social license may be gained through both "direct" and

117   "indirect" means. For example, it may be gained directly by complying with regulatory and social norms

118   surrounding informed consent before a company's operations begin; e.g., relationship building and co-

119   production of services with neighboring communities, maintaining a high level of transparency about

120   company operations, and timely and fulsome compliance with regulatory reviews like environmental

121   impact assessments (Rooney et al. 2014). It can also be gained by directly and meaningfully addressing

122   concerns about a company's activities after they have been initiated; e.g., going beyond compliance

123   (Gunningham et al. 2006) and altering or even ceasing business operations that are shown to be

124   deleterious for public or environmental health (Hall et al. 2015).

125   But, because of its linkages to perceptions of reputation and judgments regarding trust, social license may

126   also be gained *indirectly* via acts of corporate sleight-of-hand. Here, companies attempt to attract

127   stakeholder and customer support by being good citizens in areas that are unrelated—or, at best, distal—

128   to where their primary operations unfold. These kinds of activities—which are a form of virtue signaling

129   (Wallace et al. 2018)—help companies to enhance their reputations, and to build trust and goodwill

130   within communities and among stakeholders and consumers (Moffat and Zhang 2014). Taking the United

131   Nations' (2015) Goals for Sustainable Development as a guide, for example, a company in the oil and gas

132   business may opt to support research on a disease (*Goal 3: Good Health and Well-Being*), or they may

133   opt to donate equipment and human resources for a sanitation project in a developing country (*Goal 6:*

134   *Clean Water and Sanitation*), in lieu of progress on the goals most closely related to their core business

135   (*Goal 7: Affordable and Clean Energy*, and *Goal 13: Climate Action*).

136   While effective in garnering goodwill and social license, many researchers and practitioners have

137   suggested that these kinds of indirect efforts designed to garner social license are in fact smokescreens

138   that have more to do with impression management than they do with a genuine interest in corporate social

139   responsibility (Pomering 2017). For example, Prasad and Holzinger (2013) argue that indirect efforts to

140   garner social license to operate are really an attempt to engender a positive but ultimately false

141   consciousness among customers and stakeholders surrounding much darker business realities.

142   We agree, and research on human perception, judgment, and decision-making supports this assertion.

143   Specifically, companies may be attempting to capitalize on the halo effects (Thorndike 1920) associated

144   with doing certain good deeds. Halo effects are a form of context-dependent judgment borne from the fact

145   that people find it difficult to treat stimuli—e.g., events, companies, products, etc.—as a compound of

146   separate attributes that require independent prioritization. Instead, we observe that the relationship

147   between the priorities assigned to attributes tends to be highly correlated; specifically, substantially

148   positive or negative feelings about salient attributes "spill over" to affect their feelings about other,

149   unrelated attributes. So, it's easy to imagine that a company that is valued by stakeholders for being

150   socially conscious, may also be viewed as being environmentally friendly.

151   Firms and organizations routinely attempt to capitalize on these effects in an attempt to influence the

152   perceptions and preferences of consumers and stakeholders. At one extreme are legitimate efforts by

153   firms to highlight sustainability in their behaviors, products, and services through via "green marketing"

154   efforts (Dangelico and Vocalelli 2017); green marketing refers to the process of drawing attention to

155   products and services based on their legitimate environmental (or social) benefits.

156   At the other extreme is greenwashing (Lyon and Maxwell 2011). Firms may, on the one hand, highlight

157   symbolically significant sustainability-focused *programs* in order to deflect attention from a firm's

158   environmentally unfriendly or less wholesome activities. Likewise, firms may selectively highlight

159   specific, carefully selected sustainability *attributes*—e.g., certain behaviors, products, services, or even

160   the corporate ethos (regardless of whether it's authentic or fabricated)—without drawing attention to

161   potentially more important and relevant attributes or externalities.

162   When evaluating the effects of companies' behaviors, or their strategies aimed at reputation enhancement

163   and the earning of social license, not all observers of these behaviors will arrive at their judgments in a

164   similar fashion. Prior research suggests, for example, that women are more concerned about sustainability

165   issues—broadly construed—than men (McCright 2010); this, in turn, leads to higher levels of support for

166   business sustainability efforts among women than among their male counterparts (Jones et al. 2017).

167   Likewise, women—more than men—that tend to exhibit more sustainability-conscious consumer

168   behavior (Mainieri et al. 1997, Luchs and Mooradian 2012). Extending these findings to the granting of

169   social license, it stands to reason that women may hold companies to a higher standard than men.

170   Other factors have also been found to influence people's concerns about sustainability, and their support

171   of activities or policies. For example, several studies have shown that psychographics such as value

172   orientations are associated with concern about sustainability and support for efforts that promote it. For

173   example Shi et al. (2016) and Goto-Gray et al. (2019) have explored the interaction of domain-specific

174   knowledge and individual value orientations as drivers of public concern about climate risks. Related

175   studies by Visschers et al. (2017) and L'Orange Seigo et al. (2014) modeled the relationship between

176   these variables to better understand the factors that predict public risk and benefit perceptions and support

177   for strategies like geoengineering and carbon capture and sequestration.

178   But, in spite of a wide range of studies that explore the constellation predictors of risk and benefit

179   perceptions in the realm of environment and sustainability, no study (to the best of our knowledge) offers

180   a systematic exploration of predictors of public support for business sustainability activities. Thus, the

181   remainder of this paper presents methods for and results from a controlled experiment that focused on the

182   influence of indirect and direct responses by companies to emergent environmental and sustainability

183   challenges—along with the influence of a series of psychological and social variables—on judgments

184   about company reputation and the willingness to grant social license.

185   Because the sector in which a company operates may be influential in guiding judgments about reputation

186   and social license, we conducted this research in three different company contexts: oil and gas, consumer

187   electronics, and food and beverages. These contexts were selected because each has been the locus of

188   recent controversies regarding the sustainability practices of companies doing business within them.

189   Indeed, the scenarios developed for our research were based on actual sustainability controversies

190   experienced by the Coca-Cola Company, Apple, and Enbridge (a Canadian oil and gas pipelines

191   company).

192   **2. Methods**

193   **2.1 Design and Hypotheses**

194   Participants in this research responded to an online survey instrument, with an embedded experimental

195   design, to address the research questions noted above. After obtaining informed consent, participants were

196   asked to read a brief scenario that described an emergent sustainability challenge faced by a company.

197   Each scenario was comprised of two parts: (1) a description of an emergent corporate sustainability

198   challenge and (2) an explanation of how the company responded to it. A company's response was further

199   segmented such that it (a) directly addressed the sustainability challenge by changing its behavior or

200   business practices (labeled a *direct response*), (b) indirectly addressed the sustainability challenge by

201   taking positive action in an unrelated area (labeled an *indirect response*), or (c) ignored the challenge and

202   proceeded with business-as-usual (labeled *BAU*); see Table S1.

203   **— Tables S1 to be included in Supplemental Materials section —**

204   For the purposes of this research, the emergent sustainability challenges and company responses (with the

205   exception of *BAU*) were defined according to the United Nations' Goals for Sustainable Development

206   (United Nations 2015), which include an array of environmental, social, and economic dimensions. The

207   scenarios were developed for each of the three company contexts: oil and gas pipelines, consumer

208   electronics, and food and beverages. In the experiment, the companies were not named so as to not bias

209   the results because of either company recognition or brand (or company) loyalty. A between-subjects

210   design was adopted such that each participant responded to only one company context and only one kind

211   of company response to an emergent corporate sustainability challenge.

212   After reading their assigned scenario, participants responded to a question included as a manipulation

213   check; it asked if the company's response *directly* addressed the concerns raised about their business

214   practices. Responses were collected using a 7-point Likert scale where 1 = "The response did not directly

215   address the concerns" and 7 = "The response did directly address the concerns. Next, participants were

216   asked to respond to two questions, which were combined to form a scale (Cronbach's $\alpha = 0.87$), regarding

217   their judgments about the company's reputation. The first question asked about the effect of the

218   company's response to the sustainability challenge on its reputation; responses were collected using a 7-

219   point Likert scale where -3 = "Negative effect on their reputation" and +3 = "Positive effect on their

220   reputation" (midpoint (0) = "No effect on their reputation"). For analysis these responses were recoded on

221   1 – 7 scales. The second question, also linked to a 7-point Likert scale, asked how each participant would

222   rate the company's reputation based on the information they received in the scenario; here, 1 = "Their

223   reputation is poor" and 7 = "Their reputation is excellent" (midpoint = "Their reputation is average").

224   Finally, participants were asked to respond to two questions aimed at the concept of social license; once

225   again these questions were combined to form a scale (Cronbach's $\alpha = 0.86$). The first question asked if

226   the company's response to the concerns raised about their business would make them less or more likely

227   to support the company in the future. Responses were provided on a 7-point Likert scale where -3 = "I'd

228   be much less likely to support them" and +3 = "I'd be much more likely to support them" (midpoint (0) =

229   "This would have no effect on my support for them"). The second question asked participants to assume

230   the company's response outlined in the scenario reflected "business as usual" for the company; they were

231   then asked to offer a judgment about whether the company should be allowed to continue taking this kind

232   of approach in their future corporate activities. Responses were provided on a 7-point Likert scale where -

233   3 = "No" and +3 = "Yes" (midpoint (0) = "I'm not sure"). As above, these responses were recoded on 1 –

234   7 scales for the statistical analyses.

235   After answering these questions, participants were asked a series of questions aimed at the covariates in

236   this study. First, they were asked to indicate their level of trust in each of the three company types

237   featured in this study; trust was measured on a single item, which asked: "Generally speaking, how much

238   do you trust the following companies and organizations to conduct business in a socially responsible

239   manner?" Responses were collected on a 7-point Likert scale where 1 = "Low trust" and 7 = "High trust"

240   (midpoint = "Medium trust").

241   Participants were also asked to indicate their level of concern about climate change; four climate concern

242   questions, which formed a scale (Cronbach's α = .94) were taken from previous studies used by the

243   authors (e.g., see Tobler et al. 2012, Shi et al. 2016). These questions were asked because concerns about

244   oil and gas in particular are often tied to concerns about climate change, and also because previous studies

245   have shown that concern about climate change is closely related to (and may be a proxy for) broader

246   concerns about sustainability and the environment (e.g., see Hornsey et al. 2016).

247   Participants were then asked to self-report their political orientation; responses were collected on a 7-

248   point Likert scale where 1 = "Extreme left" and 7 = "Extreme right" (midpoint = "Centrist: Neither left

249   nor right"). For analysis these responses were recoded on 1 – 7 scales. In addition, we used three 4-item

250   value orientation subscales developed by de Groot and Steg (2007) to measure participants' *egoistic*,

251   *altruistic*, and *biospheric value orientations*. The internal reliability of each value scale was found to be

252   high (Cronbach's α_{Egoism} = .78, *n* = 4; Cronbach's $\alpha_{Altruism}$ = .89, *n* = 4; *and* Cronbach's $\alpha_{Biospherism}$ = .96, *n*

253   = 4). Finally, respondents reported their gender, income, and education level.

254   We hypothesized that participants would offer the lowest ratings for company reputation and their

255   willingness to grant social license in the *BAU* conditions for all three company contexts. Similarly, we

256   hypothesized that the highest ratings would be given for reputation and social license in the *direct*

257   response conditions for all three company contexts. Finally, we hypothesized that ratings for reputation

258   and social license in the *indirect* response conditions would be significantly higher than in the *BAU*

259   conditions, approaching those in the *direct* response conditions. In terms of our exploratory regression,

260   we anticipated that lower levels of self-rated concern about climate change and biospherism, and higher

261   ratings of trust in companies and egoism would contribute to more favorable ratings—for reputation and

262   social license—when considering *indirect* company responses.

263 **2.2 Sample**

264 Participants in this research were recruited in Canada from a representative internet panel maintained by

265 Insightrix Research LLC. A total of 750 participants were randomly assigned to the *BAU* ($n = 250$),

266 *indirect* response ($n = 250$), and *direct* response ($n = 250$) conditions for each of the three company

267 contexts: oil and gas, consumer electronics, and food and beverage; thus, the total sample was $n = 2,250$

268 (i.e., 3×750). After data cleaning, the total sample was reduced to $n = 1,753$. Cleaning the data consisted

269 of removing participants because they spent less than half the median time (7 minutes) on the instrument,

270 or because they failed a series of attention checks. The overall sample was 52% female ($n = 912$) and

271 48% male ($n = 841$); the average age of participants was 40 to 49, and the mean response for education

272 levels was the completion of some technical school or college. Sample sizes by context and condition are

273 reported in Tables 1 – 3.

274 **2.3 Analysis**

275 We conducted analyses of variance with Tukey's post-hoc tests to detect differences across *BAU*, *indirect*,

276 and *direct* company responses for each context. ANOVAs and post-hoc tests were carried out for the

277 manipulation check, and for the dependent measures regarding reputation and social license. To lower the

278 rate of Type II errors due to multiple (3) comparisons per context, we applied a Bonferroni correction;

279 thus, the *p*-value required for significance in the ANOVAs was set at 0.0167.

280 We also conducted exploratory linear regressions to improve our understanding about the extent to which

281 demographic characteristics (i.e., gender, income, and education level), trust in participants' assigned

282 company type, concern about climate change, and value orientations explained participants' judgments

283 about company reputation and their willingness to grant social license.

284 **3. Results**

285 Considering the manipulation check questions for the food and beverage, and the oil and gas pipelines

286 contexts, our ANOVA detected a significant main effect ($F_{(2, 578)} = 192.87$; $p < 0.001$ for the food and

287 beverage context and $F_{(2, 594)} = 93.49$; $p < 0.001$ for the oil and gas pipelines context). Thus, both contexts

288 passed the manipulation check (Table 1). Post-hoc testing revealed that, in both contexts, participants

289 provided higher average ratings for the companies' *direct* responses to sustainability challenges than they

290 did for *indirect* responses and *BAU*. Neither the *indirect* responses nor the *BAU* responses were

291 significantly different from one another ($p < 0.001$ for both contexts); thus, in both contexts, the *indirect*

292 response and *BAU* were judged, on average, to be equally "indirect".

293 The ANOVA also detected a significant main effect ($F_{(2, 572)} = 147.78$; $p < 0.001$) in the consumer

294 electronics context, meaning it too passed the manipulation check (Table 1). However, post-hoc testing

295 revealed a significant one-tailed difference across all scenarios such that the *direct* response outperformed

296 the *indirect* response, and the *indirect* response outperformed *BAU*; thus, the *indirect* response was

297 judged, on average, to be more "direct" than *BAU*.

298   **— Insert Table 1 approximately here. —**

299 For participants judgments about companies' reputation following different responses to a sustainability

300 challenge, the ANOVA detected a significant main effect for all three company contexts ($F_{(2, 578)} =$

301 201.68; $p < 0.001$ for the food and beverage context, $F_{(2, 594)} = 87.94$; $p < 0.001$ for the oil and gas

302 pipelines context, and $F_{(2, 572)} = 141.80$; $p < 0.001$ for the consumer electronics context). Post-hoc testing

303 showed a significant one-tailed difference across all scenarios such that *direct* responses outperformed

304 *indirect* responses, and *indirect* responses outperformed *BAU* (Table 2).

305   **— Insert Table 2 approximately here. —**

306 Our results were very similar when considering participants judgments about social license. An ANOVA

307 detected a significant main effect for all three company contexts ($F_{(2, 578)} = 123.35$; $p < 0.001$ for the food

308 and beverage context, $F_{(2, 594)} = 85.57$; $p < 0.001$ for the oil and gas pipelines context, and $F_{(2, 572)} =$

309 105.73; $p < 0.001$ for the consumer electronics context). Post-hoc testing showed a significant one-tailed

310 difference across all scenarios such that *direct* responses outperformed *indirect* responses, and *indirect*

311 responses outperformed *BAU* (Table 3).

312   **— Insert Table 3 approximately here. —**

313 In terms of our exploratory regression for *indirect* responses and the willingness to grant social license

314 (Table 4), trust in the type of company that participants were exposed to was a significant predictor of the

315 willingness to grant social license in the case of *indirect* responses to sustainability challenges. Ascribing

316 to an egoistic value orientation—which is related to the pursuit of personal interests, such as power and

317 achievement—was also a significant predictor of the willingness to grant social license for *indirect*

318 responses. Income, political orientation, and ascribing to a biospheric value orientation—which is a self-

319 transcendent value orientation that emphasizes the importance of harmony between people and the

320 environment—were also shown to be significant predictors, though none of them were robust across all

321 three company contexts. Concern about climate change did not significantly predict social license.

322   **— Insert Table 4 approximately here. —**

323 **4. Discussion**

324 Results from this study show that *direct* responses by companies that are aimed at addressing
325 sustainability challenges significantly outperform business as usual across dependent variables; reputation
326 and social license. However, our results also show that *indirect* responses by companies also have a
327 significant and positive impact (relative to business as usual) on judgments about reputation (Table 2) and
328 social license (Table 3) even though they—with the exception of the consumer electronics scenario (Table
329 1)—were not viewed by participants as directly addressing the sustainability challenge as described in the
330 scenarios (Table S1). These findings are in line with our hypotheses.

331 These results illustrate that there's more to what drives judgments about stakeholders' satisfaction with
332 companies—in terms of company reputation and the willingness to grant social license—than the
333 "directness" of a company's response to a sustainability challenge alone. It is clear that people are
334 responding to other signals—beyond the type and appropriateness of a company's response—when
335 formulating these judgments.

336 A commonly accepted assumption amongst pollsters, policy analysts, and many behavioral scientists is
337 that, when it comes to judgments such as the ones studied here, those forming them simply draw upon a
338 pool of consistent, preexisting priorities and experiences. Preexisting priorities and past experiences can
339 be identified in a variety of contexts. For example, when an individual's or groups' behavior reinforces or
340 violates a strongly held social norm, people are able to draw on their priorities and experiences in labeling
341 the behavior in question as "good" or "bad". But the question that inevitably follows—namely, how good
342 or bad?—cannot be answered by drawing on preexisting priorities and experiences alone.

343 In these situations, consistent preexisting priorities or past experiences upon which to base judgments
344 about the magnitude of benefit or harm are largely absent. The same is true of contexts that require the
345 opposite kind of judgment; e.g., judgments about the degree of "goodness" associated with an event or
346 behavior, or the magnitude of support for actors that would be indicated in response to their good
347 behaviors. Under these circumstances, people must construct their judgments in response to cues that are
348 available to them at the time when the judgments are made or elicited (Payne et al. 1992, Slovic 1995).
349 Some of these cues will be external, in the sense that they are associated with information that
350 accompanies judgmental context. And some cues will be internal, reflecting the worldview or ideology of
351 the people making the judgments.

352 For example, external cues may take the form of information presented—as was the case with our
353 research—about sustainability challenges or a firm's responses to them. These kinds of cues activate

354   judgmental heuristics (Gilovich et al. 2002, Gigerenzer et al. 2011), which facilitate the rapid—and often

355   unconscious *vs.* rationally motivated—formation of judgments. In particular, our results suggest that

356   heuristic judgments based on halo effects (Thorndike 1920) are a powerful force in driving consumer and

357   stakeholder responses to indirect responses by companies to sustainability challenges. Halo effects

358   describe the situation where, in a situation that requires multi-attribute evaluation, people's positive or

359   negative reactions to certain salient attributes—i.e., attributes that cast a halo—spill over to effect their

360   reactions to other attributes.

361   In our research, there are at least two external cues that can could have lead to the formation of positive

362   halo effects for participants. One is the positive nature of the *indirect* response to the sustainability

363   challenges as described in the scenarios; though they do not directly address the sustainability challenges

364   raised by a company's behavior, indirect responses are likely to create an influential warm glow for

365   observers. The other is the positive halo that is imparted by a trusted organization; the effect of trust in a

366   company in driving judgments about social license (Table 4) was highly significant. The importance of

367   trust is in line with prior work in business on crisis management. Crisis managers often believe that if a

368   company's pre-crisis reputation is strongly positive, it will create a positive halo that protects the firm

369   against reputational damages (Coombs and Holladay 2006).

370   Recent research suggests that the psychological mechanism behind these halo effects is linked to the level

371   of positive affect—i.e., the instinctive emotional response (Finucane et al. 2000, Slovic et al. 2002)—that

372   is associated with symbolically significant activities, outcomes, or behaviors (Wilson and Arvai 2006,

373   2010). For example, research by Sütterlin and Siegrist (2014) has shown that people rely on their

374   instinctive emotional responses to code symbolically significant behaviors as statements about one's

375   convictions. In other words, certain behaviors by individuals—and, by extension—firms become

376   instinctively tagged with symbolic meaning, which in turn can be used by others to make inferences about

377   their underlying values and motivations.

378   Building upon research by Mead (1934) and Blumer (1969) on symbolic interactionalism, the symbolic

379   meaning attributed to a person's or firm's action and whether it is perceived as either positive or negative

380   is ultimately the product of the social interactions that unfold between organizations and the people they

381   serve. The end result is that, what is viewed from outside the firm as contributing positively to the society

382   and the environment—and thus, creating social license—is socially constructed rather than being

383   objectively linked to the firm's achievement of specific outcomes or impacts. Thus, engaging in certain

384   symbolically meaningful behaviors—even if these behaviors deflect attention away from an emerging

385   sustainability crisis—a firm may be more easily and more directly associated with the positive *symbolic*

386   meaning of those behaviors rather than with the behaviors that address—or do not address—the

387   underlying sustainability crisis.

388   In research by Sütterlin and Siegrist (2014), for example, judgments about the degree to which people

389   were perceived as behaving "sustainably" were more strongly tied to external evaluations of symbolically

390   significant attributes of their behaviors (e.g., driving hybrid-electric vehicles *vs.* a SUV) rather than on

391   more "objective" and informative behavioral attributes of sustainability (e.g., the annual distance covered

392   and the fuel consumption of the car—that is, the amount of energy a driver actually consumed). Thus, if a

393   consumer wished to merely signal virtuous behaviors to others, without actually addressing the footprint

394   of their behaviors, driving a Prius would probably suffice.

395   Our results suggest that, consistent with research on halo effects, affect, and symbolic significance,

396   positive intuitive reactions to indirect responses by companies to sustainability challenges similarly spill

397   over to influence ratings on corporate reputation and—ultimately—social license. Indeed, participants

398   ratings of how directly the indirect responses addressed the concerns (see manipulation check in Table 1)

399   may provide further support for this assertion. In the food and beverage, and the oil and gas pipelines

400   contexts, participants viewed *indirect* and *BAU* responses as the same. In the consumer electronics

401   context, *indirect* responses were viewed more favorably than *BAU.* We believe this to be the case because

402   this was the only context in which an indirect response to a sustainability challenge involved an

403   improvement in environmental performance. Because environmental performance is so closely linked to

404   concerns about sustainability, we believe that the positive halo created by a commitment to environmental

405   improvements led to the significant increase in ratings of "directness".

406   Our results also highlight the importance of other variables (Table 4) that may influence people's ratings

407   of reputation and social license. Controlling for other covariates, our results suggest that people who

408   identify strongly with an egoistic value orientation—which is often associated with a free-market

409   ideology (Halali et al. 2017)—were more likely to positively rate indirect responses than participants who

410   did not identify with this value orientation.

411   On the flipside, our results did not support our hypotheses that ascribing to a biospheric value orientation

412   (except for the context food and beverages) or being concerned about climate change, would lead to an

413   increased willingness to grant social license. Specifically, higher levels of concern about climate

414   change—which we included as a covariate in our regression—did not reduce social license when

415   considering indirect responses to sustainability challenges. This finding came as a surprise as it has been

416   previously shown that those who care most deeply about the health of the environment are much more

417   demanding of the private sector for meaningful action on this front (Schwartz and Cragg 2009).

418   Even though judgments about corporate reputation and social license appear to be strongly influenced by
419   *indirect* responses, we take it as a positive that these responses did not score as highly as *direct* responses.
420   These results suggest that company stakeholders and consumers would strongly prefer *direct* responses to
421   sustainability challenges, and they would reward companies for them.

422   On the other hand, these results also suggest that companies are likely to receive significant upticks in
423   stakeholder and consumer support—including the willingness to grant social license—for sustainability
424   efforts that neither address directly areas where they may be deficient, nor areas that are core to their
425   business activities. In addition to the reality-based contexts that we studied in our research, there are
426   countless other examples of corporate misdirection that yield positive halo effects; e.g., the prominent
427   case of the oil and gas giants who made relatively small but high-profile investments in renewable energy
428   or biodiversity protection while bankrolling and lobbying misinformation campaigns aimed at weakening
429   policies and public perceptions about climate change (Dunlap and McCright 2011).

430   In terms of limitations, this research focused on only three company contexts—oil and gas, consumer
431   electronics, and food and beverages—and it was carried out only with Canadian consumers. Though the
432   results are reported in this paper are robust, caution should be exercised in generalizing beyond these
433   contexts and consumers; we hope that future research will study company's direct and indirect responses
434   to sustainability challenges across other contexts. Moreover, we believe that future research should also
435   focus on the domain of the philanthropic activities of corporate giants, many of whom are increasingly
436   being criticized for using corporate and charitable giving as a mechanism for laundering their tarnished
437   reputations (Giridharadas 2018).

438   **5. Conclusion**

439   The research reported in this paper focused on the influence of indirect and direct responses by companies
440   to emergent environmental and sustainability challenges on consumers' judgments about company
441   reputation and their willingness to grant social license. We also studied the influence of a series of
442   psychological and social co-variates on these dependent variables.

443   Compared to a business-as-usual control condition, and across three distinct company contexts (oil and
444   gas, consumer electronics, and food and beverage), consumers provided favorable ratings of corporate
445   reputation—and were willing to grant social license—when companies responded *indirectly* to a
446   sustainability challenge. These results are in line with prior research on halo effects, which demonstrates
447   the influence of symbolically significant but non-relevant information when people are asked to make
448   judgments in the domain of sustainability (Wilson and Arvai 2006, Sütterlin and Siegrist 2014).

449   Identifying with an egoistic value orientation—which is related to the pursuit of personal interests, such

450   as power and achievement—was also a significant predictor of the willingness to grant social license for

451   *indirect* corporate responses to emergent sustainability challenges. These results highlight the powerful

452   effect of indirect, sleight-of-hand responses by companies—which may be characterized as examples of

453   virtue signaling or greenwashing—and the importance of intuitive judgmental heuristics and individual

454   value orientations when consumers form impressions about corporate sustainability.

455   We doubt that the value of highlighting an indirect response to sustainability challenges is lost on

456   companies. Many of today's companies possess increasingly sophisticated marketing and

457   communications divisions that often portray their products and services such that they serve as signals

458   that can help to define consumers' personalities and priorities (Belk 1988, Galinsky et al. 2011,

459   Griskevicius and Wang 2013). We suspect that companies equally understand the importance of virtue

460   signaling by highlighting indirect—but highly symbolic—behaviors that help outwardly communicate

461   their values regardless of whether these values are authentic or manufactured. Thus, we expect that the

462   trend toward corporate sleight-of-hand over meaningful action in the domain of sustainability will

463   continue for many years to come.

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572 **Table 1.** ANOVA comparing manipulation check results by context and response (*Direct*, *Indirect*, and *BAU*).
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Context	Direct (D)		Indirect (I)		BAU (B)		F	p	Tukey Results
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD			
Food & Beverage	4.83	1.28	2.29	1.69	2.20	1.48	192.87	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 195)		(n = 198)		(n = 188)		*(2, 578)*		I *vs.* B[ns]
Oil & Gas Pipelines	4.55	1.43	2.81	1.60	2.66	1.62	93.49	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 208)		(n = 183)		(n = 206)		*(2, 594)*		I *vs.* B[ns]
Consumer Electronics	4.81	1.29	3.14	1.75	2.21	1.40	147.78	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 184)		(n = 192)		(n = 199)		*(2, 572)*		I *vs.* B[***]

574 Significance level for Tukey's post-hoc comparisons: *$p \leq 0.0167$; **$p \leq 0.01$; ***$p \leq 0.001$; ns = no significant difference.*
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579 **Table 2.** ANOVA comparing participants judgments about company reputation by context and sustainability
580 response (*Direct*, *Indirect*, and *BAU*).
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Context	Direct (D)		Indirect (I)		BAU (B)		F	p	Tukey Results
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD			
Food & Beverage	4.94	1.17	3.20	1.38	2.32	1.34	201.68	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 195)		(n = 198)		(n = 188)		*(2, 578)*		I *vs.* B[***]
Oil & Gas Pipelines	4.64	1.41	3.75	1.34	2.79	1.49	87.94	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 208)		(n = 183)		(n = 206)		*(2, 594)*		I *vs.* B[***]
Consumer Electronics	4.76	1.28	3.83	1.39	2.53	1.24	141.80	< 0.001	D *vs.* I[***]
									D *vs.* B[***]
	(n = 184)		(n = 192)		(n = 199)		*(2, 572)*		I *vs.* B[***]

582 Significance level for Tukey's post-hoc comparisons: *$p \leq 0.0167$; **$p \leq 0.01$; ***$p \leq 0.001$; ns = no significant difference.*
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590 **Table 3.** ANOVA comparing participants judgments about social license by context and sustainability response
591 (*Direct*, *Indirect*, and *BAU*).
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Context	Direct (D)		Indirect (I)		BAU (B)		F	p	Tukey Results
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD			
Food & Beverage	4.45	1.32	2.77	1.52	2.31	1.37	123.35	< 0.001	D *vs.* I***
	(n = 195)		(n = 198)		(n = 188)		(2, 578)		D *vs.* B***
									I *vs.* B***
Oil & Gas Pipelines	4.62	1.29	3.33	1.46	2.83	1.55	85.57	< 0.001	D *vs.* I***
	(n = 208)		(n = 183)		(n = 206)		(2, 594)		D *vs.* B***
									I *vs.* B***
Consumer Electronics	4.49	1.17	3.35	1.43	2.57	1.29	105.73	< 0.001	D *vs.* I***
	(n = 184)		(n = 192)		(n = 199)		(2, 572)		D *vs.* B***
									I *vs.* B***

593 Significance level for Tukey's post-hoc comparisons: *p ≤0.0167; **p ≤ 0.01; ***p ≤ 0.001; ns = no significant difference.*
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597 **Table 4.** Linear regression results describing the extent to which demographic characteristics (i.e., gender, income,
598 education level, political orientation), value orientations (egoism, altruism, biospherism), trust in companies, and
599 climate change concern explained participants' judgments about social license assigned to a company *indirectly*
600 responding to sustainability challenges by context.
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	Food & Beverage			Oil & Gas Pipelines			Consumer Electronics		
	β	SD	95% CI (L, U)	β	SD	95% CI (L, U)	β	SD	95% CI (L, U)
Gender	*-0.23*	0.50	-0.62, 0.16	-0.05	0.50	-0.43, 0.32	-0.03	0.50	-0.43, 0.36
Income	*-0.50****	0.94	-0.71, -0.29	-0.01	0.91	-0.22, 0.20	-0.08	0.98	-0.29, 0.13
Education	*0.07*	1.51	-0.06, 0.20	-0.03	1.52	-0.15, 0.10	-0.03	1.59	-0.16, 0.10
Political Orientation	*-0.01*	1.08	-0.20, 0.17	0.22*	1.16	0.05, 0.38	0.15	1.08	-0.06, 0.36
Egoism	*0.14**	1.38	0.00, 0.28	0.18**	1.42	0.05, 0.31	0.18*	1.21	0.00, 0.36
Altruism	*-0.15*	1.28	-0.35, 0.05	-0.02	1.38	-0.23, 0.19	-0.08	1.17	-0.32, 0.17
Biospherism	*-0.20**	1.46	-0.40, -0.01	-0.01	1.45	-0.23, 0.20	0.04	1.38	-0.21, 0.29
Trust	*0.50****	1.12	0.33, 0.67	0.47***	1.28	0.30, 0.63	0.31**	1.03	0.10, 0.52
Climate Concern	*0.02*	1.35	-0.16, -0.19	-0.04	1.25	-0.23, 0.15	-0.03	1.27	-0.26, 0.19
R^2	0.32			0.39			0.14		
F	9.64***			9.82***			3.36**		
(df1, df 2)	*(9, 188)*			*(9, 173)*			*(9, 182)*		

*p < .05, **p < .01, ***p < .001

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