

The effects of information on young consumers' attitudes and purchase intentions of fashion products made of fur, leather, and wool

信息对年轻消费者对皮草、皮革和羊毛制成的时尚产品的态度和购买意图的影响

By: Minjung Lee, [Elena Karpova](#) & Fatma Baytar

This is an Accepted Manuscript version of the following article, accepted for publication in *Journal of Global Fashion Marketing*.

Lee, M., & Karpova, E., & Baytar, F. (2019). The effects of information on young consumers' attitudes and purchase intentions of fashion products made of fur, leather, and wool. *Journal of Global Fashion Marketing*, 10(2), 177-193.

It is deposited under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

Abstract:

The purpose of this study was to examine how sidedness of information affects consumer attitudes, subjective norms, and purchase intentions of fashion goods made of fur, leather, and wool. An experimental study using a randomized multi-group design with four levels of treatment was conducted. Participants (N = 1,533) were assigned to read one of four product information texts before completing an online survey. Participants' attitude and subjective norms toward purchasing fashion products made of fur, leather, and wool were significantly different depending on whether they were exposed to: (1) one-sided information against using animal-based materials, (2) one-sided information promoting use of animal-based materials, (3) two-sided information presenting both sides; or (4) information not related to fashion products made of animal-based materials (control group). The findings are useful for marketing professionals, consumers who want to make informed and unbiased purchase decisions, and fashion educators for developing curriculum to prepare ethical and responsible future industry professionals and implementing effective teaching strategies.

本研究的目的是研究产品信息如何影响消费者的态度，主观规范以及由毛皮，皮革和羊毛制成的时尚商品的购买意图。基于推理行为理论和精化可能性模型，研究了两种信息（单面和双面）的影响。为了测试信息如何影响大学生关于购买由动物材料制成的时尚产品的消息后接触态度和主观规范，使用了主题间实验设计。本研究采用了具有四级治疗的随机多组设计。参与者被要求想象他们正在购买时尚产品，并提供有关时尚产品的一页或两页

文本信息。作为一项实验性处理，信息在四个层面进行操纵：(a) 单方面反对使用毛皮，皮革和羊毛制成的时尚产品；(b) 单方面宣传使用毛皮，皮革及羊毛制成的时装产品的片面资料；(c) 双边平衡信息，将支持和反对使用这些产品的单方面信息文本结合起来；(d) 收到关于未提及动物材料的时尚产品信息的控制组。参与者被随机分配到四个实验组中的一个。在审查了其中一项刺激后，要求所有组的参与者完成一项调查。

共有1,291个响应用于数据分析，其中包括带有事后检验和多元回归ANOVA。研究结果显示，一般而言，反对使用动物材料的片面信息会对购买动物性材料制成的时尚产品的消费者态度和主观规范产生负面影响。相比之下，促进使用动物材料制作时尚产品的好处的片面信息对购买由动物材料制成的时尚产品的消费者态度和主观规范产生了积极影响。然而，对于使用动物材料制作时尚产品的积极和消极方面的双面信息，对购买动物材料制成的时尚产品的消费者态度和主观规范没有影响。结果表明，由动物材料制成的时尚产品的片面信息，无论是消极的还是积极的，都会使消费者在所提供信息的方向上形成更有利的态度。

调查结果有两个例外。就羊毛产品而言，片面的积极信息无法有效地进一步提高消费者的态度，因为他们已经对这些产品抱有良好的态度。此外，仅对于羊毛产品，接触双面信息的参与者的态度低于对照组的参与者。这一发现意味着，当消费者对产品（例如羊毛衫或袜子）持有良好态度时，他们对负面信息比对正面信息更敏感。积极的信息可能不会非常有效地进一步增加已经有利的态度。

其次，就皮革产品而言，单方面的负面信息在进一步降低主观规范方面无效。然而，接受单侧积极信息的消费者的主观规范明显高于对照组。当参与者认为来自参照组的压力较低以执行行为时，负面信息可能无法有效地进一步降低主观规范。换句话说，当消费者感到遵守重要参考群体的压力很小时，他们似乎对积极信息比对负面信息更敏感。

研究结果有助于更好地了解信息如何影响消费者对有争议的时尚产品的态度。了解不同类型的信息如何影响消费者有利于时尚行业的专业人士，动物权利倡导者以及时尚教育者和消费者。对于从事动物材料制成的时尚产品的生产和零售的公司而言，建立有效的公共关系战略至关重要。如果消费者有利地观看产品（例如，羊毛衫），则该消息可以集中于主观规范，例如使用重要的参考组。如果消费者不喜欢看产品（例如皮革大衣），那么如果它关注的是态度而非主观规范，那么这种信息会更有效。毛皮，皮革和羊毛材料的环保性是另一个需要进一步研究的主题。

Keywords: fur | leather | wool | purchase intentions | information sidedness | animal-based products | 毛皮 | 皮革 | 羊毛 | 购买意图 | 信息双面性 | 动物性产品

Article:

1. Introduction

Animal-based materials such as hides, furs, and wool have been used from the very beginning of human history not only for protection from harsh climates, but also for adornment. In the 20th and 21st centuries, animal skins continued to be an important raw material for the production of apparel and accessories. The practice of using fur, leather and wool for fashion products, however, has faced antagonistic oppositions from advocates for animal rights (Kandel, 2011; Sneddon, Lee, & Soutar, 2010). Animal rights activists believe that using these materials to fulfill human needs and desires is not acceptable and should be avoided. This argument is based on the assumption that animals have rights, and humans have moral obligations to animals (Singer, 1975). Animal rights advocates fight for reducing cruelty toward animals to eventually eliminate any use of animals for human purposes (Olson & Goodnight, 1994). This movement deterred some fashion businesses selling fashion products made of fur and leather as well as had some influence on public opinion. An example of such curtailment was in West Hollywood, California, where the city council passed an ordinance to ban fur sales. While anti-fur supporters welcomed the city council's decision, pro-fur advocates had criticized it, claiming that it was a violation of freedom of choice for both retailers and consumers (Odell, 2011). Fur is not the only source for such controversy. Animal rights advocates have extended the campaign to include leather, wool, and silk (Sneddon et al., 2010).

Arguments presented by animal rights advocates are one-sided, with dramatic images and catchy slogans to shape public attitudes toward the issue (Kimmel, 2007). For example, The People for the Ethical Treatment of Animals (PETA), the world's largest animal rights organization with more than 2 million members, promoted an anti-wool campaign in the United States (PETA, n. d.). Responding to the arguments of animal rights activists, the forces that support responsible use of animal-based materials for fashion products claim that most animals receive good care during their lives and are killed by painless methods that satisfy ethical standards (Olsen & Goodnight, 1994). The industry and consumer groups emphasize that animal-based materials are sustainable and eco-friendly, thus, it should be an acceptable practice (Culture Feast, n.d.). Both sides of the debate typically present one-sided claims and refute the opponent's arguments. The arguments created in both camps are spread through media such as television, magazines, and Internet, with the hope that consumers would adopt a desired stance. It is unknown what effects these one-sided arguments might have on consumer views of fashion products made of animal-based materials.

It is important to explore whether and how different types of information about animal-based materials might influence young people because this group of consumers grew up during times when the animal right's movement became prominent. Consumers of this age group are likely to be frequent apparel shoppers and significant buyers for some fur products such as UGG boots, for example, and leather products, including shoes and bags (Timberlake, 2012). This consumer group will represent an even stronger buying power upon graduation from college and becoming young professionals. It is important to investigate this market segment's attitudes and intentions toward purchasing fashion products made of animal-based materials, and whether and how these attitudes and intentions might be affected by receiving information about these

products. The purpose of this study was to investigate how different types of information related to fashion products made of animal-based materials might influence college students' attitudes and purchase intentions of these products.

2. Literature review

2.1 Sidedness of information

Sidedness of information relates to how different types of information might affect people's opinions. There are two types of information: (a) One-sided (partial) information, which presents a single perspective on an issue in question; and (b) Two-sided (complete) information, which outlines both proposing and opposing arguments (Allen, 1991). Two-sided information can be refutational, which "mentions counterarguments to the position advocated and then refute them" (Allen, 1991, p. 393), or non-refutational, which presents "counterarguments without offering a refutation" (Allen, 1991, p. 393). According to the Elaboration Likelihood Model (ELM), people's motivation and ability to process information are the main determinants of whether information will result in temporary or lasting attitude changes (Petty & Cacioppo, 1986). ELM also explains that two-sided information might be more effective than one-sided information in persuading recipients when the audience is motivated to process the message and think about the issue in question (Allen, 1991).

Researchers examined how sidedness of information affect people's opinions in politics, advertising, public relations, and public health (Allen, 1991; Bright & Manfreda, 1997; Kamins & Assael, 1987; Kim, Mckinnon, & Kim, 2012; Paek & Gunther, 2007). One-sided information has been mainly studied in marketing, with the ultimate goal of boosting sales. Existing studies compared the effects of one-sided positive information with two-sided refutational or non-refutational information (Kamins, 1989; Kamins & Assael, 1987). It was concluded that two-sided advertisements (ads) were more effective than one-sided ads in reducing counter-arguments and increasing perceived credibility of claims, trustworthiness of the advertisement (Kamins & Assael, 1987), and purchase intentions (Golden & Alpert, 1987).

Refutational two-sided information has been compared to one-sided approach and was found to be more persuasive. For example, in marketing, revealing a product's weakness regarding unimportant feature makes advertising more credible (Kamins, 1989). Unlike refutational and non-refutational information, balanced two-sided information has been studied less. Bright and Manfreda (1997) showed that balanced two-sided information about forest development had no effect on public attitudes. Similarly, Robertson and Carlsen (1999) confirmed that providing balanced two-sided information was not effective in producing a favorable attitude with respect to offshore marine finfish aquaculture development. Unlike refutational and nonrefutational information, balanced two-sided information appears to have no effect on recipients' attitudes. Extant research indicates that ELM propositions, while applicable

to refutational or non-refutational information, not necessarily can explain the effects of balanced two-sided information.

Although many studies focused on one-sided positive information, to date, no research has explored the impact of one-sided negative information. Exploring effectiveness of arguments opposing fashion products made of fur, leather, and wool (one-sided negative message) was one of the main interests in this study. Next, balanced two-sided information has been studied very little. This research investigated effectiveness of balanced two-sided information that had no directional persuasive purpose. Lastly, to date, no research compared how one-sided positive, one-sided negative, and balanced two-sided information might affect recipients' attitudes toward an issue. Moreover, there has been no study investigating the effectiveness of different information types in the context of fashion products. Findings from this study not only add to the body of knowledge regarding information effects on consumers but also have important practical implications for industry, educators, and public in general.

2.2 Effects of information on attitudes and subjective norms

According to the Theory of Reasoned Action (TRA), intention, as a proximate determinant of behavior, can predict human actions quite well (Ajzen & Fishbein, 1980). However, intention provides little information with respect to the reason for a given behavior. To understand human behavior, it is important to explore two determinants of intention: attitude toward the behavior and subjective norm (Ajzen & Fishbein, 1980).

2.2.1. One-Sided information and attitudes

Attitude toward behavior is “a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object” (Fishbein & Ajzen, 1975, p. 6). In general, the more favorable attitude is, the stronger will be an individual's intention to perform a given behavior (Ajzen & Fishbein, 1980). TRA posits that attitude positively influences behavioral intention. Previous research demonstrates that people exposed to one-sided information display more favorable attitudes in the direction of the information presented as compared to the people who receive no prior information on an issue (Gunther, Bolt, Borzekowski, Liebhart, & Dillard, 2006; Paek & Gunther, 2007). Based on the above discussion, Hypotheses 1 and 2 were proposed:

H1: When exposed to one-sided negative information about using animal-based materials, participant attitudes toward purchasing products made of (a) fur, (b) leather, and (c) wool are lower than attitudes of participants who received no information.

H2: When exposed to one-sided positive information about using animal-based, participant attitudes toward purchasing products made of (a) fur, (b) leather, and (c) wool are higher than attitudes of participants who received no information.

2.2.2. One-sided information and subjective norms

Subjective norm is a perceived social pressure to perform or not perform a behavior (Ajzen, 1985). This is a function of one's beliefs whether most referents – individuals or groups – think the person should or should not perform a given behavior. If a person believes that their family members and close friends – important referents in most cases – expect them to perform a certain behavior, then the person perceives social pressure to behave that way (Ajzen, 1985).

No research explored the relationship between sidedness of information and subjective norms. However, scholars believe that information might have an effect on subjective norms. For example, Paek and Gunther (2007) found that media influence smoking behavior indirectly, through social norms, because when a person is exposed to certain information describing the behavior approved by their peers or referents, then the person tends to perceive that such behavior is desirable, or at least acceptable. Therefore, it is expected that when consumers are exposed to information presenting strong arguments for (or against) an issue, they might feel greater pressure to comply and have higher (or lower) subjective norms. Hypotheses 3 and 4 reflect this logic:

H3: When exposed to one-sided negative information about using animal-based materials, participant subjective norms toward purchasing products made of (a) fur, (b) leather, and (c) wool are lower than subjective norms of participants who received no information.

H4: When exposed to one-sided positive information about using animal-based materials, participant subjective norms toward purchasing products made of (a) fur, (b) leather, and (c) wool are higher than subjective norms of participants who received no information.

2.2.3. Two-sided information and attitudes and subjective norms

Scholars in various disciplines demonstrated that balanced two-sided information had no significant effect on consumer opinions and attitudes (Bright & Manfreda, 1997; Robertson, Carlsen, & Bright, 2002). Therefore, it is hypothesized that consumer attitudes and subjective norms with respect to purchasing fashion products made of animal-based materials are affected neither positively nor negatively when they are exposed to balanced two-sided information on the issue:

H5: When exposed to balanced two-sided information about using animal-based materials, participant attitudes toward purchasing products made of (a) fur, (b) leather, and (c) wool are the same as attitudes of participants who received no information.

H6: When exposed to balanced two-sided information about using animal-based materials, participant subjective norms toward purchasing products made of (a) fur, (b) leather, and (c) wool are the same as subjective norms of participants who received no information.

2.3. Effects of attitudes and subjective norms on purchase intentions

TRA proposes that attitudes and subjective norms are the two main determinants of behavioral intentions (Ajzen & Fishbein, 1980). The theory has been corroborated in the context of fashion products (e.g., Belleau, Summers, Xu, & Pinel, 2007; Park & Park, 2007). Based on the theory, the following hypotheses were proposed:

H7: Attitudes toward purchasing fashion products made of (a) fur, (b) leather, and (c) wool are positively related to purchase intentions of these products.

H8: Subjective norms toward purchasing fashion products made of (a) fur, (b) leather, and (c) wool are positively related to purchase intentions of these products.

3. Research method

3.1. Experimental procedure

To test how information affects college student attitudes and subjective norms with respect to purchasing fashion products made of animal-based materials, a between-subject experimental research design was used. A randomized multi-group design with four levels of treatment was employed. Participants were asked to imagine that they were shopping for fashion products and were provided with a one- or two-page information about these products. As an experimental treatment, the information was manipulated at four levels described below. Participants were randomly assigned to one of the four experimental groups. After reviewing one of the stimuli, participants in all groups were asked to complete a survey.

3.2. Stimuli development

Text information was developed to be used as stimulus. The first treatment was one-sided negative information about the use of animal-based materials for fashion products, focusing on cruelty associated with production of fur, leather, and wool. The information was adapted from

the PETA (n. d.) website, which has active campaigns against animal use (“Animals Used for Clothing,” n. d.). Information presented on the website was one-sided and against the use of animals for any human needs. An excerpt from the one-sided negative treatment about leather is as follows: “In the United States, millions of cows and other animals that are killed for their skins endure the horrors of factory farming: extreme overcrowding and deprivation as well as castration, branding, tail-docking, and dehorning – all without the use of any painkillers. At slaughterhouses, animals are routinely skinned and dismembered while they are still conscious. Leather production process involves harmful chemicals and toxins used for tanning and dyeing. With every leather purse or pair of leather shoes that you buy, you may sentence an animal to a lifetime of suffering.”

The second treatment was one-sided positive information highlighting benefits of using animal-based materials for fashion products, focusing on functional, aesthetical, and sustainable characteristics associated with fur, leather, and wool. The text for the stimulus was adapted from several industry websites. Facts about fur were obtained from the Fur Information Council of America (n. d.). Information about leather was collected from All About Leather (n. d.). Facts about wool were adapted from Woolmark (n. d.). The information on these websites was one-sided, promoting benefits of using these materials for consumer products. For example, an excerpt from the positive message about leather was: “Whether in the form of bags, belts, shoes, or clothing, you’ve been using leather your entire life. That’s smart. Leather is a naturally versatile material, warm in winter and cool in summer. Besides its obvious benefits for users, it is important to note that cattle leather is a by-product of the meat industry, so treasured fashion products can be created from leather that would otherwise go to waste.”

The third treatment presented balanced two-sided information. The treatment was created by combining the positive and negative texts containing one-sided information from the treatments one and two. The fourth treatment, which was the control group, had information related to fast fashion, but no animal-based materials (i.e., fur, leather, and wool) were mentioned. The text for the stimulus was adapted from Kurlyandchik (2013). An excerpt from the message is as follows: “Bill Gates, Carlos Slim, Warren Buffett, Larry Ellison. These are some names one tends to associate with the richest people on the planet. How about Amancio Ortega? That sounds like a name more likely associated with a cheap brand of canned chili. But you may be surprised to learn that Amancio Ortega the most powerful and successful fashion mogul of all time, he’s also the third richest person on the planet.” All of the four stimuli were reviewed carefully by a group of six experts to ensure that the information was representing each experimental treatment well.

3.3. Instrument development

To develop the survey, established scales were adapted to measure attitudes, subjective norms, and purchase intentions toward animal-based products. Four items using a seven-point semantic differential scale were used to measure participant attitudes toward purchasing apparel and

accessories made of fur, leather, and wool. The items were modified to reflect purchasing fashion goods made of animal-based materials. The anchors of the questions were: (a) bad – good; (b) immoral – moral; (c) foolish – wise; and (d) disappointing – rewarding. The scale’s reported reliability was .92 (Ma, 2007).

A seven-point Likert-type scale was borrowed from Fitzmaurice (2005) and modified to measure participant subjective norms with respect to purchasing apparel and accessories products made of fur, leather, and wool. The scale consisted of three items: “My family members think it is a good idea for me to buy fur fashion products”, “My close friends think it is a good idea for me to buy fur fashion products”, and “Important people in my life want me to buy fur fashion products.” “Fur” was replaced by “leather” in the second and by “wool” in the third section of the survey. A reported reliability of the scale was .82 (Fitzmaurice, 2005).

Participant purchase intentions for fashion products made of fur, leather, and wool were measured with a seven-point Likert-type scale from Madden, Ellen, and Ajzen (1992). The three items included: “I intend to buy fur fashion products in the future”, “I will try to buy fur fashion products in the future”, and “I will make an effort to buy fur fashion products in the future.” “Fur” was replaced by “leather” in the second and by “wool” in the third section of the survey. The scale’s reliability was 0.97 (Kim & Karpova, 2010). Respondents’ demographic characteristics, such as age, gender, and ethnicity were collected. Two items were used for the manipulation check. One item assessed the sidedness of provided information and the other one asked whether given information was representing animal rights perspective, or fashion industry perspective.

3.4. Sample

A population of 31,001 undergraduate and graduate students enrolled at a large Midwestern university was invited to participate in an online experiment that included reading one-two-page information and completing the survey. A total of 1,533 responses were returned for a response rate of 4.9%, which is typical for an online-based survey (Nulty, 2008). Following Acuna and Rodriguez (2004), 242 responses with more than 15% of missing data were removed from the data set. The final sample size of 1,291 participants was used for data analysis. Participant mean age was 21.9 years old. The majority of the participants were Caucasian (79.9%) and female (73.5%). Randomly assigned, 334 participants were provided one-sided information against using animal-based materials for fashion products (Group A); 331 participants received one-sided information promoting benefits of animal-based materials use for fashion products (Group B); 288 participants received balanced two-sided information about animal-based materials use for fashion products (Group C); 338 participants were in the control group that received general fashion information, not related to animal-based materials (Group D).

4. Results

4.1. Preliminary analyses

To determine underlying dimensions of multi-item measurement scales, exploratory factor analysis with Varimax rotation was conducted. Factors with eigenvalue over 1.0 were extracted for each scale. Table 1 shows means, standard deviations, and loading for each item on the respective scale. Cronbach's alphas are presented for each scale and the type of material.

Table 1. Descriptive statistics and factor analysis results.

Factor and items	Mean (SD)	Item loading	Mean (SD)	Item loading	Mean (SD)	Item loading
Attitudes toward purchasing fashion products made of	Fur ($\alpha = .94$)		Leather ($\alpha = .94$)		Wool ($\alpha = .94$)	
Bad (1) - Good (7)	3.42 (1.76)	.93	4.87 (1.62)	.93	5.52 (1.52)	.93
Immoral (1) - Moral (7)	3.43 (1.68)	.90	4.52 (1.56)	.90	5.22 (1.55)	.90
Foolish (1) - Wise (7)	3.39 (1.67)	.92	4.79 (1.54)	.94	5.37 (1.49)	.94
Disappointing (1) - Rewarding (7)	3.48 (1.79)	.92	4.84 (1.58)	.91	5.25 (1.52)	.91
Subjective norms with respect to purchasing fashion products made of	Fur ($\alpha = .92$)		Leather ($\alpha = .93$)		Wool ($\alpha = .93$)	
My family members think it is a good idea for me to buy such fashion products	3.27 (1.56)	.93	4.60 (1.48)	.93	5.09 (1.33)	.93
My close friends think it is a good idea for me to buy such fashion products	3.13 (1.52)	.93	4.53 (1.42)	.94	4.92 (1.29)	.95
Important people in my life want me to	2.82 (1.52)	.92	4.21 (1.53)	.93	4.71 (1.40)	.93

buy such fashion products						
Purchase intentions for fashion products made of	Fur ($\alpha = .97$)		Leather ($\alpha = .96$)		Wool ($\alpha = .96$)	
I intend to buy such fashion products in the future	2.77 (1.75)	.97	4.88 (1.67)	.95	5.24 (1.44)	.95
I will try to buy such fashion products in the future	2.64 (1.69)	.98	4.52 (1.72)	.98	4.95 (1.54)	.98
I will make an effort to buy such fashion products in the future	2.47 (1.62)	.97	4.25 (1.77)	.96	4.76 (1.61)	.96

Levene's test of homogeneity of variance was conducted for all research variables. The results of the tests revealed that attitudes toward purchasing fur ($F(1,287) = 0.47, p = 0.70$) and leather fashion products ($F(1,287) = 0.49, p = 0.69$) had equal variances in all four groups. Subjective norms with respect to purchasing fur ($F(1,286) = 1.59, p = 0.19$) and leather fashion products ($F(1,286) = 1.59, p = 0.19$) also had equal variances in all four groups. Therefore, multiple group comparison for these four variables with equal variances was conducted using Bonferroni post-hoc test (Shaffer, 1995). Attitudes ($F(1,286) = 7.96, p < 0.001$) and subjective norms ($F(1,286) = 3.15, p = 0.02$) toward purchasing wool fashion products did not have equal variances in all four groups. As a result, multiple group comparison for these two variables with unequal variances was conducted using Tamhane post-hoc test (De Muth, 2006) (Table 2).

4.2. Manipulation check

Two questions for manipulation check were included in the survey. The first question asked if the information presented before the survey was one-sided or two-sided. Descriptive statistics showed that 70.2% of the participants exposed to one-sided information correctly identified it as such, and 66.8% of the participants exposed to two-sided information correctly identified it as two-sided. Second question asked if the information presented before the survey was representing animal rights perspective or fashion industry perspective. Descriptive statistics showed that 84.5% of the participants exposed to one-sided information against the use of animal-based materials identified it correctly, and 70.8% of the participants exposed to one-sided

information promoting the use of animal-based materials identified it as the fashion industry perspective.

Table 2. Attitudes and subject norms toward purchasing fur, leather, and wool fashion products

Variable	Group	Mean (SD)	F	p
Attitudes toward purchasing <i>fur</i> apparel and accessories*	Group A (n = 334)	3.00 ^c (1.52)	19.82	<0.001
	Group B (n = 331)	3.91 ^a (1.54)		
	Group C (n = 288)	3.35 ^b (1.58)		
	Group D (n = 338)	3.34 ^b (1.53)		
Attitudes toward purchasing <i>leather</i> apparel and accessories*	Group A (n = 334)	4.19 ^c (1.54)	30.91	<0.001
	Group B (n = 331)	5.25 ^a (1.28)		
	Group C (n = 288)	4.79 ^b (1.38)		
	Group D (n = 338)	4.77 ^b (1.46)		
Attitudes toward purchasing <i>wool</i> apparel and accessories**	Group A (n = 334)	4.59 ^c (1.54)	55.64	<0.001
	Group B (n = 331)	5.83 ^a (1.13)		
	Group C (n = 288)	5.33 ^b (1.34)		
	Group D (n = 338)	5.60 ^a (1.23)		
Subjective norms toward purchasing <i>fur</i> products*	Group A (n = 334)	2.91 ^b (1.48)	5.76	<0.001
	Group B (n = 331)	3.31 ^a (1.37)		
	Group C (n = 288)	3.14 ^{ab} (1.44)		
	Group D (n = 338)	2.94 ^b (1.35)		
Subjective norms toward purchasing <i>leather</i> products*	Group A (n = 334)	4.12 ^c (1.51)	11.57	<0.001
	Group B (n = 331)	4.69 ^a (1.29)		

	Group C (n = 288)	4.60 ^{ab} (1.27)		
	Group D (n = 338)	4.41 ^b (1.32)		
Subjective norms toward purchasing <i>wool</i> products	Group A (n = 334)	4.57 ^c (1.40)	14.17	<0.001
	Group B (n = 331)	5.13 ^a (1.19)		
	Group C (n = 288)	5.08 ^{ab} (1.16)		
	Group D (n = 338)	4.89 ^b (1.16)		

Group A – one-sided information against using animal-based materials;

Group B – one-sided information promoting benefits of using animal-based materials;

Group C – two-sided information about using animal-based materials;

Group D – information not related to animal-based materials.

Different superscripts indicate significantly different mean values. Two superscripts together (ab) indicate that means are not significantly different.

* Bonferroni post hoc test, $p < 0.05$.

** Tamhane post hoc test, $p < 0.05$.

4.3. Hypotheses testing

4.3.1. One-sided information and attitudes

To test the hypotheses, one-way analysis of variance (ANOVA) was conducted. Multiple group comparison for the group with equal variances was conducted using Bonferroni post-hoc test (Shaffer, 1995). Multiple group comparison for groups with unequal variances was conducted using Tamhane post-hoc test (De Muth, 2006). Hypotheses H1 and H2 proposed that in comparison to consumers who received no information (control group), consumer attitudes are lower (higher) when they are exposed to one-sided information against (promoting) the use of animal-based materials for fashion products. ANOVA revealed that participant attitudes toward purchasing fashion products differed significantly for fur ($F(3, 1287) = 19.82, p < 0.001$), leather ($F(3, 1287) = 30.91, p < 0.001$), and wool ($F(3, 1286) = 55.64, p < 0.001$) (Table 2).

Post-hoc tests showed that when exposed to one-sided information against using animal-based materials for fashion products (Group A) attitudes toward purchasing fashion products made of fur ($M = 3.00, SD = 1.52$), leather ($M = 4.19, SD = 1.54$), and wool ($M = 4.59, SD = 1.54$) were significantly lower than in the other three groups, including control Group D (Table 2). Hypotheses H1a, H1b, and H1c were supported. When exposed to one-sided information promoting the use of animal-based materials for fashion products (Group B) participant attitudes toward purchasing fur ($M = 3.91, SD = 1.54$) and leather products ($M = 5.25, SD = 1.28$) were significantly higher than in the other three groups, including control

Group D (Table 2). Hypotheses H2a and H2b were supported. However, exposure to one-sided information promoting the use of animal-based materials (Group B) did not have an effect on participant attitudes toward purchasing wool fashion products ($M = 5.83$, $SD = 1.13$): participant attitudes did not differ from the attitudes in the control Group D ($M = 5.60$, $SD = 1.23$) (Table 2). Hypothesis H2c was not supported.

4.3.2. One-sided information and subjective norms

Hypotheses H3 and H4 proposed that in comparison to consumers who received no information (control Group D), consumer subjective norms are lower (higher) when they are exposed to one-sided information against (promoting) the use of animal-based materials for fashion products. ANOVA revealed that subjective norms toward purchasing fashion products differed significantly for fur ($F(3, 1286) = 5.76$, $p < 0.01$), leather ($F(3, 1287) = 11.57$, $p < 0.001$), and wool ($F(3, 1286) = 14.17$, $p < 0.001$) (Table 2). Post-hoc tests indicate that when exposed to one-sided information against using animal-based materials (Group A) participant subjective norms were significantly lower for leather ($M = 4.12$, $SD = 1.51$) and wool products ($M = 4.57$, $SD = 1.40$) than in the other three groups, including control Group D, $p < 0.05$ (Table 2). Hypotheses 3b and 3c were supported.

Subjective norms toward purchasing fur products in Group A (against the use of animal-based materials) ($M = 2.91$, $SD = 1.48$) did not significantly differ from participant subjective norms in the control Group D ($M = 2.94$, $SD = 1.35$). Hypothesis H3a was rejected. When exposed to one-sided information promoting the use of animal-based materials (Group B) participant subjective norms were significantly higher for fur ($M = 3.31$, $SD = 1.37$), leather ($M = 4.69$, $SD = 1.29$), and wool ($M = 5.13$, $SD = 1.19$) products than in the control Group D ($M = 2.94$, $SD = 1.35$; $M = 4.41$, $SD = 1.32$; and $M = 4.89$, $SD = 1.16$, respectively, $p < 0.05$ (Table 2). Hypotheses H4a, H4b, and H4c were supported.

4.3.3. Two-sided information

Hypotheses H5 and H6 proposed that when exposed to the balanced two-sided information, participant attitudes and subjective norms were the same as attitudes and subjective norms of participants who received no information (control Group D). Post-hoc tests indicate that when exposed to the balanced two-sided information (Group C), participant attitudes toward purchasing fur ($M = 3.35$, $SD = 1.58$) and leather products ($M = 4.79$, $SD = 1.38$) were the same as attitudes in the control Group D ($M = 3.34$, $SD = 1.53$ and $M = 4.77$, $SD = 1.46$, respectively (Table 2). Hypotheses H5a and H5b were supported. However, Group C participant attitudes toward purchasing wool products ($M = 5.33$, $SD = 1.34$) were significantly lower than attitudes of the control Group D ($M = 5.60$, $SD = 1.23$) (Table 2). Hypothesis H5c was rejected. When exposed to the balanced two-sided information about using animal-based materials for fashion products, participant subjective norms toward purchasing fur ($M = 3.14$, $SD = 1.44$), leather (M

= 4.60, SD = 1.27), and wool (M = 5.08, SD = 1.16) products (Group C) were the same as subjective norms in the control Group D (M = 2.94, SD = 1.35; M = 4.41, SD = 1.32; and M = 4.89, SD = 1.16, respectively (Table 2). Hypotheses H6a, H6b, and H6c were supported.

4.3.4. Purchase intentions

Multiple regression analysis showed that attitudes toward purchasing fur ($\beta = .451, p < .001$), leather ($\beta = 0.445, p < 0.001$), and wool ($\beta = 0.419, p < 0.001$) products were positively related to purchase intentions of these products (Table 3). Hypotheses H7a, H7b, and H7c were supported. Subjective norms toward purchasing fur ($\beta = .0409, p < 0.001$), leather ($\beta = 0.462, p < 0.001$), and wool ($\beta = 0.466, p < 0.001$) products were positively related to purchase intentions. Hypotheses H8a, H8b, and H8c were supported. Together, attitudes and subjective norms explained 64% of the variance in purchase intentions of fur products ($R^2 = 0.638$); 70% of the variance in purchase intentions of leather products ($R^2 = 0.703$); and 66% of the variance in purchase intentions of wool products ($R^2 = 0.655$).

Table 3. Multiple regression results predicting purchase intentions.

Material/Variable	Unstandardized Coefficient		Standardized Coefficient
	B	SE	β
<i>Fur</i>			
Attitudes	0.470	0.025	0.451***
Subjective norms	0.472	0.028	0.409***
$R^2 = 0.638$			
<i>Leather</i>			
Attitudes	0.502	0.024	0.445***
Subjective norms	0.557	0.026	0.462***
$R^2 = 0.703$			
<i>Wool</i>			
Attitudes	0.439	0.023	0.419***
Subjective norms	0.547	0.026	0.466***
$R^2 = 0.655$			

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

5. Discussion and implications

Employing an experimental research design, the authors examined how different types of information influenced college students' attitudes and subjective norms toward purchasing fashion products made of fur, leather, and wool. For the first time, effects of three types of information (one-sided negative, one-sided positive, and balanced two-sided information) on recipients' attitudes were examined in one study and compared to a control group. The present study was the first research to explore effectiveness of information sidedness on subjective norms.

With one exception, one-sided negative information lowered participant attitudes and subjective norms toward purchasing fashion products made of all three materials. This result has empirically demonstrated that sales of fashion leather, fur, and wool products can be negatively impacted by campaigns of animal rights advocates. Next, one-sided positive information increased participant attitudes and subjective norms toward purchasing fashion products made of animal-based materials, also with one exception. Consistent with the extant research (Gunther et al., 2006; Paek & Gunther, 2007), one-sided information, whether negative or positive, caused consumers to develop more favorable attitudes toward fashion products made of animal-based materials.

Participants exposed to one-sided positive information had the same attitudes toward purchasing wool products, as participants in the control group. However, the one-sided positive message was significantly more effective than the balanced two-sided message. In fact, for wool products only, participants exposed to the two-sided information had lower attitudes than participants in the control group. The finding implies that when consumers have favorable attitudes toward a product (e.g., wool sweaters or socks), they are more sensitive to negative information than positive information. Positive information might not be very effective to further increase an already favorable attitude.

Participants exposed to the one-sided negative message had the same subjective norms as participants in the control group and participants in the two-sided message group. However, participants exposed to the one-sided positive message had significantly higher subjective norms, than the ones observed in the control group. When participants perceived low pressure from their reference groups to perform a behavior, negative information might not be effective in further lowering subjective norms. In other words, when consumers feel low pressure to comply with important reference groups, they appear to be more sensitive to positive information than negative information.

Participants exposed to two-sided information had the same fur and leather attitudes as participants in the control group. For fur and leather, both one-sided positive and negative messages were significantly more effective than the balanced two-sided messages, in the respective intended direction. As discussed above, participants exposed to two-sided information had lower attitudes toward purchasing wool products than the participants in the control group. When participants have favorable attitudes, they appear to be more sensitive to negative aspects

of balanced two-sided information, which resulted in lower attitudes for the two-sided message group in comparison with the control group. These results support previous research that balanced two-sided information might have negative effect on the audience (Robertson et al., 2002).

Similarly, for all three materials, participants exposed to the balanced two-sided information had the same subjective norms as the participants in the control group. For leather and wool, negative one-sided messages were more effective than two-sided messages. One-sided positive information produced the same subjective norms as two-sided information for all three materials. This is important because the same one-sided positive information produced attitudes that were different from the attitudes in the two-sided message group. In other words, the same positive information was effective in increasing participant attitudes but was not effective in changing subjective norms. The results indicate that subjective norms might be more robust and harder to change through providing textual information about an issue than changing attitudes toward the issue with the same information.

The research results have important marketing implications. For companies involved in production and retail of fashion products made of animal-based materials, it is critical to establish an effective public-relations strategy. As a page-long positive information helped increase attitudes in this study, it is essential to enunciate functional and aesthetical benefits of fur, leather, and wool products. Two-sided messages would not be effective in changing consumer attitudes and subjective norms about these products. Both attitudes and subjective norms were strong predictors of purchase intention of fashion products made of animal-based materials and explained between 64–70% of its variance for the three different materials.

The results indicate that when participants favorably viewed a product (e.g., made of wool), subjective norms were further increased by the one-sided positive message, whereas attitudes did not change. Further, subjective norms toward wool products contributed more to explaining purchase intentions than attitudes toward wool products. In contrast, when participants were less favorable to a product (e.g., made of fur), attitudes were further lowered by the one-sided negative message, whereas subjective norms did not change. In addition, attitudes toward fur products contributed more to explaining purchase intentions than subjective norms toward fur products. This information is useful for fashion companies when developing advertising and promotional materials. When consumers view a product favorably, the message should focus on subjective norms, such as using important reference groups. When consumers do not view a product favorably, the message will be more effective if it focuses on attitudes but not subjective norms.

Educators of future textile and apparel industry professionals should be very careful in presenting the facts related to the issue of using animal-based materials for fashion products, and always provide perspectives of the both sides of the controversy. One-sided information against the use of animal-based products might hinder the fur/leather/wool industry, which provides livelihoods for many workers around the world. It is important to note that often leather and wool are by-products of the meat industry and would be wasted if not used for producing apparel

and accessories. Two-sided messages about fur, leather, and wool products do not appear to have any effect on changing recipients' attitudes and subjective norms.

6. Limitations and future research

The results of this study may not be generalized to all consumer groups since the research participants were college students. Student limited income might have influenced the results related to attitudes and subjective norms toward purchasing products made of fur, leather, and wool. The majority of participants were young, Caucasian women. Using more diverse samples in future research could expand the findings of this study. The stimuli in this study employed only text-based information, which might differ from information that consumers encounter in real life. Using visual materials such as pictures, graphics, and even video clips, can increase the power of the information. Future research may examine the impact of different modes of presenting information on consumer attitudes, subjective norms, and intentions to purchase fashion products made of animal-based materials. Further, measuring longitudinal effect of information on consumer attitudes and subjective norms should be considered.

The animal rights issue is not the only topic generating controversy around fashion products. For example, counterfeiting is a serious problem for fashion business. According to Kim and Karpova (2010), consumers purchased fashion counterfeit products because of attractive appearance and design features. In that case, information about negative aspects of counterfeiting might help consumers practice ethical consumption behavior. This topic as well as sustainability of fashion products are important to explore in relation to information effectiveness in persuading consumers to buy or avoid certain products.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Fatma Baytar <http://orcid.org/0000-0001-6666-2902>

References

Acuna, E., & Rodriguez, C. (2004). The treatment of missing values and its effect in the classifier accuracy. In D. Banks, L. House, F. R. McMorris, P. Arabie, & W. Gaul (Eds.), *Classification, clustering and data mining applications* (pp. 1–9). New York, NY: Springer-Verlag Berlin-Heidelberg.

- Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. New York, NY: Springer-Heidelberg.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting behavior*. Upper Saddle River, NJ: Prentice Hall.
- Allen, M. (1991). Meta-analysis comparing the persuasiveness of one-sided and two-sided messages. *Western Journal of Speech Communication*, 55, 390–404.
- Belleau, B. D., Summers, T. A., Xu, Y., & Pinel, R. (2007). Theory of reasoned action: Purchasing intention of young consumers. *Clothing and Textiles Research Journal*, 25(3), 244–257.
- Bright, A., & Manfredi, M. J. (1997). The influence of balanced information on attitudes toward natural resource issues. *Society & Natural Resources*, 10, 469–483.
- Culture Feast. (n.d.). Fur fashion dilemmas: Sustainable product or animal cruelty? Retrieved from <http://www.culturefeast.com/fur-fashion-dilemmas-sustainable-product-or-animal-cruelty/>
- De Muth, J. E. (2006). *Basic Statistics and pharmaceutical statistical applications* (2nd ed.). Boca Raton, FL: CRC.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Reading, MA: AddisonWesley Publishing Company.
- Fizmaurice, J. (2005). Incorporating consumers' motivation into the theory of reasoned action. *Psychology & Marketing*, 22(11), 911–929.
- Golden, L. L., & Alpert, M. I. (1987). Comparative analysis of the relative effectiveness of one-and two-sided communication for contrasting products. *Journal of Advertising*, 16, 18–25.
- Gunther, A. C., Bolt, D., Borzekowski, D. L. G., Liebhart, J. L., & Dillard, J. P. (2006). Presumed influence on peer norms: How mass media indirectly affect adolescent smoking. *Journal of Communication*, 56, 52–68.
- Kamins, M. A. (1989). Celebrity and not-celebrity advertising in a two-sided context. *Journal of Advertising Research*, 29(3), 34–42.
- Kamins, M. A., & Assael, H. (1987). Moderating disconfirmation of expectations through the use of two-sided appeals: A longitudinal approach. *Journal of Economic Psychology*, 8, 237–253.
- Kandel, J. (2011, November 9). West Hollywood endorses first fur ban in United States. Retrieved from <http://www.reuters.com/article/2011/11/10/us-fur-ban-california-idUSTRE7A909T20111110>
- Kim, H., & Karpova, E. (2010). Consumer attitudes toward fashion counterfeits: Application of the theory of planned behavior. *Clothing and Textiles Research Journal*, 28(2), 79–94.
- Kim, K. E., Mckinnon, L. M., & Kim, C., (2012) Party identification, message sidedness and the effectiveness of negative political advertising Paper presented at the annual meeting of

- the International Communication Association, Sheraton Phoenix Downtown, Phoenix, AZ Online. Retrieved from http://www.allacademic.com/meta/p556072_index.html
- Kimmel, A. J. (2007). *Ethical issues in behavioral research: Basic and applied perspective* (2nd ed.). Malden, MA: Wiley-Blackwell.
- Kurlyandchik, M. (2013). Amancio Ortega: The \$57 Billion dollar man you've never heard of. Retrieved from <http://www.celebritynetworth.com/articles/entertainment-articles/amancioortega-the-57-billion-dollar-man-youve-never-heard-of/>
- Ma, Y. (2007). *Young consumers' fair trade consumption: Application of the theory of planned behavior to non-food fair trade purchases* (Doctoral dissertation). Retrieved from Dissertations and Theses database. (UMI No. 3274860).
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18(1), 3–9.
- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301–314.
- Odell, A. (2011, November 23). West Hollywood banned fur sales. Retrieved from <http://nymag.com/daily/fashion/2011/11/west-hollywood-banned-fur-sales.html>
- Olson, K. M., & Goodnight, T. (1994). Entanglements of consumption, cruelty, privacy, and fashion: The social controversy over fur. *The Quarterly Journal of Speech*, 80, 249–276.
- Paek, H.-J., & Gunther, A. C. (2007). How peer proximity moderates indirectly influence on adolescent smoking. *Communication Research*, 34(4), 407–432.
- Park, J., & Park, J. (2007). Multichannel retailing potential for university-licensed apparel: Effects of university identification. *Clothing and Textiles Research Journal*, 25(1), 58–73.
- Petty, R. E., & Cacioppo, J. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York, NY: Springer-Verlag.
- Robertson, R. A., & Carlsen, E. L. (1999). Effect of balanced information on attitudes toward open ocean aquaculture development in New England. New Hampshire University. Retrieved from http://nrs.fs.fed.us/pubs/gtr/gtr_ne276/gtr_ne276_107.pdf.
- Robertson, R. A., Carlsen, E. L., & Bright, A. (2002). Effect of information on attitudes towards offshore marine finfish aquaculture development in northern New England. *Aquaculture Economics & Management*, 6(1–2), 117–126.
- Shaffer, J. P. (1995). Multiple hypothesis testing. *Annual Review of Psychology*, 46, 561–584.
- Singer, P. (1975). *Animal liberation*. New York: Harper Collins.
- Sneddon, J., Lee, J. A., & Soutar, G. N. (2010). An exploration of ethical consumers' response to 'animal friendly' apparel labeling. *Journal of Research for Consumers*, 18, 1–10.
- Timberlake, C. (2012). UGG boots: As demand stalls, deckers seeks an act two. *Bloomberg Businessweek*. Retrieved from <http://www.businessweek.com/articles/2012-12-13/ugg-boots-asdemand-stalls-deckers-seeks-an-act-two>