

# Is Effort Required by a Green Behavior Always Negative? The Moderating Effect of Male Gender Identification Strength

Constanze Gathen and Sandra Praxmarer-Carus, Universität der Bundeswehr München, Germany

## INTRODUCTION

According to the principle of least effort, humans tend to avoid behaviors that require effort (Hull 1943). This research defines effort as a property of an activity or a product which determines the amount of labor that will be required to perform the activity or to generate utility from the product (Gibbs and Drolet 2003; Inzlicht, Shenhav, and Olivola 2018). Studies demonstrate that the effort necessary to carry out an activity acts as a barrier for performing that behavior (McKenzie-Mohr 2000). Consistently, Ludwig, Gray, and Rowell (1998) demonstrate that reducing effort increases the behavior's attractiveness. Therefore, a relevant recommendation to public policy makers who aim at motivating individuals to perform certain behaviors would be to reduce the effort that the behavior requires (Van Houten, Nau, and Merrigan 1981). However, many prosocial and green behaviors demand a significant amount of effort that is impossible to eliminate. Examples include household waste separation and picking up trash. As motivating individuals to perform such behaviors is valuable to society, it is necessary to understand the effects of the effort that such behaviors require. While the negative effect of effort is self-evident, few theories suggest that required effort may also increase the attractiveness of a behavior. This research aims to contribute to a clearer understanding of the potential positive effects of effort.

The literature has identified few positive effects of effort on the attractiveness of a behavior and has examined few moderators. Effort can positively affect the perceived quality and value of a product (Kruger et al. 2004; Mochon, Norton, and Ariely 2012) and determine how effective (Schunk 1983) and meaningful (Olivola and Shafir 2013) individuals perceive an activity to be. Furthermore, individuals with a high need for achievement actively search for challenges (Johnson and Perlow 1992), and Cutright and Samper (2014) demonstrate that individuals' perceived control over the outcome of a behavior affects how much effort they are willing to take. This research explores an additional effect of effort that the literature has not examined. We propose that the effort that a behavior requires may increase the perceived masculinity of that behavior and we argue that this potential effect may be highly relevant in the context of green behaviors.

Borau, Elgaaied-Gambier, and Barbarossa (2020) and Brough et al. (2016) demonstrate that individuals perceive green behaviors to be feminine. This perception can deter men from engaging in

such behaviors (Brough et al. 2016). In line with this, Brough et al. (2016) find that presenting green behaviors in a more masculine way increases their attractiveness among men. We argue that emphasizing the effort required for a green behavior may make the behavior more masculine and therefore more attractive to men. We propose that male consumers' gender identification strength moderates the effect: when gender identification strength is low, the required effort has a negative effect on the attractiveness of the behavior; when male gender identification strength is high, the required effort makes the green behavior more attractive to consumers in comparison to without effort. We propose that the perceived congruence between the individual's self-concept and the proposed behavior mediates the effect. We report an experiment with male consumers. We provide implications for social marketers, green product marketing, and public policy makers.

## THEORY AND HYPOTHESES

### The negative effect of required effort on product attractiveness

Several studies support the principle of least effort and demonstrate that an option that requires more effort is less attractive than an option that requires less effort (Hull 1943). In the context of green products, for instance, Joshi and Rahman (2015) observe that consumers strive for convenience. As required effort causes consumers to invest time and energy and reduces one's free capacities, it is highly intuitive that effort reduces a choice's attractiveness (Steg and Vlek 2009).

Cutright and Samper (2014) report that individuals may prefer high effort choices versus low effort choices when they are able to observe timely progress towards achieving a goal. However, when fast progress is unlikely, individuals prefer low effort to high effort. The latter situation is typical for green choices because consumers often feel that their choice only has a small impact on the environment and real progress requires long-term and collective work. Thus, effort should decrease the attractiveness of green choices. We propose:

*Hypothesis 1: Effort that a green product requires by the user has a negative effect on product attractiveness.*

Figure 1 illustrates the effects that this paper examines.

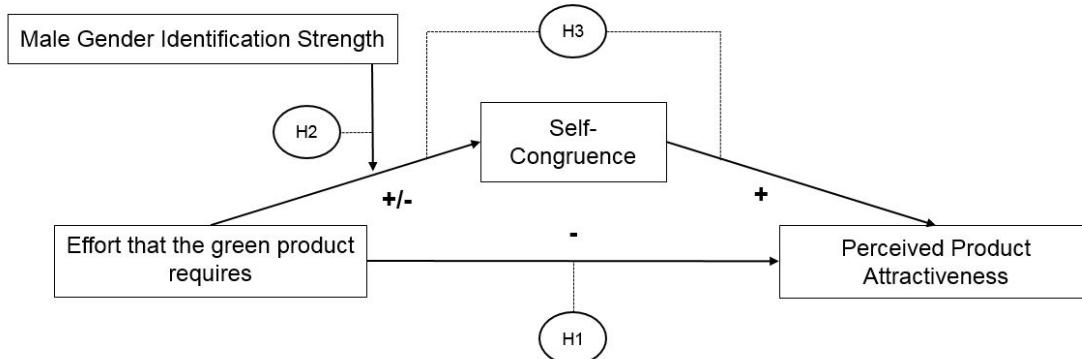


Figure 1: The Effects of Effort and the Hypotheses (H1, H2, and H3) of this Research

## The moderating effect of male gender identification strength on the effect of effort on product attractiveness and self-congruence as mediator

We argue that emphasizing the effort required by a green behavior may make the behavior more masculine and therefore, more congruent with male consumers' self-concept. The perceived congruence between a behavior and the consumer's self-concept is a major determinant of consumers' choices (Malär et al. 2011). Thus, self-congruence should mediate the effect of effort on the attractiveness of that behavior.

Furthermore, we argue that male gender identification strength (GIS) moderates the effect of required effort on the perceived congruence between a green behavior and the male consumer's self-concept. The literature demonstrates that **individuals' gender identity is a substantial part of their self-concepts (Fischer and Arnold 1994)** and defines it as "the importance or centrality of gender group membership to one's overall self-concept" (Bosson and Michniewicz 2013, 427). We explain the moderating effect of male gender identification strength as follows. First, effort is associated with being capable, physically active, and forceful (Mochon et al. 2012), and these characteristics are associated with masculinity (Holt and Ellis 1998). Effort also relates to an individual's need for achievement and may empower them (Cutright and Samper 2014), both of which are positively related to perceived masculinity (Lobel and Agami-Rozenblat 1993). Thus, individuals should perceive a behavior (or product) that requires effort as more masculine than a behavior (or product) that does not. Secondly, the more relevant gender identity is for a male consumer, the more it influences his self-concept. When gender identification strength is high, being a man is the central reflection of the consumer's self-concept. (Bosson and Michniewicz 2013). When gender identification strength is lower, the male consumer's self-perception focuses less on his gender and instead considers other characteristics, such as his values and interests. Thus, the more relevant male gender identity is to a consumer the more the perceived masculinity of a product should determine the perceived congruence with that product. Concluding, effort that we assume to increase the perceived masculinity of a green product should particularly increase the perceived congruence with the consumer's self-concept when masculinity is the crucial part of their self-concept, that is, when gender identification strength is high. We propose:

*Hypothesis 2: Gender identification strength moderates the effect of effort on the perceived congruence between a green product and the male consumer's self-concept. With increasing male GIS effort compared to no effort increases the perceived self-congruence.*

Because the perceived congruence between a behavior and the consumer's self-concept is a major determinant of consumers' choices (Malär et al. 2011), we propose:

*Hypothesis 3: With increasing male gender identification strength, effort (compared to no effort) makes a green product more attractive, instead of less attractive, to consumers. Perceived self-congruence mediates the effect.*

## STUDY

### Design and stimuli

Our experiment (green product requiring effort vs. green product not requiring effort) used advertisements for a green heating system. Participants were randomly assigned to one of the advertisements. The ads described the advantages of the green, wood-burning heating system. The "no effort" version did not mention any effort for the user. The "effort" version either explained that the user must layer the firewood in order to allow the system to automatically transport it into the boiler, or explained that the user must split pieces of the firewood in order to make it the right size for the boiler (time requirement in both cases: 15 minutes per week). We used two versions of effort in order to avoid that consumers may like or dislike a specific effort. The analyses did not show differences between the effects of the two effort types and we combined them into one "effort group".

### Participants

Four hundred fifty-six male respondents participated in the online experiment. Seventy-seven participants did not respond correctly to a control question. We excluded them from data analysis because they had not read the information provided. The final data set consisted of 379 males. Eighty-seven percent were students and their mean age was 22.

### Measures

We measured green consumer values (Haws, Winterich, and Naylor, 2010) with four items like "I am willing to actively do something for the environment" (1 = fully disagree; 7 = fully agree). We measured gender identification strength (Bosson and Michniewicz 2013) with the following items: "Being a man is the most important reflection of who I am" and "Being a man is important to me" (1 = fully disagree; 7 = fully agree). Next, we included a filler task to draw the participants' attention away from the previous topics. Before seeing one of the advertisements, we asked participants to imagine that they were going to buy or build their own home and that they were looking for a heating system. After ad exposure, we measured the perceived attractiveness of the green product with the following items: "How attractive is this heating system to you?" (1 = highly unattractive; 7 = highly attractive) and "How likely are you to look for additional information about this heating system?" (1 = very unlikely; 7 = very likely). Furthermore, we measured the congruence between the participants' self-concept and their perception of the heating system (Malär et al. 2011). The items were: "This heating system is consistent with how I see myself", "Heating with this heating system is consistent with how I see myself", and "This heating system is consistent with the person I would like to be" (1 = fully disagree; 7 = fully agree). In addition, we measured perceived masculinity of the product (7-point rating scale).

### Data analyses and findings

Cronbach's Alpha of the green consumer values was .87, the correlation of the gender identification strength-items was .67; Cronbach's Alpha of the three congruence-items was .89, and the correlation between the two dependent attractiveness-variables was .80. Thus, we aggregated the respective items. Participants perceived the products that required effort to be more masculine than the product with no effort (no effort: 3.86; effort: 4.13,  $p = .068$ ).

We used Process Model 7 (Hayes 2018) to test our hypotheses. The independent variable was the manipulated effort (no effort vs. effort). The perceived attractiveness of the product was the depen-

dent variable. Perceived self-congruence was the mediating variable and gender identification strength (Male GIS) was the moderator. We included green consumer values (Green values) as a covariate, because it affects consumers' green behavior. Table 1 illustrates our findings.

*Test of hypothesis 1.* The second model of table 1 demonstrates a significant negative effect of effort on product attractiveness (-.241,  $p = .048$ ). The findings support hypothesis 1. In line with the principle of least effort, an effortful choice is less attractive than a choice without effort.

TABLE 1: The Moderating Effect of Male GIS on the Effect of Effort

<u>Process Model 7</u>																
<b>Mediator Variable Model (Perceived Self-Congruence)</b>																
	Coefficient	SE	t													
Constant	3.871	.751	5.157**													
Effort	-.995	.425	-2.338*													
Male GIS	-.390	.175	-2.224*													
Effort x Male GIS	.271	.100	2.710**													
Green Values	.370	.060	6.185**													
<i>R</i> <sup>2</sup>	.108															
<i>Conditional Effects of Effort at Values of Male GIS</i>																
Value	Effect	SE	t													
2.50	-.318	.213	-1.492													
4.00	.089	.155	.571													
6.00	.630	.257	2.455*													
<b>Dependent Variable Model (Product Attractiveness)</b>																
	Coefficient	SE	t													
Constant	2.443	.311	7.863**													
Effort	-.241	.121	-1.987*													
Perceived Self-Congruence	.830	.040	20.732**													
Green Values	-.086	.049	-1.733													
<i>R</i> <sup>2</sup>	.546															
<i>Conditional Indirect Effects of Effort at Values of Male GIS</i>																
Value	Effect	BootLLCI	BootULCI													
2.50	-.263	-.616	.080													
4.00	.074	-.181	.343													
6.00	.523	.043	1.056													
<i>Index of Moderated Mediation Male GIS</i>																
GIS	Index .225	.036	.429													
<u>Mean Values (SD) of Product Attractiveness Dependent on Effort and Male GIS</u>																
<b>Effort</b>																
<b>Male GIS</b>	No Effort	Effort	<p>The chart displays the mean product attractiveness values for three levels of male GIS (Low, Moderate, High) under two conditions: 'No Effort' (grey bars) and 'Effort' (black bars). The Y-axis represents Product Attractiveness from 4 to 5.5. For Low GIS, the 'No Effort' mean is approximately 5.13 and 'Effort' mean is approximately 4.71. For Moderate GIS, the 'No Effort' mean is approximately 5.38 and 'Effort' mean is approximately 5.03. For High GIS, the 'No Effort' mean is approximately 4.97 and 'Effort' mean is approximately 5.44. Error bars represent standard deviation.</p> <table border="1"> <thead> <tr> <th>Male GIS</th> <th>No Effort</th> <th>Effort</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>5.13 (2.12)</td> <td>4.71 (1.76)</td> </tr> <tr> <td>Moderate</td> <td>5.38 (1.46)</td> <td>5.03 (1.56)</td> </tr> <tr> <td>High</td> <td>4.97 (1.97)</td> <td>5.44 (1.35)</td> </tr> </tbody> </table>		Male GIS	No Effort	Effort	Low	5.13 (2.12)	4.71 (1.76)	Moderate	5.38 (1.46)	5.03 (1.56)	High	4.97 (1.97)	5.44 (1.35)
Male GIS	No Effort	Effort														
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High	4.97 (1.97)	5.44 (1.35)														
Please note:	** p < 1%	*	p < 5%													

*Test of hypothesis 2.* The first model of table 1 shows that effort has a negative effect on perceived self-congruence (-.995,  $p = .02$ ). This finding makes sense because humans tend to value efficiency (Payne, Bettman, and Johnson 1993) and should therefore perceive a product requiring effort as less congruent with their self-concept than a product that does not. As expected, male GIS moderates the effect of effort on perceived self-congruence. The interaction effect of effort x male GIS is significant (.271,  $p = .007$ ). The conditional effects

of effort at different values of male GIS demonstrate that when male GIS is high, the effect of effort on perceived self-congruence is positive. The results support hypothesis 2.

*Test of hypothesis 3.* The conditional indirect effect of effort on product attractiveness at values of male GIS is positive when male GIS is high (effect: .523, interval [.043; 1.056]). The index of moderated mediation is .225 and significant because the confidence interval excludes zero (interval [.034; .429]). The findings support hy-

pothesis 3. Among male consumers with high GIS, the green product requiring effort is more attractive than the green product that does not require effort. Perceived self-congruence mediates this effect. Table 1 also reports the mean values of product attractiveness dependent on male GIS and effort. For this illustration, we split male GIS into three groups (percentiles: 3; 5). Again, the mean values demonstrate that product attractiveness was lower when the choice contained effort – only when male GIS is high effort increased attractiveness.

## DISCUSSION

We argue that effort that a behavior requires can make the behavior manlier. Because the feminine perceptions of green behaviors may deter males from performing them (Brough et al. 2016), we examined whether an effort that a green product requires may increase the attractiveness of that green product. As expected, we find that, on average, effort reduces a green product's attractiveness. However, male consumers with high male gender identification strength (GIS) find a green product that requires effort compared to one that does not to be more congruent with their self-concept and more attractive.

We make the following contributions. Only few studies have examined the positive effects of effort and previous research has not studied the moderating effect of male GIS in this context. Our findings suggest that when targeting male consumers to whom being manly is of high importance, emphasizing the effort that is required by a green choice may increase the attractiveness of that choice. Based on our theory, we suggest that the presentation of an effort needs to be masculine in order to make the behavior more attractive to males with high GIS. Furthermore, our findings suggest that linking an effort to masculine perceptions (e.g., being active or being capable) should make the choice more attractive to male consumers. The latter may be possible by emphasizing the physical component of an effort. As an example, the request “sweating for the environment” may be more attractive to males than “spending time for the environment” as part of a cleanup campaign. Thus, well-considered presentations of a required effort can help to make green behaviors more attractive to male consumers.

Our theory does not only apply to green behavior. Effort may make any behavior manlier. However, since green behaviors suffer from their feminine perceptions the findings seem most relevant in this context.

### Limitations

This study tested two types of effort in a specific context, and the specific effort types are likely to be perceived as masculine. Therefore, we cannot distinguish the effect of the effort involved from the effect of its masculine nature. Future studies should test the effects of other types of effort.

The required time investment in this study was 15 minutes per week, which is relatively low. Future studies should investigate the effects of increasing amounts of effort that may result in different effects. This study measured the perceived attractiveness of a green heating system but did not observe behavior. Future studies may observe real behavior.

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