

Consumer Attitudes toward Counterfeit Fashion Products: Does Gender Matter?

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ABSTRACT

Counterfeit fashion products pose a serious threat to the manufacturers and retailers of authentic designer products and to the world economy. While research suggests that gender is related to purchase intention for counterfeit products, the relationship between gender and the antecedents to purchase intention (attitudes regarding ethicality, social cost, and anti-big business) has not been explored. The current research uses hierarchical structural equation modeling (SEM) to examine gender as a moderator of attitudes toward counterfeit fashion products among a sample of U.S. consumers (N = 305). Findings suggest that while gender does not moderate the social cost and anti-big business components of consumer attitudes toward counterfeit fashion products, gender does affect beliefs about the ethicality of counterfeiting.

Keywords: Counterfeit products, fashion, gender

INTRODUCTION

Counterfeit goods are defined as identical copies of authentic products (Lai and Zaichowsky, 1999) and account for at least five percent of the world's trade (IACC, 2007). An item that bears a brand name or logo without the permission of the registered owner is counterfeit, or "fake." Counterfeit products have been found among virtually every type of consumer goods, including electronics, airplane and auto parts, pharmaceuticals, and even food products—sometimes with injurious consequences (Phillips, 2005; U.S. Trade Representative, 2007). Thus, counterfeiters

are thwarting economic development and endangering public health and safety (Zarocostas, 2007).

In most countries including the U.S., the trafficking and sale of counterfeit merchandise is unlawful. Second only to CDs and software, luxury fashion merchandise is the counterfeit product category most widely purchased by U.S. consumers (Jacobs *et al.*, 2001; Zarocostas, 2007). Unlike counterfeits, the production and sale of "knockoffs" or "imitations," which may look identical to designer originals but do not bear the brand name or

logo of another owner, does not violate U.S. law.

Deceptive counterfeit transactions occur when the consumer is unaware that the merchandise purchased carries a brand name or logo without the permission of the brand owner (Grossman and Shapiro, 1988). However, in many cases, counterfeit merchandise is purchased knowingly by the consumer—a trend known as non-deceptive counterfeiting (Wilcox *et al.*, 2009). In non-deceptive counterfeiting, the consumer recognizes that the goods are not authentic through information cues such as price, purchase location, and materials used (Chakraborty *et al.*, 1997; Gentry *et al.*, 2001). Aberrant consumer behavior, which ranges from theft and vandalism to fraud against retailers and brand owners, has long been recognized as widespread among consumers (Fulletron and Punj, 1993; Johnson 1987).

Over the past several years, researchers have begun to address the demand side of the counterfeit product market. However, much of the extant research remains limited to the context of consumer electronics (e.g., CDs, software) and to student samples from Asian countries. Concurrently, the effect of gender on the intention to purchase counterfeits has been examined, with most studies reporting that males are more likely to purchase counterfeit products (Bian and Veloutsou, 2007; Moores and Chang, 2006; Kwong *et al.*, 2003; Tan, 2002; Ang *et al.*, 2001). This is consistent with earlier research showing that while both sexes participate in aberrant consumer behaviors, the types of behavior tend to vary by gender (e.g., males are more likely to vandalize retailers than females) (Levy-Leboyer, 1984). To date, the effect of gender on specific antecedents to purchase intention has not been examined, leaving us with questions as to why males may be more likely to purchase counterfeits. Responding to numerous calls for further research into consumer demand for counterfeit goods (Bloch, et al. 1993; Wee, et al., 1995; Penz

and Stottinger, 2003), the current study attempts to address this gap in the literature by posing the following research question to guide the inquiry:

RQ: Do males and females differ in terms of ethicality, social cost, and anti-big business attitude toward counterfeit fashion products?

This research will contribute to the growing body of literature regarding the market for counterfeit fashion products and provide insight for fashion brand owners concerned about insulating their brand identity and market share against counterfeits.

REVIEW OF THE LITERATURE

Gender and Intention to Purchase Counterfeit Products

The intentional purchase of counterfeit products is widely considered a type of consumer misbehavior, which deviates from generally accepted norms (e.g., Dodge, Edwards, and Fullerton, 1996). Research shows that generally, men are more likely to participate in unlawful activities than women (e.g., Blickle, Schlegel, Fassbender, and Klein, 2006; Haynie & Armstrong, 2006). Thus, researchers have begun to explore the relationship between gender and intention to purchase counterfeit goods across various product categories. Ang *et al.* (2001) examined intention to purchase counterfeit CDs among a Singaporean sample, reporting that males exhibited a more favorable view towards piracy, and the more favorable the view, the more likely the subject was to purchase pirated CDs. Similarly, Tan (2002) examined intention to purchase pirated software among Chinese consumers, citing gender as a moderator of attitudes and purchase intention. However, the specific effect of gender on attitudes toward counterfeit products was not addressed.

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Culture filters consumer perceptions about both gender roles and appropriate consumption behaviors (Belk, Devinny, and Eckhardt, (2005). This may, in part, explain why recent studies are incongruent regarding the effect of one's gender on intention to purchase unlawful fake products. A study by Kwong *et al.* (2003) examined ethics, social cost, and anti-big business attitude in the context of pirated CDs among a sample of Chinese consumers, reporting that young males are more likely to purchase counterfeits. While the effect of gender on purchase intention was addressed, specific relationships between gender and the antecedents to purchase were not. Moores and Chang (2006) examined ethical decision making in the context of pirated software among a sample of Chinese consumers, reporting no gender-related difference in views of piracy. However, results suggested that females may be more likely to engage in software sharing (piracy). Among a sample of Slovenians, men were found to have significantly more positive attitudes toward counterfeit t-shirts and software than women, but with regard to a fake luxury watch, attitudes were similar between the genders (Vida, 2007).

When looking at the gender variable, researchers have found differences in purchase intention based on nationality (Chapa, Minor and Maldonado 2006; Amine and Shin, 2002). A 2005 survey revealed a surprising tolerance for counterfeit goods in the U.K. (Great Britain and Northern Ireland), finding that one-third of respondents admitted that they had purchased a counterfeit product at some point (Bryce and Rutter, 2005). The same researchers found later that among a similar sample of U.K. respondents, males were more likely than females to purchase counterfeit computer games, but not more likely to purchase fake fashion items (Rutter and Bryce, 2008). Bian and Veloutsou (2007) conducted a cross-cultural study of consumer attitudes toward counterfeits in the U.K. and China, using sunglasses as the focal product category. The findings

suggest that while Chinese consumers displayed less favorable views of counterfeits as compared to their U.K. counterparts, gender did not affect intention to purchase among Chinese respondents. In contrast, gender served to moderate purchase intention in the U.K. sample, with males being more likely to purchase counterfeit sunglasses. Yet, a recent study of consumers in Glasgow revealed that gender had no effect on consumers' intention to purchase counterfeit Gucci and Rolex watches (Bian and Moutinho, 2009).

In a 2009 study of New Zealanders, women tended to have a lower tolerance for what the researchers described as "black market" goods, which included counterfeit fashion products as well as various types of stolen goods (Casola, Simon, and Mackenzie, 2009). That study also found that females generally needed a greater financial incentive than males to engage in black market transactions.

Ethics and Counterfeit Products

Consumer ethics includes the moral rules, principles, and standards directing behavior regarding selection, purchase, and sale of goods or services (Muncy and Vitell, 1992). Consumers who value honesty, politeness, and responsibility are more likely to hold negative attitudes toward counterfeit luxury products (de Matos, et al., 2007; Phau and Dix, 2009). Ang *et al.* (2001) found that conversely, the less honest the subject was, the more likely to tolerate counterfeit goods. Interestingly, U.S. consumers may hold divergent ethical views of counterfeits based on the product category. For example, many consumers believe that buying fake pharmaceuticals is unethical, but consider viewing bootlegged movies as acceptable behavior (Chaudhry and Stumpf, 2009).

Most consumers hold protected values – those which they claim are absolute, and cannot be traded off, such as a prohibition against stealing (Baron 1999).

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However, research suggests that numerous consumers are willing to exchange those protected values for a discounted price on goods (Baron 1999), including counterfeit products (Casola, Simon, and Mackenzie, 2009). While some research indicates that consumers who are more lawfully-minded tend to hold less favorable views of counterfeiting and are less likely to purchase fakes (Cordell, et al., 1996), others have found that respect for the law is not a reliable predictor of counterfeit purchase intentions (Cordell, Wongtada, and Kieschnick, 1996; Casola, Simon, and Mackenzie, 2009). Similarly, mere attitudes toward the lawfulness of counterfeit luxury brands and the legality of purchasing them are not valid predictors of purchase intention (Phau and Dix, 2009).

The theory of cognitive dissonance provides justification for behaviors which contradict the individual's attitudes and beliefs, and may, in part, explain this apparent paradox (Eisend and Schuchert-Guler, 2006). A consumer's decision to exhibit deviant behavior is believed to be intertwined with the consumer's ability to rationalize the behavior (Strutton, Vittel, and Pelton, 1994). Those with a greater ability to rationalize their deviant behavior have been found to be more willing to purchase counterfeit fashion products (Vida, 2007). One way consumers rationalize acquiring goods unlawfully is by denying that there is a tangible victim associated with the conduct (Strutton, et al., 1994). Organizational victims, including retailers and brand owners, may be difficult for some consumers to perceive as victims. Indeed, recent research shows consumers find purchasing fakes far less acceptable when the victim is an individual as compared to a corporate entity (Casola, Simon, and Mackenzie, 2009). This is in accord with earlier findings (e.g., Albers-Miller, 1999).

Overall, consumers tend to believe that those who actively benefit from unethical behaviors (counterfeiters) are more unethical than those who passively benefit

from the activity (consumers) (Muncy and Vittell, 1992). Similarly, some consumers justify purchasing counterfeits by characterizing their own behavior as less unethical than that of the seller (Cordell *et al.*, 1996; Phau and Teah, 2009). According to one cross-cultural study, most consumers concede that the exchange of counterfeit branded products is neither ethical nor legal (Bian and Veloutsou, 2007).

Tan (2002), Moores and Chang (2006), and Ha and Lennon (2006) determined that students who judged counterfeiting as morally wrong were less likely to purchase such goods. Recently, Kim *et al.* (2009) investigated influences on moral judgment and intention to purchase counterfeit products among U.S. university students and confirmed the earlier research, finding that individuals who believed that purchasing counterfeit goods was morally wrong were less likely to intend to buy them. Maldonado and Hume (2005) found that the higher the subject's level of consumer ethics, the lower the subject will evaluate products known to be counterfeit. Along those lines, Penz and Stottinger (2005b) found that the higher the consumer's ethical disposition, the more likely they would be embarrassed if discovered wearing counterfeit fashion products.

Researchers of late have cited an apparent erosion in the general population's view of the seriousness of the offense of counterfeiting (Phau and Dix, 2009). One study found that rather than level of personal integrity, one of the strongest influencers of intention to purchase counterfeit goods is the relative ease in obtaining them (overcoming time and geographic barriers) (Penz and Stottinger, 2005b). Rutter and Bryce (2008) noted that based on the public nature of the places where respondents admitted to purchasing fakes, there seems to be a shift in attitude toward viewing counterfeits as acceptable. Indeed, that study revealed that consumers of legitimate products are not distinct from consumers of counterfeits, as

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nearly a third of those who admitted to purchasing fakes within the past year had also purchased legitimate branded products, as well (Rutter and Bryce, 2008).

Social Cost and Counterfeit Products

Consumers often buy fake products to reap the benefits of a brand's prestigious image without paying for it (Cordell et al., 1996; Grossman and Shapiro, 1988). Branded products are known to communicate meaning about the user's self-image and enhance their self-concept (e.g., Dornoff and Tatham, 1972; Onkvist & Shaw, 1987). One study shows that consumer response toward counterfeits is more favorable when the product is a luxury item intended for use in public, such as a fake Rolex watch, compared to a necessity fashion product, such as tennis shoes (Chapa, et al., 2006). In looking at demographic variables other than gender, the Chapa, et al. study revealed that more highly educated consumers are less likely to purchase counterfeits. Accordingly, some believe that consumers who are more aware of global issues are less likely to put their own interests above others' and purchase fakes.

The International Labor Organization has reported that millions of children are forced to work in counterfeit manufacturing facilities in China, where most of the counterfeit goods destined for the U.S. are produced (Goodwin, 2006). One prominent intellectual property lawyer has described the horrific working conditions where counterfeit products are made, showing to his audience images of handcuffed child laborers (Kelly, 2005). As editor of fashion magazine *Harper's Bazaar*, Valerie Salembier explained, "[i]f people knew where their dollars were directed when they buy a fake watch or a fake handbag, there is no question that they would think twice about purchasing a fake" (Harper's Bazaar, 2007, p. 1).

Many counterfeit organizations are associated with organized crime and terrorist groups (IACC, 2007; Kelly, 2005; Noble, 2003). According to the Secretary General of Interpol, there is a clear link between counterfeit products and organized crime (Noble, 2003). Additionally, counterfeiting has become a favorite method of funding for radical fundamentalist groups such as Al Qaeda and Hizbullah (Noble, 2003; Nurton, 2002). The Basque terrorist group ETA is also known to sell counterfeit handbags and clothing around the world and online (IACC, 2007b). Media reports indicate that the FBI investigated the link between the sale of counterfeit merchandise in New York and the terrorists involved in the 1993 bombing of the World Trade Center (Stern, 1996). Remarkably, Al Qaeda terrorist training manuals seized by U.S. officials recommended selling counterfeit merchandise as a means of funding their operations (IACC, 2007b).

Research suggests that consumers may select counterfeit merchandise without considering public welfare issues (Bloch *et al.*, 1993; Cordell *et al.*, 1996). This may be due to consumers being unaware of the social issues associated with counterfeits. However, a recent survey of college students found no difference in intention to purchase counterfeit goods where one group had been made aware of the illegality and negative effects of counterfeiting and the other had not (Cuno, 2008). In a recent study of subjects from four countries (not U.S.), the researchers found that the more consumers know about the specific negative business practices engaged in by counterfeiters, the harder they will find it to rationalize purchasing fakes (Penz, et al., 2009). However, awareness about the chilling effect counterfeiting has on research and development by legitimate brands does not appear to affect the intention to purchase fake products at all (Penz, et al., 2009).

Noting that culture often dictates gender roles and acceptable behaviors, Belk, Devinny, and Eckhardt (2005),

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presented various ethical dilemmas, including one involving the sale of counterfeit luxury goods, to a cross-cultural sample comprised of both genders. Those researchers found that while a company's business ethics generally has little impact on intention to buy, they did acknowledge that some consumers can be made to bring ethical factors into their choices, if given help. However, no gender-related difference in propensity to do so was presented.

Anti-Big Business Attitude and Counterfeit Products

Infringement of intellectual property rights costs U.S. businesses over \$200 billion annually, according to U.S. Immigration and Customs Enforcement officials (IACC, 2007). In considering the Anti-counterfeiting Consumer Protection Act of 1996, Congress found counterfeiting to be a multi-billion dollar drain on the U.S. economy (H.R. 104-556, p. 2). The International Anti-Counterfeiting Coalition ("IACC") believes that counterfeiters cost the United States millions of dollars in tax revenue, and create unfair competition against legitimate manufacturers and sellers, causing sales losses for businesses and thousands of jobs for U.S. workers (IACC, 2007b).

Retailers which project to consumers an image of intimidating power are more likely to be victimized by consumers. (Mills, 1979). Nill and Shultz (1996) first coined the term "Robin Hood" syndrome to explain some consumers' willingness to violate the rights of brand owners by supporting counterfeit activities. The distaste for counterfeits held by others may be mitigated by the belief that legitimate brand owners are profiting excessively from exorbitant prices (Penz and Stottinger, 2005). Muncy and Vitell (1992) suggest that those who patronize intellectual property rights violators or engage in other questionable customer practices do so as a result of negative attitudes toward large brand-owner firms. However, a cross-

cultural study in 2009 revealed that among its respondents, anti-big business sentiments had only a sporadic impact on purchase intentions for fake goods (Penz, Schlegelmilch, and Stottinger, 2009).

It has been suggested that some consumers justify purchasing counterfeits through feelings of sympathy for the small-business counterfeiter rather than the big-business brand owner (Fullerton and Punj, 1993; Tom *et al.*, 1998), or because they see the counterfeiter as more efficient and customer-oriented (Ang *et al.*, 2001; Tom *et al.*, 1998; Wee *et al.*, 1995). Tom *et al.* (1998) found that both consumers who knowingly purchase counterfeit products and those who do not acknowledge that counterfeit products hurt legitimate brand owners. However, those who knowingly purchase fakes are less likely to believe that counterfeit products hurt the U.S. economy as a whole. Other consumers believe that because of their cost-efficiency and lower profit margins, counterfeiters actually deserve consumer support (Wee *et al.*, 1995; Ang *et al.*, 2001). Kwong *et al.* (2003) found that the Asian subjects studied viewed counterfeiting CDs favorably when they see it as a way of attacking big business. Not surprisingly, the more a consumer believes that counterfeiting should be defended, the more likely they are to purchase such goods (Penz and Stottinger, 2005b).

The Casola *et al.* study (2009) found that the average consumer will purchase black market goods only if they can be obtained for about a third of the retail price. Notably, consumers are willing to pay a higher price for counterfeit goods than for stolen goods, possibly due to a lower risk of punishment. That study also suggests that providing consumers with information framing counterfeiting as a type of theft (name, ideas, etc.) may at least reduce the price they are willing to pay for the goods.

METHOD

The goal of this study is understand whether gender differences exist in terms of consumers' perceptions of ethics, social costs, and anti-big business attitude in the context of counterfeit fashion products. Data were collected using computer-assisted telephone interviews among a sample of U.S. consumers aged eighteen years and older. Telephone administration was chosen for its effectiveness and efficiency reaching a range of consumer demographics within a short time period. The sample was weighted to match the demographic characteristics of the U.S. population as closely as possible in terms of gender, age, ethnicity, income, and level of education.

To ensure respondent understanding at the beginning of the interview, counterfeit products were defined as items that bear a brand name or logo without the permission of the registered owner. At the beginning of the interview, respondents were provided with examples of counterfeit fashion products: a handbag that bears a Gucci label without authorization from the Gucci company, and a pair of sunglasses that bears the Oakley label without authorization from the Oakley company.

The scales used in the study were drawn from the marketing literature and the counterfeit product literature. Ethicality was measured using the Tom *et al.* (1998) scale. Social cost and anti big business attitudes were measured using the Kwong *et al.* (2003) scales. All of the measurement scales used five-point agree-disagree statements anchored by 'strongly disagree' and 'strongly agree'.

A market research firm with expertise in telephone survey methods was contracted to carry out data collection. The listed household dialing method was employed using a list of 23,999 listed residential telephone numbers randomly selected from a total population of 44,362,600 listed residential telephone numbers. Trained interviewers administered the survey during a three week period,

including a pretest which was carried out prior to full data collection ($N=50$). Pretest subjects indicated clear understanding of the survey items. During final data collection, up to six attempts were made to contact numbers drawn from the original list. Calls were continued until a representative sample of U.S. consumers was attained based on gender, age, ethnicity, income, and level of education.

ANALYSIS

Hierarchical structural equation modeling (SEM) was used to test the differences regarding ethics, social costs, and anti-big business across the two genders. Hierarchical SEM provides a comprehensive approach to evaluating the differences across the two samples in a simultaneous manner. A confirmatory baseline model begins the process and tests invariance (i.e., null approach) by adding model constraints at subsequent levels of the measurement model. The baseline model and subsequent models are tested using data from both samples.

The primary purpose of using hierarchical SEM for the current study was to evaluate the invariance of latent mean structures regarding ethics, social costs, and anti-big business among the two samples. Prior to evaluating the invariance of latent means, the equivalence of factor loadings, variances and co-variances were evaluated. Five empirical hypotheses were posed to test the following levels of invariance: invariance of number of constructs between the two groups (H1), invariance of item loadings between the two groups (H2), the invariance of factor variances between the two groups (H3), the invariance of factor co-variances between the two groups (H4) and the invariance of latent mean structures between the two groups (H5). The criterion for establishing invariance at each level of the model was based upon the statistical magnitude associated with the change in the chi-squares/degrees of freedom (i.e., each hypothesis test/each new layer of

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constraints) (Byrne, 2001). Significant changes in the chi-square statistic suggest evidence against invariance associated with the particular constraint applied to the model. In addition, the model fit should reflect acceptable thresholds for fit indices at each level.

RESULTS

Sample Characteristics

As expected, the gender distribution among the sample matches that of the U.S. population very closely (Table 1). The age of respondents ranged from 18 to 92 years with a mean of 46.8 years. The distribution among age groups matches the U.S.

population fairly well, although the sample is slightly skewed toward the older age ranges as compared to the population. The ethnic composition of the sample also matches the U.S. population fairly well with the exception of a few more minority respondents represented in the African American/Black, Asian/Pacific Islander, Native American and Hispanic groups. The sample is slightly skewed toward the higher income groups, with more high income respondents and fewer low to middle income respondents as compared to the population. Likewise, education level among the respondents is also slightly skewed toward higher levels of education.

Table 1. Sample Characteristics as compared to U.S. Census Data (2000)

Variable	Level	Frequency	Percent	U.S. Census Percent
Gender	Male	149	48.9	49.1
	Female	156	51.1	50.9
	Total	305	100	100
Age	18-24	28	9.2	13.9(*)
	25-34	56	18.4	14.2
	35-44	61	20.0	16
	45-54	64	21.0	13.4
	55-64	44	14.4	8.6
	65+	52	17.0	12.4
	Total	305	100	71.3
	Median	46.8 years		35.3 years
Ethnicity	Caucasian/White	194	63.6	70
	African American/Black	40	13.1	12.3
	Asian/Pacific Islander	13	4.3	3
	Native American	5	1.6	.8
	Hispanic	47	15.4	11.5
	Other	4	1.3	2.4
	Total	303	99.3(**)	100
Income (annual)	Less than \$25,000	61	20.0	28.6
	\$25,000-\$50,000	69	22.6	29.3
	\$50,001-\$100,000	90	29.5	29.7
	>\$100,000	50	18.5	12.3
	Total	270	88.5(**)	100
Education	No high school degree	16	5.2	19.6
	High school graduate	62	20.3	28.6
	Some college	48	15.7	21
	2 year degree	36	11.8	6.3
	4 year degree	89	29.2	15.5
	Graduate/Professional degree	49	16.1	9
	Total	300	98.3 (**)	100

*U.S. Census data includes ages 15-19 in this category, but the sample includes those 18 and older.

**Missing values resulted in less than 100% response for variable.

Reliability & Validity

Composite reliabilities for the measures ranged from .70 to .77 and all but one of the constructs had an average variance extracted estimate greater than .50, demonstrating reliability based on accepted standards (Anderson and Gerbing, 1988; Fornell and Larcker, 1981). Composite reliability was not calculated for the anti-big business attitude construct due to the construct consisting of only two items. Instead, a correlation coefficient was calculated (.79, $p < .001$), which provides

evidence of reliability. The ethics construct demonstrated a variance extracted estimate of .46, slightly below the .50 criteria. All items loaded acceptably on their respective construct ($> .54$) and the variance extracted estimates provided evidence of convergent and discriminant validity (Anderson and Gerbing, 1988; Fornell and Larcker, 1981). Mahalanobis d-squared statistics and critical ratios for the presence of kurtosis indicate normality for the sample data. Table 2 contains final measurement items and characteristics.

Table 2. Item Measurement Properties

<i>Scale/Item^a</i>	<i>Standardized Loading</i>
Ethics (CR=.70; AVE=.46)	
I would not purchase counterfeit products if I thought my family and friends would be disappointed in me.	.545
People who buy counterfeit products are committing a crime.	.765
People who sell counterfeit products are committing a crime.	.785
Social Costs (CR=.76; AVE=.52)	
Counterfeit products hurt the companies that manufacture the genuine product.	.606
Counterfeit products hurt the world economy.	.864
Counterfeit products discourage investment in innovation and brand building.	.671
Anti-Big Business Attitude ($r = .79, p < .001$; AVE=.57)	
Selling counterfeit products is a way of attacking “big business”.	.568
Buying fake products is a way of attacking “big business.”	.546

^a Composite reliability (CR) and variance extracted (AVE) are provided for each scale.

A correlation coefficient is provided for the anti-big business attitude scale which consisted of two items.

Confirmatory Factor Analysis

Individual confirmatory factor models were fit for each of the two samples prior to the comparative modeling procedure. The individual CFAs were first analyzed with the full content of the measurement scales. The initial CFA for the male sample indicated one weak item on the ethics scale and two weak and cross-loaded items on the anti-big business scale. Specifically, one item on the ethics scale

(“As long as it is legal, ethics is not a major factor that needs to be considered when purchasing products”) was removed due to a weak path loading (.31). In addition, one item on the anti-big business scale (“Buying

counterfeit products is a way to get back at uncaring and unfair big business”) was removed due to a weak path loading (.45), while an additional item (“I would buy counterfeit products because companies who make counterfeit products are little guys who fight big business”) was removed due

to cross-loading. Following removal of the weak and cross-loaded items, an acceptable measurement model was generated (Chi-square/degrees of freedom ratio=2.698, CFI=.927, GFI=.911, RMSEA=.05). The individual CFA for the female group indicated very similar measurement issues. The same items that were problematic for the male sample indicated weak loadings or cross-loadings among the female sample. The final CFA for the female group was structurally identical to that of the male group and also indicated reasonable fit (Chi-square/degrees of freedom ratio=3.148, CFI=.930, GFI=.917, RMSEA=.05).

Hypothesis Tests

Hypothesis one tested the invariance of the number of factors present in the two samples and was evaluated using the baseline model (Table 3). Examination of the chi-square/degrees of freedom ratio of 2.03 suggested reasonable fit of the model. Relative fit indices also demonstrated goodness of fit (CFI=.962, TLI=.938) and the RMSEA was well below the .08 level with an estimate of .05. Because this model provided the baseline for all subsequent models in the hierarchy, change in the chi-squares and degrees of freedom was not evaluated.

Hypothesis two examined whether the loadings between the indicators and the latent constructs were the same among the two groups. The non-significant change in the chi-squares indicated support for hypothesis two ($\Delta \chi^2 = 6.088$, 5df, $p < .10$) and the goodness of fit metrics indicated an acceptable model ($\chi^2/df=1.92$, CFI=.961, TLI=.944, RMSEA=.05). Because the model indicated invariance for the pattern of factor loadings on the two constructs, the analysis proceeded with the next layer of constraints.

The third hypothesis tested the invariance of factor loadings. The non-significant chi-square change associated with the additional level of constraints

indicated support for hypothesis three ($\Delta \chi^2 = 2.208$, 3df, $p < .10$). The goodness of fit indices indicated an acceptable model (CFA=.962, TLI=.949) and a RMSEA estimate of .05. Because the data supported invariance at this level, the analysis proceeded with the next level of constraints.

The fourth hypothesis associated with the measurement model tested the invariance of the factor co-variances. The test for hypothesis four did not indicate a significant change in the chi-square statistic ($\Delta \chi^2 = 2.268$, 3df, $p < .10$) and therefore supported invariance at this level. The fit indices suggested goodness of fit and revealed little change from the previous level of constraints (CFI=.963, TLI=.954, RMSEA=.05).

The tests of hypotheses two, three and four indicated equivalence of the full measurement model across all constraints applied thus far. Hypothesis five added an additional level of constraints to the model in order to examine the equivalence of latent mean structures between the two groups. When testing the equivalence of latent mean structures within a multiple group model, one group is used as a reference group (i.e., the means are set to zero) while the means for the remaining group are estimated to reflect differences between the two groups. The male group was designated as the reference group while the latent means differences were contrasted (i.e., estimated) with the female group.

At this point in the analysis, the estimates directly associated with the differences in the latent means become the focus while changes in the chi-square statistic are no longer relevant. However, overall model fit is still required for confident interpretation of the estimates associated with the latent means structures. The overall model indicated reasonable fit (CFI=.959, TLI=.952 RMSEA=.05). The latent mean estimate for ethics indicated a significant difference between males and females (Estimate = -.154, critical ratio = -

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2.310, $p < .021$). In contrast, the latent mean estimates for social costs (Estimate = $-.118$, critical ratio = -1.265 , $p < .206$) and anti-big

business attitude (Estimate = $-.097$, critical ratio = -1.576 , $p < .115$) suggested no difference between males and females.

Table 3. Hierarchical Structural Equation Model

Hypothesis (level)	χ^2	df	χ^2/df	$\Delta \chi^2$	Δdf	Sig.	CFI	TLI	RMSEA
H1: $H_{n=3}$	69.045	34	2.03	--	--	--	.962	.938	.05
H2: Factor loadings invariant.	75.133	39	1.92	6.088	5	.30	.961	.944	.05
H3: Factor variances invariant.	77.341	42	1.84	2.208	3	.63	.962	.949	.05
H4: Factor co-variances invariant.	79.609	45	1.769	2.268	3	.62	.963	.954	.05
H5: Latent means invariant.	84.857	47	1.805	5.248	2	.02	.959	.952	.05

DISCUSSION & IMPLICATIONS

The results of the hierarchical structural equation modeling process allowed for the testing of latent mean structures in order to detect differences in the perceptions of ethics, social costs, and anti-big business attitudes between the male and female samples. In answer to our research question, analysis of the latent mean structures indicated no difference in the perceptions of social costs or anti-big business attitudes between the genders, but attitudes regarding the ethicality of counterfeit products appear to differ. Specifically, females in the U.S. appear to hold weaker ethical beliefs with regard to counterfeit fashion products, and are less likely to see the sale of counterfeit fashion products as a crime. This is in contrast to several earlier studies which found Asian males to have more favorable attitudes toward fake CDs and software (eg., Ang, et

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al., 2001; Cheung and Pendergast, 2006; Kwong, et al., 2003). One explanation could be that cultural differences come into play regarding such purchasing decisions. Perhaps more likely, it may be simply that males in those cultures are more likely to purchase any CDs or software, whether branded or fake, just as females in the U.S. are more likely to purchase fashion merchandise.

Researchers and brand owners agree that one of the primary reasons for investigating the influences on consumer purchase intentions regarding counterfeit goods is to find ways to reduce the demand for such products (Casola, Simon, and Mackenzie, 2009). While trafficking and selling—not purchasing—counterfeit goods is illegal in the U.S., there is little argument that but for willing consumers, there would be no market for fakes. Thus, the purchasers in non-deceptive counterfeit transactions are

arguably witting accomplices to the seller's crime. Because some consumers, if given help, can be made to bring ethical factors into their decision making, our findings suggest that brand owners, manufacturers, and retailers of authentic fashion products need to step up their efforts to focus on addressing the growing trend toward tolerance of counterfeit goods and educate female consumers about the illegality of counterfeit products. While at least one national media campaign (*Harper's Bazaar*) has been launched along those lines via print and online communications geared toward women, additional public education appears necessary. Partnering with law enforcement in waging a public information campaign may be useful in an effort to re-educate female consumers regarding the unlawfulness of counterfeit goods, and the serious types of criminal activities in which traffickers and seller are involved. Perhaps knowing more about the legal implications associated with counterfeits would strengthen females' resistance to counterfeits, thereby insulating the brand reputation and market share of authentic products.

Our results suggest that male and female respondents perceive the social cost of counterfeiting in a similar manner. One implication of this finding for fashion brand manufacturers and retailers is that there is no need to differentiate their educational efforts regarding the social cost of counterfeit products based on gender. Male and female respondents do not appear to perceive social cost in a different manner. Fashion product manufacturers and retailers should try to educate consumers about the social cost of counterfeiting, including the associated child labor issues in some countries as well as the established links to terrorist organizations. Revealing to consumers the tangible victims of counterfeiting may increase their level of cognitive dissonance, forcing them to reconsider their justifications for supporting counterfeiters. By communicating the specific negative practices of these criminals, rationalization for supporting

them should then become more difficult, decreasing the likelihood of purchasing fakes.

Similarly, our findings indicated no difference between males and females in terms of anti-big business attitude. This suggests that regardless of gender, consumers hold similar attitudes toward big business. For those consumers who see counterfeiting as a way of attacking big business, perhaps manufacturers and retailers of fashion products can use education as a weapon to fight this mentality. Specifically, educating consumers with regard to the illegality and social cost of counterfeit products would persuade them to hold a less favorable attitude toward counterfeits. In addition, engaging in, or disseminating more information about, philanthropic efforts, especially when associated with causes that are important to the target customer base, may help cast a more favorable light on large brands. If manufacturers and retailers can use advertising and public relations to portray themselves in a positive light as compared to counterfeiters, this could sway consumer opinion toward genuine fashion products.

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The current study extends the growing body of literature related to consumer attitudes toward counterfeit products by examining the effect of gender among a sample of U.S. consumers. However, some limitations of the study should be acknowledged. While gender was the focal variable in our study, efforts to mirror the U.S. population in terms of all demographic characteristics were attempted. The gender distribution of the sample mirrors that of the population, but other demographic variables including age, income and education were slightly skewed higher than the distribution of the population. In addition, while the telephone survey methodology is regarded for its ability to reach a large number of respondents in an efficient manner, it also presents inherent biases related to the accessibility of respondents and those who

are willing or unwilling to answer telephone surveys. Lastly, it must be noted that we chose to focus on the effect of gender on only the specific antecedents to the purchase of counterfeit products already identified in the literature (ethics, social cost, anti-big business attitude). Future research could improve upon what has been gathered here

by identifying additional components of consumer attitudes toward counterfeit fashion products and examining other potential moderators, including nationality, fashion product category, and attitudes toward fakes where the purchase of such goods is contrary to the law.

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