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ORIGINAL EMPIRICAL RESEARCH

One size does not fit all: Optimizing size-inclusive model photography mitigates fit risk in online fashion retailing

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Abstract

Despite retailers' interest in moving away from thin-model photography to embrace body-size diversity, online fashion shopping predominantly features thin models. While concerns about negative consequences for sales impede industry-wide changes, we demonstrate that consumers and retailers benefit from optimally portraying diverse bodies. Three studies unveil the "Dissimilarity-Risk Deterrence Effect," wherein thin models dissuade consumers with larger clothing sizes from online purchasing due to perceived body-size dissimilarity and heightened fit-risk perception. Eight experiments demonstrate that models of consumers' own size mitigate the effect, enhancing online purchase decisions, while controlling for mechanisms like positive affect, authenticity and social identification. The effect extends across various clothing items but attenuates when body size matters less to fit evaluation. Moreover, the effect is concealed by retailers' risk-reducing strategies, such as measurement information and free product return policies. This research underscores the strategic significance of diverse product imaging to improve supply chain efficiency and consumer well-being.

Keywords Inclusivity · Body size similarity · E-commerce · Model photography · Perceived risk

Introduction

Most consumers find that fashion brands rarely use models who look like them and that fashion portrayals influence the way they perceive their own body (e.g., Women and Equalities Committee, 2020). In fact, people around the world adhere to the thinness ideal (Swami et al., 2010) and struggle with negative body image (Women and Equalities Committee, 2020). The prevailing thin beauty standard has severe negative effects on consumers' self-esteem and well-being, ranging from mental health challenges to eating disorders (e.g., Gulas & McKeage, 2000; Hawkins et al., 2004). The fashion industry is a major contributor to such negative body image as it continues to portray the thin, size zero body as the ideal (Argo & Dahl, 2018; Huang et al., 2021).

Despite increasing awareness of the adverse effects of these (largely) unattainable beauty standards and consumers' demand for greater body diversity (Pounders, 2018), fashion brands have been slow to reassess their marketing strategies. This is particularly noticeable in the realm of online shopping. Our analysis of major global online fashion retailers' webstores reveals that thin models continue to dominate in product imagery (see Web Appendix (WA) for an overview of model photography strategies across 21 retailers). While online fashion retailers utilize pictures of models wearing clothing items to visualize the clothing better and compensate for the lack of tactile and try-on experiences available in physical stores (Liu et al., 2017), the widespread reliance on thin models in online shopping fails to represent most consumers' bodies and reinforces the thin-body ideal upon consumers.

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Fig. 1 Size inclusivity approaches: Examples from online fashion retailers

We interviewed various industry experts, including a fashion brand, a retailer, and an AI model-photography developer, and detect a clear reluctance in incorporating more size-diverse imagery into online stores (see WA). A primary concern is the limited knowledge regarding how consumers will respond to body-size diversity. Fashion brands have traditionally emphasized selling "aspiration" and fear that imagery featuring larger models might result in negative outcomes (Pounders, 2018). In line with this idea of focus on self-enhancement and the ideal self, one interviewee discussing the fashion industry said that brands push back on size-diverse photography, asking photographers to focus on selling 'sex' and 'inspiration' instead. To date, the fashion industry seems to lack understanding about the effectiveness of body-size diversity in online retailing. This is reasonable given that existing findings about consumers' responses to models' body sizes are mixed and primarily result from advertising research (for an overview, see Campbell et al., 2023).

Even if retailers or brands express interest in employing models with more diverse body sizes, they still lack the necessary insights on *how* to effectively implement such changes. The few online retailers who display models with various body sizes on their online platforms are doing so using a variety of approaches (see Fig. 1), including showcasing plus-size models next to thin models, a mix of models of different sizes across different items, or letting consumers choose the model/body size to view a selection of products.

In contrast to the popular belief that thin models sell best, we are the first to demonstrate across 11 studies (10 preregistered) that the thin-model strategy in fact *harms* consumers' online shopping decisions. Specifically, this research validates that thin models dissuade consumers with clothing sizes deviating from the thin ideal from making online purchases and increase their product return likelihood as they cannot accurately judge product fit due to lower body-size similarity. We label this the "Dissimilarity-Risk Deterrence Effect." Importantly, we provide robust causal and behavioral evidence that seeing items on models similar to one's own body size enhances online purchase decisions as it mitigates the dissimilarity-risk effect of thin models. This finding is highly relevant to the fashion industry given that poor product fit is one of the core drivers of product returns, which impose burdensome costs on retailers and exert an environmentally unsustainable toll on the entire ecosystem (Halliday, 2018; Baden & Frei, 2022; discussions with industry, see WA).

This paper makes several theoretical and substantial contributions. Firstly, we add to calls for more research on inclusivity of marketing practice (e.g., Arsel et al., 2022; Schulz et al., 2022) and specifically how to design and implement it (Mende et al., 2024). Our research signals Diversity, Equity and Inclusion (DEI) issues in the fashion industry about body differences, an arguably understudied axis of DEI (Eisend et al., 2023), which result from its marketplace structure (Arsel et al., 2022). Whereas body-size diversity research has understandably mainly focused on consumers' feelings of inclusion and representation (see Campbell et al., 2023), our research shows that thin-model photography not only is less inclusive to all consumers' body sizes, but also creates an important equity issue. After all, we find that thin-model photography in online retailing withholds consumers with diverse bodies from making well-informed purchases. Interestingly, we show that treating consumers more fairly, by displaying models of consumers' own size or by allowing consumers to select their size from different models with diverse sizes, yields most benefits for retailers, consumers and society. The advantages encompass economic benefits, such as sales, lower product returns and improved customer experiences, and societal benefits, such as a more inclusive and empowering environment for a diverse customer base. This work contributes to multiple United Nations' global Sustainable Development Goals (SDGs); it promotes inclusive economic growth (SDG8) through diversification (target 2) and reduces inequality (SGD10) through not just promoting inclusion but also ensuring equal opportunity to consumers of all body sizes (targets 2 & 3).

Second, this work adds understanding about different risks in online retailing and how to reduce those (e.g., Lwin & Williams, 2006; Park et al., 2005). Whereas retailers can use multiple tools to reduce consumers' online shopping risks (e.g., free product returns), this research highlights the unique opportunities of size-diverse model photography to reduce consumers' difficulty to assess fit. Even though we demonstrate that other risk-reducing tools can conceal the influence of model photography on consumers' decisions, model photography is encountered early on in consumers' decision-making journey and may be particularly relevant to improve decision accuracy.

The current work also adds in-depth understanding about the impact of models' body size on consumers' specific purchase decisions. This research is the first to focus on consumers' judgment and decision making in this context and reveals that model body-size functions as an important *instrumental* cue to assess fit risk, which can drive or hamper *purchase*. At the same time, we provide fine-grained insights about the complex, conflicting signals of model body-size that influence consumers simultaneously, of which some have been studied in isolation in advertising (Campbell et al., 2023). We show that thin models trigger feelings of aspiration, while own-size and larger models increase feelings of inclusion and authenticity, and own-size models further increase feelings of social identification and personalization. Together, the findings of this research underscore how body-size cues in a purchase context move beyond signaling inclusion and are of strategic value to improve consumer decision-making and provide value to businesses, consumers and society.

Theoretical background

Due to the increasing prevalence of online fashion retail, where consumers heavily rely on model photography to evaluate products, understanding the influence of fashion models on consumers' shopping behavior is crucial. Building upon previous research on advertising and online shopping risk, we introduce a purchase-specific mechanism that explains consumer responses to model body-size in the online shopping context. This mechanism draws on theories of self-referencing and mental simulation. We argue that retailers should use size-inclusive models that match consumers' body size to not only foster inclusion but also improve purchase decisions by reducing perceived fit risk, a key barrier to online shopping.

Impact of model body-size on consumers

It is understandable that brands continue to use thin models in fashion photography as they embody the beauty ideal (Ahern & Hetherington, 2006; Brown & Slaughter, 2011; Swami et al., 2010). Traditionally, brands have wanted to share aspirational images to help their customers imagine how they *could* look like when buying items from the brand (e.g., Nichols & Schumann, 2012; Schiffer, 2019). The classical idea has been that consumers react more positively to seeing attractive (vs. less attractive) models (Baker & Churchill Jr., 1977) and that this positive affect can transfer to the brand as well (Bergkvist & Zhou, 2016). In fact, attractive models can sometimes be more persuasive (DeBono & Telesca, 1990) and the ability to aspire for self-improvement can be motivating (Rancourt et al., 2015). Contrary to the benefits attributed to thin models, exposure to models with unattainably small body sizes can negatively influence consumers' self-perceptions (e.g., Klesse et al., 2012).

In contrast to the traditional aspirational view, research on model body-size shows that average-sized models in *advertising*, in comparison to thin or plus-size models, can also generate positive effects for the brand overall, such as improving brand attitude and brand purchase intention (e.g., Janssen & Paas, 2014; Lou & Tse, 2021), though others found larger models to be more effective (Jung & Heo, 2020; Janssen & Paas, 2014; Lou & Tse, 2021). The effects seem weaker for familiar, strong brands (Bian & Wang, 2015) or fashion leaders (Janssen & Paas, 2014; see Table 1 for an overview). Specific underlying mechanisms have been investigated such as perceived authenticity (Shoenberger et al., 2020), positive affect (Jung & Heo, 2020) and perceived similarity inducing a higher level of self-congruency (Lou & Tse, 2021), positive affect (Jung & Heo, 2020) and perceived similarity inducing a higher level of self-congruency (Lou & Tse, 2021).

In fact, evidence about the effectiveness of body size in advertising research is mixed (for an excellent review see Campbell et al., 2023). Consumers derive a sense of their self-concept through social comparison with the models they are exposed to. Depending on several individual differences (e.g., body size, self-esteem, body satisfaction) and encounters of thin, average-sized or larger models, the model's body size can make consumers feel good or bad about themselves. Such feelings can spill over to consumers' evaluation of the brand or lead to compensatory thoughts and feelings instead.

While the investigated spillover effects are undoubtedly associated with important marketing objectives for advertising and brand evaluations and as such may also influence purchase decisions, they do not entirely encompass consumers' process of evaluating a specific product for purchase. Consumers' product evaluation is likely to involve more specific considerations (Lambrecht & Tucker, 2013) beyond how the model makes them feel. When consumers have the intention to buy a product, their mindset differs from when they are browsing products (i.e., exploring without a specific purchase goal) or gathering information about

Table 1 Overview of selected research on consumer reactions to models with different body sizes

Study	Online shopping	IV	DV	Moderator/ Mediator/ Other measures	Advertising	Brand vs. Product level	Gender of the Participants	Summary
Argo and Dahl (2018)	–	Consumer appearance self-esteem & mannequins	Product evaluations	Moderator: product type (appearance-related vs. non-appearance-related) Mediator: the standard of beauty index	–	Product	Female	Consumers (both male and female) with low appearance self-esteem rated appearance-related products presented by a mannequin more negatively than consumers with higher appearance self-esteem. The mannequin conveys society's standard of beauty which negatively impacts product evaluations. Removing the presence of threat via a self-affirmation task or decreasing the mannequin's beauty can reduce this effect.
Bian and Wang (2015)	–	Model size in apparel ads	Perceived model attractiveness & product evaluation	Moderators: brand (new vs well-established) & self esteem	✓	Brand	Female	Brand moderates consumers' model evaluation. For new brands, participants evaluated average-sized models as more attractive than size-zero models; for well-established brands associated with size-zero models, participants rated both average-sized and size-zero models as being equally attractive. For new brands, low self-esteem individuals evaluated average-sized models as being more attractive than size-zero models, whereas high self-esteem individuals find average-sized models and size-zero models equally attractive. The results hold for a luxury and a generic brand.
D'Alessandro & Chitty (2011)	–	Model body shape & ethnic background	Source credibility, brand attitude & body image	Moderators: BMI & type of advertised product or service.	✓	Brand	Female	Body image comparisons and the effectiveness of endorsers varies according to the type of body shapes portrayed and BMI of the respondents. People who were exposed to a thin model developed more favorable attitudes toward the brand than those exposed to a large model. When a more realistic model is used, there was no difference in source credibility and attractiveness. Brands promoted by a medium-thin model have a more favorable brand attitude than promoted by a medium-fat model. The effect of the use of body image stereotypes may also be influenced by the body mass index (BMI) of women, especially if poor body image is triggered by poor body-shape comparison.
Janssen and Paas (2014)	–	Model size in apparel ads	Ad attitude	Moderator: Fashion leadership; Other findings: ad attitude increases brand attitude & purchase intention (via brand attitudes)	✓	Brand	Male/ Female	In the apparel product category, there is an inverted U-shaped relationship between the body size of advertising models and the attitude towards advertising: moderately thin advertising models are optimal. Average-sized models are most effective for fashion followers, while the model's body size seems irrelevant to fashion leaders.
Jung and Heo (2020)	–	Model-viewer body gap	Ad effectiveness	Moderator: comparison tendency; Mediator: affect; Other: positive attitude toward the ad increase purchase intention	✓	Product	Female	When participants were exposed to ad models larger than their own body size, they were more likely to report positive attitude toward the ad, which tends to increase purchase intention. The effect of model-viewer body size gap on ad evaluation was mediated by affect and contingent upon the level of comparison tendency.

Table 1 (continued)

Study	Online shopping	IV	DV	Moderator/ Mediator/ Other measures	Advertising	Brand vs. Product level	Gender of the Participants	Summary
Lou and Tse (2021)	–	Model size in apparel ads	Consumer well-being: body satisfaction Ad effectiveness: purchase intentions	Moderators: BMI & brand categories; Mediator: perceived similarity	✓	Brand	Female	In two studies using different brand categories (fast fashion and luxury), women generally assimilate to an average-sized model over a thin-sized or plus-sized model in advertising. Model size did not affect their body satisfaction. Women's body mass index (BMI) moderated the mediating relationship between model size and purchase intentions via perceived similarity to the model.
Lou et al. (2019)	–	Model size in apparel ads	Brand purchase intention	Moderators: culture / societal view of thinness; Mediator: user-imagery congruity	✓	Brand	Female	When seeing an average-sized model (vs a thin model), U.S. women expressed increased purchase intentions (no change among Singaporean women). Perceived user-imagery congruity (UIC) mediates the link between model size and brand purchase intentions.
Shoenberger et al. (2020)	✓	Model modification (digitally enhanced vs not) & body size in Instagram ads	Attitude toward the advertisement & purchase intention	Mediator: perceived authenticity	✓	Brand	Female	Perceived authenticity mediates the effects of model image modification and body size on consumers' advertisement and product evaluations. Participants reported that they liked the advertisement more—and were more likely to buy the advertised items—with a not digitally enhanced plus-sized female model, because of the perceived authenticity of the model. The results of this investigation also suggest that attitude toward the advertisement and purchase intention were highest when a plus-size model who was not digitally enhanced was featured on a women's clothing brand's Instagram account.

a brand (Lee et al., 2018; Moe, 2003). When consumers are browsing and evaluating a brand holistically, they are likely to consider cues like overall positive feelings towards the model (for example induced by a thin model they aspire to be like, or a larger model they find authentic). However, when evaluating a specific item to buy, they might utilize a more product-focused approach, relying on more specific information (Lambrecht & Tucker, 2013). In other words, we expect that the impact of model body-size in online shopping is largely driven by a distinct mechanism, differing from the effects studied in advertising literature.

In online shopping, consumers depend on the images provided by the retailer since they cannot physically try on or feel the items—a factor less relevant for holistic brand evaluations. Given that product images serve to evaluate the fit of a specific item in lieu of trying on the product, consumers' response to different model sizes is likely influenced not only by their positive or negative reaction towards the image, but more so by how the image helps in the product evaluation process. Thus, we propose that incorporating body-size diversity in the model photography of clothing should help reduce consumers' perceived risk of poor fit. To that end, we first elaborate on the importance of consumers' feelings of risk when shopping online and ways online retailers already try to mitigate those risks.

Adopting a size-inclusive model strategy to reduce risk in online shopping

Online shopping comes with many types of risks. Forsythe and Shi (2003) categorize these risks into financial risk (such as credit card fraud), product performance risk (such as product reliability or safety), psychological risk (such as lack of control over use of personal information) and time/convenience loss risk (such as difficulty to navigate through the web shop). Here, we focus on the fit of clothing items, one type of product performance risk.

As consumers cannot touch or try on clothing items when shopping online, one of the key issues keeping them from buying relates to the risk of ending up with an item that fits poorly (Forsythe & Shi, 2003; Halliday, 2018). Poor fit is also the most important reason for product returns among online shoppers (Foresight Factory, 2021; discussions with the industry, WA). Given the importance that the risk of poor fit plays in online shopping, e-retailers have been incorporating various cues and technologies to reduce this risk for consumers in various ways (see Table 2 for an overview of research on online shopping risk and risk mitigation strategies). While risk reducing strategies, such as allowing consumers to return products for free may lower consumers' shopping risk, such strategies do not reduce consumers' exposure to thin models. We propose that brands can promote body-size diversity and inclusion while also helping reduce the risk of poor fit by targeting consumers with model photography featuring models of their own size.

Clearly, the ability of consumers to envision how an item would look on a person is vital during the shopping journey. In traditional retail stores, mannequins serve this purpose, attracting attention and allowing consumers to get an idea of the product in use (Argo & Dahl, 2018). Online, instead of mannequins, retailers utilize other tools, such as model photography, to offer a realistic and detailed view of the product. Indeed, factors like enhanced product images (Fiore et al., 2005; Park et al., 2005), product reviews (Bae & Lee, 2011) and recommendations (Senecal & Nantel, 2004) have been shown to aid purchase decisions. However, being able to visualize *oneself* wearing the item should further assist consumers in evaluating the product's fit on themselves.

Prior research has highlighted the role of mental simulation and self-referencing in shopping. Dahl and Hoeffler (2004) find that when consumers evaluate new products in familiar categories, being able to self-reference with the images used in communications leads to more positive product evaluations. The authors suggest this could be seen as a "surrogate experience" allowing consumers to better envision themselves interacting with the product. Encouraging consumers to imagine themselves using the product, in other words to engage in mental simulation, can reduce the perceived risk of new product adoption (Castaño et al., 2008) and improve product evaluations (Escalas, 2004).

In online clothes shopping, the use of traditional thin models can make consumers feel like reaching that beauty ideal is unattainable (Klesse et al., 2012), making it challenging for a consumer to imagine themselves wearing the same item as the model. Prior work in advertising indicates that average-sized models trigger a greater sense of similarity than thin models (Lou & Tse, 2021). This suggests that the closer the model's body size is to that of consumers, the more similar consumers can feel to the model and the better they can envision the product's fit. To some extent it seems obvious that consumers perceive own-size models as more similar to themselves than other models. However, given the current market practice, consumers are more familiar with seeing thin models and may in fact not detect the similarity. Some consumers even aspire to meet the thin beauty ideal. Hence, they may suffer from the fallacy of motivated reasoning to perceive themselves as smaller than they are (e.g., Cinelli & Yang, 2016). This raises the importance of finding out if, in online shopping, consumers derive body-size similarity from exposure to models who look like them. This leads to the first formal hypothesis:

H1 A model who matches one's body size (vs. thinner or larger) increases consumers' perceived similarity with the model.

Table 2 Overview of research into online shopping risk and risk mitigation mechanisms used by online retailers

Authors	Type of risk	Risk reduction mechanism	Direct measure of consumer perception of risk	Product-specific purchase behavior	Key findings
Bae and Lee (2011)	General online purchase risk	Online consumer reviews		✓	Female consumers, who perceive more online shopping risk, are more impacted by online product reviews than male consumers. Female participants' purchase intention increased [decreased] more than that of male participants when a positively [negatively] valanced reviews were presented (vs. no review was available).
Bower & Maxham (2012)	Focuses on post-purchase regret, not specifically risk	Free product returns			Fee-based (versus free) product returns increase consumers' experienced regret over time after the return. This, in turn, decreases their future spending at the retailer by 75%–100%. While there is no specific measure of risk, this indicates that consumers' aim to avoid future regret (i.e., perceive a risk of future regret) when product returns are not free.
Fiore et al. (2005)	Instrumental value measured with items such as "it would aid me in evaluating the clothing items" and "it would help me buy the right product"	Image interactivity technology (virtual model images)	✓		Virtual model images increased the instrumental value (as well as experiential value and feelings of telepresence) of the website in comparison to product images without a model or interactive aspects. This, in turn, improved retailer attitudes and increased willingness to buy from the retailer.
Forsythe and Shi (2003)	Financial, product performance, psychological and time/convenience loss related risk	n/a	✓		Conceptualizes online shopping risk into four categories and shows that all types of perceived risk, expect psychological, related to reduced willingness to shop online. Product performance risk (e.g., being able to evaluate product quality) was the most cited reason for not shopping online.
Lwin and Williams (2006)	The certainty of an undesired event (such as a purchased product not performing as expected) and its consequences, multiplied into one measure of purchase risk	Warranty information; retailer reputation; brand name	✓		Warranty information was found to reduce perceived online purchase risk for consumers, but only when the retailer had a strong (vs. weak) reputation. Additionally, a strong brand name reduced perceived risk regardless of warranty information.
Park et al. (2005)	Overall purchase risk (24 items)	Moving image of clothing item	✓	(✓)*	Participants who saw images of the clothing items in motion reported lower levels of perceived purchase risk than those who saw non-moving images. Risk significantly reduced purchase intention. Image size (larger vs. small) was not found to have a direct effect on risk nor to moderate the effect of movement in the image.
Shehu et al. (2020)	Merged across fit-related, quality-related and overall risk for a purchase in the category	Free shipping promotion			Consumers are more willing to make high risk online purchases (e.g., ladies' fashion, cosmetics) when they get free shipping. This, however, increases return rates for these products. Does not imply risk is reduced, but rather that consumers become more accepting of it.
Senecal and Nantel (2004)	Does not explicitly refer to risk	Online recommendations		✓	Online recommendation tools increased choice of recommended products. More importantly, personalized recommendations by recommendation systems drove choice more than non-personalized recommendation sources (e.g., other consumers or human experts).

* Includes product-specific items, but these are merged with more general retailer-level purchase intention items in one scale

Subsequently, we propose that showcasing clothing items on models who look more similar in body size to the consumer will help them better evaluate the products' fit on themselves. This can help create the abovementioned "surrogate experience" and thus increase consumers' confidence that they know how the item would fit. The inability to judge an item's fit is a key issue linked to purchase online (Halliday, 2018; Liu et al., 2017), showing the clear link between perceived risk and purchase. Research demonstrates that the use of aids in online shopping to reduce risk, such as positive product reviews, moving images and warranty information, increases purchases (Bae & Lee, 2011; Lwin & Williams, 2006; Park et al., 2005). Therefore, we expect that if perceived similarity reduces the perceived risk of poor fit, it will increase purchase. Moreover, because the risk associated with fit in the digital shopping environment leads many consumers to hesitate or even completely refrain from buying clothes online, reducing this risk may feel enjoyable and enhance consumers' overall shopping experience (Forsythe et al., 2006; Lang, 2018).

Alternatively, the model's size could influence purchase through several of the spillover effects discussed above, related to which of the models makes consumers feel best. First, consumers' intuitive positive feelings of aspiration towards *thin*, idealized models (Häfner & Trampe, 2009; Nichols & Schumann, 2012; Schiffer, 2019) could still spill over to purchase. Second, positive feelings towards *own-size* models could also spill over to purchase, because homophily, a sense of shared social identity with the model, is generally appreciated, or because consumers may value the website's personalization to them (e.g., Mende et al., 2024; Senecal & Nantel, 2004). Instead, consumers could also react negatively to own-size models if they feel reactance against personalization (van Doorn & Hoekstra, 2013). Finally, both *own-size and larger* models (vs. thin) could increase purchase if consumers feel positively about the retailers' inclusivity overall (Häfner & Trampe, 2009; Jung & Heo, 2020) and want to show support for the brand (Verlegh, 2024). However, we expect fit risk to be a major driving factor of purchase above and beyond these additional mechanisms. To test our proposed similarity – risk reduction mechanism, against these alternatives, in all studies we test the following:

H2 Higher perceived model-consumer body-size similarity arising from the model's matching size (H1) increases consumers' (a) purchase intention and (b) shopping experience through reducing perceived fit-risk.

As we expect own-size models to reduce risk specifically through body-size similarity making it easier for consumers to visualize themselves wearing the item, the effect should be reduced when body size is not diagnostic of the product's fit (e.g., for non-clothing items). Formally, we hypothesize the following boundary condition to the effect (see Fig. 2 for the conceptual model):

H3 The model size—perceived body-size similarity—perceived fit-risk effect on purchase (H2) will be mitigated when body size is not diagnostic of the product's fit.

Finally, we explore the interplay of model photography and alternative risk-mitigating tools on purchase decisions. The influence of model size on purchase decisions may be mitigated when other retailing tactics, such as a free product return policy, reduce consumers' purchase risk.

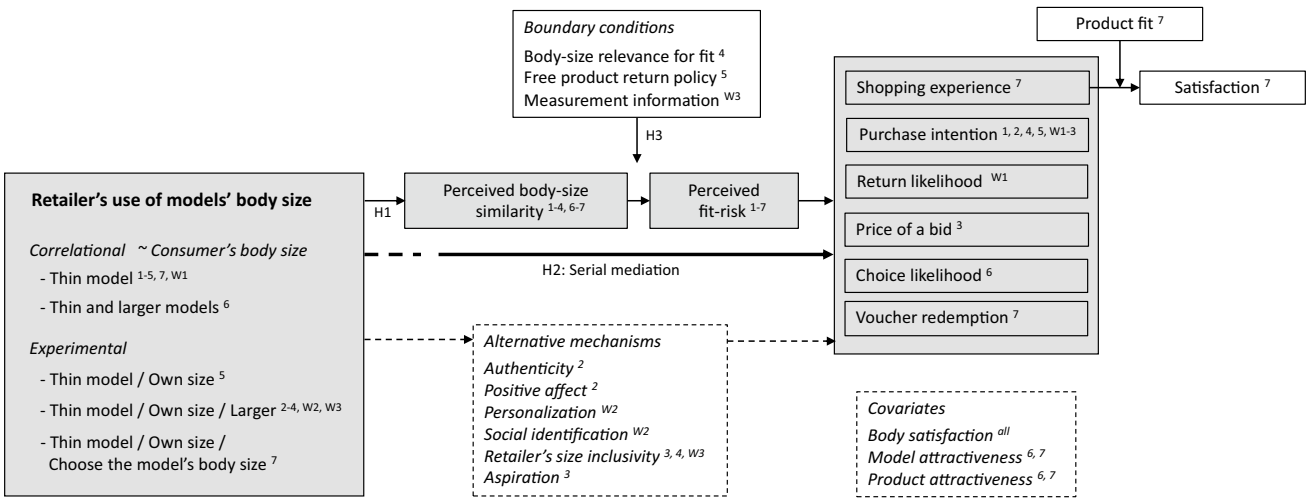

Fig. 2 Conceptual model. *Note.* Superscripts refer to Study numbers

Table 3 Overview of studies

Key insights and study rationale	Study	Study design	DV	Mediation	Main findings	Tests of alternative mechanisms, robustness checks
Negative effect of thin model on purchase and product return through difficult assessment of fit-risk	1A/B	Thin model (correlational)	Purchase intention	Perceived body-size similarity; Fit risk	Dissimilarity-Risk Deterrence effect (DRD) of thin model: Consumers' clothing size → lower perceived similarity → heightened fit risk → lower purchase intention	Replicated with BMI, and with self-reported body image. DRD effect holds for female (1A) and male (1B) consumers.
	W1	Thin model (correlational)	Purchase intention; Product returns	Perceived body-size similarity; Fit risk; Social risk; Quality risk	Replicates DRD effect on purchase intention; DRD effect on product returns: Consumers with larger clothing size report a higher inclination to return the product through heightened difficulty to assess fit risk	DRD effect is independent of other types of risk: Consumers' clothing size is not associated with assessing the product's social risk or quality which in turn does not affect purchase intention or likelihood of product return
Causal experimental evidence: Own-size models mitigate the difficulty of assessing fit-risk	2	Thin vs. own vs. larger model	Purchase intention	Perceived body-size similarity; Fit risk	Own-size model (vs. thin, vs. larger) increases purchase intention through increased perceived body-size similarity and lower fit risk	Results hold when accounting for alternative mediators: own-size and larger model (vs. thin) increase purchase intention through positive affect; own-size and larger model (vs. thin) increase purchase intention through perception of authenticity
	W2	Thin vs. own vs. larger model	Purchase intention	Perceived body-size similarity; Fit risk; Social identification; Perceived personalization	Own-size model (vs. thin, vs. larger) increases purchase intention through increased perceived body-size similarity and lower fit risk	Results hold when accounting for alternative mediators: own-size (vs. thin, vs. larger) increases purchase intention through social identification; own-size (vs. thin, vs. larger) increases purchase intention through personalization
	3	Thin vs. own vs. larger model	Purchase (bid)	Perceived body-size similarity; Fit risk; Aspiration; Retailer inclusivity	Consequential behavioral study: Own-size model (vs. thin, vs. larger) increases price of the bid through increased perceived body-size similarity and lower fit risk	Results hold when accounting for alternative mediators: thin model (vs. own, vs. larger) increases bid price through body-size aspiration; Larger model (vs. own, vs. thin, and own > thin) increases inclusive brand image, but this does not influence bid price
Managerially relevant boundary conditions: The own-size model effect is stronger in a product category where body size is highly relevant; Free product returns and measurement info attenuate the own-size model effect on purchase, thereby hiding the negative effect of thin models for consumers' decision making	4	Model size (thin vs. own vs. larger) x Product (shoe vs. dress)	Purchase intention	Perceived body-size similarity; Fit risk	Own-size model (vs. thin, vs. larger) increases purchase intention through increased perceived body-size similarity and lower fit risk. The effect is stronger for the dress (higher fit risk) than shoes (lower fit risk)	Results hold when accounting for alternative mediators: Larger model (vs. own, vs. thin, and own > thin) increases purchase intention through inclusive brand image

Table 3 (continued)

Key insights and study rationale	Study	Study design	DV	Mediation	Main findings	Tests of alternative mechanisms, robustness checks
	5	Model size (thin vs. own) x Return policy (absent vs. free returns)	Purchase intention	Perceived body-size similarity; Fit risk	Return policy absent: Own-size model (vs. thin, vs. larger) increases purchase intention through lower fit risk. Free product returns: Effect disappears	
	W3	Model size (thin vs. own) x Measurement information (absent vs. present)	Purchase intention	Perceived body-size similarity; Fit risk	Measurement information absent: Own-size model (vs. thin, vs. larger) increases purchase intention through lower fit risk. Measurement information present: Effect disappears	Results hold when accounting for alternative mediators: Larger model (vs. own, vs. thin, and own > thin) increases inclusive brand image, but this does not influence purchase intention.
Testing current attempts of retailers' strategies of inclusive model photography	6	Three thin vs. 1 larger model, top of the larger model randomized	Product choice	Perceived body-size similarity; Fit risk	DRD effect on product choice: Consumers with larger clothing sizes are more (vs. less) likely to choose the top of the larger model (vs. one of the thin models), regardless of what she wears	Results hold when controlling for model attractiveness; robustness checks with relative measures (control variables as differential scores of larger vs three thin models)
	7	Thin vs. own vs. choose model size	Voucher redemption likelihood	Perceived body-size similarity; Fit risk	Behavioral lab evidence: Own-size model (vs. thin) or Choose size (vs. thin) increases voucher redemption and customer experience through increased perceived body-size similarity and lower fit risk. The own-size condition and choose size condition have a similar effect.	A positive customer experience spills over to product satisfaction if the product fits (at least reasonably) well; "Choose the model size" is perceived as the most positive customer experience (vs. thin, vs. own size)

Across all studies, the results hold when controlling for body satisfaction

Overview of studies

Across eleven studies (of which three in WA, ten preregistered; overview Table 3) we tested the impact of thin, larger and own-size models on purchase decisions, generalizing across different clothing items (jeans, dresses, tops, T-shirts; total $N = 5950$) and research paradigms (correlational evidence relying on consumers' body size, experimental evidence from the lab and online, investigating purchase intentions, choices and consequential purchases).

First, three studies provide evidence for the dissimilarity-risk deterrence effect of thin models. When exposed to thin models, consumers with larger clothing sizes (replicated with BMI and self-reported body-image) perceive lower body-size similarity and higher fit risk, which withholds them from making a purchase (Studies 1A, 1B and W1) and increases their likelihood of product return (Study W1). The effect is tested for female (Studies 1A and W1) and male (Studies 1B and W1) consumers and is driven by fit risk (not social risk or quality risk; Study W1). The next three studies provide causal evidence that own-size models (vs. thinner or larger) increase consumers' perceived similarity and mitigate the fit-risk effect on purchase. The effect is consistent and robust when controlling for alternative mechanisms (i.e., positive affect and authenticity, Study 2; social identification and personalization, Study W2; aspiration and inclusive brand image, Study 3, W3). Subsequently, three studies test managerially relevant boundary conditions, not only providing further causal process evidence but also revealing how current risk-reducing strategies cover up the negative effect of thin models on purchase decisions. The own-size model is especially important for evaluating apparel where body-size matters most for evaluating fit (i.e., a dress vs. shoes; Study 4). Furthermore, the effect of model size is mitigated when a free-return policy is highlighted (Study 5) and in the presence of additional fit-related information (Study W3). The two final studies provide causal evidence about upcoming size-inclusive retailing practices showing the limitations of plus-size models (i.e., distorting product choices, Study 6) and the benefits of letting consumers choose a model (Study 7).

Methodological approach

We detail all measures and key statistics of the studies in the Appendix (Table 4 for all key measures, Table 5 for control variables and exploratory measures and Table 6 for sample descriptions). All measures are collected on 7-point scales unless otherwise mentioned in the method section of the study. In all analyses, continuous variables are mean-centered. We report all analyses without control variables, such as body satisfaction, in the main body of the paper, except in Study 5 where control variables were crucial to the design of the study (see preregistration). In all studies, we include simple instructional attention check questions (Oppenheimer et al., 2009) and exclude participants who fail to answer those questions correctly. We report all stimuli and study details as well as robustness checks including covariates in the WA. Data and analysis codes are available on ResearchBox.

Study 1A and 1B: Thin model photography backfires for larger consumers

Study 1 investigates the proposed mechanism of model size on purchase through perceived similarity and fit risk by detailing the effect of a thin model, the fashion industry's current standard, on consumers of varying body sizes. If hypotheses 1 and 2 hold, we expect to find a dissimilarity-risk deterrence effect for the thin-model approach. This would mean that the more the consumer's body size deviates from (i.e., is larger than) that of the thin model, the lower their perceived body-size similarity (H1). Consequently, this should lead to reduced purchase intention due to increased perceived fit risk (H2). Study 1A focuses on female consumers and Study 1B tests whether the effect generalizes to male consumers. These preregistered studies make use of various body-size measures, including the size they usually order (observable by retailers), BMI (more objective), and participants' perceived body image (subjective) to ensure the robustness of the findings.

Method

In Study 1A, we recruited 248 *female* participants between 19 and 79 years of age ($M = 40.90$, $SD = 13.97$) from Prolific to participate in a study about online clothing shopping. For Study 1B, we recruited 247 *male* participants between 18 and 81 years of age ($M = 41.83$, $SD = 15.42$) from Prolific. Both studies followed the same procedure. Participants were first asked about the size of jeans they typically wear (from XXS to XXL or 'other'). They were then asked to imagine they wanted to buy new jeans and were looking for options online. We told them they came across a pair of jeans on the website of an online retailer and presented the jeans with a front and behind picture of a thin female model in Study 1A and a thin male model in Study 1B. Next, participants reported their purchase intention, perceived fit risk for purchasing the jeans, and perceived body-size similarity with the model, and answered an attention check. Participants then indicated their online shopping frequency, body satisfaction, age, frequency of wearing jeans and reported their perceived body image by means of the Figure Rating Scale (Stunkard et al., 1983), which entails choosing from line drawings the figure that looks most like one's own body. Finally, those who chose to disclose reported their height and weight, which we calculated into BMI.

Results

Consumer's clothing size

To test H1 and H2, we analyzed the data using PROCESS model 6 for serial mediation (10,000 bootstraps; Hayes, 2018). The clothing size of the participant was the independent variable, perceived similarity and perceived risk the serial mediators, and purchase intention the dependent variable. Confirming H1, the results show a negative association between clothing size of the participant and perceived body-size similarity with the thin model (for females in Study 1A: $b = -.868$, $se = .075$, $p < .001$, for males in Study 1B: $b = -.683$, $se = .085$, $p < .001$). In both studies, perceived similarity was negatively associated with perceived fit risk (1A: $b = -.327$, $se = .054$, $p < .001$; 1B: $b = -.185$, $se = .052$, $p < .001$), which in turn was negatively associated with purchase intention (1A: $b = -.650$, $se = .087$, $p < .001$; 1B: $b = -.499$, $se = .080$, $p < .001$). The indirect effect of consumers' clothing size on purchase intention through lower perceived similarity and increased purchase risk was negative and significant (1A: $b = -.185$, $se = .044$, 95%CI [−.277; −.107], 1B: indirect effect: $b = -.063$, $se = .022$, 95%CI [−.112; −.025]), confirming H2.

Body image and BMI

To explore the robustness of the dissimilarity-risk deterrence effect, we replaced the independent variable of consumers' clothing size with perceived own body image and BMI in two separate analyses. We replicated all results across both studies (see WA for detailed reporting). The indirect effects were also significant when using perceived own body image (1A: $b = -.155$, $se = .039$, 95%CI [−.239; −.084]; 1B: $b = -.078$, $se = .024$, 95%CI [−.130; −.037]) or BMI (1A: $b = -.032$, $se = .009$, 95%CI [−.051; −.017]; 1B: $b = -.018$, $se = .007$, 95%CI [−.034; −.006]) as the predictor. Adding body satisfaction as a control variable did not change the significance or direction of any of the results.

Discussion Study 1

Studies 1A and 1B demonstrate the negative consequences of using thin models to display clothing for consumers' decision making. The correlational evidence shows that this model-photography strategy lacks perceived body-size similarity for most consumers and leads to notable negative downstream consequences on perceived fit risk and purchase intention. We label this phenomenon the "Dissimilarity-Risk Deterrence Effect" of thin model photography in online shopping. An additional study (see WA, W1) confirmed that the effect is specific to *fit-related* risk and not other types of risk, such as quality risk (Dodds et al., 1991; Forsythe & Shi, 2003) and social risk (Eisingerich et al., 2015), while also demonstrating that the dissimilarity-fit-risk effect of thin models makes larger consumers more likely to return the product. The negative effect was consistent across three different measures of body size for both female and male consumers. Subsequent studies will focus on clothing size as it is the most actionable of the three measures for retailers.

All following studies focus on providing causal evidence for the proposed mechanism by experimentally manipulating the model's body size in relation to that of the consumers (thin vs. own-size vs. larger-size model photography). As a robustness check, however, we examine the dissimilarity-risk deterrence of thin models in all studies (i.e., the associations between consumers' clothing size, perceived similarity, fit risk and purchase behavior in the thin-model condition of all studies, see WA). We consistently and robustly replicate the negative effect. This demonstrates the lack of equity in the marketplace: retailers' current model photography approach hinders the purchase decisions of consumers who perceive their body size to not be represented by thin models.

The findings of Study 1 demonstrate that models' body-size is relevant to the purchase process of both male and female consumers. However, in the remainder of the paper, we focus on consumers who identify as female for several reasons. Women remain the primary target group of the fashion industry, spending three times more (Lai, 2021) and being more inclined to shop for fashion online (eMarketer, 2019) than their male counterparts. Moreover, women encounter a more specific beauty ideal in the media (Buote et al., 2011) and tend to struggle more with the negative consequences of media portrayals than men (e.g., Voges et al., 2019). We discuss the role of gender further in the General Discussion.

Study 2: Presenting products with own-size models

Study 2 aims to provide causal evidence that showing clothing on models of consumer's own size improves consumers' purchase process and reduces the dissimilarity-risk deterrence effect. The study experimentally manipulates consumers' exposure to a thin model (industry standard), to a model their own size, or to a larger model. We expect that consumers who see a clothing item (here, jeans) presented by a model their size (vs. thinner or larger) will be more inclined to buy it as they will perceive higher body-size similarity and lower fit risk. We include the larger model to show that the effect is not simply driven by the retailer using models of varied sizes, but that the effect of models' body size is specifically related to perceived similarity reducing fit risk in the purchase process. Additionally, this study controls for two mediators previously studied in the

context of advertising: positive affect (Jung & Heo, 2020) and perceived authenticity (Shoenberger et al., 2020).

Method

We recruited 338 female participants from Prolific between 18 and 72 years of age ($M = 37.15$, $SD = 12.26$). The study had a one-factorial completely randomized between-subjects design with three levels (model size: thin vs. own size vs. larger). All participants started with reporting their gender and clothing size for pants. Participants were given a scenario similar to Study 1 and shown a pair of jeans with a front and behind picture of a model whose body size was thin, equal to the size of the consumer or larger. In the own-size condition, the study flow was programmed to select the model image based on the participant's response to the clothing size question. Based on the image, participants indicated their purchase intention, perceived fit risk and body-size similarity with the model. We also measured positive affect and perceived authenticity. Finally, participants answered an attention check, reported their body satisfaction, age and frequency of wearing jeans.

Results

To test H1 and H2, we conducted a path analysis using the lavaan package for R (Rosseel, 2012), using the averaged mean-centered scales and 500 bootstraps. Model's body size (dummy coded; X1: thin vs. own size and X2: larger vs. own size; own size as the reference point) was the independent variable and purchase intention was the dependent variable. We included three parallel mediation paths simultaneously: (1) our key prediction of serial mediation through perceived similarity and risk (H2), (2) mediation through positive affect, and (3) mediation through perceived authenticity. Confirming H1, the results show that perceived body-size similarity was highest for the own-size condition (thin vs. own size: $b = -.752$, $se = .229$, $p < .001$; larger vs. own size: $b = -.883$, $se = .237$, $p < .001$). Perceived similarity was negatively associated with perceived fit risk ($b = -.273$, $se = .042$, $p < .001$), and risk, in turn, was negatively associated with purchase intention ($b = -.470$, $se = .073$, $p < .001$). In comparison to the thin-model condition ($b = -.097$, $se = .037$, 95%CI [−.179; −.034]) as well as the larger model condition ($b = -.113$, $se = .042$, 95%CI [−.210; −.043]), the indirect effect through perceived similarity and risk was significant, supporting H2.

The results also show that participants experienced more positive affect when seeing an own-sized compared to a thin model (thin vs. own size: $b = -.416$, $se = .196$, $p = .034$), whereas it was not significantly different in the larger-model condition and own-size condition (larger vs. own size: $b = -.221$, $se = .200$, $p = .270$). Positive affect was associated with purchase intention ($b = .501$, $se = .070$, $p < .001$). The indirect effect through positive affect was significant for the thin vs. own-size comparison (X1: $b = -.208$, $se = .106$, $p = .050$, 95%CI [−.432; −.010]), but it was not significant for larger vs. own-size comparison (X2: $b = .110$, $se = .102$, $p = .278$, 95%CI [−.328; .093]).

Finally, participants perceived the thin-sized model to be less authentic than the own-sized model ($b = -.838$, $se = .149$, $p < .001$), but perceived authenticity was not significantly different when comparing the larger model to the own-size model ($b = .081$, $se = .131$, $p = .535$). Perceived authenticity, however, was not associated with purchase intention ($b = -.022$, $se = .081$, $p = 0.789$). The indirect effect of model size on purchase through perceived authenticity was not significant for neither the thin vs. own-size model nor the larger vs. own-size model comparison (X1: $b = .018$, $se = .071$, $p = .799$, 95%CI [−.110; .176]; X2: $b = -.002$, $se = .013$, $p = .893$, 95%CI [−.032; .028]). None of the results reported changes in significance or direction when including body satisfaction in the analysis.

Discussion Study 2

Study 2 experimentally manipulated model size, offering causal evidence for the own-size model influencing purchase intention through perceived body-size similarity and perceived fit risk. In an additional study (W2, see WA) we replicate the findings and demonstrate that the own-size model's fit-risk reducing impact on purchase exists next to consumers' perceptions of homophily (i.e., perceiving the model as one's ingroup, sharing social identity) and personalization of the shopping environment (see Mende et al., 2024).

Note that while the dissimilarity-fit deterrence of thin models is mitigated by own-size models specifically, Study 2 shows that the mechanisms of positive affect and authenticity, previously investigated in advertising, work out positively for both own and larger-sized models suggesting that consumers are also more likely to buy from retailers they perceive as inclusive. The next study tests our hypotheses in a consequential setting, while accounting for the perception of inclusion and aspiration towards the thin-body beauty standards explicitly.

Study 3: The dissimilarity-risk effect, aspiration and inclusivity in a consequential decision setting

Study 3 expands on the previous study by testing the hypotheses in a well-powered consequential setting, while also extending to another product category, dresses. The

study makes use of the Becker-DeGroot-Marschak (BDM) method (Becker et al., 1964; see e.g., Kahneman et al., 1990; Wertenbroch & Skiera, 2002). In this study, participants make a bid on a dress, as a proxy for purchase, as this bid determines whether they will win the dress or a bonus payment depending on whether the computer selects them as the winner and the randomly chosen monetary value it generates. We expect that the effect of the own-size model (vs. thin, vs. larger) on participants' price of bid is mediated by higher perceived similarity and lower perceived fit risk (H2). In addition to our primary focus on perceived similarity and fit risk, this study also explores two alternative mediators between model body size and the bid, namely aspiration (i.e., thin models may be associated most with beauty standards; Swami et al., 2010) and retailers' inclusive brand image (i.e. all sizes deviating from the thin-body ideal might generate feelings of inclusion and representation; Lou & Tse, 2021; Jung & Heo, 2020).

Method

We recruited 808 female participants from Prolific between 18 and 74 years of age ($M = 34.75$, $SD = 11.34$). First, participants reported the gender with which they identified and their dress size, age, body satisfaction and online shopping frequency. Next, they went through a training process to familiarize themselves with the BDM method. We excluded all participants who failed the training process twice (see WA for details).

Participants were then told they were looking to buy a new dress and were looking for options online. They were randomly assigned to one of three model body-size conditions (thin vs. own size vs. larger model). They saw either a thin model (XS size), a model of their own size (wearing the size reported by participants at the start of the study) or a larger model (XL size) with a text: "This model is wearing size []" according to the condition they were in. Subsequently, as a proxy for purchase, participants placed a bid on the dress (i.e., the BDM measure). Participants were asked to indicate their preference for each choice: whether they wanted the dress in their size or a bonus payment (starting at £2.50, increasing in intervals of £2.50 until a bid of £25). In other words, participants chose between the dress vs. £2.50 / dress vs. £5.00 (continuing until £25), with the understanding that five participants would be randomly selected to win their chosen option at a randomly generated price point between £2.50 and £25. If the randomly generated price is below (vs. above) the bid of the winner, the winner receives the dress (vs. the bonus payment). In other words, the bid participants place on the dress is consequential. We converted each participant's responses into a switching point of acceptance, ranging from 1 (participant always chose to win the monetary value) and 11 (participant always chose to win the dress). Participants displaying an inconsistent preference structure (i.e., multiple switching points) were excluded from the analyses.

After the purchase measure, participants reported perceived fit risk and body-size similarity with the model. We also measured participants' aspiration to have the model's body size and their perception of the retailer being inclusive of different body sizes. Finally, participants answered attention checks and reported their frequency of wearing dresses.

Results

We conducted a path analysis using the lavaan package for R (Rosseel, 2012), using the averaged scales and 500 bootstraps with model size as the independent variable (dummy coded; X1: thin vs. own size and X2: larger vs. own size; own size as the reference point), and purchase as the dependent variable. We examine three parallel mediation paths: (1) our key prediction of serial mediation through perceived similarity and risk (H2), (2) mediation through aspiration, and (3) mediation through retailer inclusivity.

The results first replicate our previous findings, supporting H1: the own-size model was perceived more similar than the thin-size ($b = -1.613$, $se = .145$, $p < .001$) and larger-size models ($b = -2.126$, $se = .139$, $p < .001$). This lowered the perceived risk that the dress will fit poorly ($b = -.174$, $se = .032$, $p < .001$), which in turn increased the price the participant bid for the dress ($b = -.173$, $se = .044$, $p < .001$). The indirect effect of model size on purchase through perceived similarity and risk was significant (X1: $b = -.049$, $se = .016$, $p = .002$, 95%CI [−.084; −.021]; X2: $b = -.064$, $se = .021$, $p = .002$, 95%CI [−.108; −.029]).

The results also show that participants perceived the retailer as more inclusive in the larger-size condition than in the own-size condition ($b = 1.155$, $se = .109$, $p < .001$), but also reported the own-size model to be more inclusive than the thin-sized model ($b = -1.355$, $se = .117$, $p < .001$). However, retailers' size-inclusive brand image did not significantly influence purchase ($b = .054$, $se = .049$, $p = .269$). The indirect effect through retailer size-inclusivity was not significant (X1: $b = -.073$, $se = .066$, $p = .269$, 95%CI [−.206; .063]; X2: $b = .062$, $se = .057$, $p = .277$, 95%CI [−.058; .178]).

Finally, model size also influenced feelings of aspiration. Participants perceived the thin-size model to be more aspirational than the own-sized model ($b = .804$, $se = .135$, $p < .001$). The larger-sized model was perceived as less aspirational than the own-sized model ($b = -2.216$, $se = .118$, $p < .001$). This feeling of aspiration was positively associated with purchase ($b = .112$, $se = .047$, $p = .017$). The indirect effect of model size on purchase was significant for both the thin vs. own-size model and the larger vs. own-size model

comparisons (X1: $b = .090$, $se = .041$, $p = .029$, 95%CI [.019; .187]; X2: $b = -.248$, $se = .106$, $p = .019$, 95%CI [−.455; −.052]). When controlling for body satisfaction, the indirect effect of the thin vs. own-size model comparison through aspiration was marginally significant (X1: $b = .084$, $se = .044$, $p = .057$, 95%CI [.010; .181]), while the larger vs. own-size comparison remained significant (X2: $b = .224$, $se = .113$, $p = .047$, 95%CI [−.442; −.022]). None of the other results changed when including body satisfaction in the analysis.

Discussion Study 3

Study 3 replicated our key finding that own-size models' perceived body-size similarity lowers consumers' perceived fit risk and, in turn, increases purchase. By using the BDM method, we provided consequential behavioral evidence for the effect: when placing bids about the dress, participants knew we would raffle some of them to receive the dress or a bonus payment, making it important for them to place a bid based on their true preferences.

Additionally, by exploring aspiration and retailer size-inclusivity, we gained deeper insight about the impact of different body size signals on consumer purchase decisions. Although the larger model demonstrated the highest level of size-inclusivity, it did not influence purchase. This suggests that while higher perceived retailer inclusivity may help build a better overall brand image, consumers rely on more product-specific cues when evaluating items to purchase. Finally, consumers reported the greatest aspiration towards the thin model, which was also associated with purchase. While the latter insight may advocate the status quo of thin-model photography, at the same time, it emphasizes the importance for retailers to move away from promoting thin models as the beauty standard that consumers should aspire to. Importantly, even when controlling for the retailer's inclusive brand image and aspiration, the similarity-risk path remained significant (H2). All in all, the findings support that using own-size models strikes a balance by not only increasing feelings of inclusion and representation, but also increasing equity by creating a shopping environment that allows consumers with diverse bodies to make well-informed purchase decisions.

Study 4: Product category as a boundary condition

Study 4 explores the role of product category as a managerially relevant boundary condition for the model-size effect on purchase through similarity-risk reduction. We focus on two categories, dresses and shoes, and expect the effect to be mitigated in situations where body-size is less diagnostic about product fit (H3). The own-size model should be less helpful for consumers in assessing the fit of shoes, whereas higher body-size similarity, induced by viewing a model of one's own size, should help in evaluating the fit of dresses. Therefore, we expect the serial mediation (H2) to be mitigated for shoes. In addition, given the mixed findings of Study 2 and Study 3 about the impact of an inclusive brand image on purchase decision, we again explore the role of retailer inclusivity as an additional mediation path.

Method

We recruited 1536 female participants from Prolific (between 18 and 78 years of age ($M = 35.01$, $SD = 11.90$). The study had a 3 (model: thin vs. own size vs. larger) × 2 (product category: dress vs. shoes) completely randomized between-subjects design. First, participants reported demographics, body satisfaction and clothing size (for dresses and other filler items). They were then instructed to imagine that they were looking to buy a new dress (vs. shoes) and were looking for options online. In the shoes condition, participants were shown two pictures: a model in a dress and heels and a product picture of the heels without the model. In the dress condition, participants saw the same picture of the model wearing the dress and heels, next to a product picture of the dress without model. The model picture showed either a thin model (XS size), a model of their own size (wearing the size reported at the start of the study) or a larger model (XL size), with a text: "This model is wearing size []." They then indicated how likely they were to buy the product (dress or shoes respectively), their perceived fit risk and body-size similarity with the model. We also measured participants' perception of the retailer's body-size inclusivity. Finally, participants answered attention check questions and reported their frequency of wearing dresses/heels.

Results

We conducted a multigroup path analysis (500 bootstraps) with model size as the independent variable (dummy coded; X1: thin vs. own size and X2: larger vs. own size; own-size as the reference group), product as grouping variable (shoes vs. dress) moderating the path between similarity and risk, and purchase intention as the dependent variable. We examined two parallel mediation paths: (1) serial mediation through perceived similarity and perceived risk and (2) simple mediation through retailer size-inclusivity.

The results showed that, overall, compared to the thin-size and to the larger-size model, the own-size model was perceived more similar (X1: $b = -1.961$, $se = .100$, $p < .001$; X2: $b = -2.158$, $se = .098$, $p < .001$). Perceived similarity was negatively associated with perceived fit risk of the

product ($b = -.189$, $se = .022$, $p < .001$), which was in turn negatively associated with purchase intention ($b = -.417$, $se = .029$, $p < .001$). However, comparing the indirect effects across the two groups using a Wald test showed a significant difference across products for both the thin vs. own-size model (Wald(1) = 13.827, $p < .001$) and the larger vs. own-size comparison (Wald(1) = 14.104, $p < .001$). The indirect effect was larger when the product evaluated was a dress (X1: $b = -.211$, $se = .033$, $p < .001$, 95%CI [−.280; −.149]; X2: $b = -.234$, $se = .036$, $p < .001$, 95%CI [−.305; −.161]) than when the product evaluated was shoes (X1: $b = -.090$, $se = .025$, $p < .001$, 95%CI [−.146; −.044]; X2: $b = -.100$, $se = .028$, $p < .001$, 95%CI [−.157; −.049]).

In the larger-size condition the retailer was perceived to be more size inclusive than in the own-size condition ($b = 1.089$, $se = .083$, $p < .001$) and more size inclusive in the own-size than in the thin-size condition ($b = -1.624$, $se = .085$, $p < .001$). Heightened retailer inclusivity was significantly associated with purchase intention ($b = .087$, $se = .033$, $p = .008$). The model size – retailer inclusivity – purchase intention indirect effect was significant for both comparisons (X1: $b = -.142$, $se = .054$, $p = .009$, 95% CI [−.249; −.030]; X2: $b = -.095$, $se = .037$, $p = .010$, 95% CI [.019; .171]).

Discussion Study 4

Study 4 investigated a boundary condition for the proposed similarity-fit-risk reduction effect of the own-size model on purchase behavior, demonstrating a significantly weaker effect when the product to be purchased was shoes (vs. dress). This highlights the importance of employing own-size models, especially for those categories where product fit is strongly related to body size. In case of limited resources, this finding helps decide for which products to get started first with size-inclusive model photography. Moreover, consumer awareness of retailer inclusivity, both for own-size and larger models, spills over to the purchase decision. This differs from Study 3 but mirrors the effects of affect and authenticity in Study 2. Given that Study 3 made use of a consequential measure of purchase, we speculate that perceptions of inclusion lead to positive brand effects, but have much weaker purchase effects, as product fit matters more in the more consequential shopping context.

Study 4 replicates the robust fit-risk reduction effect of own-size models and provides managerial insights that employing own-size models is most important to improve consumers' decision making when body size is relevant to product evaluation. In Study 5 we turn to another risk-reducing strategy used by retailers, which may likely conceal the negative effect of thin models for fit-risk assessment, namely a free-return policy.

Study 5: Free product return reduces the influence of model body-size on purchase

Study 5 explored another potential boundary condition for the positive effect that own-size model photography has on consumers' purchase intention by reducing the perceived fit risk in online shopping. Namely, we expect that when the risk associated with online purchasing is lowered in another way, the positive influence of the own-size model on purchase through reducing fit risk will be mitigated. Specifically, we predict that when the online store highlights a free return policy (vs. not), the importance of model photography on purchase decisions is attenuated. This again would show that the primary driver of our effect is indeed fit risk, as when consumers are aware of the ability to return the item for free, they do not need to rely as strongly on body-size related information to evaluate fit – the consequences of making a "poor" decision are lower.

Method

We recruited 709 female participants from Prolific between 15 and 78 years of age ($M = 34.98$, SD = 11.78). The study had a 2 (model size: thin vs. own size) × 2 (return terms: free return vs. control (no information)) completely randomized between-subjects design. Participants first reported their demographics, clothing size, online shopping frequency and body satisfaction. Next, we asked the participants to imagine they wanted to buy a new dress and were looking for options online. We then manipulated participants' exposure to a thin model or a model their size (see Study 3 and WA). Next to the model's body size, we manipulated the return terms. In the free return condition, participants saw a return logo with a text: "Free Return. When returning items, no fee will be charged." In the control condition we did not give participants any information regarding the return policy. All participants then indicated their purchase likelihood, perceived fit risk and body-size similarity with the model. Next, participants answered attention checks and frequency of wearing dresses.

Results

Similarity

A 2 (return policy: free return vs. control (no information)) × 2 (model size: thin vs. own size) ANOVA showed that perceived similarity significantly differed across the model size conditions ($F(1, 705) = 176.933$, $p < .001$, $\eta_p^2 = .201$). Participants in the own-size condition ($M = 4.31$, $SD = 1.66$) felt more similar in body size to the model than

those in the thin-model condition ($M = 2.61$, $SD = 1.70$), supporting H1. As expected, the main effect of the return policy ($F(1, 705) = .919$, $p = .338$, $\eta_p^2 = .001$; free return: $M = 3.40$, $SD = 1.88$, control: $M = 3.50$, $SD = 1.88$) and the interaction between model size and return policy on perceived similarity were not significant ($F(1, 705) = 2.938$, $p = .087$, $\eta_p^2 = .004$).

Moderated mediation

To test whether the return policy influences the indirect effect of model size on purchase intention, by moderating the direct effect between model size and perceived fit risk, we ran a moderated mediation analysis (PROCESS model 7 with 10,000 bootstraps) with model size (−1 thin vs. 1 own size) as the independent variable, return policy as moderator (−1 control vs. 1 free return), perceived fit risk as mediator, and purchase intention as dependent variable. The results showed that compared to the thin-size model, the own-size model lowered the perceived risk that the jeans will fit poorly ($b = .173$, $se = .050$, $p < .001$). However, this effect was qualified by a model size x return policy interaction ($b = -.218$ $se = .050$, $p < .001$; free return: $b = -.045$ $se = .074$, $p = .545$; control: $b = .391$ $se = .068$, $p < .001$). Perceived risk, in turn, negatively related to purchase intention ($b = -.488$, $se = .0436$, $p < .001$). Overall, in the control condition we find the predicted model size – perceived risk – purchase intention indirect effect ($b = -.191$, $se = .037$, 95% CI [−.268, −.122]). However, in the free return condition the indirect effect was no longer significant ($b = .022$ $se = .036$, 95% CI [−.050, .092]). The index of moderated mediation was significant ($b = .213$, $se = .051$, 95%CI [.115, .316]).

Discussion

The findings of this study have practical implications, especially considering the prevalence of free return policies among online retailers. The results demonstrate that the effect of own-size model photography on consumers' purchase intention attenuates when online stores highlight their policy for free returns. More specifically, participants seemed to be less influenced by model size when evaluating the fit risk of the item, potentially because they did not feel a need to make as careful an evaluation of the item's fit as when they were not told that poorly fitting items could be freely returned.

While this study indicates that offering free returns is an effective method for mitigating the general risks associated with online shopping, it is important to acknowledge the logistical and financial burden of processing product returns and the environmental impact associated with increased returns. In fact, increasingly, online retailers have started to introduce return fees to indeed reduce consumers' likelihood of returning items (e.g., Doherty, 2023), which may imply that the role of model photography will increase in the near future as consumers need to evaluate items more carefully. Own-size model photography may become even more important for consumers to evaluate the product's fit prior to purchase.

How about using alternative cues of fit instead? In a supplementary study (Study W3), we demonstrate that own-size models also influence purchase decisions less when retailers provide alternative measurement information of the product's true fit. Note however that model photography is often the first visual cue of the product that consumers encounter and cues about product returns and measurement information typically only appear in later stages of the purchase funnel. By providing consumers with an accurate representation of how clothing items fits their *own* bodies, the use of own-size model photography serves not only as a tool for risk reduction but also as a means to address the greater challenge of sustainable diverse business practices.

Study 6: Limitations of plus-size models—distorting product choice

The studies so far have shown that own-size models can help mitigate the dissimilarity-risk deterrence effect of thin models by inducing higher perceived similarity and reducing risk. However, this implies that consumers may not only be more inclined to purchase items presented by models of their own size, but also might choose different products altogether based on the similarity of the model showcasing the product. Given that some retailers now use more size-inclusive model photography in their online stores by varying model size across items, in Study 6 we set out to investigate whether this impacts which items consumers choose. This could imply an unintended consequence of adding size-inclusive models: it can signal to consumers which items "should be" bought by someone their size. We expect that consumers with larger body sizes will perceive higher body-size similarity with larger models (H1) and will be more likely to choose a top presented by a model larger in body size (vs. one worn by a thinner model), due to increased body-size similarity and reduced fit risk (H2).

Method

We recruited 402 female participants from Prolific between 19 and 74 years of age ($M = 38.35$, $SD = 12.90$). Participants imagined they wanted to buy a new top and were looking for options online. Like on a category overview page of an online store, the participants came across four tops with different cuts (e.g., short-sleeved, no sleeves) and colors (black, blue, grey and white; see Fig. 3). From this overview, participants were asked to select the top that

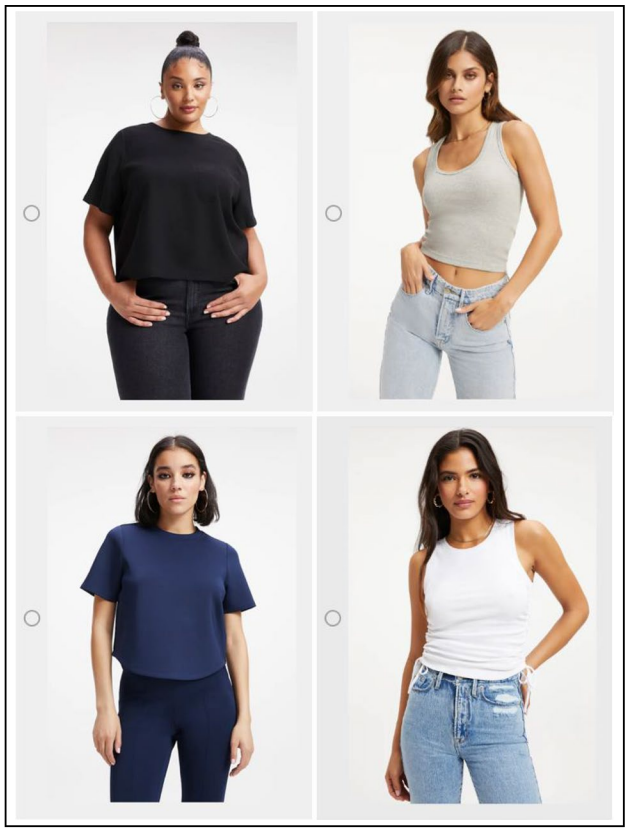

Fig. 3 Tops to choose from in Study 6. One top (in this example, black) was presented by a larger model. The presentation order of tops was randomized

they wanted to order in their size. All participants were exposed to the same four tops, but three were presented by thin models and one by a larger model. We manipulated which one of the tops the larger model presented and randomly assigned participants to one of the four top conditions (i.e., larger model wearing black, blue, grey or white). The presentation order of the models and tops on screen was randomized across participants.

After selecting a top, participants again saw each of the four models in random order and rated their perceived fit risk for buying each one of the tops they saw. Next, they indicated their perceived body-size similarity with each model (random order). After an attention check, participants were again randomly presented with each of the four models and asked to indicate how attractive they thought the model and the top were on two separate scales. We did so to rule out potential noise in participants' selection of top (Meyvis & van Osselaer, 2018) as the larger model wore a different top in each condition. The survey ended with participants reporting body satisfaction, frequency of online shopping, age and top size.

Results

Because the top condition did not influence the effect of participant's size on choice ($\chi^2(3) = 5.16$, $p = .159$; see WA), we collapse the data and merely control for top condition in the analyses. To test whether the participant's own top size predicts perceived similarity with the larger model (H1), which, in turn, should reduce perceived fit risk, leading to an increased likelihood of choosing the top the larger model is wearing (vs. the tops that the thin models are wearing; H2), we analyzed the data using PROCESS model 6 for serial mediation (10,000 bootstraps). The top size of the participant was the independent variable, perceived similarity with the larger model and perceived fit risk for the top worn by the larger model mediators and consumer's likelihood of choosing the larger model's top the dependent variable. We ran the analysis with all control variables at the same time (body satisfaction, the top condition, attractiveness of the larger model and attractiveness of the top the larger model is wearing).

The results show that a larger clothing size of the participant related to a higher perceived body-size similarity with the larger model ($b = .819$, $se = .053$, $p < .001$), confirming H1. Perceived similarity to the larger model was negatively associated with perceived fit risk for the larger model's top ($b = -.253$, $se = .049$, $p < .001$). Risk, in turn, was negatively associated with the likelihood of choosing the top that is presented by the larger model ($b = -.534$, $se = .166$, $p = .001$). This serial indirect effect was significant ($b = .111$, $se = .047$, 95%CI [.041; .225]), providing evidence for H2. As a robustness check, we repeated the analyses using relative measures (larger model scores divided by thinner model score average) and replicated the findings (see WA).

Discussion Study 6

Study 6 was an ecologically valid study as many brands have started presenting clothes on their websites on models representing a variety of clothing sizes. However, these brands tend to have differently sized models presenting *different* clothing items, rather than have differently sized models for the *same* item. This study showed that this strategy may lead consumers to distort their choice towards products portrayed by models similar in size to their own body size. The size of the model showcasing the clothing items can lead consumers to make different choices than they otherwise would, which may also mean less-than-optimal choices. However, in the General Discussion we elaborate on ways in which retailers and brands can respectfully incorporate this model-photography strategy.

Study 7: Behavioral evidence from the lab—advantages of letting consumers choose a model

Study 7 investigates an additional way of adding diversity into online fashion product imagery, namely allowing consumers themselves to choose the model showcasing the product. Furthermore, this study tests our proposed account in the lab in a more consequential setting: the participating students joined a raffle to receive a voucher to redeem for the focal product: a T-shirt of the university. We also explore customer satisfaction, an important downstream behavioral consequence related to lower product returns (Frei et al., 2020).

More specifically, this study compares three specific model photography strategies: (1) using a thin model (see Studies 1–7), (2) using a model wearing the consumers' own clothing size (see Studies 2–5), and (3) allowing consumers to choose the model they want to see out of a group of models with various sizes (current practice of e.g., Good American). We expect that the type of model strategy that participants are exposed to will influence their level of perceived similarity with the model's body size, with increasing levels of similarity across these three techniques (choose > own > thin). This is because we assume – given the importance of body-size similarity in the previous studies – that when consumers can choose a model to show the T-shirt, they are likely to select a model with a similar body size, and, if they do so, their perceived similarity might be even higher than when consumers are exposed to one model only who happens to wear their size. This higher perceived similarity should again lead to lower perceived fit risk, leading to not only an increased likelihood to redeem the voucher and buy the T-shirt, but also a more positive customer experience (H2).

Method

We recruited 191 female students between 17 and 29 years of age ($M = 19.14$, $SD = 1.56$). The study had a 3 (model: thin vs. own size vs. choose model) × 2 (order variables: mediators first vs. dependent variables first) between-subjects design. All participants were seated in soundproof cubicles. In a computer-administered task, participants reported their clothing size for T-shirts, their online shopping frequency, age and level of pride of studying at the university. Next, participants read that they received a voucher to redeem for a T-shirt from the university's webstore. To increase involvement in the task, the voucher was physically present on their desk. We told the participants that we would raffle 10 winners who could use their voucher to get their chosen T-shirt from the webstore. In what followed, we told participants that they were browsing the university's webstore and had found a T-shirt they liked. A pretest of all T-shirts from the university's webshop found that the T-shirt was rated as moderately attractive by fellow students ($N = 61$, $M = 3.69$, $SD = 1.37$; 7-point scale from 1- Not at all attractive to 7- Extremely attractive).

Next, we exposed all participants to the university's webshop and manipulated the model strategy of showcasing the T-shirt. All model pictures were taken in the university's photography studio, with students ranging in T-shirt sizes from XS to XL recruited as the models (paid with partial course credits). In the thin-model condition, participants saw a front and behind picture of a model wearing the T-shirt in size XS with the message "This model wears size XS." In the own-size condition, the model had the same T-shirt size as the participant and the message read "This model wears [participant's reported size]." In the choose-model condition, participants saw five smaller pictures of models wearing the T-shirt, ranging from size XS to XL, with the accompanying message that the university's webshop offered the option to view the T-shirt on a model of their choice (see Fig. 4 in Appendix). After participants had selected a model, they saw front and behind pictures of their chosen model wearing the T-shirt.

While observing the product pictures, participants indicated how likely they were to redeem the voucher for the T-shirt in their size, rated their shopping experience with the webshop, their perceived body size similarity with the model and their perceived fit risk. Whether the mediators (body-size similarity and perceived fit risk) or the dependent variables (voucher redemption and shopping experience) were asked first was randomized across participants. Because the order of asking the questions did not influence the results, we collapsed the data across the orders (see WA). To end this first phase of the study, participants rated the attractiveness of the model and the T-shirt.

All participants were then asked to try on the T-shirt. They wrote their preferred size on the voucher and gave it to the experimental leader who, blind to the condition of the participant, handed over the T-shirt in the participant's chosen size. The participant then entered a personal fitting room with a mirror. When they were ready with trying on the T-shirt, participants returned to their cubicle for the next phase. They finalized the study by indicating their satisfaction with the T-shirt, the fit of the T-shirt, their gender identity, body satisfaction, number of years as a student at the university and English proficiency.

Results

Similarity-risk mediation

To investigate the predicted serial mediation (H2), we ran PROCESS model 6 (10,000 bootstraps). Retailer's choice of models (dummy coded; X1: thin vs. own size and X2: choose model vs. own size; own size as the reference group)[1] was the independent variable, perceived similarity and risk the mediators, and voucher redemption likelihood the dependent variable. The results showed that the own-size model was perceived to have higher similarity than the thin-size model ($b = -.600$, $se = .291$, $p = .040$), while the choose-model condition and own-size condition did not differ ($b = -.083$, $se = .292$, $p = .776$). Perceived similarity was negatively associated with perceived risk ($b = -.327$, $se = .053$, $p < .001$), which, in turn, was negatively associated with redemption likelihood ($b = -.350$, $se = .087$, $p < .001$). The result revealed that when comparing the thin-size condition and the own-size condition, the serial indirect effect was significant ($b = -.069$, se = .040, 95%CI [−.155, .002]). For the choose model vs. own-size model comparison, the serial indirect effect was not significant ($b = .010$, se = .032, 95%CI [−.053, .084]).

We repeated the analysis with shopping experience as dependent variable. Results showed that perceived risk was also negatively associated with shopping experience ($b = -.191$, $se = .063$, $p = .003$). The serial indirect effect was significant ($b = -.038$, $se = .024$, 95%CI [−.094, −.000]) for the own-size versus thin model comparison, but not for the choose model versus own size comparison ($b = .005$, $se = .018$, 95%CI [−.030, −.043]). When simultaneously controlling for all control variables (body satisfaction, pride towards the university, attractiveness of the T-shirt, and attractiveness of the model; see pre-registration), the serial indirect effect was only marginally significant in the thin-size vs. own-size comparison (b = −.023, $se = .017$, 90%CI [−.053; −.000]). No other results change direction or significance when including controls.

Downstream consequences on satisfaction

To test whether the shopping experience had downstream consequences on purchase satisfaction, we ran a moderation analysis using PROCESS model 1 (10,000 bootstraps) with shopping experience as the independent variable, product satisfaction as the dependent variable and the fit of the T-shirt as the moderator. This revealed a significant main effect of shopping experience ($b = 266$, $se = .073$, $p < .001$) and fit of the T-shirt ($b = .836$, $se = .055$, $p = .001$). The interaction between fit and shopping experience was also significant ($b = .115$, $se = .048$, $p = .018$; see Fig. 7). Simple effect tests show that when the T-shirt fitted poorly ($Mean_{fit}$ -1SD), the effect of shopping experience on product satisfaction was non-significant ($b = .096$, $se = .107$, $p = .369$), but when the T-shirt fitted at least reasonably well ($Mean_{fit}$ and $Mean_{fit} + 1SD$), the shopping experience had a significant positive effect on product satisfaction (at $Mean_{fit}$: $b = .266$, $se = .073$, $p < .001$; at $Mean_{fit} + 1SD$: $b = .435$, $se = .097$, $p < .001$).

Discussion Study 7

By utilizing a product raffle, Study 7 provides additional behavioral evidence that own-size models increase consumers' perceived similarity and in turn influences consumers' purchase decision, through reducing fit risk. This positive shopping experience can even lead to higher product satisfaction, but for this it is crucial that the item fits the customer well enough. While we expected that the choose-model strategy would increase perceived similarity even more than own-size models, both clearly increase purchase (vs. thin models) through the same mechanism of body-size similarity reducing fit risk. There are, however, additional benefits of allowing consumers to choose the model, as an exploratory analysis suggests that it leads to a better shopping experience than own-size and thin-size model photography, beyond the similarity-risk path. This may be due to increased feelings of autonomy (Botti et al., 2023). Importantly, when retailers offer consumers the option to choose from models with various body sizes, it exposes them also to greater body-size diversity.

General discussion

Given the increasing demand for the fashion industry to be more inclusive of different body sizes, and the negative impact of thin models on consumers' well-being, we study consumer responses to size inclusive model photography in online fashion retail, where reliance on images of thin models is prevalent. In fact, our discussions with experts from the fashion industry revealed that fashion brands remain mostly focused on thin models to sell "aspiration". Our results, however, demonstrate the negative consequences of thin-model photography for consumers' purchase decisions

[1] The analyses reported here deviate from the pre-registration, where we predicted a linear trend over the three conditions. However, given the ordinal nature of the independent variable, analysing the data as multicategorical was requested by the Review Team and matches the data more accurately. The overall findings and conclusions remain the same across the two ways of analyzing the data, and we report all the pre-registered analyses in the WA.

by revealing the "Dissimilarity-Risk Deterrence Effect," wherein consumers with larger clothing sizes perceive lower body-size similarity with thin models, leading to increased fit-risk perception when evaluating a clothing item and a subsequent decline in online purchase (Study 1A, 1B). Thin models also relate to consumers' increased likelihood of returning products (Study WA1), highlighting their detrimental effect on supply chain efficiency and environmental sustainability.

Eight subsequent experimental studies provide causal evidence that exposing consumers to own-size models (vs. thin or vs. larger models) mitigates the dissimilarity-risk deterrence effect. By opting for own-size models who consumers feel are more similar in body size to themselves, online fashion retailers help consumers in their shopping journey to assess a product's fit better (i.e., reduce the perceived fit risk). We further provide managerial insights about boundary conditions of the own-size model effect on purchase, all attesting the underlying process of body-size similarity reducing fit risk. The own-size model effect is mitigated when body-size is less relevant for fit assessment (evaluating shoes versus dress, Study 4), when alternative fit information is presented (Study W3) or when a free product return policy reduces consumers' purchase risk altogether (Study 5).

Finally, two studies shed light on future size-diverse model strategies and industry challenges. For websites that predominantly feature products with thin models and a few with plus-size models, Study 6 demonstrates that consumers' purchase behavior is (unintentionally) distorted, such that consumers' choice of a top is based on which model (thin or larger) in the product overview they feel most similar to. Finally, Study 7 demonstrates that letting consumers freely select a model from a diverse array of models representing various body sizes (vs. thin model) employs the own-size model strategy best. It not only creates equity in the marketplace, allowing consumers to choose a model their size and thereby improving consumers' purchase process and shopping experience, but also naturally exposes consumers to a broad spectrum of body sizes, fostering a sense of body equality and inclusion.

Theoretical implications

DEI issues in the marketplace structure

Heeding the calls for research on inclusivity in marketing practices (e.g., Arsel et al., 2022; Eisend et al., 2023; Schulz et al., 2022), our work adds understanding to Diversity, Equity and Inclusion (DEI) issues about body differences shaped by the marketplace structure (Arsel et al., 2022). The most significant impact of this research is to demonstrate that when retailers optimally employ greater body-size diversity, they do not only foster a more *inclusive* and welcoming environment, but also promote *equal* treatment for diverse consumers in shopping decisions. The dissimilarity-risk deterrence effect, which we demonstrate across 11 studies, highlights that the current online marketplace for clothes shopping stigmatizes consumers who feel their bodies are not represented by thin models. Our findings illustrate how consumers disengage from online shopping when they feel that an institutionalized marketplace, such as that of the fashion industry, is not serving their needs (Henry, 2010; Scaraboto & Fischer, 2013). The present research challenges the institutional and commercial logics of the fashion industry (Scaraboto & Fischer, 2013) by demonstrating that displaying models of consumers' own size yields numerous benefits for multiple stakeholders. In fact, retailers may reap direct positive outcomes on sales, supply chain efficiency and customer satisfaction. In *none* of the studies do we find that own-size model photography negatively affects purchase decisions in comparison with thin-size photography despite this being a key concern of the fashion companies we interviewed. Instead, in all studies thin-size models hindered online purchase decisions through increasing the difficulty of assessing a product's fit, which should encourage industry-wide changes to more inclusive and diverse model photography. Next to body differences, our research also intersects other axes of differences, including gender and ethnicity (see Limitations and future research).

Online shopping risk and supply chain efficiency

We add to the limited research that investigates specific tools that online retailers can utilize to reduce online shopping risk for consumers (e.g., Lwin & Williams, 2006; Park et al., 2005) by focusing on perceived fit-risk. With lack of fit being the number one reason to return products, many risk-reducing tools exist in online stores, but academic research has only studied a few, such as product reviews (e.g., Bae & Lee, 2011) or moving product images (Park et al., 2005; see Table 2). Our findings demonstrate the crucial role of own-size models in reducing fit-risk during online shopping, due to the perceived body-size similarity they evoke in consumers. We show that fit risk plays a distinct role from other types of risk, such as social risk (Eisingerich et al., 2015) or quality-related risk for clothes purchases (c.f., Forsythe & Shi, 2003). Moreover, our findings add nuanced insights about the interplay of risk-reducing factors in online shopping. As expected, the effect of model size on purchase through reducing fit-risk is attenuated when a retailer provides additional measurement information (Study W3) or highlights a free-return policy (Study

5). However, it should be noted that such information is often only available at a later stage of the purchase funnel. During the browsing stage, models are among the first cues consumers encounter, making them highly influential in shaping initial perceptions. In contrast, body measurement and product fit information typically emerge later in the purchase process when consumers delve deeper into product inspection. We find that consumers with larger body sizes tend to choose products presented by larger models in the product overview (Study 6), when measurement cues are not yet available. This shows the theoretical importance of understanding the differences in consumers' mindset and motivation across the different stages of decision-making (e.g., Lee et al., 2018; Moe, 2003). Moreover, as multiple online retailers have already started charging fees for product returns (Doherty, 2023), and the EU is currently developing stricter rules for managing product returns (Blenkinsop, 2023), it may be that the impact of model size becomes even more crucial in the future.

Multiple contrasting signals of model's body size

The current research demonstrates the complexity of the phenomenon of body-size representations in marketing by revealing that a model's body size conveys multiple contrasting signals to consumers. In so doing, it sheds light on the mixed findings in advertising research regarding models' body size (e.g., Shoenberger et al., 2020; Nichols & Schumann, 2012; see Table 1). While we establish that models' body size similarity has an important impact on purchase experiences through assessment of fit risk, our studies' findings also uncover parallel signals of body size: mere inclusion, social identification (homophily), personalization and aspiration.

First, our findings demonstrate a "mere inclusion" branding effect, wherein consumers react positively towards own-size and larger models (vs. thin models), but this did not consistently influence purchase decisions. We find that own-size models (1) induce *positive feelings* and both own-size and larger models are (2) perceived as more *authentic* than thin models (Study 2). Furthermore, (3) retailers' brand image is perceived as most inclusive when consumers are exposed to a larger model, followed by own-size exposure, and least when using a thin model, but the impact of inclusive brand image on purchase was mixed (Studies 3, 4 and W3). It could be speculated that efforts of inclusion just for its sake are not appreciated by all consumers and might sometimes lead to reactance (for a related discussion of recent reductions in advertising diversity, see Campbell et al., 2023). Relatedly, in Study 2, we observe a negative direct effect of larger models on purchase that could be attributed to multiple factors, including consumers' unfamiliarity with this approach, or perceptions of inadequate personalization (see below) or negative implicit attitudes towards larger body size (Ahern & Hetherington, 2006).

Second, our findings reveal body size's impact on social identification (or homophily) which spills over to purchase. The finding that consumers identify more with the social group of own-size models (vs. larger, vs. thin; Study W2) is in line with the definition of inclusive design set forward by Patrick and Hollenbeck (2021), who refer to it as the "actual or perceived match between the user and the design object" (p. 362). We also add to research regarding service companies being able to foster inclusivity by matching their communication agents on some aspects (e.g., a shared health condition) to the customer (Mende et al., 2024). Relatedly, we find that own-size models also positively influence purchase decisions through consumers' perception of the models' pictures as personalized and tailored (Study W2; de Keyzer et al., 2022). Retailers should, however, also consider possible drawbacks of personalization, such as reactance (Mende et al., 2024; van Doorn & Hoekstra, 2013).

The third mechanism highlights the thin model's ongoing impact on consumers' perception of the ideal body (e.g., Huang et al., 2021). We find that consumers aspire to have the thin model's body, more so than the own-size or larger model's body, and this aspiration spills over to the purchase decision (Study 3). While our research demonstrates a clear positive effect of own-size models in mitigating the dissimilarity-risk deterrence, it is essential to acknowledge that we did not consistently find a total effect of own-size models on purchase behavior when compared to thin models. This might, at least partially, be due to the ongoing stronger aspirational appeal of thin models (Study 3). Notably however, our findings also suggest that the aspiration mechanism is more closely related to consumers' (lack of) body satisfaction than the fit-risk reduction mechanism, thereby highlighting the potential drawbacks of persisting with the thin-model strategy concerning consumer well-being. Shifting away from using predominantly thin models could diminish consumers' aspiration towards the thin-body beauty standard in the longer-term as society increasingly embraces more varied body types. It is worth noting that our studies were conducted using Western samples, for whom the thin-body beauty standard may be most pronounced (Brown & Slaughter, 2011), yet the standard is widely adopted worldwide (Swami et al., 2010).

Managerial implications

Model photography has taken off in recent years. While five years ago products were shown on a retailer's website without a photo, today more than half are shown with a model (interview with retailer). Despite many brands adopting consumer diversity in their advertising, webshop environments are lacking behind (see also Campbell et al., 2023 for a discussion of decreasing diversity in advertising). Our findings should encourage brands to use more size-inclusive model photography in purchase contexts as we demonstrate model body size's influence on hindering or improving online purchase decisions. In fact, we conducted an exploratory study into body-size diversity in webshops versus advertising (see WA), which demonstrates that *ad-induced* positive evaluations of size diversity do not suffice to make consumers interested to buy from an assortment, whereas size diversity on the retailer's *website* does. We also show that the optimal portrayal of size diversity requires showing items on models matching the customer's size, enhancing product fit evaluation and reducing the fit-related risk. This approach could improve supply chain efficiency by promoting more accurate purchase decisions and reducing product returns due to poor fit.

The potential dark side of own-size models

We recognize the rapid technological changes in the retail landscape. Our research does not advocate for own-size models as the ultimate goal for model photography, but rather as a means for inclusive, accurate and sustainable consumer decision-making. In the future, if data algorithms would focus solely on customized models that mirror the consumers' size (and other looks), consumers' exposure to different sizes may be limited, just as thin-model photography does today. This is what Campbell et al. (2023) called a "diversity echo chamber" wherein technological advancements may lead to tailoring models to specific consumers, inhibiting the representation of diversity altogether (see also Mende et al., 2024). Therefore, we emphasize the benefits of allowing consumers to choose models from a wide range of body sizes as exemplified by GoodAmerican's online store. We find that when given the option, consumers tend to select a model that looks like them, while also being exposed to various body sizes, which is by definition representing size diversity better than only seeing one's own size. Interestingly, such a strategy enhances the overall shopping experience most, spilling over to product satisfaction, though only when the product fits the consumer well. This highlights the multiple benefits of allowing consumers to choose the model they see on risk-reduction, shopping experience and creating a shopping environment truly reflective of the principles of DEI.

Costs and complexities

Though software tools utilizing artificial intelligence can facilitate showcasing a range of model body sizes for each clothing item, we recognize the associated costs and complexity of creating images of each product on models of different sizes. Discussions with a clothing retailer revealed that the implementation of such artificial intelligence tools require 3D images of the product that are not readily available and can be effortful to create. Such AI-driven tools may also lead to reactance due to distrust in such technologies (Plotkina & Saurel, 2019) or questions about "outsourcing diversity" to AI instead of hiring truly diverse models (Weatherbed, 2023). One option for retailers is to reduce the available clothing items overall (Botti & Iyengar, 2006) and to invest in size-diverse model photography for the remaining items with the purpose of consumer equality in the marketplace. However, our findings also provide more modest insights even for companies with more limited resources. Given that it is perceived similarity that drives the model-size effect, we expect that using more average sized models should bring benefits: more consumers will feel that an average size model is similar in body size to themselves.

Another possible strategy is using differently sized models presenting different clothing items. This is also much less expensive than allowing consumers to choose between various models as companies do not need more than one model per product. However, it is important to notice that this strategy will influence the items that consumers choose (see Study 6). It may therefore inadvertently create a "plus-sizing" effect where larger consumers may feel marginalized and forced to choose specific types of items (e.g., Scaraboto & Fischer, 2013). This mixed strategy, however, could also help consumers of various sizes to feel like their own size is being represented in online shopping environments, when applied with respect. Key is to be responsible and conscious about the choice of which clothing items are worn by which size of model. The retailer or brand should aim at a truly random approach of body sizes across clothing items, with the long run goal of increasing the number of model body sizes (not just thin or plus size, but all sizes in between) within and across items.

Thus, we propose that the best approach would be to allow consumers to view items on a model of their choosing, resulting in the fashion industry becoming more inclusive, consumers feeling represented by brands, and brands benefitting from the reduced risk and enhanced shopping experience that comes along. Moving away from thin models and towards more average size models should still yield great benefits for these multiple stakeholders.

Limitations and future research

To the best of our knowledge, this is the first study to investigate the product-level implications of body-size diverse model photography in online shopping. Many avenues for future research remain. Firstly, while our studies mainly focus on female consumers, we find the dissimilarity-risk deterrence effect of thin models also for male consumers (Studies 1B and W1). Future research should explore the effect of diverse model photography for all gender identities. The idealized male body portrayed in media tends to be more heterogeneous than female appearance norms (Buote et al., 2011): idealized male models can for example represent either a thin ideal or a fit, muscular body type. Interestingly, muscularity is increasingly important in the ideal female body as well (Bozsik et al., 2018). Understanding the interplay of these different ideals and inclusive model photography is highly relevant. Moreover, limited knowledge exists on how gender non-conforming consumers are influenced by body-related cues (Arsel et al., 2022), necessitating further investigation into the effects of inclusive model photography on diverse consumers.

Secondly, we focus on *body-size* similarity given the importance of sizing on product fit, and given the ongoing lack of body-size diversity in the fashion industry. However, future research should investigate other aspects of diversity (for an overview, see Campbell et al., 2023) in (online) retailing as well. Since online shopping limits direct product assessment, consumers rely on other factors in model photography as well, such as fabric color. Similarity in skin tone or hair color with the model may then help consumers evaluate how the color would fit them. Understanding how different types of similarities influence consumers can also encourage investments in more diverse and inclusive model photography. Our findings demonstrate body-size effects irrespective of ethnicity and skin tone, controlling for perceptions of ethnicity, keeping it randomized (e.g., Study 5) or constant across conditions (e.g., Study 6). However, as consumer identities are multilayered (Arsel et al., 2022), future research could explore if various combinations of models' features (e.g., body size, ethnicity, gender) better foster inclusivity than models representing only one aspect of one's identity.

Finally, it can be noted that the effect sizes identified across our studies are not large. Nevertheless, the overall finding is very robust across various (preregistered) research designs and analyses. While we controlled for body satisfaction, it is likely that consumers' self-perceptions influence their reactions to models of their own size and the benefits of similarity. Future work could find out how more inclusive portrayals of body sizes influence consumers' body-related self-esteem in the long term.

To conclude, despite the limitations, our work identifies how online fashion brands and retailers can move their model photography away from the thin body beauty standard. It highlights short-term benefits like lower dissimilarity-risk purchase deterrence, better shopping experience, and higher customer satisfaction, alongside long-term advantages such as promoting body acceptance, lower product returns and sustainability. This shows that embracing inclusivity *can* benefit not only consumers and society at large, but also marketers.

Appendix

Table 4 Key measures and descriptives for all studies

Main variables	Measurement items	Study 1A*	Study 1B*	Study 2*	Study 3*	Study 4*	Study 5*	Study 6*	Study 7*
Purchase intention [a]	How likely would you be to buy these jeans in your size? 1– Not at all likely, 7– Extremely likely 2. 1– Not at all probable, 7– Very probable 3. 1– Not at all possible, 7– Very possible	$M=3.66$ $SD=1.84$	$M=3.94$ $SD=1.70$	$M=3.66$ $SD=1.99$	–	$\alpha_{dress}=.933$ $\alpha_{shoes}=.941$ $M=2.71$ $SD=1.64$	$\alpha=.957$ $M=2.80$ $SD=1.69$	–	–
Purchase	We converted each participant's responses into a switching point of acceptance: 1 – participant always chose to win the monetary value 11 – participant always chose to win the dress	–	–	–	$M=2.09$ $SD=1.69$	–	–	–	–
Choice of top	1 – Top chosen, 0 – Top not chosen	–	–	–	–	–	–	$n_{thin}=349$ $n_{large}=53$	–
Voucher redemption	How likely is it that you would redeem the voucher for this T-shirt in your size? 1. 1– Not at all likely, 7– Extremely likely 2. 1– Not at all probable, 7– Very probable 3. 1– Not at all possible, 7– Very possible	–	–	–	–	–	–	–	$\alpha=.953$ $M=4.31$ $SD=1.58$
Shopping experience	How would you describe your experience with the webshop? 1. 1 bad – 7 good 2. 1 unpleasant – 7 pleasant 3. 1 unfavorable – 7 favorable	–	–	–	–	–	–	–	$\alpha=.935$ $M=5.11$ $SD=1.10$
Perceived fit-risk (adapted from Shimp and Bearden, 1982; Grewal et al. 1994)[b]	1. How sure are you, if you purchase the [product] online, about the [product]'s fit to be satisfactory to your needs? (1 Not at all sure −7 Very sure) Reverse coded 2. How much risk would you say there would be that, if you purchase the [product] online, the product will not fit you like you expect? (1 Very little risk - 7 A great deal of risk) 3. How confident are you, if you purchase the [product] online, the xxx' fit will be as you expect? (1 Not at all confident - 7 Very confident) REVERSE CODED	$\alpha=.826$ $M=5.04$ $SD=1.26$	$\alpha=.843$ $M=4.65$ $SD=1.26$	$\alpha=.874$ $M=4.62$ $SD=1.40$	$\alpha=.862$ $M=4.79$ $SD=1.39$	$\alpha_{dress}=.805$ $\alpha_{shoes}=.846$ $M=4.60$ $SD=1.43$	$\alpha=.791$ $M=4.50$ $SD=1.36$	α=ranging from .744–.940 $M_{large}=4.01$ $SD_{large}=1.41$ $M_{thin}=4.01$ $SD_{thin}=0.99$ $M_{relative}=1.04$ $SD_{relative}=0.42$	$\alpha=.875$ $M=3.22$ $SD=1.35$
Perceived body-size similarity[c]	Please indicate to what extent you agree to the following statement about the model wearing the [product] (+ showing the picture) This model's body (size) looks similar to mine. (1 Not at all similar- 7 Extremely similar)	$M=2.60$ $SD=1.69$	$M=3.09$ $SD=1.71$	$M=3.57$ $SD=1.81$	$M=3.27$ $SD=1.89$	$M=3.25$ $SD=1.90$	$M=3.46$ $SD=1.89$	$M_{large}=3.13$ $SD_{large}=1.83$ $M_{thin}=3.17$ $SD_{thin}=1.65$	$M=4.31$ $SD=1.57$
Consumer's clothing size[d]	What is your typical clothing size (for jeans / dress / tops / T-shirts)? 1. XXS – XXL, coded 1–7 and "other" 2. Size 2–26 (coded as such), and "other"	$M=4.23$ $SD=1.16$	$M=4.72$ $SD=1.14$	$M=13.40$ $SD=4.22$	$M=3.12$ $SD=1.12$	$M=3.26$ $SD=1.09$	$M=3.22$ $SD=1.12$	$M=4.27$ $SD=1.33$	$M=3.35$ $SD=0.79$

[a] Purchase intention: Study 1A, 1B and 2 only item 1, Study 4 and 5 had three items

[b] Perceived fit-risk: [product] was replaced by jeans (Study 1), pants (Study 2), dress (Study 3 and 5), dress and shoes (Study 4) tops (Study 6), and T-shirts (Study 7). Study 2 had 6 risk items, items 1–3 were repeated with "appearance" replacing the word "fit"

[c] Perceived similarity: Study 2, 3, 4, 5, 6, 7 used "body size"; Study 1 used "body"

[d] Clothing size was measured for jeans (Study 1), dress (Study 3, 4, 5), tops (Study 6), and T-shirts (Study 7); as XXS-XXL in Studies 1, 6; as XS-XL in Studies 3, 4, 5, 7; as UK 2–26 in Study 2

* Indicates a pre-registered study

Table 5 Control variables and exploratory measures and related descriptives for all studies

Control variables and exploratory measures	Measurement items	Study 1A	Study 1B	Study 2	Study 3	Study 4	Study 5	Study 6	Study 7
Body satisfaction	How (dis-)satisfied are you with your body shape and size in general? (1 Very dissatisfied - 7 Very satisfied)	$M = 3.85$ SD = 1.59	$M = 3.83$ SD = 1.50	$M = 3.53$ $SD = 1.61$	$M = 3.50$ $SD = 1.58$	$M = 3.31$ $SD = 1.47$	$M = 3.55$ $SD = 1.55$	$M = 3.63$ $SD = 1.56$	$M = 4.82$ $SD = 1.49$
Model attractiveness	How attractive do you think this model is (1 Not at all attractive – 7 Extremely attractive)	–		–	–	–	–	$M_{Large} = 5.19$ $SD_{Large} = 1.27$ $M_{thin} = 5.69$ $SD_{thin} = 0.92$ $M_{Relative} = 0.92$ $SD_{Relative} = 0.20$	$M = 3.79$ $SD = 1.35$
Product attractiveness	1. How attractive do you think this [product] is (1 Not at all attractive – 7 Extremely attractive)	–		–	–	–	–	$M_{Large} = 3.45$ $SD_{Large} = 1.46$ $M_{Thin} = 3.99$ $SD_{Thin} = 1.03$ $M_{Relative} = 0.90$ $SD_{Relative} = 0.42$	$M = 3.26$ $SD = 1.59$
Retailer's size inclusivity	To what extent do you feel that this brand is being inclusive of all body types? (1 Not at all inclusive – 7 Very inclusive) To what extent do you feel that this brand cares about representing a variety of body sizes? (1 Does not care at all – 7 Cares a lot) To what extent do you feel that this brand appreciates diversity in body sizes? (1 Does not appreciate it at all – 7 Appreciates it a lot)	–		–	a = .954 $M = 4.38$ $SD = 1.60$	a = .966 $M = 4.22$ $SD = 1.71$	–	–	–
Aspiration	Please indicate to what extent you agree to the following statement about the model wearing the [product] (+ showing the picture): I would like to have this model's body size. (1 Strongly disagree - 7 Strongly agree)	–		–	$M = 3,46$ $SD = 1.94$	–	–	–	–
Positive affect (Jung & Heo, 2020)	The pictures of this model make me feel – Good, Excited, Enthusiastic. (1 Strongly disagree - 7 Strongly agree)	–		a = .918 $M = 3.75$ $SD = 1.46$	–	–	–	–	–
Perceived authenticity (Shoenberger et al., 2020)	The pictures of this model are: Authentic, Realistic, Truthful. (1 Strongly disagree - 7 Strongly agree)	–		a = .950 $M = 5.51$ $SD = 1.24$	–	–	–	–	–
Satisfaction	How satisfied are you with the T-shirt? 1 Not at all satisfied – 7 Extremely satisfied	–		–	–	–	–	–	$M = 4.77$ $SD = 1.70$
Product fit	Please rate the fit of the T-shirt 1. 1 Does not fit at all – 7 Fits perfectly 2. 1 Too small for me – 4 Perfect fit – 7 Too large for me	–		–	–	–	–	–	$M = 5.53$ $SD = 1.48$
Perceived own body image (Stunkard et al., 1983)	Which of these nine images would you say is most similar to your body size?	$M = 4.71$ $SD = 1.52$	$M = 5.04$ $SD = 1.52$	–	–	–	–	–	–
BMI (reported by 89.9% and 89.0% of participants, respectively)		$M = 26.11$ $SD = 6.19$	$M = 26.33$ $SD = 4.85$	–	–	–	–	–	–
Pride	How proud are you of studying at [name of university]?	–		–	–	–	–	–	$M = 5.46$ $SD = 1.01$

Table 6 Sample descriptions for all studies

Descriptives	Measurement items	Study 1A	Study 1B	Study 2	Study 3	Study 4	Study 5	Study 6	Study 7
Sample		Prolific, female, English first language, UK resident, > 95% acceptance rate	Prolific, male, English first language, UK resident, > 95% acceptance rate	Prolific, female, English first language, UK resident, > 95% acceptance rate	Prolific, female, English first language, UK resident, > 95% acceptance rate	Prolific, female, English first language, UK resident, > 95% acceptance rate	Prolific, female, English first language, UK resident, > 95% acceptance rate	Prolific, female, English first language, UK resident, > 95% acceptance rate	Female undergraduate students
Exclusion		Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=3$); Failed the attention check ($n=1$). Did not disclose BMI ($n=25$).	Self-reported gender did not correspond with male prescreening ($n=0$); Answered "other" in clothing size ($n=3$); Failed attention checks ($n=3$). Did not disclose BMI (n=27).	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=10$); Failed the attention check ($n=0$)	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=44$); Failed any of the two preregistered attention checks ($n=2$); Failed training process ($n=8$); Inconsistent preference structure ($n=6$).	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=122$); Failed any of the three preregistered attention checks ($n=20$).	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=122$); Failed the preregistered attention checks ($n=4$). Recall the information on return cost wrong ($n=88$; $n_{control}=13$ and $n_{free\ return}=75$*)	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=10$); Failed any of the three preregistered attention checks ($n=38$).	Self-reported gender did not correspond with female prescreening ($n=0$); Answered "other" in clothing size ($n=1$); Failed any of the two preregistered attention checks ($n=3$); Technical issues ($n=2$).
Final sample size		$N=248$	$N=247$	$N=338$	$N=808$	$N=1536$	$N=709$	$N=402$	$N=191$
Product		Jeans	Jeans	Jeans	Dress	Dress and Shoes	Dress	Tops	T-shirt
Age		$M=40.90$ $SD=13.97$	$M=41.83$, $SD=15.42$	$M=37.15$ $SD=10.30$	$M=34.75$ $SD=11.34$	$M=35.01$ $SD=11.90$	$M=34.98$ $SD=11.78$	$M=38.35$ $SD=12.90$	$M=19.14$ $SD=1.56$
Online shopping frequency	How often do you shop for clothing online? 1 Never – 5 Always	$M=3.23$ $SD=1.09$	$M=2.87$ $SD=1.04$		$M=3.22$ $SD=0.98$	$M=3.27$ $SD=.971$	$M=3.26$ $SD=.950$	$M=3.18$ $SD=1.03$	$M=2.95$ $SD=0.89$
Frequency of product usage	How often do you wear [product]? Very rarely or never/ Less than once a week/ Once a week/ 2–3 times a week/ 4–6 times a week/ Daily, coded 1 to 6				$M=2.86$ $SD=1.35$	Dress: $M=2.66$, $SD=1.30$ Shoes: $M=1.44$, $SD=0.82$	$M=2.57$ $SD=1.3Z$		
	How often do you wear [product]? Never or very rarely / Less than monthly/ monthly/ once a week/ 2–3 times a week/ 4–6 times a week/ Daily, coded 1 to 7	$M=4.75$ $SD=1.63$	$M=4.75$ $SD=1.87$	$M=3.78$ $SD=1.44$					
Manipulation				$n_{Thin}=113$ $n_{Own}=113$ $n_{Larger}=112$	$n_{Thin}=270$ $n_{Own}=269$ $n_{Larger}=269$	Dress: $n_{Thin}=258$, $n_{Own}=256$, $n_{Larger}=254$ Shoe: $n_{Thin}=257$, $n_{Own}=250$, $n_{Larger}=261$	Free return: $n_{Thin}=164$, $n_{Own}=161$ Control: $n_{Thin}=195$, $n_{Own}=189$	$n_{Black\ L}=99$ $n_{Blue\ L}=102$ $n_{Grey\ L}=100$ $n_{White\ L}=101$	$n_{Thin}=65$ $n_{Own}=62$ $n_{Choose}=64$

* We acknowledge that the failure rate is inconsistent across the return conditions. We report the analyses here excluding all participants who failed either one of the attention checks as per our pre-registered exclusion criteria. However, as an additional robustness check we ran the analysis also including those who failed the attention check question regarding the return condition. The results do not change (direction of effects nor significance) when including these participants in the analyses

Fig. 4 Stimuli for "choose the model" condition in Study 7

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Data Availability All data and codes for this paper are openly available in the Research Box: https://researchbox.org/1948, reference number: #1948. All stimuli are available in the supplementary material.

Declarations

Competing interest The authors declare that they have no conflict of interest.

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