Act Mean or Go Green: The Effect of Bystanders and Their Social Identity on Green Consumption in Ostracized People

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The Effect of Bystanders and Their Social Identity on Green Consumption in Ostracized People

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Abstract

People are less likely to show prosocial behavior upon being ostracized, unless bystanders are present and they have the opportunity to find social (re)inclusion. The current study tests if these assertions are also true for a specific type of prosocial behavior: green consumption. Based on former research we expected 1) ostracism and 2) the social identity of bystanders (pro- or anti-environmental) to influence green consumption. Furthermore, we expected an interaction effect between the two variables. After participation in a *Cyberball* experiment that induced ostracism, participants were to shop for three products – all in green and conventional form – in a simulated store. No effect of ostracism and bystander's social identity on green consumption was found. Nor did an interaction effect occur.

Keywords: ostracism. bystanders, green consumption, cyberball, inclusion status

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Global warming – long term changes in the global climate, especially the increase of atmospheric temperature – is one of the most important issues of the 21st century (Lee et al., 2009). Increase of pollution and depletion of natural resources have accelerated due to human factors as overconsumption and overpopulation, causing an increase in wildfires, water shortages and flooding's (Dunlap, 2007). These environmental issues prompt the need for sustainable behavior, which are activities aimed at the conservation of the natural environment (Tapia-Fonlemm et al., 2013). One of these behaviors is green consumption: the consumption of products that pose less harm to the environment than other products that serve the same purpose (Szasz, 2011).

For many people, the motivation for green consumption is rooted in environmentalism – a general state of concern about the future of our planet (Pepper, 2019). However, for some people, this concern is founded on self-interest rather than an altruistic concern about the planet. Griskevicius et al. (2010) found that people were more inclined to show green consumerism if their actions were to be observed by others. These results are in line with the competitive altruism hypothesis; which implies that people show altruistic behavior because of the social benefits – such as higher social status – that come with a prosocial reputation (Hardy & Van Vugt, 2006).

The social benefits that come with a prosocial reputation are particularly useful upon experiencing ostracism – a situation in which an individual is socially excluded from a group or society in general (Kerr et al., 2004). Ostracism negatively impacts the way we view ourselves. Therefore, it may lead people to show certain behaviors that fortify their self-image (Williams, 2007). In the case of green consumption, individuals that are socially excluded have a greater tendency to go green, but only if their consumer behavior is on public display and bystanders are present (Guo et al., 2020). Otherwise, people tend to behave in a more self-interested way (Chow et al., 2009). The current study will investigate the effects of ostracism and bystander identity on green consumption.

Green Consumption and Prosocial Reputation

"Green products are often of lesser quality and higher cost than their conventional counterparts" (Griskevicius et al., 2010, p. 392). Therefore, green consumerism contains a social dilemma: a choice between personal, short term interests and collective, long term interests. Buying the best and cheapest product aligns with one's personal interest, whereas buying the most sustainable product serves the collective interest – which is reducing climate change (Moisander, 2007). That tradeoff makes green consumption a form of prosocial behavior (Sachdeva et al., 2015).

Prosocial behavior refers to acts that increase the well-being of other individuals, often at a cost to oneself (Kafashan et al., 2014). But why would one make sacrifices for such a distant and intangible gain as environmental preservation? According to the costly signal theory: unselfish deeds signal desirable underlying qualities such as good health and good social skills (Smith & Bird, 2000). Which is why prosocial individuals are generally perceived to be higher in status than others (Kafashan et al., 2014). In additon, people showcase a greener consumption pattern when social status is made salient (Griskevicius et al., 2010). The social benefit of increased status is especially useful as a tool to restore self-confidence.A situation in which confidence is often low, is upon experiencing ostracism (De Clercq et al., 2019).

Ostracism

Ostracism is the act of being socially or even physically excluded from a group (consisting of more than two people), often without any explanation or negative attention (Williams, 2007). The term originated in ancient Greece where disobedient citizens would be expelled from society for up to ten years (Steele, Kidd & Castano, 2015). But modern-day examples are mostly found in social situations: like a child that does not get invited to the birthday parties of his classmates. Ostracism occurs across all cultures, ages and even in the workplace (Fox & Stallworth, 2005); impeding deep psychological needs such as self-esteem, the sense of belonging, control and meaningful existence (Hales, Dvir & Wesselmanm, 2018). These needs are fundamental to mental health and well-

being, and when not met they are precedents of feelings of loneliness and depression (Baumeister & Leary, 1995).

According to the temporal need-threat model of Williams (2007), feelings of ostracism can promote both antisocial and prosocial behavior. The author argues that an instinctive response to our fundamental needs being threatened, is to act in ways that will restore the feelings of belonging, control, self-esteem and meaningful existence. The threat to the aforementioned needs makes individuals fall "numb" – causing emotional insensitivity and diminished empathy – which may lead to a disregard someone else's feelings (Baumeister & DeWall, 2009). Like in the study of Van Bommel et al. (2016), who found that participants that had experienced ostracism were less inclined to help others in need.

On the other hand, ostracism may also lead people to behave in a prosocial manner. According to Williams (2007), feelings of self-esteem and belonging highly depend on others and our social connections. To establish social connections, making a good impression is crucial. A very effective way of managing impressions, is prosocial behavior (Grant & Mayer, 2009). As mentioned earlier, prosocial behavior is associated with many social benefits – such as higher status and desirability. In conclusion, if ostracism is followed by a situation in which others are present, prosocial behavior might be displayed. Like in a study of Bozin and Yoder (2008), who found that ostracized participants were likely to work harder on a subsequent collective task.

But will similar responses emerge – as expected based on the temporal-threat need model – when it comes to the specific prosocial behavior of green consumption? Gao and Matilla (2016) found that social exclusion led participants to favor normal hotels over green hotels, when given the choice. These results support the notion that feelings of ostracism result in more antisocial behavior – foregoing an intangible and altruistic gain, such as green consumption. Therefore, we hypothesize that:

H1: Ostracism negatively influences green consumption.

However, Guo et al. (2020) found that social exclusion led participants to show a preference for green product in public purchasing scenarios, an effect that vanished in

private. These results support the notion that that prosocial behavior is a way to enhance status and manage impressions, due to the public nature of the green consumerism. But will these effects be replicated if the public – which we call bystanders in this study – does not attach any importance to green behavior?

Social identity bystanders

According to the social reconnection hypothesis, experiences of ostracism increase the motivation to seek social inclusion – which is the acceptance granted by others to be part of their social group (Maner et al., 2007). But to find inclusion, it is important to act in line with the rules and norms that are shared by these group members. Because individuals that do not adhere to group norms, are less likely to be included and more likely to be ostracized (Gruter & Masters, 1986). A tendency that is observed in all human cultures and even other in primates (Goodall, 1986). For example, Williams et al. (2000) showed how ostracized individuals were more likely to conform to a group of strangers on a geometrical task, even though their initial answer was different to the group.Based on the notion that people have an instinctive urge to conform to group norms, we hypothesize that:

H2: The presence of bystanders influences green consumption based on the bystander's social identity.

The urgency of the fight against global warming is known to almost 70 percent of the world population (Poushter & Huang, 2019). Therefore, most people attribute positive qualities – such as higher social status and likability – to those who contribute to this fight by going green (Griskevicius et al., 2010). The awareness on this subject has led to social norms concerning green behavior (Lin & Niu, 2017). Social norms are "the unwritten codes and informal understandings that define what we expect of others and what others expect of us" (Young, 2015). An example of a social norm on green behavior would be to engage in waste separation. But green behavior is not the norm within every community. Research found that some subcultures are less concerned with climate

change and the environment in general. For example: conservative, elderly white people in the United States were more likely to deny climate change than other Americans (McCright & Dunlap, 2011). For these groups, exhibiting green behavior may not enhance status and chances on social inclusion, because the behavior is not in line with the group's norms on environmentalism. Based on the social reconnection hypothesis and the fact that different social groups have different attitudes towards green behavior, we hypothesize that:

H3: The influence of identity of the bystanders depends on the level of inclusion of the participants.

Current Study

In the current study, we investigated the effects of ostracism and bystander identity on green consumption. In accordance with the study of Williams and Jarvis (2006), social inclusion status – ostracism, inclusion and overinclusion – was induced using the *Cyberball* experiment (see materials). Over-inclusion is added to the paradigm to ensure that our effect measure for ostracism – the four fundamental needs – is sensitive for payoff valence differences (Van Beest & Williams, 2006). This paradigm is chosen over other methods due to practical reasons: in comparison to the *ball-tossing* paradigm – which makes use of real people – and the *Life Alone* paradigm – which makes use of an extensive personality test – *Cyberball* is less time consuming (Williams, 2007). To check if the manipulation of inclusion status was successful, we conducted a questionnaire on the four fundamental needs.

Bystander identity was operationalized with three conditions: a pro-environmental bystander group, an anti-environmental bystander group or no bystanders. A pilot study (see results) determined which social groups – a group of people that shares similar characteristics and a sense of unity – will represent the two bystander groups. Finally, green consumption was operationalized in accordance with the study of Griskevicius et al. (2010): in which participants were presented different products, all of which were available in conventional and green form. The conventional products were by all

standards more desirable than their green counterparts. By making the conventional products more desirable, it was ensured that choosing the greener option would contain some sort of sacrifice. Otherwise, the altruistic aspect of green behavior – sacrificing personal benefit for the benefit of others – would not be present.

Hypotheses

H1: Ostracism negatively influences green consumption.
H2a: Participants with anti-environmental bystanders will show less green consumption than participants with pro-environmental bystanders or no bystanders.
H2b: Participants with pro-environmental bystanders will show less green consumption than participants with anti-environmental bystanders or no bystanders.
H3a: The identity of the bystanders is of bigger influence on green consumption for the participants that are ostracized than included.
H3b: The identity of the bystanders is of bigger influence on green consumption for included participants than over-included participants.

Method

Pilot Study

Perceived sustainability of the bystanders in the current study was manipulated using two social groups (healthcare workers and businessmen) that represented pro- and anti-environmentalism. These particular groups were chosen based on a pilot study that was conducted amongst 53 participants. These participants were also recruited through the personal network of the researchers and none of them participated in the main study. The goal of the study was for the participants to rate 14 social groups on a 100-point scale. Ranging from pro-environmentalist (1), to neutral (50) and anti-environmentalist (100).

Table 1

Comparison of the means, standard deviation, median and standard error of social groups on perceived environmentalism

Social Groups	*M*	*SD*	*Median*	*SE*
Biology students	75.2	14.5	78	1.99
Greenpeace members	93.2	10.5	100	1.44
International Business students	45.0	19.7	42	2.71
Motorcycle club members	24.5	17.3	20	2.38
Economics students	46.8	19.2	50	2.64
Philosophy students	66.9	17.3	70	2.37
Truck drivers	25.6	17.2	23	2.36
Businessmen	35.6	18.1	36	2.49
Healthcare workers	64.7	16.9	65	2.32
Sociology students	62.2	18.5	61	2.54

Football hooligans	20.3	21.3	12	2.92
Hippies	78.5	23.2	85	3.18
Psychology students	60.4	17.6	61	2.42
Ocean cleanup activists	93.8	11.4	100	1.57

Although healthcare workers (M = 64.7, SD = 16.9) and businessmen (M = 35.6, SD = 18.1) were not perceived as the most pro- and anti-environmental groups, they were chosen to be used in the main study. It was assumed that the presence of those two groups in a store would not be considered something out of the ordinary. Other groups, however, had such an extreme character – such as Greenpeace members or motorcycle club members – that participants could have experienced a bigger contrast between themselves and that group (Lockwood & Kunda, 1997).

Because it was decided not to choose social groups that would be too extreme: hippies, ocean cleanup activists, motorcycle club members and *Greenpeace* members were excluded beforehand. For the remaining groups, two criteria were made: 1) the two final groups both needed to differ significantly from the scale midpoint (50); 2) they had to be significantly different from each other. After computing a *paired-sample T-test* it was confirmed that there was a significant difference in perceived sustainability between healthcare workers and businessmen, t (52) = - 8.64, p < .001, d = - 1.19. Also, two *one-sample T-tests* showed that both healthcare workers, t (52) = 6.35 p < .001, d = - .87 and businessmen, t (52) = - 5.79, p < .001, d = - .80 differed significantly from the midpoint of the scale.

Participants & Design

476 participants were recruited through various methods. A large part of respondents was collected via the personal networks of the researchers and via *SONA* systems, the participant pool from Leiden University – on which students received 1 research credit for their participation. Sixty of the participants were collected through

research website *Prolific* – on which they received 3.50 euros for participation (Prolific, 2021).

After excluding all participants that did not finish the questionnaire, a total of 257 participants remained. Twelve participants that did not pass the attention check "How often did you get the ball?" were removed, as well as the 31 participants that failed the "Were there other shoppers present during your visit?" attention check. Finally, two participants that finished the questionnaire within five minutes were removed, as well as two under aged (> 18 years old) participants.

The remaining 210 participants were used for further analysis. This sample included 130 women (61.9%), 79 men (37.6%) and one person that identified as other (0.5%). Their reported average age was 26.6 years old *(SD* = 9.05) and ranged from 18 to 63 years old. 123 participants were Dutch (58.6%), 18 were Croatian (8.6%), 13 were British (6.2%), 11 (5.2%) were American and the others reported varying nationalities.

The study consisted of a 3 (social inclusion: ostracism vs. inclusion vs. overinclusion) by 3 (bystanders: pro-environmental vs. anti-environmental vs. no bystanders) factorial design, to which the participants were randomly assigned.

Materials

Cyberball Experiment

Cyberball is an online game in which participants join in a virtual ball-tossing game with two other individuals – which are in fact computer generated. The game varies the amount with which our participants are tossed the ball, depending on the condition the participant is randomly assigned to (Williams & Jarvis, 2006). Participants in the inclusion condition received the ball a total of 12-14 times out of 40 throws in total, participants in the over-inclusion condition received the ball a total of 16-19 times whereas participants in the ostracism condition only received the ball twice at the start of the game. Our participants partook in the *Cyberball* experiment under the assumption that it concerned a game measuring their mental visualization skills.

Fundamental Needs

After completion of the *Cyberball Game*, participants received a questionnaire measuring the four psychological fundamental needs as described in the introduction: belonging, self-esteem, control and meaningful existence (Zadro et al., 2004). The questionnaire existed of statements that were ratable on a 7-point *Likert scale* (ranging from 1: completely disagree, to 7: completely agree). The *need for belonging* was measured by three items (e.g., "I did not feel accepted by the other participants"), *control* by three items (e.g., "I felt in control during the game") as well as *self-esteem* (e.g., "I felt good about myself during the game") and *meaningful existence* (e.g., "I felt non-existent during the game). The means of the answers were used as a final result for all four fundamental needs.

All items that were stated in a negative manner (e.g., I felt somewhat inadequate during the *Cyberball* experiment) were reverse coded after completion of the study, to ensure that a high value had the same indication for every item. Need for belonging (Chronbach`s $\alpha = .69$), self-esteem (Chronbach`s $\alpha = .72$) and control (Chronbach`s $\alpha = .71$) all had an acceptable reliability. Meaningful existence on the other hand, scored below the cut-off score of 0.6 on reliability (Chronbach`s $\alpha = .54$). Because the *inter-item total correlation* was lower than the minimum of .30 for the item "I felt as though my existence was meaningless during the Cyberball game", this item was removed. After removal, the correlation for the meaningful existence questionnaire indicated to be strong, $r(208) = .61$, $p = <.001$.

Green Consumption

Green consumption was operationalized using three products: *A)* a lamp, *B)* batteries and *C)* a backpack. All products came in a green form and a conventional form. Participants had to rate which form they preferred on a 9-point *Likert* scale (ranging from 1: definitely the green product, to 9: definitely the conventional product). The products were described to the participants based on three features: luxury, performance and sustainability. The conventional products scored better on the feature's luxury and

performance, whereas the green products scored higher on sustainability. For all product types, the products were equal in price and brand (Griskevicius et al, 2010).

Social Identity Bystander

Each participant received one out of three vignettes – which were brief, evocative descriptions about a hypothetical shopping situation. All vignettes simulated the shopping situation as explained under green consumption, only the bystanders in each condition differed. The three vignettes described a store 1) full of healthcare workers, 2) full of businessmen or 3) an empty store with no bystanders. We chose to use healthcare workers and businessmen to manipulate social bystander identity, based on a pilot study on perceived environmentalism of certain social groups (see Pilot Study).

Attention Check

The attention check consisted of two items attention: "How often did you get the ball?" on a 4 point *Likert* scale (ranging from 1: not at all, to 4: very much so) and „Did you notice the bystanders at the shop" on a 5 point *Likert* scale (Abbate et al., 2013).

Manipulation Checks

To check the attitude of participants towards their particular bystander group – either healthcare workers or businessmen – the *Inclusion of Other in Self* (IOS) scale was used: a single-item pictorial in which seven pairs of circles were displayed (Mashek, et al., 2007). The first circle represented the participant whereas the second circle represented the bystanders' social group. The positions between the circles varied for every pair, ranging from not touching each other to overlapping strongly. Participants were asked to rate "Which picture describes the level of identification between you and the healthcare workers/businessmen the best?" on a 7-point *Likert* scale (ranging from 1: no overlap), to 7: almost entirely overlapping).

To check the attitude of participants on green behavior, three items out of the "*Attitudes towards green behavior questionnaire"* were used. All of which were measured on a 9-point *Likert* scale (ranging from 1: strongly agree to 9: strongly disagree). Two items were reverse coded for further analysis. The reliability of the items was acceptable, Cronbach`s $\alpha = .69$.

Analysis Plan

To test if the manipulation of inclusion status (the *Cyberball* experiment) affects the fundamental needs, separate *independent factorial ANOVA`s* are computed for all four needs. To test our three hypotheses, an *independent factorial ANOVA* will be computed on all three products (*lamp, batteries* and *backpack*) that are used to measure green consumption. All of these tests will be computed with *IBM SPSS Statistics 23*.

Procedure

Participants received a link to Qualtrics – a software company that enables online questionnaires – to which they had to give their informed consent. After granting permission, the participants were informed on a cover story regarding the goal of the study: which was measuring how cognitive tasks influence consumer behavior. Subsequently the study commenced with the *Cyberball* experiment (see materials). After finishing this game, the participants received a questionnaire on the four fundamental psychological needs as described in the introduction (see materials).

After completion of the questionnaire, participants proceeded to an online shopping environment as described in one of the three bystander vignettes (see materials). Subsequently, participants had to rate their preference for the three products (green vs. conventional). Afterwards, the participants were asked to rate *The Inclusion of Other in Self Scale* (Mashek et al, 2007) scale and answer two attention checks (see materials). Finally, some demographic questions – such as age and gender - and a debriefing took place, in which the participants were told the real aim of the study. The entire study took about 15 minutes.

Results

Descriptives

Table 2

The number of participants (N of participants), number of items (N of items), mean (M), standard deviation (SD), minimum score (Min) and maximal score (Max) for all questionnaires.

	N of participants	*N of items*	*M*	*SD*	Min	Max
Belonging	210	3	4.07	1.48	1	7
Self-esteem	210	3	4.84	1.29	1	7
Control	210	3	4.06	1.53	1	7
Meaningful Existence	210	2	4.52	1.83	1	7
Choice Backpack	210	1	3.97	2.66	1	9
Choice Batteries	210	1	6.06	2.80	1	9
Choice Lamp	210	1	6.54	2.55	1	9
Attitude on Sustainable Behaviour	210	1	8.22	0.84	1	9
IOS Healthcare workers	74	1	2.96	1.80	1	7
IOS Businessmen	71	1	2.44	1.40	1	7
Environmentalism of Healthcare workers	210	1	3.19	0.67	1	5
Environmentalism of Businessmen	210	1	2.28	0.80	1	5

Table 2 shows that participants on average reported slightly above the midpoint (3.50) for fulfilment of the fundamental needs. Also, a preference for the green products

was reported for respectively batteries (M = 6.06, SD = 2.80) and lamp (M = 6.54, SD = 2.55). Only for backpack the participants on average preferred the conventional product (M = 3.97, SD = 2.66). Although participants reported a very positive attitude on sustainable behavior (M = 8.22, SD = 0.84), no significant differences in identification were found between healthcare workers (M = 2.96, SD = 1.80) and businessmen (M = 2.28, SD = 1.40), t (143) = 1.95, p = .054.

Manipulation Check

To check if the manipulation of inclusion status sorted effect on the fundamental needs, four *independent factorial ANOVA`s* were computed. Both inclusion status and bystander identity were used as independent variables, to see if a possible effect of inclusion status was partially due to the manipulation of bystander identity. Based on earlier research we expected the ostracized individuals to feel less fulfilment of those needs than participants that were included in the *Cyberball* game (Williams, 2007). Also, we expected over-included participants to feel greater fulfilment of their needs than included participants (Niedeggen et al., 2014).*[1]

The analyses found the main effect of inclusion to be significant and have large effect sizes for all needs – *belonging* $F(2, 201) = 122.46$, $p = .000$, $\eta_p^2 = .55$, *control* $F(2, 201) = 135.86$, $p = .000$, $\eta_p^2 = .58$, *meaningful existence* $F(2, 201) = 85.31$, $p = .000$, $\eta_p^2 = .46$ and *self-esteem* $F(2, 201) = 46.47$, $p = .000$, $\eta_p^2 = .32$. This indicates that the *Cyberball* experiment did influence the fundamental needs.

A subsequent *LSD Post-Hoc test* revealed the results we expected for the *need for control* and the *need for belonging*: ostracized participants reported significantly lower levels of fulfilment on both respective needs (p = <.001). Also, participants in the over-inclusion condition reported significantly higher fulfilment than participants in the inclusion condition (*control* p = .002, *belonging* p = .020). For the *need for meaningful existence* and the *need for self-esteem*, the same significant differences occurred between ostracized participants and the other conditions (p = <.001). But despite the finding that over-inclusion led participants to report higher needs for control and belonging, these differences were not found to be significant (*meaningful existence* p = .176, *self-esteem* p

= .056) (see table 3 for descriptives). Supporting the expectation that ostracism leads to less fulfilment of the fundamental needs. But the expectation that over-included participants would feel more fulfilment of their fundamental needs was not met.

Table 3

Means (M) and standard deviations (SD) for the different states of inclusion: ostracism, inclusion and over-inclusion

	Ostracism		Inclusion		Over-Inclusion	
	Mean	SD	Mean	SD	Mean	SD
Belonging	2.66	.99	4.71	1.02	5.12	.96
Control	2.57	1.01	4.68	.911	5.22	1.07
Self-Esteem	3.92	1.23	5.22	.94	5.58	.97
Meaningful Existence	2.92	1.39	5.32	1.20	5.64	1.47

Green Consumption

To test the main hypotheses, three separate *Independent Factorial ANOVA* were conducted for products backpack, battery and lamp. Both inclusion status and bystander identity were used as independent variables, to see if a possible effect of inclusion status was partially due to the manipulation of bystander effect and vice versa.*[2]

None of the effects main effects for inclusion status were significant (*lamp* $F(2, 209) = 2.89$, $p = .058$, *batteries* $F(2, 209) = .22$, $p = .800$ *backpack* $F(2, 209) = 0.56$, $p = .574$). Indicating that irrespectively of the product type (backpack, battery or lamp), no differences were found in green consumption between the inclusion conditions (ostracism vs. inclusion vs. over-inclusion). Therefore, the first hypothesis – ostracized individuals showcase less green consumption than individuals that are included – can be rejected.

Also, the bystanders` identity (healthcare workers, business men or no bystanders) is irrespectively of the product type not of influence on green consumption – *lamp* $F(2, 209) = .46$, $p = .635$, *batteries* $F(2, 209) = .51$, $p = .601$, *backpack* $F(2, 209) = .08$, $p = .926$). Therefore, we can reject our entire second hypothesis. Finally, the interaction

effect between both independent variables is non-significant – *lamp* $F(4, 209) = .52$, $p = .719$, *batteries* $F(4, 209) = 1.95$, $p = .104$, *backpack* $F(4, 209) = .62$, $p = .647$. Therefore, we can reject the third hypothesis – that the influence of bystanders` social identity is dependent on the level of inclusion.

However, the effect of inclusion level on the choice of lamp (conventional vs. green) is just above the significance threshold of .005, $F(2, 209) = 2.89$, $p = .058$. This gives rise to a need for further inspection. An *LSD post-hoc test* shows that participants in the ostracism condition ($M = 2.94$, $SD = 2.40$) scored significantly lower ($p = .036$) than participants in the over-inclusion condition ($M = 3.86$. $SD = 2.45$). Indicating a reversal of the expected effect: (over)inclusion leading to a preference for the conventional product. But this result should be interpreted carefully as the main effect is not significant.

Discussion

The current study was designed to further investigate the effect of ostracism and its behavioral consequences (Griskevicius et al., 2010). More specifically: do bystanders and their social identity have any effect on ostracized individuals and their consumer behavior. Based on the scientific foundation as discussed in the introduction, we formulated a few hypotheses. First, we expected that ostracized participants would prefer conventional products over green products, more so than participants that were (over)included during a *Cyberball* experiment. Second, we expected that product choice (green vs. conventional) would be influenced by the social identity of bystanders at the store. However, all hypotheses were rejected.

Despite not finding the expected results, the manipulation of inclusion status deemed successful. Ostracized participants reported less fulfilment of their fundamental needs – our measure for the effect of inclusion status (Case & Williams, 2004). According to the social reconnection hypothesis: thwarted fundamental needs should have led to consumer behavior confirmative to the social identity of bystanders (Maner et al., 2007). Whereas based on the to the study of van Bommel et al. (2016), they should have led to less prosocial behavior – thus less green consumption – when no bystanders

were present. The fact that both expectations were not met, indicates that mistakes have been made in the research design and/or the theoretical foundation.

As discussed in the introduction, Griskevicius et al. (2010) argue that prosocial behavior serves as a costly signal, which is associated with status. They support this claim by stating that green products often are of lesser quality and higher cost than green products. If someone chooses to buy a green product over its conventional counterpart, one sacrifices the personal gain of buying the best and cheapest product in favor of preservation of the environment. Because of their argumentation we replicated the operationalization of green consumption in the study of Griskevicius et al. (2010). Participants were made to choose between products that were equal in price and manufacturer but differed on components like luxury and sustainability. Based on this study we expected pro-environmental bystanders to affect green consumption, but we did not find supporting results. We reason that this is due to the fact that the sacrifice of going green, was less prominent because the prices for both products were the same. Therefore, the act of green consumption was less prosocial than anticipated, which maybe is why we did not find an effect. Perhaps if green products were made to be more expensive in future research, the cost to act prosocial would be higher and a more distinctive effect will be found.

Secondly: the majority of participants was recruited through the personal network of the researchers. Due to the fact that people in general are more affiliated with people of similar social economic status, including education level, an overrepresentation of higher educated participants was insurmountable (Verbrugge, 1983), On top of that, the other participants were recruited through *Prolific*, an online participation platform, or *SONA* systems – the participant pool of *Leiden* University. The demographics of *Prolific*`s participants show that more than half of them graduated with at least a bachelor's degree on university level, whereas *SONA* is only accessible for *Leiden University* students (Prolific, 2021)

Since education level is positively correlated with environmental awareness (Aminrad et al., 2011), it may be of no surprise that our participants scored very high on the sustainability scale. Considering that our participants already had a very strong positive attitude towards environmentalism beforehand, this bias may have tampered with

the results. Because one of the main principles of social psychology is that attitudes precede and shape behavior, especially strong attitudes (Ajzen & Fishbein, 1977). Social identity of bystanders or feelings of ostracism would be of secondary importance, because attitudes on green consumption are strong enough to predict that participants would prefer the green products in store. However, this does not explain why participants preferred the conventional option for the choice of backpack.

Another explanation for the unexpected results can be found in the social identity theory (Hornsey, 2008). According to this theory, people`s self-concept and self-worth are based on their memberships to social groups. They think of themselves and others in terms of in-group and outgroup. The first refers to a group of people with which one psychologically identifies and shares similarities with, whereas the latter refers to everyone that is not part of the so-called in-group. This classification of others is based on perceived similarities in values, appearance or social rules (Hogg, 2016). Research found that people often attribute more positive qualities to in-group members and report lower feelings of empathy towards outgroup members (Batson et al., 2005). Therefore, people are more likely to conform to the norms of perceived in-group members than they are with outgroup members (Balliet et al., 2014). Participants in this study reported low identification with both healthcare workers and businessmen. Which indicates that both groups were predominantly considered outgroup, and thus not worth conforming to.

The current study did not find evidence to support an effect of ostracism and bystander identity on green consumption. But despite these results, it proved an addition to the existing scientific literature as the first study to investigate this link. Perhaps if the discussed limitations are taken into account and improved, future research could establish a link. In times of climate change, it is of utmost importance to understand the human mind when it comes to green behavior. If we know how that works, we have a massive tool in preserving the planet.

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Footnote

*1

Normality was assumed for all needs except the *need for meaningful existence* (*p* = .009) (see table 7). But because all groups and variables had reasonably large sample size`s (N > 15), the data was considered robust for this violation. *Levene`s* test showed that the assumption of homogeneity was met for the four needs, since all significance levels were higher than .005; one outlier was detected for *need for self-esteem* (-4.12), but due to the nature of a *Likert* scale – Likert scales are pre-designed for a specific scale points to occur – it was decided not to remove the outlier.

Table 4

Levene's test for the four fundamental needs

	F	*df1*	*df2*	Sig.
Need for belonging	1.10	8	201	.362
Control	1.14	8	201	.355
Self-esteem	1.22	8	201	.292
Meaningful existence	1.92	8	201	.060

*2

Normality was not assumed for all three products (*p* = .000) (see table 1). But because all groups and variables had reasonably large sample size`s (N > 15), the data was considered robust for this violation. *Levene`s test* showed that the assumption of homogeneity of variances was met for Lamp (*F*(8, 201) = 1.24, *p* = .278), Battery (*F*(8, 201) = 1.92, *p* = .294) and Backpack (*F*(8, 201) = .79, *p* = .613) (see table 2); no outliers were detected as both the highest (2.11) and the lowest score (-2.37) were within the range of 3 standard residuals of the mean. None of the effects were significant, both main and interaction effects were not significant (see tables 4,5 and 6).

Table 5

Levene's test for the three product choices

	F	*df1*	*df2*	Sig.
Choice of Lamp	1.24	8	201	.278
Choice of Backpack	.79	8	201	.613
Choice of Battery	1.92	8	201	.059