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How and when Narcissism and faith in humanity drive sustainable consumption

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Abstract

The aim of this study is to examine how and when narcissism and faith in humanity simultaneously influence product reuse. Despite its critical role in promoting sustainability, scholars have paid scant attention to product reuse as a reliable aspect of sustainable consumer behavior. Moreover, research on personality traits as drivers of sustainable consumption has mostly focused on the Big Five personality traits. We posit that the effects of consumers' narcissism and faith in humanity on product reuse are explained by social exclusion and are conditional on subjective norms. We test our hypotheses using two experiments and three cross-sectional surveys. We find that while narcissism has a negative effect on product reuse, faith in humanity has a positive effect on product reuse. We also observe that social exclusion mediates the effects of narcissism and faith in humanity, and that subjective norms positively moderate the relationships between narcissism and product reuse. This study highlights the importance of product reuse as a key indicator of sustainable consumption and offers novel insights into the how and when consumers engage in product reuse.

KEYWORDS

consumer behavior, personality, product reuse, sustainability, sustainable consumption

1 | INTRODUCTION

Human consumption practices are rapidly accelerating climate change (European Commission, 2020). Both U.S. and E.U. Environmental Protection Agencies (EPA) have designed waste management programs that emphasize product reuse, which is considered a key aspect of sustainable consumption (EPA, 2018). Firms, in turn, have designed initiatives encouraging consumers to engage in product reuse. For example, Starbucks allows customers to reuse cups in its stores; supermarket chain Asda has in-store refill stations so that customers can refill containers with products such as detergents, tea and coffee, or cereal; and more retailers have begun to sell second hand clothing (Park & Martinez, 2020). Despite such efforts, global waste production is expected to reach 3.40 billion tonnes by 2050 (Kaza et al., 2018), raising doubts as to whether consumers sufficiently engage in product reuse.

From the perspective of sustainability marketing, novel insights into individual traits that drive consumers to act responsibly are critical for tackling a wide range of environmental issues (Hassan et al., 2022; Ortega Egea & Garcia de Frutos, 2020). The literature on this matter focuses on "isolated environmental practices such as recycling" (Ortega Egea & Garcia de Frutos, 2020; p. 308), while other key aspects of sustainable consumption remain unstudied. One essential aspect of sustainable consumption that has been overlooked is *product reuse*

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TABLE 1 Empirical work on various aspects of consumer sustainable consumption

Research themes	Main thematic aspects studies	Illustrative academic papers
Consumption reduction	Energy use reduction	Bissing-Olson et al. (2016)[a]; Wang et al. (2017)[a]
	Water use reduction	Ortega Egea and García de Frutos (2013)
	Paper use reduction	Catlin & Wang (2013)[a]
	Air pollution reduction	Brick & Lewis, 2016; Essiz and Mandrik (2021)
Green consumption	Buy products from recycled materials	Hinsch et al. (2021)[a]
	Buy eco-friendly products	Antonetti & Maklan (2014)[a]; Edinger-Schons et al. (2018)[a]; Hosta & Zabkar (2020)[a]; Liang and Guo (2021)
Postuse consumption	Recycling	Grazzini et al. (2018); Guiot et al. (2019)[a]; Li et al. (2021); Onel and Mukherjee (2017); Trudel & Argo (2013)[a]; Winterich et al. (2019)
Consumption avoidance	Refuse to buy eco-unfriendly products	Essiz and Mandrik (2021)
	Conspicuous anticonsumption	Sekhon & Armstrong Soule (2020)[a]
Collaborative consumption	Second-hand buying	Ek Styvén & Mariani (2021); Guiot and Roux (2010)
	Flat sharing	Simon and Roederer (2019)
	Donation	Chapman et al. (2020)[a]; DeMotta (2021)[a]

[a]Reference provided in Web Appendix A.

(see Table 1). Product reuse captures a wide range of actions—from free exchange and second-hand shopping to remanufacturing—and is critical to support any government efforts to reduce waste production, pollution, and energy use needed to develop new products (EEA, 2021). This study focuses on reusing products for the same or similar purposes for which they were originally purchased (EPA, 2018). Consumers' engagement with product reuse has been assumed but never assessed empirically, and thus its drivers and boundary conditions are largely unknown.

An essential theoretical perspective for understanding consumer sustainable behavior is personality trait theory (cit. Hassan et al., 2022). Personality trait theorists argue that individuals are characterized by fixed features that lie within one's disposition and drive behavior toward different facets of consumption (Barnett et al., 2005; McCrae et al., 2000). Our literature review (see Table 2) reveals that while research on personality-driven sustainable consumption is largely limited to the Big Five, a few scholars (Lee, 2019; Lu et al., 2015; Song & Kim, 2018) have highlighted the possibility that other traits can also drive sustainable consumption. Personality trait theorists (e.g., Kaufman et al., 2019) have also called for work on how consumer (sustainable) behavior is driven by both dark- and light-side traits. Yet scholars to date have failed to consider such effects simultaneously (Table 2).

Two personality traits worthy of investigation for explaining why consumers reuse products are *narcissism*—a dark-side trait that prompts obsessive and egocentric concerns and love for oneself while ignoring others (Muris et al., 2017; Paulhus & Williams, 2002)—and *faith in humanity*—a bright-side trait that drives people to believe in the fundamental goodness of others (Kaufman et al., 2019). Narcissism underpins consumers' motivations to only take action to increase the utility/benefits of others if they also gain benefits themselves; faith in humanity underpins consumers' motivation to take actions to increase the utility/benefit of others despite personal costs (cit. Moshagen et al., 2018). Personality theorists have challenged the premise that traits are fixed and have attempted to overcome personality trait theory's shortfall with regard to boundary conditions (e.g., Lee, 2019; Moshagen et al., 2018; Song & Kim, 2018). Still, the sustainable consumption literature lacks knowledge on how and when personality traits drive sustainable consumption. The principle of trait activation suggests that the behavioral manifestation of a personality trait occurs through the activation of related psychological states and depends on relevant social situational cues that pressure an individual to behave in a "trait-related way" (Tett & Burnett, 2003; Tett & Guterman, 2000).

A psychological state through which consumers can express their narcissism and faith in humanity is *social exclusion*, or the feeling/experience of being ignored or rejected (Mazinani et al., 2021). Consumers characterized by narcissism or faith in humanity may cope with a sentiment of social exclusion by respectively expressing a tit-for-tat (antisocial) or a tolerant (pro-social) reaction (McKnight et al., 1998; Twenge & Campbell, 2003). The social pressure derived from peer groups (e.g., friends, coworkers) is a social situational cue relevant to both narcissism and faith in humanity because responding to such a cue may compel individuals characterized by these traits to express grandiosity or care for others, respectively (Tett & Burnett, 2003). Accordingly, *subjective norms*, or the perceived social pressure to engage in a given behavior believed to be supported by important others (Ajzen, 1991), can be understood as a social situational cue that conditions the effects of narcissism and faith in humanity on product reuse. The possibility of narcissistic consumers engaging in sustainable consumption when there is peer pressure to do so merits

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TABLE 2 Empirical research on the relationship of personality traits with sustainable consumption

Study	Study context	Study design	Personality traits	Explanatory mechanism(s)		Outcome Variable(s)	Study findings
				Moderator(s)	Mediator(s)		
Fraj & Martinez (2006)[a]	Survey of 573 respondents	Cross-sectional	The Big Five	N/A	N/A	Ecological behavior	• Direct effect (+) of extroversion, agreeableness and conscientiousness
Hirsh & Dolderman (2007)[a]	Survey of 106 Canadian respondents	Cross-sectional	The Big Five	N/A	N/A	Environmentalism	• Direct effect (+) of agreeableness and openness
Hirsh (2010)[a]	Survey of 2690 German respondents	Longitudinal	The Big Five	N/A	N/A	Environmental concern	• Direct effect (+) of extraversion, openness, agreeableness and conscientiousness
Nga and Shamuganathan (2010)	Survey of 181 mainly Chinese respondents	Cross-sectional	The Big Five	N/A	N/A	Sustainability	• Direct effect (+) of agreeableness and conscientiousness
Markowitz et al. (2012)	Survey of 778 American respondents (study 1) Survey of 115 American respondents (study 2)	Cross-sectional	The Big Five	N/A	Environmental attitudes Connection to nature	Environmental behavior	• Direct effect (+) of openness and conscientiousness • Direct effect (−) of extraversion and neuroticism • Direct effect (+) of openness is mediated (+) by environmental attitudes and connection to nature
Brick & Lewis (2016)	Survey of 345 American respondents	Cross-sectional	The Big Five	N/A	Attitudes toward the natural environment	Reducing greenhouse gas emissions	• Direct effect (+) of openness, conscientiousness, and extraversion is mediated (+) by attitudes toward the natural environment
Kvasova (2015)	Survey of 545 Russian, British, Greek, Swedish, and German respondents	Cross-sectional	The Big Five	N/A	N/A	Eco-friendly behavior	• Direct effect (+) of extraversion, openness, agreeableness, conscientiousness, and neuroticism
Song and Kim (2018)	Survey of 400 American respondents	Cross-sectional	The Big Five	N/A	N/A	Socially responsible consumption and disposal behavior	• Direct effect (+) of openness and conscientiousness
Schwepker & Cornwell (1991)[a]	Survey of 146 American respondents	Cross-sectional	Locus of control	N/A	N/A	Willingness to purchase ecologically packaged products	• Direct effect (−)
Ng & Burke (2010)[a]	Survey of 248 American business students	Cross-sectional	Personal values	N/A	N/A	Attitudes toward sustainable practices	• Personal values (+)
Gleim et al., (2013)[a]	Survey of 581 American respondents	Cross-sectional	Personal norms	N/A	N/A	Purchase intention of green consumption	• Direct effect (+)

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TABLE 2 (Continued)

Study	Study context	Study design	Personality traits	Explanatory mechanism(s)		Outcome Variable(s)	Study findings
				Moderator(s)	Mediator(s)		
Lu et al. (2015)	Survey of 545 Taiwanese respondents	Cross-sectional	Loyalty proneness	N/A	Ethical belief	Green buying intention	• Direct effect (+) is mediated (+) by ethical belief
Lee (2019)	2 surveys with 513 American and 360 South Korean respondents respectively; 1 experiment with 200 South Korean participants	Cross-sectional Experimental	Person orientation Thing orientation	Gender	N/A	Ecologically conscious consumer behavior Socially conscious consumer behavior	• Direct effects (+/+) are not moderated (ns/ns) • **Direct effects (+/ns) are moderated (+/+)**
Yan et al. (2021)	3 experiments with 156, 219, and 208 American participants respectively	Experimental	Consumer power state	Green values Power distance belief	N/A	Green consumption	• Direct effect (+) is moderated by green values (−) and power distance belief (+)
Kesenheimer and Greitemeyer (2021)	Survey of 261 German and Austrian (mostly) participants	Cross-sectional	Agentic narcissism Communal narcissism	N/A	N/A	Altruistic pro-environmental behavior Egoistic proenvironmental behavior	• Direct effects (ns/ns) • Direct effects (ns/+)
Our study	**2 experiments with American participants 3 surveys with American respondents**	**Experimental Cross-sectional**	**Narcissism Faith in humanity**	**Subjective norms**	**Social exclusion**	**Products reuse**	• **Direct effect (+) mediated (+) and moderated (+)** • **Direct effect (-) mediated (-) and moderated (ns)**

Note: N/A = not applicable; The Big Five = extraversion (also often spelled extroversion), agreeableness, openness, conscientiousness, and neuroticism.

[a]Reference provided in Web Appendix A.

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further investigation. In response to these gaps, we explore the following research questions: Do consumer narcissism and faith in humanity trigger product reuse? Do social exclusion and subjective norms create conditions by and under which narcissism and faith in humanity prompt product reuse?

In answering these questions, we advance the literature on sustainable consumption in three ways. First, despite significant political and social investments (i.e., effort, time, money), global waste production is likely to reach 3.40 billion tonnes in the next two decades (Kaza et al., 2018), an escalation that is likely to have detrimental effects on the environment. In response to calls for more research on aspect of sustainable behavior beyond recycling (Ortega Egea & Garcıa de Frutos, 2020) and the lack of focus on product reuse as a key indicator of sustainable consumption (Table 1), we offer novel insights into consumers' tendency to engage, or not, in product reuse. Our study expands knowledge of the effects of personality traits' on sustainable consumption by showing that while narcissism has negative effect on product reuse, faith in humanity has a positive effect on product reuse.

Second, in response to the scant attention given to personality traits, apart for the Big Five, as drivers of sustainable consumption (Table 2) and to recent calls for more research on how traits may prompt responsible consumer behavior (cit. Hassan et al., 2022), we combine personality trait theory work with insights from the principle of trait activation, examining the conditional effects of social exclusion and subjective norms as trait-relevant psychological and social situational cues (Tett & Burnett, 2003). We advance understanding with respect to how (the process by which) and when (the conditions under which) narcissism and faith in humanity drive consumers to engage in product reuse. Specifically, we show that (1) social exclusion mediates the effects of narcissism and faith in humanity on product reuse, and (2) subjective norms moderate the path from narcissism (but not faith in humanity) to product reuse. By showing that personality traits can change under conditions of relevant social pressures/cues, our results extend work on personality trait theory by challenging the assumption that personality is fixed and stable over time (Boyce et al., 2013).

Third, our study offers both managerial and policy insights into how and when consumers characterized by narcissism and faith in humanity engage in product reuse and proactively contribute to waste reduction. For example, managers and policy makers involved in the development of consumer sustainability education and waste management programs should understand that the success of policies depends on highlighting product reuse as a behavior that is approved and encouraged by significant others. In this way, narcissistic consumers might also engage in product reuse, thus contributing to sustainability efforts, waste reduction, and societal welfare despite this dark-side personality trait.

2 | LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The fight against climate change has urged scholars to examine various aspects of sustainable consumption. Sustainable consumer behavior refers to the buying, using, and disposing of products in a way that minimizes environmental impact (Liang & Guo, 2021). Our review of the sustainability literature shows that while scholars have mainly focused on "buying and using" products, with the exception of recycling, disposal and other postuse aspects of sustainable consumption have been largely neglected (see Table 1). For example, scholars consider green consumption a key feature of sustainable consumption and have paid significant attention to how consumers' emotions, values, and attitudes drive the purchase of eco-friendly products (Brough et al., 2016; Cleveland et al., 2012; Do et al., 2021; Liang & Guo, 2021; Lu et al., 2015; Yan et al., 2021).

Another key indicator of sustainable consumption that has been widely researched is consumption reduction and avoidance. To this end, scholars have studied how consumers' emotions, feelings, and certain socialization factors (e.g., intergenerational influence) prompt them to reduce energy consumption or avoid buying eco-unfriendly products (Essiz & Mandrik, 2022; Goldstein et al., 2008; Leonidou et al., 2015; Peattie & Peattie, 2009; Ortega Egea & Garcia de Frutos, 2013). Recently, scholars have shifted their focus to another critical aspect of pro-environmental behavior, namely, collaborative consumption. In this regard, scholars have examined the psychological mechanisms that underlie the decision to buy second-hand products (Ek Styvén & Mariani, 2020; Guiot & Roux, 2010) or the simultaneous sharing of the same resource, such as a flat (Simon & Roederer, 2019).

In terms of product disposal practices, scholars have considered recycling the key indicator of postuse sustainable consumption and the main solution to solid waste problems. Accordingly, extensive research has focused on motivational factors (e.g., intrinsic, extrinsic, egoistic) that explain the decisions to recycle products (Bagozzi & Dabholkar, 1994; Grazzini et al., 2018; Li et al., 2021; Onel & Mukherjee, 2017; White & Simpson, 2013; Winterich et al., 2019). Yet strong evidence regarding global warming indicates that recycling alone is insufficient and that policy makers and firms need more effective and efficient solutions to waste management. By recycling consumers can only help with reducing part of the negative impact of postuse consumption on the environment (Onel & Mukherjee, 2017). There have been considerable investments from environmental agencies to promote and encourage consumers to take other responsible postuse actions, such as product reuse (EPA, 2018).

By contrast, scholars have neglected product reuse as a key aspect of postuse sustainable consumption and a solution to solid waste problems (Table 1), despite recent calls for more work on aspects of postuse consumption, other than recycling (Ortega Egea & Garcia de Frutos, 2020). This lack of attention is problematic given the enormous political and social investments (i.e., effort, time, money) needed to promote and encourage consumers (so far unsuccessfully) to reuse products (Kaza et al., 2018). It will only be possible to design and implement successful policies that tackle waste production when there are clear insights into the personal traits that prompt sustainable consumer behavior (Hassan et al., 2021; Onel & Mukherjee, 2017). To this end, scholars have mainly investigated the effects of bright-side personality traits (e.g., the

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Big Five) on two facets of sustainable behavior: green consumption and recycling. However, results are mixed (see Table 2).

For example, Song and Kim (2018) find that openness and conscientiousness positively drive consumers' disposal behavior. Likewise, Kvasova (2015) shows positive effects of extraversion, conscientiousness, agreeableness, openness, and neuroticism on eco-friendly behavior. In contrast, Markowitz et al. (2012) observe negative impacts of extraversion and neuroticism and a nonsignificant effect of agreeableness on prosocial behavior (e.g., recycling). These inconclusive findings highlight the need to examine how other personality traits may prompt consumers to engage in sustainable consumption and the underlying mechanisms through which personality drives sustainable consumption.

A few studies (e.g., Collins et al., 2007; Lu et al., 2015; Markowitz et al., 2012; Yan et al., 2021) have tried to reconcile the mixed results by studying the conditional role of consumer values, attitudes, and beliefs in explaining the effects of bright-side personality traits on green buying and recycling. One study focusing on dark-side personality traits uncovered how (agentic and communal) narcissism drive the decision to buy or avoid buying eco-(un)friendly products (Kesenheimer & Greitemeyer, 2021). Yet the authors report (mostly) nonsignificant direct effects (Table 2)[1]. Despite efforts, current knowledge about the drivers of and underlying mechanisms influencing consumers' postuse sustainable consumption is limited. A key issue is that consumers may refrain from engaging in actions that promote sustainable consumption when they entail personal efforts that promote the well-being of others.

In line with personality trait theory, the principle of trait activation deems that humans are characterized by dark- and bright-side traits that prompt engagement in specific actions (Tett & Burnett, 2003; Tett & Guterman, 2000). Dark-side personality traits (e.g., narcissism) are a set of aversive dispositions that underlie individuals' actions that benefit themselves, with little concern for the welfare of others (Paulhus & Williams, 2002). Bright-side personality traits (e.g., faith in humanity) refer to the virtuous aspect of personality that orients individuals toward promoting both societal well-being and their own (McCrae et al., 2000; Song & Kim, 2008). Unlike personality trait theory, the principle of trait activation highlights the conditional role of psychological states (e.g., social exclusion or rejection) and trait-relevant social situational cues (e.g., subjective norms, the social pressure to act in a given way) in affecting and explaining individuals' actions/behaviors (Tett & Burnett, 2003).

In essence, this theoretical perspective attributes personality trait driven behavior to a related psychological state and relevant social situation by and under which individuals express or are pressured to manifest their tendency to engage, or not, in a specific action/behavior. The application of the trait activation principle provides a theoretical foundation for uncovering the underlying mechanisms that help unpack trait-expressive postuse sustainable consumption. Figure 1 depicts the conceptual framework that outlines our arguments: (1) narcissism and faith in humanity impact product reuse, (2) social exclusion mediates the effects of narcissism and faith in humanity, and (3) subjective norms moderates the relationships of narcissism and faith in humanity with product reuse.

2.1 | Narcissism and product reuse

Product reuse refers to prosocial waste-reduction behavior characterized by the reuse of products for the same or similar purposes for which they were originally bought (EPA, 2018). We predict that consumer narcissism has a negative effect on product reuse. Narcissism is a dark-side personal trait that evokes an inflated sense of self-centeredness and entitlement, egoistic and egocentric behavior, and general lack of empathy for society at large (Paulhus & Williams, 2002). To reuse products and reduce the amount of waste produced, narcissistic consumers need to overcome their self-centered focus and sacrifice time and effort to reuse products (e.g., save plastic bags and containers in which goods can be stored again, prepare and take in clothes for reuse). Indeed, by reusing products, narcissistic consumers can reduce waste, save energy, and decrease pollution, which consequently affects sustainability outcomes that may benefit society. Yet, because such behavior does not always provide a proximate tangible benefit for self-enhancement, narcissistic consumers will be less likely to take actions that require effort but contribute to societal and environmental well-being.

Work on behavioral manifestations of narcissism in consumer contexts reveals a lack of motivation and interest in pro-social behaviors that are beneficial predominately to others (Cisek et al., 2008; Ellen et al., 2019; Grijalva & Harms, 2014; Harrison et al., 2018). To this end, prior work on narcissists' consumption behaviors indicates a preference for products that enhance their sense of grandiosity and provide them with personal recognition (Lee et al., 2013; Sedikides et al., 2007, 2011). The consumption preference for status- and self-enhancing products, instead of sustainable products, can manifest in behaviors characterized by overconsumption or conspicuous consumption, rather than sustainable consumption. Thus:

H1: *There is a negative relationship between narcissism and product reuse.*

2.2 | Faith in humanity and product reuse

We expect that consumers' faith in humanity positively influences product reuse. Faith in humanity is a bright-side personality trait that underlies individuals' tendency to believe that the majority of humans care about the well-being of others and thus generally act with integrity and in the best interest of society (McKnight et al., 1998; Preston-Roedder, 2013). Having faith in humanity breeds reciprocity, harmony, and solidarity between the person and other members of

[1]The current study extends Kesenheimer and Greitemeyer's (2021) work by examining both direct and indirect effects of narcissism on consumers' decision to engage in sustainable postuse actions (i.e., reuse products).

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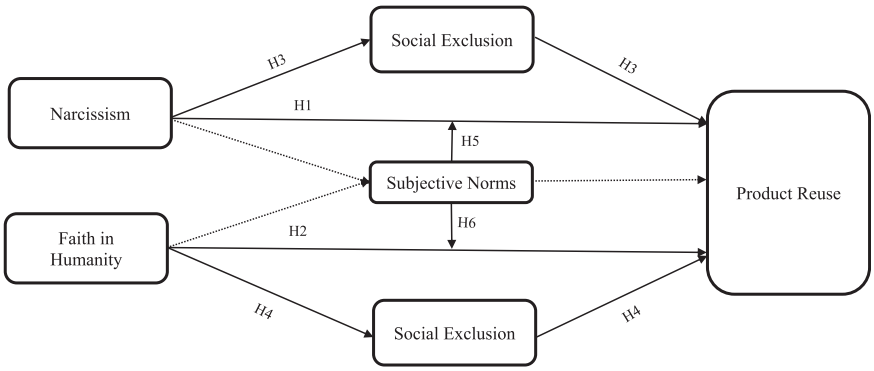

FIGURE 1 Conceptual framework. *Note*: Dotted lines are control paths

the community (Preston-Roedder, 2013). As such, individuals' tendency to have confidence in others and their actions, even without evidence that such actions benefit others (or the environment), encourages reciprocal behaviors oriented towards improving societal well-being.

Such feelings of agreement and reciprocal helping behavior among members of a community, along with the belief that others are benevolent and generally want to help, will prompt consumers with faith in humanity to behave in ways that benefit society. In particular, consumers with a strong and unshakeable belief that most people will pursue common benefits will be motivated to respond in kind. Therefore, faith in humanity is likely to drive consumers to reuse products as a means to contribute to the societal well-being, as such consumers believe that others will do so as well. We thus posit:

H2: *There is a positive relationship between faith in humanity and product reuse*.

2.3 | Mediating role of social exclusion

We expect that the effect of consumers' narcissism on product reuse is mediated by social exclusion, or the feeling/experience of being ignored, rejected, or ostracized. This is because social exclusion is a challenging dilemma for narcissists or consumers with attention-seeking behaviors or obsessive and egocentric concerns for themselves (Fossati et al., 2017; Twenge & Campbell, 2003). Specifically, search motivated by grandiosity and self-involvement/enhancement can make narcissists ignore the needs of those around them, who, once they realize that their feelings are being disregarded, may react by excluding, rejecting, or ostracizing narcissists from the social group and its activities. Narcissists' typical response to the sentiment or experience of being excluded or rejected from a social group or activity is a tit-for-tat (antisocial) reaction (Twenge & Campbell, 2003; Williams, 2007). On the one hand, narcissists' equivalent retaliation to the experience of rejection is expected to manifest in their not engaging in actions (e.g., product reuse) that benefit society as a whole. On the other hand, this sense of rejection might lead narcissists to comply with moral duties to be accepted by the group or community they strive to be part of to confirm their sense of grandiosity or fulfill their self-enhancement motivation. Thus:

H3: *The negative effect of narcissism on product reuse is mediated by social exclusion*.

We also expect that the effect of consumers' faith in humanity on product reuse is mediated by social exclusion. Faith in the fundamental goodness of others can enhance the feeling that others generally care enough to help (McKnight et al., 1998). Such feelings can not only prevent social exclusion but also motivate consumers to take actions to increase the utility of others despite some personal costs (cit. Moshagen et al., 2018). Believing that people are generally good and fair toward others will neutralize feelings of social exclusion. Because experiencing ostracism or exclusion from a social group or its activities has been shown to trigger antisocial (aggressive) behavior and actions against others (Twenge & Campbell, 2003; Williams, 2007), it is plausible that faith in humanity drives product reuse by reducing feelings of social exclusion. Reducing feelings of social exclusion is critical, because this sentiment diverts consumer attention away from the big issues confronting society (e.g., waste reduction). Furthermore, individuals characterized by faith in humanity view the world as a place full of people who can live in harmony and pursue goals that conform to the moral obligations of the community (Preston-Roedder, 2013). Yet having faith in humanity does not mean being blind to evidence of others' irresponsible actions (Preston-Roedder, 2013). Realizing that trusted others may not fulfil their moral obligations can trigger a sense of rejection of faith in others' integrity. The resulting feeling of ostracism might lead to an increased effort to promote product reuse and bring back harmony to the community. Thus:

H4: *The positive effect of faith in humanity on product reuse is mediated by social exclusion*.

2.4 | Moderating role of subjective norms

We expect that the effect of narcissism on product reuse is conditional on subjective norms, based on the logic that behavioral manifestations of narcissism vary as a function of situational contingencies that provide opportunities for self-enhancement (Foster & Campbell, 2007; Morf & Rhodewalt, 2001). Specifically,

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subjective norms relate to a person's belief that important others prefer a given behavior to be performed (Ajzen, 1991).[2] In situations in which subjective norms are low, people do not perceive that important others value or place much importance on a specific behavior, and thus people will not perceive any social pressure to behave in such a way. Thus, when their behavior is not influenced by others' expectations and the desire for social approval, narcissistic consumers will be reluctant to sacrifice time and energy to reuse products.

Alternatively, when subjective norms are high, individuals' actions can be socially motivated and implemented to conform to important others' expectations (Ajzen, 1991). In an effort to gain the approval and admiration of their peer groups, narcissistic consumers may perceive that it is more beneficial to align their behavior with others' expectations about what should or should not be done to protect and preserve the environment. Indeed, personality trait theorists suggest that narcissists favor activities that boost their self-image and peer admiration (Baumeister & Vohs, 2001; Resick et al., 2009; Sedikides & Gregg, 2001; Wallace & Baumeister, 2002). Thus, complying with important others' pro-social opinions can be a path to self-enhancement, which constitutes a prosocial behavioral manifestation of narcissism. Consistent with this reasoning, narcissists' engagement in product reuse may be conditional on their perception that it is an opportunity to showcase environmental leadership and will validate, maintain, and elevate their positive self-image.

H5: *Subjective norms positively moderate the relationship between narcissism and product reuse, such that the negative relationship is weaker when subjective norms are high (vs. low).*

We expect the effect of faith in humanity on product reuse to be conditional on subjective norms, based on the logic that valuing important others' views and opinions prompts behaviors oriented toward complying with such views (Preston-Roedder, 2013). Specifically, when subjective norms are low, individuals do not perceive social pressure to behave in ways that conform to others' expectations (Ajzen, 1991). Nonetheless, a prosocial behavioral manifestation of faith in humanity is evoked by the belief that people are generally good and responsive to challenges of the future (Preston-Roedder, 2013; Wrightsman, 1991). As such, even when the opinion of important others is unknown or not made prominent, faith in humanity can still prompt consumers to take actions that promote societal well-being. Thus, having faith in humanity will prompt consumers to perform acts of environmental kindness, such as reusing products to help reduce waste, energy, and pollution.

When subjective norms are high, individuals are under social pressure to behave in ways that comply with important others' expectations (Ajzen, 1991). Such social pressure, which may involve performing actions that important others support, can condition consumers to perform the actions those important others' expect. Appreciating important others' opinions, coupled with perceived social pressure to perform a given behavior, can prompt consumers to internalize the views of important others and behave in ways that conform to these expectations. Consistent with this logic, the effect of faith in humanity on product reuse is likely to be reinforced by the perception that such behavior is supported and approved by valued others, thus constituting an opportunity to positively contribute to societal well-being.

H6: *Subjective norms positively moderate the relationship between faith in humanity and product reuse, such that the positive relationship is stronger when subjective norms are high (vs. low).*

3 | METHOD

In the following studies, we examine the relationships of narcissism and faith in humanity with product reuse. We also study the mediating effect of social exclusion and the moderating role of subjective norms (see Figure 1). We conducted five studies. The aim of Studies 1a and 1b is to examine the effects of narcissism and faith in humanity on product reuse (1a) and the mediating role of social exclusion in the relationships of narcissism and faith in humanity with product reuse (1b). Studies 2a and 2b experimentally manipulate subjective norms in a private consumption setting. Study 2a provides initial evidence for the effect of subjective norms on product reuse. Study 2b builds on Study 2a by testing the moderating role of subjective norms in the relationships of narcissism and faith in humanity with product reuse. We then test the complete conceptual framework in Study 3.

For all studies, we collected data using Amazon Mechanical Turk (MTurk), a crowdsourcing online market research platform widely used in studies examining consumer behavior (e.g., Bhattacharjee & Mogilner, 2014; Goodman & Paolacci, 2017; Ma et al., 2014). In MTurk, workers can search for human intelligence tasks (e.g., questionnaires, experiments) prepared by researchers, select those they are sufficiently knowledgeable about to complete, and obtain a monetary payment upon successful completion (Buhrmester et al., 2011). MTurk reduces potential interviewer bias, helps reach a large and diverse audience, and provides reliable data (Buhrmester et al., 2011; Hulland & Miller, 2018; Paolacci & Chandler, 2014). We recruited workers with a high approval rating to enhance data quality (Peer et al., 2014). We built all studies using Qualtrics.

3.1 | Study 1a: Direct effects of Narcissism and faith in humanity on product reuse

Study 1 investigates the effects of narcissism and faith in humanity on product reuse. We theorize that narcissism negatively affects product reuse, while faith in humanity positively affects product reuse. Thus, Study 1 focuses solely on testing H1 and H2 (i.e., the direct effects). We ran a cross-sectional survey among U.S. consumers.

[2]In this study, we focus only on injunctive (rather than descriptive) norms due to their theoretical relevance to the other constructs included in conceptual framework.

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3.1.1 | Study 1a: Procedure

Participants were recruited to answer a survey about household habits. Using MTurk, we collected 542 responses. 11 of which we discarded because they did not pass the attention check. The final sample consisted of 531 respondents (245 female; mean age = 41.51 years; for sample demographics, see Web Appendix B). To tap our constructs, we used Jones and Paulhus (2014) scale for narcissism (e.g., "Many group activities tend to be dull without me"), Kaufman et al.'s (2019) scale for faith in humanity (e.g., "I tend to see the best in people"), and Pelletier et al.'s (1998) scale for product reuse (e.g., "I save for reuse jars and containers for storing things in again"). All items were assessed using 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Table 3 includes all measures and sources. We

TABLE 3 Measurement model results

Factor and items	Study 1a	Study 1b	Study 3
Product reuse (Pelletier et al., 1998)			
I reuse the unused side of paper.	0.65***	0.66***	0.75***
I purchase products with reusable packaging.	—	—	0.70***
I reuse paper lunch or grocery bags.	0.84***	0.88***	0.77***
I reuse old clothes.	0.62***	—	0.73***
I reuse leftovers from meals.	0.84***	—	0.64***
I save for reuse jars and containers for storing things in again.	0.68***	0.83***	0.76***
Narcissism (Jones & Paulhus, 2014)			
People see me as a natural leader.	0.62***	0.68***	0.72***
Many group activities tend to be dull without me.	0.65***	0.85***	0.86***
I know that I am special because everyone keeps telling me so.	0.72***	0.85***	0.85***
I like to get acquainted with important people.	0.65***	0.76***	0.78***
I have been compared to famous people.	0.85***	0.74***	0.79***
I insist on getting the respect I deserve.	0.85***	0.68***	0.70***
Faith in humanity (Kaufman et al., 2019)			
I tend to see the best in people.	0.93***	0.91***	0.90***
I tend to trust that other people will deal fairly with me.	0.94***	0.89***	0.92***
I think people are mostly good.	0.93***	0.89***	0.93***
I am quick to forgive people who have hurt me.	0.69***	0.65***	0.73***
Social exclusion (Malone et al., 2012)			
I feel like an outsider.	–	0.91***	0.94***
I feel as if people do not care about me.	–	0.91***	0.95***
I feel isolated from the rest of the world.	–	0.92***	0.95***
Friends and family do not involve me in their plans.	–	0.92***	0.94***
When I am with other people, I feel like a stranger.	–	0.89***	0.90***
Subjective norms (Han et al., 2015)			
Most people who are important to me think I should reuse products such as clothes and/or jars.	—	–	0.86***
Most people who are important to me would want me to adjust my behavior to reduce waste by reusing leftovers from meals.	–	–	0.80***
People whose opinions I value would want me to take product reuse into account when shopping.	–	–	0.93***
People whose opinions I value would prefer if I buy product with reusable packaging.	–	–	0.92***

Abbreviation: SL, standardized loading.

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$.

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followed Anderson and Gerbing's (1988) guidelines to establish the validity and reliability of our constructs. Cronbach's alpha (α) reliability scores for the multi-item constructs exceeded 0.72. The average variance extracted (AVE) for each construct was higher than the cutoff point of 0.50, and the construct reliability (CR) exceeded the desirable threshold of 0.70 (Fornell & Larcker, 1981). We report descriptive statistics, reliability scores, and correlations among the constructs in Web Appendix C. These tests suggest that measures are reliable.

To assess our measures more robustly, we ran a confirmatory factor analysis (CFA) in Mplus version 8.0 (Muthén & Muthén, 2017) for the main study constructs. All item loadings (see Table 3) for this study's constructs exceed the minimum threshold 0.5 and are significant (Hair et al., 2014). The measurement model demonstrated satisfactory fit to the data ($\chi^2 = 216.93$, $df = 87$, $p < 0.00$; CFI = 0.96; TLI = 0.95; RMSEA = 0.05; SRMR = 0.05). These results suggest that the measurement scales have satisfactory convergent validity. To establish discriminant validity, we utilized two tests. First, we examined the heterotrait-monotrait ratio of correlations (Henseler et al., 2015). The results support the discriminant validity of our measures, with all values below the conservative threshold of 0.85 (see Web Appendix C). Second, we ran another measurement model that combined the two constructs with the highest correlation (in this study, product reuse and faith in humanity) into one factor (He et al., 2019). The goodness-of-fit indices of this second measurement model ($\chi^2 = 628.29$, $df = 0.89$, $p < 0.00$; CFI = 0.83; TLI = 0.80; RMSEA = 0.11; SRMR = 0.10) were significantly worse than those of our original measurement model ($\Delta\chi^2 = 411.36$, $\Delta df = 2$, $p < 0.00$). Thus, these tests reveal no concerns about discriminant validity.

3.1.2 | Study 1a: Results

To test our hypotheses, we ran a multiple regression in SPSS, using narcissism and faith in humanity as predictors, and product reuse as our criterion. The results support the predictions about a negative impact of narcissism (H1: $b = -0.10$, $SE = 0.04$, $t = -2.42$, $p = 0.02$) and a positive impact of faith in humanity (H2: $b = 0.14$, $SE = 0.03$, $t = 4.66$, $p = 0.00$) on product reuse. These results hold when we add several control measures: age ($b = 0.01$, $SE = 0.00$, $t = 1.57$, $p = 0.12$), gender ($b = 0.00$, $SE = 0.01$, $t = 0.02$, $p = 0.98$), marital status ($b = 0.04$, $SE = 0.04$, $t = 1.02$, $p = 0.31$), number of children in household ($b = 0.06$, $SE = 0.04$, $t = 1.54$, $p = 0.68$), occupation ($b = -0.02$, $SE = 0.04$, $t = -0.42$, $p = 0.68$), highest level of education achieved ($b = -0.02$, $SE = 0.06$, $t = -0.42$, $p = 0.68$), average household income ($b = -0.01$, $SE = 0.02$, $t = -0.51$, $p = 0.61$), and religious orientation ($b = 0.05$, $SE = 0.02$, $t = 2.48$, $p = 0.01$). After we added these controls, narcissism maintains its negative effect ($b = -0.08$, $SE = 0.04$, $t = -2.03$, $p = 0.04$) and faith in humanity maintains its positive effect ($b = 0.14$, $SE = 0.03$, $t = 4.42$, $p = 0.00$) on product reuse. Thus, the results support H1 and H2.

3.2 | Study 1b: Mediating role of social exclusion

After confirming the direct effects of narcissism and faith in humanity on product reuse, we designed Study 1b to understand the mechanism behind these effects. Thus, the aim of Study 1b was to examine the mediating role of social exclusion in the relationships of both narcissism and faith in humanity with product reuse. Our theorizing suggests that social exclusion negatively mediates the relationship between narcissism and product reuse, and positively mediates the relationship between faith in humanity and product reuse. With a similar method to Study 1a, we conducted another cross-sectional survey that included the theorized mechanism: social exclusion.

3.2.1 | Study 1b: Procedure

We recruited 400 MTurk workers to answer a survey about household habits. To prevent workers who had responded to Study 1a from participating in Study 1b, and thus avoid participant bias, we included one screening question asking respondents if they had recently participated in a survey about household habits. Thirty-one indicated that they had, and we deleted them from the original sample. Another five participants did not pass the attention checks, so we also removed these respondents from the final sample, which comprised 364 respondents (168 female; mean age = 41.73 years; for sample demographics, see Web Appendix B).

To capture product reuse, narcissism, and faith in humanity, we used the same measures as in Study 1a. To tap social exclusion, we used the exclusion subscale of the General Belonging scale (Malone et al., 2012; e.g., "I feel isolated from the rest of the world"; 1 = *strongly disagree*, 7 = *strongly agree*). We established construct validity and reliability following the same procedure as Study 1a (for descriptive statistics, reliability scores, and correlations, see Web Appendix C). These initial analyses provided satisfactory results ($\alpha > 0.74$, AVE > 0.50, CR > 0.70). Moreover, we conducted a CFA in Mplus to confirm the reliability and validity of our measures. We report item loadings in Table 3. The final measurement model confirmed good fit to the data ($\chi^2 = 214.607$, $df = 129$, $p < 0.00$; CFI = 0.97; TLI = 0.96; RMSEA = 0.06; SRMR = 0.05). In addition, the heterotrait-monotrait ratio of correlations showed satisfactory results, thus supporting discriminant validity, with all scores below 0.85 (see Web Appendix C). He et al.'s (2019) method further supported discriminant the validity of our measures, as the measurement model combining the two constructs with the highest correlation (in this case, faith in humanity and social exclusion) offered significantly worse model fit than our original measurement model ($\chi^2 = 656.70$, $df = 132$, $p < 0.00$; $\Delta\chi^2 = 442.09$, $\Delta df = 3$, $p < 0.00$).

3.2.2 | Study 1b: Results

To test the mediating role of social exclusion, we conducted two mediation analyses using Model 4 of the PROCESS macro in SPSS

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(Hayes, 2017) with bootstrapping ($n = 5000$). In each of the two analyses, the independent variables were narcissism and faith in humanity. For both analyses, the dependent variable was product reuse, and the mediating variable was social exclusion. Both studies included the same control variables as Study 1a: age, gender, education level, income level, religious preference, and number of children in the household. In addition, the model using narcissism as the independent variable controlled for faith in humanity, and the model using faith in humanity as the independent variable controlled for the effect of narcissism.

Both analyses supported our theorizing. First, the results for the model using narcissism as the independent variable reveal that social exclusion negatively mediates the effect of narcissism on product reuse (indirect effect: $b = -0.09$, $SE = 0.03$, LLCI = −0.15, ULCI = −0.05). As such, we find that narcissism has a positive effect on social exclusion ($b = 0.40$, $SE = 0.07$, $t = 5.68$, $p = 0.00$), and social exclusion has a negative effect on product reuse ($b = -0.23$, $SE = 0.05$, $t = -4.68$, $p = 0.00$). In addition, narcissism has a negative impact on product reuse ($b = -0.25$, $SE = 0.07$, $t = -3.76$, $p = 0.00$). These results support H3. Second, the results for the model using faith in humanity as a predictor show that social exclusion positively mediates the effect of faith in humanity on product reuse (indirect effect: $b = 0.07$, $SE = 0.02$, LLCI = 0.30, ULCI = 0.12). Specifically, we find that faith in humanity negatively affects social exclusion ($b = -0.30$, $SE = 0.07$, $t = -4.36$, $p = 0.00$), and social exclusion has a negative effect on product reuse ($b = -0.23$, $SE = 0.05$, $t = -4.68$, $p = 0.00$). In addition, the direct effect of faith in humanity on product reuse is not significant ($b = 0.06$, $SE = 0.07$, $t = 0.98$, $p = 0.33$). The results support H4.

3.3 | Study 2a: Direct effects of subjective norms on product reuse

The purpose of Study 2a is to ensure that subjective norms positively influence product reuse regardless of the context. To that end, we conducted an experiment to examine the effect of subjective norms on product reuse in the privacy of consumers' own home, when no other people were present. A private consumption setting was necessary to demonstrate the effectiveness of subjective norms, as subjective norms are known to influence consumption behavior in public and/or shared consumption settings (Roos & Hahn, 2019; Zhang & Mao, 2020). Our manipulation used "the participant's best friend" as a proxy for subjective norms, assuming that participants would consider their best friend an important other and thus value and care about that person's opinion.

3.3.1 | Study 2a: Procedure

Using MTurk, we gathered data from a sample of 200 participants. We discarded 15 participants for not completing the task and six for not passing the manipulation check, for a final sample of 179 participants (87 female; mean age = 39.19 years; for sample demographics, see Web Appendix B). Participants were randomly allocated to one of two conditions (subjective norms or control) and informed that they would be taking part in a study about household habits. Participants were asked to imagine that they were at home and waiting for some relatives to come for lunch. While waiting, they visited their usual social media platforms and saw an update from their best friend. For participants in the subjective norms condition, their best friend posted a news article about the nightingale's wings getting shorter as a consequence of draught and higher temperatures, both of which are due to climate change. For participants in the control condition, their best friend posted a news article about grade inflation in academic institutions. Both posts were followed by a long comment, demonstrating the importance of the topic for the friend.

Following the manipulation, all participants imagined cooking with some ready-made sauce. After the relatives left, participants envisaged cleaning up the leftovers and the empty jars of sauce. Their next task was to reorganize the clothes in their wardrobe, where they encountered several items they no longer used. The leftover sauce jars, the food and the no-longer-used clothes offered opportunities to measure product reuse, for which we adapted three items from Pelletier et al. (1998), which showed good reliability ($\alpha = 0.70$).

We also asked participants to respond to two manipulation checks. The first pertained to the manipulation content ("Your best friend is concerned about climate change and global warming/about grade inflation"), and the second included two items about the importance of their best friend as an activator of subjective norms ("Your best friend is important to you"; "You value the opinions of your best friend"). We also asked participants to respond (yes/no) to the following question: "Which of the following behaviors do you consider helpful in the fight against waste production? (1) Reuse the unused side of paper, (2) Reuse paper lunch or grocery bags, (3) Save for reuse jars and containers for storing things in again, and (4) Reducing food waste." This question ensured that all participants had sufficient knowledge about actions that reduce waste production and help fight climate change. Finally, we collected demographic indicators and control variables.

3.3.2 | Study 2a: Results

Six participants failed the first manipulation check, and thus we excluded them from further analysis. All other participants understood the manipulation content ($M_{SubjNorms} = 6.03$, $SD_{SubjNorms} = 0.96$; $M_{Control} = 6.02$, $SD_{Control} = 0.99$). For the second manipulation check, all participants responded favorably to the best friend as activator of subjective norms ($M = 6.22$; $SD = 0.82$). The majority of participants (87%) correctly perceived all the measures tapping product reuse as useful to fight waste production. This check confirms that our sample was sufficiently knowledgeable about actions that help fight climate change.

We tested the impact of subjective norms on product reuse using a one-way analysis of variance. The results show that participants in

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the subjective norms condition were significantly more likely to reuse products than those in the control condition ($M_{SubjNorms}$ = 5.25, $M_{Control}$ = 4.89; $F_{(1, 172)}$ = 5.60, p = 0.01, $p\eta^2$ = 0.03). Moreover, a one-way analysis of covariance including all the same control measures as in Studies 1a and 1b did not affect the result ($F_{(1, 172)}$ = 6.88, p = 0.01, $p\eta^2$ = 0.04). Thus, the result demonstrates that subjective norms can condition product reuse even in a private consumption setting.

3.4 | Study 2b: Moderating role of subjective norms

Study 2b tests the moderating role of subjective norms in the relationships of faith in humanity and narcissism with product reuse. We first measured narcissism and faith in humanity. Then, in an ostensibly different study, we manipulated subjective norms and measured product reuse in a similar manner to Study 2a.

3.4.1 | Study 2b: Procedure

We collected responses from 300 participants using MTurk. Similar to Study 1b, we included one screening question to prevent participants who had recently participated in one of our studies from taking part, in this way avoiding participant bias. Following this screening question, we deleted 42 responses. The final sample comprised 258 participants (136 female; mean age = 42.77 years; for sample demographics, see Web Appendix B).

Participants were ostensibly recruited to participate in two unrelated studies: the first about personality and the second about household habits. In the first study, we measured narcissism and faith in humanity (Jones & Paulhus, 2014; Kaufman et al., 2019). After performing a short filler task, we randomly allocated participants to one of two conditions: subjective norms or control. Similar to Study 2a, we asked participants to imagine that they were at home, scrolling through their social networks before lunch. Using the same manipulation as Study 2a, in the subjective norms (control) condition, their best friend posted a link to a blog about product reuse (grade inflation), followed by a long comment that demonstrated how much they cared about the topic. After the manipulation, all participants envisioned making lunch using some ready-made sauce, and clearing the kitchen afterwards. While clearing the kitchen, they encountered several items that served us as measures for product reuse. Specifically, we asked if they kept the empty sauce jars, if they kept plastic bags, and if they kept paper that was printed only on one side. We adapted these items from Pelletier et al. (1998), which showed good reliability (α = 0.73). To enhance the realism of the study, we included both textual descriptions and imagery in our manipulation (Hernández-Ortega, 2020; Morales et al., 2017). Finally, we asked participants to respond to the same two manipulation checks regarding the manipulation content and the importance of their best friend as an activator of subjective norms. We also collected age, gender, and income demographics.

3.4.2 | Study 2b: Results

All participants properly understood the manipulation content ($M_{SubjNorms}$ = 6.30, $SD_{SubjNorms}$ = 0.72; $M_{Control}$ = 6.22, $SD_{Control}$ = 0.80) and responded favorably to the use of a best friend as an activator of subjective norms (M = 6.28; SD = 0.74). Thus, we included the whole sample in our analysis. To test our hypotheses, we used Model 3 in the PROCESS macro in SPSS (Hayes, 2017) with bootstrapping (n = 5000). For ease of legibility of results, the independent variable was subjective norms, the two moderator variables were narcissism and faith in humanity, and the dependent variable was product reuse. Covariates were the same control measures we used in Studies 1a, 1b, and 2a. As expected, we found significant main effects of subjective norms (b = 0.77, SE = 0.18, $p \leq 0.00$), narcissism (b = −0.26, SE = 0.11, p = 0.02), and faith in humanity (b = 0.28, SE = 0.10, p = 0.01) on product reuse. The results also show a marginal yet significant three-way interaction between narcissism, faith in humanity and subjective norms (b = −0.20, SE = 0.11, p = 0.06). Regarding the two-way interactions, the interaction between faith in humanity and subjective norms predicts product reuse (b = 0.23, SE = 0.14, p = 0.06). However, the two-way interactions between narcissism and subjective norms, and between narcissism and faith in humanity had nonsignificant effects on product reuse in this sample (narcissism and subjective norms: b = −0.02, SE = 0.15, p = 0.87; narcissism and faith in humanity: b = 0.09, SE = 0.09, p = 0.32).

To better understand these effects, we plot the results in Figure 2. As Panel A illustrates, in the control condition, participants with low faith in humanity reuse more products when they are also low in narcissism (4.32) versus those who are high in narcissism (3.32). Faith in humanity increases product reuse: participants with high faith in humanity reuse more products (vs. participants with low or average faith in humanity) regardless of their level of narcissism, yet those who are also low in narcissism (4.78) reuse more products than those who are high in narcissism (4. 39). Alternatively, in Panel B, we first show that participants in the subjective norms condition generally reused more products (vs. the control condition). That is, participants with low faith in humanity reuse more products than those in the control condition (low narcissism = 5.06, high narcissism = 4.74). In addition, participants with high faith in humanity reuse more products in the subjective norms condition (vs. the control condition; low narcissism = 5.64, high narcissism = 4.46). Subjective norms influence the combined effects of narcissism and faith in humanity on product reuse, such that for consumers who are high in narcissism, subjective norms have a greater impact on product reuse when they also have low (vs. high) faith in humanity.

3.5 | Study 3: Conceptual framework

Following the sequential investigations of direct, mediation, and moderation effects, Study 3 tests the whole conceptual framework (Figure 1). Thus, the final study includes all construct measures in one survey to holistically investigate the theorized links in one statistical model.

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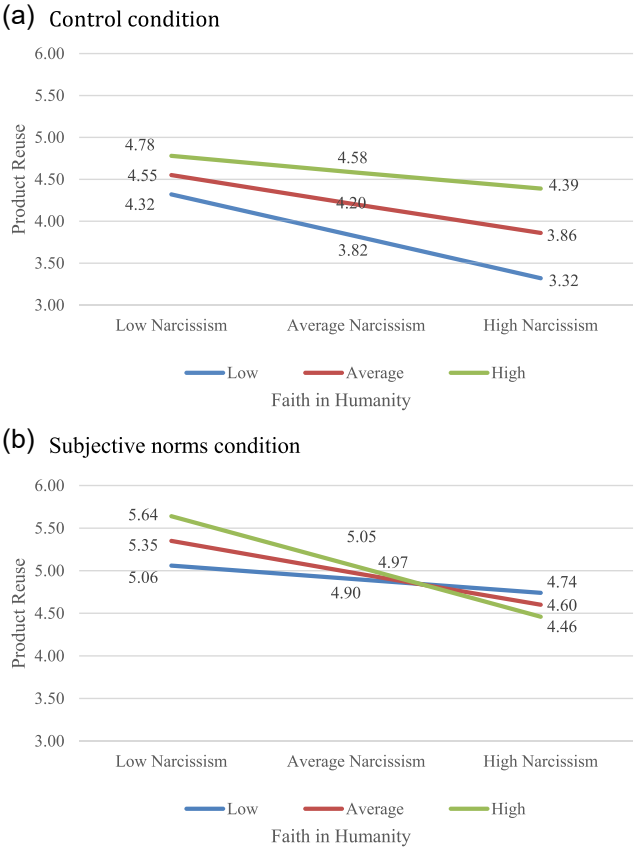

FIGURE 2 Study 2b: Interaction effects. (a) Control condition. (b) Subjective norms condition

3.5.1 | Study 3: Procedure

We collected responses from 500 MTurk workers. Using the same screening question to avoid biased responses, we deleted 12 participants because they had recently taken part in a study about household habits. We excluded an additional seven responses because participants did not pass the attention checks, and six because they showed a duplicate IP in the Qualtrics metadata, which means they had completed the survey twice. Thus, the final respondent sample was 475 (215 female; mean age = 42.70 years; for sample demographics, see Web Appendix B).

To tap product reuse, narcissism, faith in humanity and social exclusion, we used the same scales as in the previous studies. To operationalize subjective norms, we adapted Han et al.'s () scale to the context of our study (e.g., "People whose opinions I value would want me to take product reuse into account when shopping."). All constructs showed adequate results within the desired thresholds ($\alpha > 0.87$; AVE > 0.50; CR > 0.70; see Web Appendix C). In addition, we conducted a CFA in Mplus to corroborate the reliability and validity of our measures with satisfactory results ($\chi^2 = 425.13$, $df = 240$, $p < 0.00$; CFI = 0.98; TLI = 0.98; RMSEA = 0.04; SRMR = 0.03; for item loadings, see Table 3). Thus, this analysis confirmed good fit to the data. Regarding discriminant validity, the heterotrait-monotrait ratio of correlations provided suitable results, with all scores below 0.85 (see Web Appendix C). In addition, combining the two items with the highest correlation (in this study, product reuse and social exclusion) resulted in a worse model fit than the original CFA ($\chi^2 = 3810.94$, $df = 269$, $p < 0.00$; CFI = 0.64; TLI = 0.59; RMSEA = 0.17; SRMR = 0.15; $\Delta\chi^2 = 3385.81$, $\Delta df = 56$, $p < 0.00$). Thus, the tests reveal no concerns with discriminant validity.

To assess any possible common method bias (CMB) in our data, we employed both a priori and post hoc procedures. First, following MacKenzie and Podsakoff's (2012) recommendations to limit CMB, we ensured respondents that their responses would remain anonymous, and we excluded complex and abstract questions. Second, we used the single unmeasured factor method and the directly measured factor method (Hulland & Baumgartner, & Smith, 2018; Park et al., 2021; Podsakoff et al., 2003). These analyses examine the risk of CMB at the item level by including one (unmeasured or measured) latent factor in the model and re-estimating it with all items loading onto this new factor as well as onto their own theoretical construct. As our measured latent factor, we used perceived product quality (Skarmeas et al., 2019). In both cases, including either the unmeasured latent factor or the measured latent factor did not alter the loading coefficients substantially, with the largest coefficient change being 0.29. These results reveal no CMB concerns in the data. Third, following Lindell and Whitney's (2001) procedure, we assessed CMB using a marker variable (i.e., one item from perceived product quality). We first observed the correlation of the marker variable with the other study constructs and then used the second highest correlation to calculate a CMB-corrected correlation matrix. Because we found no statistically significant differences ($p > 0.05$) between the original and the CMB-corrected matrix, CMB does not appear to be an issue in this data.

3.5.2 | Study 3: Results

To test our conceptual framework as a whole, we utilized PROCESS macro Model 5 (Hayes, 2017) with bootstrapping ($n = 5000$). Similar to Study 1b, we ran the model twice, using narcissism and faith in humanity as the predictors in each of the two analyses and controlling for the other variables. For both analyses, the dependent variable was product reuse, the mediating variable was social exclusion, and the moderator variable was subjective norms. We included the same control variables as in the previous studies.

We observe (see Table 4, direct effects model) that narcissism has a negative effect ($b = -0.14$, $SE = 0.03$, $p \leq 0.00$) and faith in humanity has a positive effect ($b = 0.16$, $SE = 0.03$, $p \leq 0.00$) on product reuse. These results confirm both H1 and H2. We also find (see Table 4, full model) that social exclusion negatively mediates the effect of narcissism on product reuse (indirect effect: $b = -0.02$, $SE = 0.01$, LLCI = −0.04, ULCI = −0.00). In disentangling this negative mediation effect, we find that narcissism has a positive effect on social exclusion ($b = 0.13$, $SE = 0.06$, $p = 0.02$) and that social exclusion has a negative effect on product reuse ($b = -0.13$, $SE = 0.03$, $p = 0.00$). Furthermore, narcissism has a negative effect on product reuse

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TABLE 4 Study 3: Model estimates

Variables	Hypotheses	Direct effects model			Full model		
		b	*SE*	*p*	*b*	*SE*	*p*
Direct paths							
Narcissism → Product reuse	H1	−0.14	0.03	*	−0.09	0.03	**
Faith in Humanity→ Product reuse	H2	0.16	0.03	*	0.09	0.03	**
Indirect paths							
Narcissism → Social exclusion → Product reuse	H3	–	–	–	−0.02 [−0.036, −0.002]	0.01	**
Faith in Humanity → Social exclusion → Product reuse	H4	–	–	–	0.02 [0.004, 0.043]	0.01	**
Narcissism × Subjective norms → Product reuse	H5	–	–	–	0.05	0.02	**
Faith in Humanity × Subjective norms → Product reuse	H6	–	–	–	−0.01	0.02	ns
Control paths							
Subjective norms → Product reuse		–	–	–	0.11	0.04	*
Narcissism → Social exclusion		–	–	–	0.13	0.06	**
Faith in Humanity→ Social exclusion		–	–	–	−0.17	0.06	*
Social exclusion → Product reuse		–	–	–	−0.23	0.03	*
Control variables							
Age		0.01	0.01	ns	−0.01	0.01	ns
Gender		0.06	0.10	ns	0.09	0.10	ns
Marital status		−0.02	0.05	ns	−0.04	0.04	ns
Number of children		0.08	0.05	ns	0.08	0.05	ns
Occupation		0.01	0.06	ns	0.03	0.06	ns
Highest education level achieved		−0.16	0.07	**	−0.17	0.07	**
Annual household income (USD)		0.01	0.02	ns	0.01	0.02	ns
Religious preference		0.01	0.03	ns	0.02	0.03	ns
***F*-statistic**		2.87, $p = 0.00$			4.74, $p = 0.00$		
R^2		0.06			0.12		

Note: $N = 475$; 95% confidence interval in []; two-tailed test, *b* = unstandardized coefficients; *SE* = standard error; ns = nonsignificant.
*$p < 0.01$; **$p < 0.05$; ***$p < 0.10$.

($b = -0.31$, $SE = 0.10$, $p = 0.00$). These results support H3. We also find that social exclusion positively mediates the effect of faith in humanity on product reuse (indirect effect: $b = 0.02$, $SE = 0.01$, LLCI = 0.00, ULCI = 0.05). Specifically, we observed that faith in humanity has a negative effect on social exclusion ($b = -0.17$, $SE = 0.06$, $p \leq 0.00$), and social exclusion has a negative impact on product reuse ($b = -0.13$, $SE = 0.03$, $p \leq 0.00$). In addition, the direct effect of faith in humanity on product reuse is not significant ($b = 0.13$, $SE = 0.10$, $p \leq 0.23$). These results support H4.

We also observe (see Table 4, full model) that the interaction of narcissism and subjective norms positively affects product reuse ($b = 0.49$, $SE = 0.02$, $p = 0.03$). These results support H5. We plot this interaction (see Figure 3) to visually illustrate the effect of

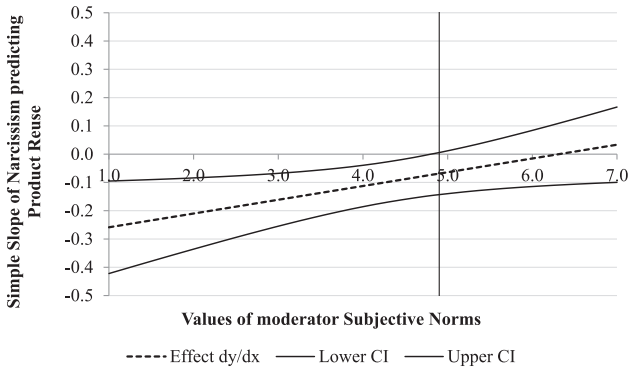

FIGURE 3 Study 3: Interaction effects

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narcissism on product reuse according to different levels of subjective norms and significance levels based on a floodlight analysis. The plot shows how the negative effect of narcissism on product reuse weakens as subjective norms increase. Finally, subjective norms do not moderate the impact of faith in humanity on product reuse ($b = -0.01$, $SE = 0.02$, $p = 0.71$). This result does not support H6. We summarize all the results in Table 4, including the effects of all the control variables.

4 | CONCLUSION

We theorize that consumers' narcissism and faith in humanity have opposing (negative and positive, respectively) effects on product reuse. We further argue that social exclusion and subjective norms give rise to the conditions by and under which consumers characterized by narcissism and faith in humanity engage in product reuse. Our results advance the sustainable consumption literature in several ways.

The sustainability literature has overlooked many critical aspects of sustainable consumption (Ortega Egea & Garcia de Frutos, 2020) that fall under the umbrella of postuse consumption such as product reuse (see Table 1). It is typically assumed that consumers will reuse products, and thus both the sustainability literature and policy makers lack a clear understanding of the factors and conditions that prompt consumers to reuse products. This is problematic not only because product reuse is a key indicator of sustainable consumption but also because of the enormous political and social investments to promote and encourage consumers (so far unsuccessfully) to reuse products and thus reduce waste production (EPA, 2018). Our study extends knowledge on this matter by uncovering traits in individuals and conditions that explain how and when consumers reuse products.

Relatedly, prior work has mainly focused on the Big Five personality traits, drawing predominately on personality trait theory (e.g., Brick & Lewis, 2016; Nga & Shamuganathan, 2010; Song & Kim, 2018) to explain individuals' prosocial actions. We pose that such focus has diverted scholars' attention away from personality traits that fall outside the Big Five. We argue that to develop a more holistic understanding of personality-driven sustainable consumption, it is crucial to examine simultaneously the association of both dark- and bright-side personality traits with product reuse. In response to the need to develop novel insights into the personal and psychological factors that can explain responsible consumer behavior (cit. Hassan et al., 2022), we show that narcissism and faith in humanity are two relevant personality drivers of (un)sustainable consumption. Specifically, we observe that while narcissism has a detrimental impact, faith in humanity drives product reuse. These findings augment the premise that trait–behavior relationships are attributable to the coexistence of bright- and dark-side personality traits (Kaufman et al., 2019; Paulhus & Williams, 2002). Our findings extend the scarce literature on narcissism in the sustainable consumption context (e.g., Kesenheimer & Greitemeyer, 2021) by examining not only direct but also indirect effects of narcissism on sustainable consumption. Specifically, the work of Kesenheimer and Greitemeyer (2021) focuses on buying eco-friendly products. The authors observed that communal narcissism positively drives egoistic proenvironmental behavior (e.g., I like to show off that I am behaving more environmentally friendly than most other people are). Our study focuses on postuse sustainable consumption (i.e., product reuse) and on testing the mechanisms that explain how (the process by which) and when (the conditions under which) narcissism drive postuse sustainable consumption.

Drawing on the assumption that personality traits are fixed and stable (Barnett et al., 2005; McCrae et al., 2000), we also contend that prior work has neglected to unpack the conditions by and under which the behavioral manifestations of personality traits are expressed. The current study adopts a novel approach of synthetizing personality trait theory with the principle of trait activation (Tett & Burnett, 2003; Tett & Guterman, 2000) to theorize that social exclusion and subjective norms generate the underlying conditions that explain how and when narcissism and faith in humanity drive sustainable consumption. To this point, we find that social exclusion mediates the effects of consumers' narcissism and faith in humanity on product reuse. Our study unveils the process by which narcissism discourages consumers to engage in product reuse, while faith in humanity drives consumers to reuse products. Our results reveal that narcissists are unlikely to reuse products because obsessive and egocentric concerns for themselves can trigger a feeling of rejection, which is problematic because such feeling prevent narcissists from engaging in actions (e.g., saving a jar or container for reuse to reduce waste) that benefit society. By contrast, consumers characterized by faith in humanity are more likely to reuse products because their natural disposition to believe that the majority of humans care about the well-being of others prevents the development of feeling socially excluded.

Furthermore, in testing the moderation effects of subjective norms, our study sheds light on the circumstances under which narcissists switch from not engaging to engaging in product reuse. Specifically, we find that narcissists engage in product reuse when they are under high social pressure from important others to do so. Because consumers are generally not prone to reuse products (EPA, 2018), uncovering the conditions under which narcissists switch form not engaging to engaging in product reuse is key. Finally, our results challenge the assumption that the manifestation of personality traits are stable (Barnett et al., 2005; McCrae et al., 2000). The current study shows that the behavioral manifestations of personality traits can change under high social (peer) pressure.

4.1 | Managerial implications

Our study offers key insights for managers and policy makers. Specifically, our findings advance managerial knowledge on how and when consumers characterized by narcissism and faith in humanity engage in product reuse. These findings can help firms and policy makers target their significant investments to promote product reuse

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as a way to reduce waste production (e.g., in-store refill stations) and make such efforts more efficient. We inform managers and policy makers that the success of product reuse initiatives depends on beliefs that sustainable behavior is approved and supported by people who are important to consumers. Thus, every product reuse initiative should be supported by communication campaigns that inform consumers that important others approve of and support their engagement in product reuse. Normative beliefs can create the conditions in which individuals characterized more by dark-side traits might also engage in sustainable consumption. For example, managers and policy makers could encourage staff and social networks (e.g., companies' staff groups, membership clubs, social media networks) and communities (e.g., neighborhoods) to develop physical notices or emblems (e.g., posters, signs) of sustainable consumption approval. In this way, individual consumers would become aware that important others support product reuse and thus behave in a more sustainable way. In addition, different from traditional business models, Local Exchange Trading Systems (LETS) work as cashless groups that aim to achieve sustainable/ecological economies in part by reusing/exchanging products (Strashok, 2009). Managers and policy makers could boost product reuse by facilitating the formation of such groups in their communities.

In addition to subjective norms, social exclusion explains the internal process of how narcissism and faith in humanity influence product reuse. We recommend that product reuse initiatives should emphasize how engaging in sustainable consumption can be a vehicle to boost social approval, not exclusion. For example, advertising strategies using fear appeals that associate social exclusion with lack of engagement in product reuse might enhance sustainable consumer behavior (i.e., product reuse). Alternatively, advertising strategies using social appeals that highlight social group acceptance/belonging as a result of product reuse might enhance sustainable consumption.

Moreover, loyalty programs/schemes could build on social exclusion to promote reuse. For example, Starbucks currently encourages its consumers to reuse their cups by giving them loyalty points in return (Wilson, 2021). Instead of loyalty points, our findings suggest that Starbucks should use messages valuing customers' cup reuse (e.g., "we appreciate your contribution to waste reduction for the earth"). While narcissistic consumers tend to feel excluded, such as message might prove critical for them to reduce feelings of social exclusion. Furthermore, this type of message may make narcissists feel special and thus enhance their sense of self-importance. In this way, given that personality traits prompt consumers to engage in product reuse differently, we recommend that managers to use personality traits as one of their segmentation criteria and target each segment accordingly. In summary, managers and policy makers should not assume that consumers will naturally follow suit and engage in product reuse. Using subjective norms and social exclusion as mechanisms driving sustainable consumer behavior could make such strategic initiatives more effective, and in turn benefit both society and the environment.

4.2 | Limitations and future research

Our findings should be considered in the light of certain limitations. First, replicating the current study in other empirical contexts (e.g., carbon footprint, landfills, illegal waste disposal) would augment the generalizability of our findings and help assess external validity. Furthermore, we conducted experiments and cross-sectional surveys, which mainly offer a snapshot of how and when personality traits prompt engagement in product reuse. This methodological approach limits our ability to claim causal inference of personality traits. Future studies might use a longitudinal design to develop understanding of how individual traits change over time to influence sustainable consumption and product reuse. In addition, given the importance of product reuse as a way to reduce waste production, further research should investigate how and when other bright-side (e.g., Kantianism, optimism) or dark-side (e.g., Machiavellianism, egoism) personality traits prompt consumers to reuse products. Beyond understanding the conditional effects of social exclusion and subjective norms, future work could focus on other trait-relevant psychological states (e.g., anxiety) and social situational cues (e.g., descriptive norms) that can condition the behavioral manifestation of personality traits. A natural extension of our work would be to test the effects of the five different facets of narcissism (see Mazinani et al., 2021) on sustainable consumption. Finally, further research could examine how exogenous shocks (e.g., a global pandemic) can prevent or encourage consumers to engage in sustainable actions (e.g., product reuse).

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

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Additional supporting information can be found online in the Supporting Information section at the end of this article.

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