Economic Recession and Women's Choice of Dress: Experimental Evidence

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ABSTRACT

This study aimed to examine the effects of economic recession on women's choice of dress by experimentally manipulating perceived economic conditions.

Based on life history theory and previous empirical studies, the researcher tested predictions that economic recession cues would lead to deeper necklines, tighter waistlines, and shorter skirts in clothing chosen by women. Furthermore, the researcher explored the effects of economic recession cues on types and design features of apparel and accessories selected by women. Specifically, this study intended to answer the following research questions through exploration: (1) What are the effects of economic recession cues on the types of apparel/accessories chosen by women? (2) What are the effects of economic recession cues on the specific apparel/accessories items chosen by women?

A total of 102 undergraduate students were randomly assigned to one of two conditions of recession and control. To manipulate perceived economic conditions, participants in the recession condition were asked to read text describing economic recession while participants in the control condition were asked to read text unrelated to recession. Then, all participants were asked to draw an outfit they would be wearing to a party.

It was revealed that economic recession cues resulted in deeper necklines in clothing chosen by women. However, exposure to economic recession cues did not result in significant differences in waistline tightness and skirt length.

In terms of the types of apparel and accessories chosen by women (RQ1), participants were less likely to wear an additional pullover over a top when exposed to economic recession cues. Furthermore, they were more likely to wear a necklace and less likely to wear earrings. For specific apparel/accessories items (RQ2), participants were more likely to wear a gold-tone necklace, a pink top, and a black solid skirt when exposed to economic recession cues.

The findings of this study add to literature on consumer behavior under economic recession and contribute to theories on the stylistic changes of fashion.

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CHAPTER 1

INTRODUCTION

This chapter starts with the statement of the problem. The following sections cover the purpose and the significance of the research.

Problem Statement

Imagine that you are standing in the street wearing a jacket with large shoulder pads that make your shoulders look wide and exaggerated. You look around and see that no one else is wearing a jacket of such proportions. You may be ashamed for cladding yourself in the jacket, and people around you may think your appearance is ridiculous. However, people who spent their youth in the 1980s may remember how fashionable these jackets were. Fashion keeps changing. Apparel brands and retailers that prepared these jackets for their customers in the 1980s would have been likely to exhibit good business performance. However, failure in business becomes obvious if such products are brought into the market in large quantities when most people perceive them as ridiculous.

The apparel industry and fashion magazines introduce new styles as fashion and attempt to create new demands through diverse promotion techniques. In the past, high-end designers dictated what consumers should wear (Agins, 1999). However, consumers today do not helplessly adopt the recommendations of designers and retailers. Failure in

reflecting on the needs and wants of consumers in the apparel industry can lead to disaster. A good example is the midi skirt fiasco in 1971 (Reilly, 2014). The miniskirt was a popular fashion trend in the 1960s. In 1970, John Fairchild, who was the publisher/owner/editor of the authoritative trade publication *Women's Wear Daily,* declared the end of the miniskirt and persistently promoted the midi skirt. Other practitioners, such as designers, merchandisers, and buyers, in the industry, followed the trend set by John Fairchild. However, women did not want to wear long skirts; the promotion of the midi skirt caused considerable losses to the apparel and retail industry (Klapper, 2005).

Apparel companies and retailers should decide the kind of products and in what quantities they will be produced or purchased. Modern merchandisers constantly monitor the changing needs and wants of their target consumers for the next fashion season to prevent disasters, such as the midi skirt fiasco. Some merchandisers spend countless hours observing what people on the street are wearing, whereas others conduct mall intercept interviews or surveys. According to Rosenau and Willson (2014), apparel merchandisers spend to 30% to 40% of their time collecting and interpreting market information. The amount of time that merchandisers spend on research indicates the importance of predicting the preferences of consumers in the next fashion season.

Economic recession indicates temporary decline in economic activity and is usually identified by a decrease in GDP for more than two quarters in a row (Recession, n.d.). During economic recession, unemployment rates increase and consumers' budgets become limited. Thus, they restrict their spending. Recessions are regarded as a crisis in

many consumer industries. However, Hill, Rodeheffer, Griskevicius, Durante, and White (2012) found that women's consumption of attractiveness-enhancing products, including clothing and cosmetic products, actually increased under economic recession; by contrast, consumption of products unrelated to appearance decreased. This finding indicates that economic recession could be an opportunity rather than a crisis if apparel merchandisers and retail buyers who target women bring the right products into the market.

The kinds of products that consumers would like to wear under economic recession should be identified to enable apparel brands and retailers to bring the right products that reflect consumer needs and wants into the market. However, only a few empirical studies examined the relation between economic condition and women's clothing (Hill, Donovan, & Koyama, 2005; Mabry, 1971; van Baardwijk & Franses, 2010). Moreover, all these studies focused on the revealing nature of clothing. Therefore, in terms of other aspects, little is known about the effects of recession on women's clothing choice.

Furthermore, though these studies provide some insights into the effect of economic conditions on the revealing nature of women's clothing, they have an important limitation. A causal relationship cannot be proven because the researchers used correlational research methods. That is, there is a possibility that the significant correlations reported by the researchers are spurious. For example, Mabry (1971) and van Baardwijk and Franses (2010) observed a significant correlation between the flourishing economy and the rising hemlines of women's skirts using data from 1921 to 1971 and 2009, respectively. However, the widespread use of the automobile in the early 20th

century contributed to the rising of women's skirts because short skirts made driving easier for women (Tortora & Marcketti, 2015). Therefore, women's increasing adoption of the automobile possibly influenced both the favorable economic conditions and rising hemlines of women's skirts. Also, the military look, which was popular in the 1940s, consisted of a skirt shorter than that in the 1930s (Tortora & Marcketti, 2015). Therefore, it is also possible that the war led to both the economic boom and a shorter skirt. These two possibilities are not based on strong evidence. However, we are not sure whether certain variables that influence both economic conditions and women's clothing affected the correlation of these factors. If the significant correlations reported in previous studies are due to specific historical events during the period examined, then the results cannot be applied to the present or future.

Purpose of the Research

This study intended to answer the following question: "What are the effects of economic recession on women's choice of dress?" This study employed an experimental research method that can prove a causal relationship. Specifically, perceived economic conditions were manipulated by using a psychological technique. Dress as a noun may include body modifications as well as body supplements (Roach-Higgins & Eicher, 1992). The term "dress" includes body supplements, such as apparel, jewelry, and other accessories, that are added to the body. This concept also includes modifications of the shape, color, texture, and scent of the body. However, in this study, dress is limited to

body supplements. Therefore, modifications of the body, such as tattooing, changing hair color, and losing weight, were not considered.

Significance of the Research

Fashion researchers attempt to find out why and in what direction fashion changes as a social phenomenon. A group of scholars focused on who initiates a new fashion and who follows. For example, Veblen (1894, 1899) and Simmel (1904) believed that fashion is initiated by the elite and diffuses toward the lower classes through imitation. However, King (1963) criticized the trickle-down theory, suggesting that fashion horizontally flows within social classes rather than vertically flowing from the upper class to the lower class (so called mass-market theory or trickle-across theory). Thereafter, trickle-up theory, which suggests that fashion flows from the lower to the upper class was also proposed (Field, 1970).

Another group of researchers focused on the stylistic change of fashion. For example, early scholars, such as Kroeber (1919) and Young (1937), insisted that an intrinsic cycle exists in fashion change and fashion consequently recurs in regular intervals. By contrast, other fashion researchers, including Hamilton (1987), connected research on fashion changes and changes in the society (e.g., changes in the economy, politics, social structure, ideology, and technologies). This group viewed fashion change as a mirror of social changes.

When a discernible proportion of people in a social group collectively adopt a certain style, this style becomes fashion (Blumer, 1969). Practitioners in the fashion industry introduce diverse styles as candidates for new fashion. However, only styles that consumers select can be fashion. This study can contribute to fashion theory on stylistic change by empirically showing that perceived economic recession can alter women's clothing choices, which in turn can lead to fashion change. That is, the results of the study can contribute to the fashion theory that fashion reflects environmental changes.

CHAPTER 2

LITERATURE REVIEW

This study aims to examine the effects of economic recession on women's apparel and accessory choice. When a discernable number of people in a particular social group adopt a specific item or style, this item or style is called fashion. As reflected in the history of clothing, fashion constantly changes. Previous researchers have attempted to explain the stylistic change in fashion.

Some of these researchers argued for an internal cycle (e.g., Kroeber, 1919; Young, 1937), whereas others connected fashion change to extrinsic factors, such as change in politics, ideology, and ideal aesthetics.

Economic recession is an extrinsic factor. According to the theory of internal cycle, economic recession should not influence women's choice of clothing. However, the findings of previous researchers (Hill, Donovan, & Koyama, 2005; Mabry, 1971; van Baardwijk & Franses, 2010) suggest the possibility that economic recession may affect the choice of clothing among women. Therefore, I review fashion theories on stylistic change and studies on the relation between economic condition and women's clothing in this chapter. To discuss fashion theories, the term "fashion" should be defined first. Therefore, this chapter begins with a definition of fashion.

Subsequently, the theoretical background of this study is discussed. This study is based on life history theory, in which organisms make trade-offs among alternatives

related to maintenance, growth, and reproduction over their life span. Therefore, theoretical background, including life history theory, is reviewed after discussing fashion. Finally, the prediction of the current study is presented.

Definition of Fashion

The term "fashion" is widely used by lay people in their daily lives and by fashion scholars in diverse fields of studies. Its meaning varies even among scholars. The term is most frequently used to mean apparel. That is, lay people use the term to refer to what people wear. However, most fashion scholars agree that not all apparel should be considered fashion. Although scholars have presented different definitions, these definitions are commonly related to something that changes over time. For example, Sproles and Burns, (1994, p. 4) defined fashion as "a style of consumer product or way of behaving that is temporarily adopted by a discernible proportion of members of a social group because that chosen style or behavior is perceived to be socially appropriate for the time and situation." Furthermore, Wilson (2003, p.3) said, "Fashion, in a sense *is* change" and Lynch and Strauss (2007, p. 128) said fashion is a "prevailing style at a given time."

To further discuss fashion, the definition provided by Sproles and Burns (1994, p. 4) is reviewed. Their definition, i.e., "a style of consumer product or way of behavior," suggests that the fashion is not limited to apparel. Fashion exists in music, furniture, cars, and behavior. In their definition, "temporarily" implies the changing nature of fashion, and "a discernable proportion of members of a social group" infers that a style that is

adopted by only a few people should not be regarded as fashion. To be considered fashion, a certain style should be adopted by a sufficient number of people to be recognized by others. Moreover, Sproles and Burns added "because that chosen style or behavior is perceived to be socially appropriate for the time and situation" to their definition of fashion. However, people may adopt a certain style without consciously thinking about its appropriateness. That is, people can collectively but unconsciously select a certain style, which results in the beginning of a new fashion.

On the basis of the preceding discussion of fashion and given that the focus of this study is apparel and accessories, fashion is defined as "an apparel or accessory style that is adopted by a discernable proportion of people during a certain period." In this definition, style means "a characteristic mode of presentation that typifies several similar objects of the same category or class" (Sproles & Burns, 1994, p. 7). If a feature or a combination of features can distinguish a group of garments from other garments, then this feature or combination of features creates a style. Accordingly, fashion is a temporary extensive adoption of a group of products with a certain feature or combination of features.

In terms of the beginning and end of fashion, Nystrom (1928) believed that fashion goes through a cycle, which consists of rise, spread, culmination, and decline. That is, a new style is introduced to the market, adopted by an increasing number of people, and then abandoned by most people in a society. He graphically presented this fashion cycle using a bell-shaped curve (Figure 1). Nystrom asserted that whether a certain style can be regarded as fashion is not a matter of opinion, but rather, is

determined by an objective physical count of acceptance. Therefore, fashionable clothing refers to clothes in a style that are widely adopted by people at a certain time.

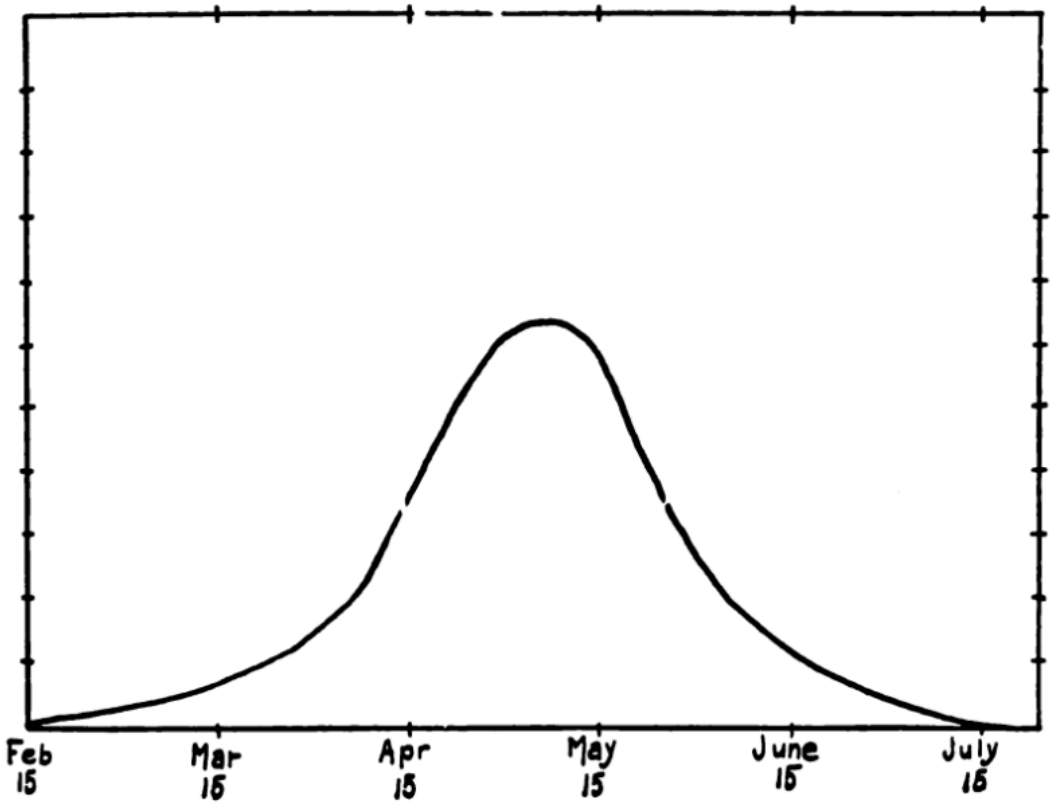

Figure 1. Theoretical Representation of a Normal Fashion Cycle (Nystrom, 1928, p. 19)

When fashion researchers discuss fashion, they clarify the differences among fads, fashion, and classics. Fashion, fads, classics are distinguished based on the duration when a certain style remains in the market. Fads are characterized by an outburst of popularity of a certain style that soon disappears. Therefore, fads remain in the market for a very short period. Examples of fads include toning sneakers or feather extensions during the early 2010s (Reiley, 2014). By contrast, classics stay in the market for an extremely long time. Examples of classics are Levi's 501 jeans and white T-shirts (Reiley, 2014). Sproles and Burns (1994) illustrated the differences among fashion, fads, and classics through a graphical presentation (Figure 2)

In this study, I am interested in the effects of economic recession on women's apparel and accessory choice. How fast a style is adopted and abandoned and how long a style remains in the market are not related to the research focus. Therefore, the concept of fads and classics are not strictly distinguished from that of fashion in this study.

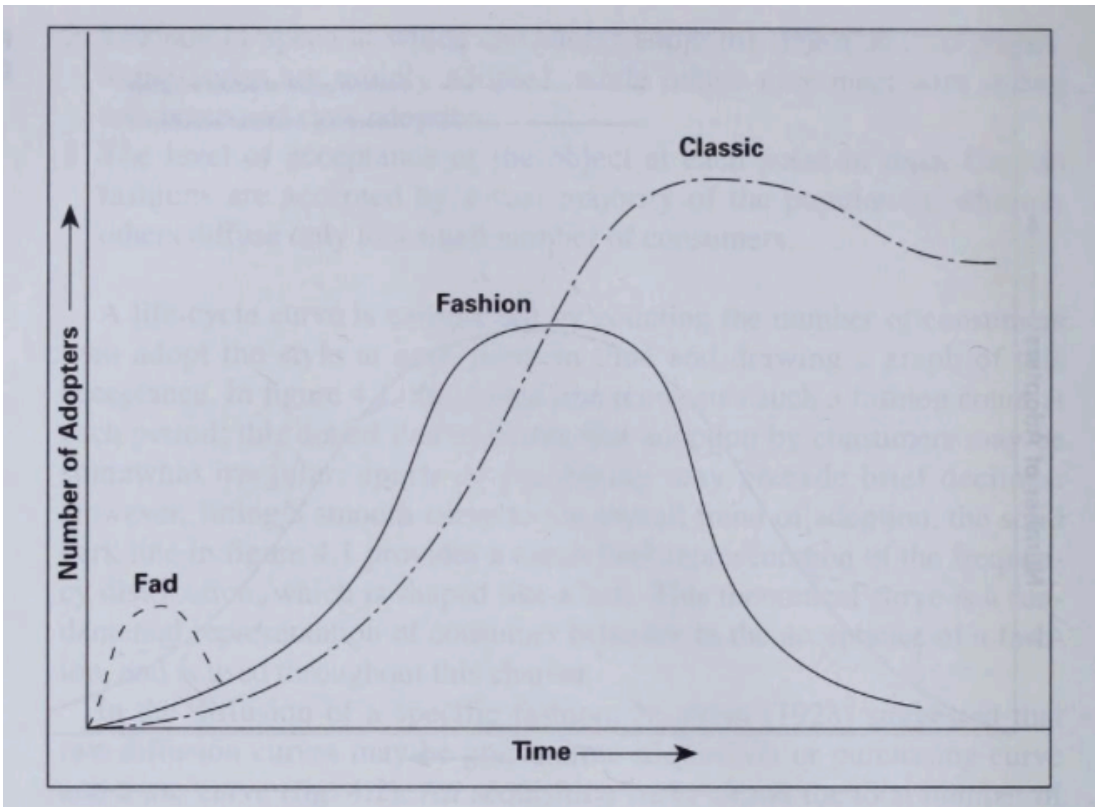

Figure 2. Diffusion of Fads, Fashion, and Classics (Sproles & Burns, 1994, p. 96)

Stylistic Change in Fashion

Cyclical Change in Fashion

Kroeber (1919) is among the earliest researchers who empirically showed the cyclical changes in fashion. As an anthropologist, he intended to empirically prove that art, including literature, sculpture, and philosophy, goes through a course of origin, growth, and decline, in the same manner as organisms do. In his study, he regarded manufactured objects as appropriate because of the accuracy and easiness of their measurement and selected women's evening dresses. He examined only the basic dimensions while excluding details and colors, which he believed will chaotically fluctuate. In particular, he examined six basic dimensions: (1) skirt width, (2) skirt length, (3) waist diameter, (4) waist length, (5) neckline depth, and (6) neckline width. He focused on women's evening dresses that appeared in fashion magazines from 1844 to 1919. Kroeber found that basic dimensions gradually changed over time and similar lengths and widths could recur during the same time interval. He described the cyclical movement of women's evening dresses with expressions, such as "swing of a pendulum," "rhythm of fashion," and "law."

Richardson and Kroeber (1940) later extended Kroeber's research (1919) by examining the stylistic change in women's evening dresses from 1605 to 1936 using a similar method. Their findings supported Kroeber's previous research. That is, they found that basic dimensions regularly swing between maxima and minima and one cycle was

approximately one century. Although the main purpose of Kroeber's research was not to examine fashion change, many fashion researchers have adopted his perspective and methodology.

Young (1937) is another representative researcher who insisted on a cyclical change in fashion based on her observations of women's daytime dresses from 1760 to 1937. She argued that women's dresses during this period can be divided into three basic styles, namely, back-fullness, tubular, and bell types, based on the shape of the skirts and changes in fashion in women's dresses. The rules are as follows: 1) each style lasts approximately a third of a century and recurs every 100 years; 2) dresses that are in fashion during each cycle change continuously from year to year but the changes occur within the confines of basic styles; and 3) the order of styles in fashion does not change as back-fullness, tubular, and bell-shaped. Thus, fashion changes can be forecasted reliably based on these rules.

Lowe and Lowe (1982) reexamined the stylistic change in women's evening dresses from 1789 to 1936 by developing a mathematical model using the data of Richardson and Kroeber (1940). They concluded that a stylistic change in fashion is determined by two components: structural component and random portion. Structural components gradually change, and thus, can be predicted to a certain degree. By contrast, random portion is open to external factors, which can lead to changes in a completely unpredictable direction. That is, Lowe and Lowe reached a similar conclusion as that of Richardson and Kroeber.

Thereafter, a cyclical change in fashion was found using a different method (Belleau, 1987) and data from different countries were included (Balkwell & Ho, 1992; Curran, 1999). Belleau found a cyclical change in skirt length, waist emphasis, and silhouette of women's day dresses from 1860 to 1980 by coding nominal categories instead of measuring the dimensions of dresses. Balkwell and Ho (1992) documented cycles in skirt length and décolletage length by examining Taiwanese fashion magazines from 1966 to 1986. Curran (1999) observed cycles in skirt length in day dresses from 1954 to 1990 in the United Kingdom and Germany.

Fashion Change as a Mirror of a Changing Society

Another group of scholars explained fashion change in relation to external factors. That is, a change in the economy, politics, and social structure of a society forms a new spirit of time and changes societal need for clothing. Accordingly, the change in societal need for clothing leads to change in widely adopted clothing styles.

From this perspective, Nystrom (1928) identified the factors that influence fashion change. He categorized these factors under three headings: dominating events, ideals, and groups. Nystrom asserted that dominating events, such as wars and a visit of an important person (e.g., a prince from another country), can result in the popularity of a certain style. An example of dominating ideals includes the classic Greek ideal of pure beauty versus the Roman ideal of order and efficiency. An example of dominating groups includes the ratio of affluent people to poor people in a society.

Apart from Nystrom, most clothing historians explained fashion change in relation to diverse events and social changes. For example, the rise in the hemline of women's daytime skirt during the early 20th century is explained based on the widespread use of automobiles at that time (Tortora & Marcketti, 2015). In addition, the feminist movement, which calls for gender equality, was reflected in Yves Saint Laurent's pantsuit during the 1970s (Reiley, 2014).

Economic Recession and Stylistic Change in Fashion

The relation between economic condition and women's fashion change involves an interesting maxim, which is labeled as the hemline index. The underlying concept of the hemline index is that the hemline of women's skirts reflects economic conditions. The hemline index originated from American economist George Taylor during the 1920s; however, he did not create the index (Cole & Deihl, 2015). At that time, Taylor investigated the popularity of quality silk hosiery as a status symbol when worn with short skirts. The following maxim emerged although Taylor's work was misinterpreted: women's hemlines drop when economic conditions are unfavorable because women cannot afford to purchase expensive stockings; hence, they cover their legs with long skirts. Although women's stockings are currently made of nylon instead of silk and are inexpensive, the press still mentions the hemline index (Malm, 2012; Menkes, 2008).

The probable reason why the press and even the lay people still mention the hemline index is because a few empirical studies have supported the maxim (Mabry,

1971; van Baardwijk & Franses, 2010). Causal relationships cannot be established because the studies of Mabry (1971) and van Baardwijk and Franses (2010) used correlational research methods. However, these studies provide insights into the relation between economic condition and women's fashion. Mabry (1971) examined the relation between economic condition and the hemline of women's skirt from 1921 to 1971. First, she measured skirt length from illustrations in fashion magazines, such as *Vogue* and *Harper's Bazaar*. Then, she calculated the correlation coefficient between skirt length measurements and the stock market index. Mabry found a positive correlation, i.e., skirt length tends to become shorter as stock prices increases on average.

The finding of Mabry is supported by a recent study conducted by economists van Baardwijk and Franses (2010), who examined the correlations between the economic index and skirt hemline from 1921 to 2009. They found the same tendency, i.e., when the economy is booming, the hemline of women's skirts tends to rise on average. They also added that a time interval of approximately 3 years was observed between economic conditions and skirt hemlines. That is, van Baardwijk and Franses asserted the current economic condition is related to the hemline of women's skirts 3 years from now. Aside from the fact that the researchers used a correlational research method, a serious limitation exists. They used a French magazine to examine the hemline of women's skirts and business cycle data from the National Bureau of Economic Research as an indicator of "world economy." Fashion varies from country to country. Moreover, although the economy of each country is affected by world economy, world economy cannot accurately reflect the economic condition of each country. Therefore, the researchers

should have examined the relation between hemlines and the economic index in the same country.

Another research that examined the relation between economic condition and body-revealing women's clothing is that of Hill et al. (2005), who predicted that women's clothing will be body revealing (i.e., skin exposure and tight fitting) under poor economic conditions. The reason for this result is that men with economic resources will decrease in number, thereby increasing competition among women to attract these men. To support their hypothesis, these researchers examined the correlations between economic indices and clothing featured in United Kingdom version of *Vogue* magazine from 1916 to 1999. Their results presented significant correlations between economic condition and upper body and arm exposure. With regard to tightness, economic condition was significantly correlated to clothing tightness at the waist and the hips. However, they did not find a significant correlation between economic condition and leg exposure.

Theoretical Background

Evolution and the Human Mind

Darwin published the groundbreaking book entitled the *Origin of Species* in 1859. Other scientists already claimed that life on Earth had evolved long before Darwin published his book. However, Darwin provided clear answers on "why" life had evolved

by explaining the mechanism with the principle of natural selection. This principle explains the mechanism through variation, inheritance, and selection. The core of the principle is that features that increase the chances of survival and reproduction have been selected during the evolutionary history.

Recently, researchers from diverse fields of studies, including psychology and anthropology, have applied the evolutionary perspective to the human mind as well as body. From this perspective, the human mind is an evolved organ that has been designed by selection pressure during the evolutionary history (Tooby & Cosmides, 1992). That is, humans have evolved cognition, emotion, and motivation that lead to behavior that improves the chances of survival and reproduction. The evolutionary perspective has produced novel findings, not only in psychology, but also in consumer behavior and marketing. For example, Durante, Griskevicius, Hill, Perilloux, and Li (2008) found that women who are near their ovulation period tend to unconsciously select sexy and revealing clothing and fashion items.

Life History Theory

Life history theory (Charnov, 1993; Roff, 1992; Stearns, 1992) is a theory that explains why different species evolved different patterns in allocation of time, energy, and resources over their lifespan. Since time, energy, and resources that organisms can spend are not infinite, organisms have to make trade-offs between alternatives related to their maintenance, growth, and reproduction at a given time in their life course.

Evolutionary biologists and behavioral ecologists believe that, by natural selection, each species evolved a lifetime schedule of growth and reproduction that maximized their reproductive success (e.g., Bergstrom, 2011; Charnov, 1993; Clutton-Brock, 1988; Roff, 1992; Stearns, 1992). For example, some species (e.g., human beings, elephants) spend energy and time to first grow strong, and they delay reproduction, have a small number of offspring, and die at a later age (i.e., develop a slow life history strategy). In contrast, other species (e.g., rabbits, mice) grow rapidly, reproduce early, have a relatively high number of offspring, and die at an early age (i.e., develop a fast life history strategy).

Although each species has evolved a species-specific life history strategy, the environment influences organisms' developmental strategy because, by natural selection, organisms have evolved developmental plasticity enabling adaption to differing environments so that they can increase their chance of reproductive success (Roff, 2002). Thus, depending on local environmental conditions, organisms develop different strategies to allocate their energy and time across reproduction, growth, and maintenance because the best strategy is different depending on the local environment. That is, environmental cues lead organisms to shift in their somatic versus reproductive effort (Alexander, 1987; Hill, 1993). Somatic efforts refer to efforts for growth and maintenance of organisms, which include acquiring knowledge and skills, as well as physical growth in the case of human beings. Reproductive efforts involve those efforts devoted to mate attraction, intrasexual competition, pregnancy, birth, and childcare, which cannot simultaneously be used for growth and maintenance.

The research of Chivers, Kiesecker, Marco, Wildy, and Blaustein (1991) is a good

example of diversity in fast versus slow life history strategies within a species. The researchers randomly assigned tadpoles at the same stage of development to one of three conditions. One group of tadpoles was reared in the presence of predators (backswimmer) near their aquarium and another group of tadpoles was reared in the presence of non-predators (water boatman). The last group of tadpoles was exposed to chemical cues that are released from injured conspecifics. Tadpoles that were reared in the presence of predators and received chemical cues of injured conspecifics metamorphosed in a significantly shorter period of time. Thus, tadpoles reared in stressful environments demonstrated adoption of a fast life history strategy.

Humans can also vary in their life history strategies. To explain the topic, Belsky, Steinberg, and Draper (1991) developed an early life history model based on evolutionary theory. Under different environments, different strategies increase the chances of reproductive success. That is, under unfavorable environments, fast development and early reproduction increase the likelihood of reproductive success. The model presented two divergent life pathways influenced by environments. According to the model, stressful childhood environments lead individuals to early maturation and onset of puberty, which result in earlier sexual activity. By contrast, less stressful childhood environments cause late physical development and reproduction. In other words, environments influence the development (i.e., fast versus slow) life history strategies of individuals.

Fast versus slow life history strategies are distinctive among three fundamental tasks: (1) growth and development, (2) mating, and (3) parenting. According to the

model, a stressful family context such as inadequate resources (e.g., experiencing an economic hardship) or parents' marital discord influence parents' insensitive and inconsistent parenting, which leads to the development of insecure attachment style. Individuals with insecure attachment styles develop behavioral patterns accelerating sexual maturation and sexual debut as well as short and unstable pair bonds. Moreover, they invest less in parenting because their energy and efforts are oriented toward their own mating. This life history pathway manifests a fast life history strategy.

In contrast, Belsky et al hypothesized that individuals who were reared in a favorable family context and experienced sensitive and supportive parenting developed a slow life history. A slow life history is evidenced by a later puberty, later sexual activity, long-term and enduring pair bonds, and substantial parental investment.

Chisholm (1993, 1996) extended the Belsky et al.'s (1991) life history model by introducing local mortality rates to explain individual differences in fast versus slow life history strategies. Under environments with high mortality rates, having a fast sexual maturity and having multiple offspring would be a better strategy for reproductive success than having a slow sexual maturity, a small number of offspring, and taking good care of them. Chisholm explained that children monitor environments where they live and regulate their developmental rates and mating strategies to achieve the best chance for reproductive success. In sum, Chisholm argued that local mortality rates influence parents' caregiving behavior and in turn, children take the degree of psychological stress they experience from the quality of caregiving as a barometer of the environment and use it in the development of the "best" life history strategy. Accordingly, he believed that

under environments that have high mortality rates, children develop a fast life history strategy, whereas under benign environments, they develop a slow life history strategy.

Researchers have found support for Chisholm's (1993, 1996) theoretical viewpoint. To support the idea that people monitor the harshness and uncertainty of local environments and that this information influences the development of life history strategies, Wilson and Daly (1997) examined the relationship between life expectancy at birth and reproductive timing using data from 77 neighborhoods in Chicago, IL. With data from the Illinois Department of Public Health and population data from the census, the researchers computed life expectancy at birth for each neighborhood. Comparing the 10 neighborhoods with the highest life expectancies, the 10 with the lowest, and the 10 nearest the median, the researchers found the median age of a women's first birth was lowest in the shortest life expectancy neighborhoods and highest in the longest life expectancy neighborhoods.

Moreover, with the same purpose, Chisholm, Quinlivan, Petersen, and Coall (2005) examined the effects of environment on life history event, including age at menarche and age at first birth. The researchers collected data from pregnant women in a hospital in a major city located in Australia. To measure the stress of childhood environments, they used items related to violence between parents, parental divorce, and participant's relationship with parents. They found that experiencing a stressful childhood environment was significantly correlated to earlier menarche, controlling for current income and educational level. In terms of reproductive timing, childhood environment and expected life expectancy were significantly correlated to age at first

birth.

Examining whether a stressful childhood predicted sexual and risky behaviors in young adulthood, Simpson, Griskevicius, Kuo, Sung and Collins (2012) examined data from the Minnesota Longitudinal Study of Risk and Adaptation (MLSRA; Sroufe, Egeland, Carlson, & Collins, 2005). The MLSRA is a project that tracked the life of 165 participants living in poverty from their prenatal period into their adulthood. The researchers used the socioeconomic status of the mother as a proxy measure for stress during childhood and operationalized childhood unpredictability as mothers' life stress stemming from period of employment, moving to a different place, and cohabitation with male romantic partners. They found that experiencing an unpredictable and harsh environment in early childhood was a strong predictor of earlier sexual debut and having sexual relationships with multiple partners.

Current Research

In relation to life history theory, Nettle (2011) suggested automatic evolved heuristics as among the psychological processes that may be involved in reproductive timing. The existence of evolved heuristics is supported by empirical research. Cohan and Cole (2002) found that after a natural disaster (a hurricane) that led to numerous deaths, local marriage and birth rates increased. Moreover, when physiological stress was experimentally induced in a laboratory setting by asking the participants to immerse their hands in iced water, women responded that they wanted to get married and have a baby at

an earlier age than the women who did not experience stress (Chipman & Morrison, 2015).

During evolutionary history, our ancestors would have evolved heuristics that would shift humans toward reproduction when exposed to cues of unpredictable and harsh environments because the shift toward reproduction under unpredictable and harsh environments would have repeatedly increased the chance of reproductive success (i.e., passing genes to the next generation).

Economic recession is an unpredictable and harsh environment. Therefore, economic recession should shift humans toward reproduction. However, this phenomenon does not necessarily mean that people will be motivated to have an actual "baby" when exposed to recession cues. As Nettle (2011) mentioned, people's conscious planning may also be involved in actual reproductive timing. An economic recession is not a favorable environment to have a baby. Therefore, people are more likely to postpone actual reproduction timing, particularly in developed counties where contraception techniques are widely spread.

In our ancestral environments, however, the activation of romantic relationship motives under unpredictable and harsh environments would have enhanced the chance of reproductive success. That is, humans would have evolved heuristics that activate romantic relationship motives when exposed to unpredictable and harsh environments. Accordingly, economic recession, as an unpredictable and harsh environment, should activate romantic relationship motives among humans.

The research by Hill et al. (2012) supported the possibility. The researchers

manipulated perceived economic conditions in a laboratory by having women read either a news article describing economic recession or a news article unrelated to recession. In terms of validity, manipulating perceived environments by eliciting an intended mindset from participants through text reading is a widely used psychological technique to simulate environments. Many other studies successfully manipulated perceived environments and generated new findings by using the methodology (e.g., Durante, Griskevicius, Redden, & White, 2015; Griskevicius, et al., 2013; Griskevicius, Delton, Robertson, & Tybur, 2011; Griskevicius, Shiota, & Nowlis, 2010; Mittal & Griskevicius, 2014; White, Li, Griskevicius, Neuberg, & Kenrick, 2013). Hill et al. found that exposure to economic recession cues (i.e., reading a news article on economic recession) increases women's desire for attractiveness-enhancing products, such as clothing, lipstick, and perfume. They also found that economic recession cues increased women's desire for such products when promoted with slogans related to attracting a romantic partner. This result was based on the fact that only advertising slogans that meet consumers' existing motivations and goals can increase their desire for advertised products (Fennis & Stroebe, 2010; Han & Shavitt, 1994; Uskul & Oyserman, 2010). That is, Hill et al. proved that activation of women's romantic relationship motives is one of the reasons why exposure to economic recession cues increased women's desire for attractiveness-enhancing products. These researchers also tested the mediating effect of desire for partners with resources. The mediation analysis indicated that the effect of exposure to recession cues on women's attractiveness-enhancing products is significantly mediated by the desire for partners with resources. However, after controlling for the mediator, the effect remained

marginally significant. When taken together, the results imply that activation of romantic relationship motives is one of the reasons why economic recession cues increase women's desire for attractiveness-enhancing products. However, the desired romantic partner is not limited to men with resources.

Enhancing attractiveness is a basic function of clothing and adornment. In the past, when patriarchy was the dominant ideology, women did not have the freedom to dress as they want. For example, until the early 1900s, women had to cover their legs by wearing floor-length skirts in Western societies. Women who wore dresses that show their calves were harshly criticized as immodest during the 1920s. However, women's freedom to dress is not oppressed at present. Moreover, in the conservative societal environment of the past, women were expected to be passive in romantic relationships, which is not the prevalent case nowadays. Women at present do not wait for "Prince Charming" to choose them, but instead, they actively use their attractiveness to find a desirable romantic partner.

In relation to perceived attractiveness, the chest and the waist are important parts of a woman's body (Garza, Heredia, & Cieslicka, 2016; Karremans, Frankenhuis, & Arons, 2010; Singh, 1993; Singh & Luis, 1995; Suschinsky, Elias, & Krupp, 2007). Moreover, women's skin exposure is related to perceived attractiveness in women (Hill, Nocks, & Gardner, 1987). Based on these facts, economic recession cues were predicted to lead to deeper necklines, tighter waistlines, and shorter skirts in clothing chosen by women. Thus, the following hypotheses are formulated.

Hypothesis 1: Economic recession leads to deeper necklines in clothing chosen by women

Hypothesis 2: Economic recession leads to tighter waistlines in clothing chosen by women

Hypothesis 3: Economic recession leads to shorter skirts in clothing chosen by women

In the current study, the hypotheses were tested by experimentally manipulating perceived economic conditions.

The effectiveness of enhancing attractiveness varies depending on the types and design features of apparel and accessories. Therefore, women's choice of apparel and accessories is expected to change under economic recessions when women's romantic relationship motives are activated. However, limited knowledge is known about the types and design features that enhance attractiveness besides revealing nature of clothing. Therefore, the researcher explored the effects of economic recession cues on types and design features of apparel and accessories selected by women. Specifically, the researcher intended to answer the following research questions through exploration:

Research Question 1: What are the effects of economic recession cues on the types of apparel/accessories chosen by women?

Research Question 2: What are the effects of economic recession cues on the specific apparel/accessories items chosen by women?

CHAPTER 3

METHOD

Data Collection

Participants

One hundred and two female undergraduate students were recruited in exchange for extra course credit in apparel design (12.75% of total participants) and retail merchandising (87.25% of total participants). Participants ranged in age from 18 to 31 years (M_{age} = 20.52, SD = 2.04). Other demographic characteristics of the participants are presented in Table 1.

Design and Procedure

The recruited participants individually came to a laboratory. To minimize the effects of other factors such as age, ethnicity, and personal preferences, the participants were randomly assigned to one of two conditions: recession and control. To minimize suspicion, they were told that the study consisted of multiple parts, including parts related to a memory test. Next, they were told that they would read some text for a memory test. They were also told that they would be asked about the content of the text for memory

assessment. To elicit an economic recession mindset, the participants assigned to the recession condition were asked to read text that describes an economic recession. Those in the control condition were asked to read text unrelated to economic conditions. After reading the text, to ostensibly let time pass before the memory assessment, the participants were asked to draw an outfit that they would be wearing for a given situation on a croquis (Appendix A). At the end of the study, they were actually asked about the content of text they read, including the main point of text. All participants successfully talked about something related to the text they read.

Manipulation

The participants in the recession condition were asked to read a news article on economic recession (Appendix B). They were told that the article recently appeared in the *New York Times* and that it was selected because its length was ideal for the memory test. The article was formatted to look like a real Web article by using the newspaper's logo, font, and style. The news article for the recession condition was an existing one that was used to manipulate economic recession in the research by Durante, et al. (2015). Durante and her colleagues developed the article based on research by Griskevicius et al. (2013) and Hill et al. (2012). In the control condition, the participants were asked to read a story unrelated to economic conditions. The story was about a step-by-step process for doing laundry (Appendix C). The story was adopted from previous research conducted by Griskevicius, et al. (2010). The story includes measuring detergent, setting the washing machine, and moving the clothes from the washer to the dryer.

Drawing Task

The situation given for the drawing task was adopted from Durante, Li, and Haselton (2008). The description of the situation is as follows:

> Imagine that you are attending a social gathering at a friend's apartment tonight. From what this friend tells you, it is a large party where there will be a lot of single attractive people. The party starts at around 10:30 p.m. Begin to decide on what you are going to wear to this party (p. 5).

Next, they were given the following instructions: "Using the pen and the colored pencils provided, indicate on the paper doll what you will be wearing to this party by drawing an outfit," which is similar to that Durante et al (2008, p. 5) used. Pens that could be used to draw fine lines, 72 colored pencils, and a croquis were prepared in the laboratory in advance.

Table 1

Participant Characteristics

	Characteristics	Participants (N = 102)
Ethnicity	Caucasian	71 (69.61%)
	African American	3 (2.94%)
	Asian	18 (17.65%)
	Hispanic	5 (4.90%)
	Others	4 (3.92%)
	Missing	1 (0.98%)
Relationship status	Single	59 (57.84%)
	In a relationship	37 (36.27%)
	Living with a partner	4 (3.92%)
	Married	0 (0%)
	Missing	2 (1.96%)
Sexual orientation	Heterosexual	94 (92.16%)
	Homosexual	0 (0%)
	Bisexual	8 (7.84%)
	Others	0 (0%)
Annual household income	Less than 30,000	49 (48.04%)
	30,000-39,999	2 (1.96%)
	40,000-49,999	1 (0.98%)
	50,000-59,999	4 (3.92%)

	60,000-69,999	10 (9.80%)
	70,000-79,999	1 (0.98%)
	80,000-89,999	4 (3.92%)
	90,000-99,999	4 (3.92%)
	100,000 or more	27 (26.47%)

Data Analysis

A total of 102 outfit illustrations were collected. One participant drew an illustration of religious clothing and was eliminated as an outlier. Thus, a total of 101 outfit illustrations were used for analysis.

Hypothesis Testing

Measurement

Two coders who were blind to the purpose of this study measured neckline depth, waistline tightness, and skirt length in outfit illustrations. For the measurement, the researcher drew a horizontal line at the level of the waistline on the same croquis given to the participants by using a computer software program. Then, the croquis with the line was printed onto transparency films. After putting the transparency film on each outfit illustration, the coders measured with a ruler for neckline depth, waistline tightness, and skirt length. Specifically, for neckline depth, the distance from the chin of the croquis to the neckline on the outfit illustrations was measured. If no neckline was present (i.e., strapless dress or top), then the distance from the chin to the point where a vertical line from the chin and the piece of garment met was measured. For waistline tightness, the coders measured the width of the outfit at the level of the indicated waistline. In terms of skirt length, some skirts had uneven hemlines (e.g., diagonal hem, scalloped hem).

Therefore, the coders measured each skirt twice for the distances from the waistline to the highest and the lowest points of skirts on croquis.

Statistical Analyses

For neckline depth, tightness at waist, and skirt length, analyses of variance (ANOVAs) were used. For the analyses, the means of the values measured by the two coders were entered.

Exploratory Analyses

The analysis process consisted of two steps: (1) visual analyses and (2) statistical analyses, that is, the researcher conducted visual analyses first and then performed statistical analyses.

(1) Visual analyses

Visual analyses were conducted first to generate variables related to types of apparel/accessories and specific apparel/accessory items for further analysis. In terms of specific apparel/accessory items, outfit illustrations in particular deliver a great deal of information as visual materials. Given that using all the information in the illustrations for further analysis was impossible, the researcher needed to screen information first through visual analysis.

While conducting visual analyses, the researcher adopted an approach similar to what Cosbey, Damhorst, and Farrell-Beck (2002) used to identify design features for visual analysis instrument development. Specifically, the researcher considered only what

was actually observed and did not make any speculations about the parts that could not be observed. Also, a semiotics perspective was adopted. All individual elements (e.g., A-line silhouette) and combinations of elements (e.g., off-the-shoulder neckline style) that make meaning were considered. However, anything related to clothing images (e.g., sexy, sporty, and feminine) were not considered.

(2) Statistical analyses

Statistical analyses were conducted to test whether the differences in frequencies for each type of apparel/accessories and each specific apparel/accessory item across recession and control conditions were due to chance. That is, statistical analyses were performed to examine whether the differences observed in visual analyses were statistically significant. Accordingly, when conducting statistical analyses, variables generated from visual analyses were used.

Visual Analysis

In terms of types of apparel/accessories (RQ1), the researcher listed all types of apparel and accessories observed in the 101 outfit illustrations produced by the participants.

In terms of specific apparel/accessory items (RQ2), repeatedly observed items with a specific design feature or a combination of design features in one condition (at least 10% of the total illustrations in the condition) were compared with the other condition in terms of frequency of appearance. That is, categories for comparisons were generated inductively from outfit illustrations drawn by participants. When no difference existed in terms of a single design feature or a single combination of features, similar

design features or combinations of design features were grouped and the two conditions were compared again. Therefore, the same design feature may have been included several times in the comparisons. For example, the frequency of appearance of "pants with a rolled-up hem" observed in one condition was compared with the other condition. Later, the frequency of appearance of "pants with a transformed hem," which includes pants with a rolled-up hem, pants with an uneven hem, and pants with a ribbed hem, was compared as well. As another example, the frequency of appearance of "black top" was compared across the recession and control conditions, but that of "achromatic color top" was compared as well. Specific apparel/accessories that showed a difference in frequency were enlisted. While enlisting, those that showed a minor difference in frequency were excluded.

Data Coding

In advance of statistical analyses, the two coders who were blind to the purpose of this study were asked to independently code 101 outfit illustrations on each type of apparel/accessory and each specific apparel/accessory item enlisted through visual analysis. When scanned and displayed on computers, the colors in the illustrations may look different. Thus, both coders coded illustrations looking at the original copies. Before the coders started coding, the researcher explained the types of apparel/accessories and specific apparel/accessory items on the list. Also, the colored pencils that the participants used to draw outfits were given to the coders, and the researcher had them test the pencils so that they became accustomed to the colors of the colored pencils. For each type of

apparel/accessories and each specific apparel/accessory item enlisted, the coders assigned "1" if they observed one and "0" if not.

Statistical Analyses

In terms of types of apparel/accessories and specific apparel/accessory items, the researcher examined whether the codes assigned by the two coders were identical. When discrepancies occurred, the two coders discussed and resolved the discrepancies. The codes that both coders agreed on were used for statistical analysis. Next, the frequencies of appearance of each type of apparel/accessories and those of each specific apparel/accessory item were entered as dependent variables for chi-squared tests.

CHPTER 4

FINDINGS

Hypothesis Testing

Neckline Depth, Waistline Tightness, and Skirt Length

Coders measured neckline depth of outfits in a total of 100 illustrations (i.e., Recession: $n = 50$, Control: $n = 50$). An exception was the neckline of a dress in one illustration in the recession condition that was invisible because a scarf was worn around the neck. For waistline tightness, coders measured the width of outfits at the waist for a total of 92 illustrations (Recession: $n = 48$, Control: $n = 44$), except for illustrations with an outfit that revealed skin at waist (e.g., a crop top). In terms of skirt length, the coders measured skirt lengths (highest and lowest) in a total of 75 illustrations where a dress or a skirt was drawn (Recession: $n = 35$, Control: $n = 30$). In terms of inter-coder reliability, Cronbach's α was used: Neckline depth $\alpha = 0.980$, Tightness at waist $\alpha = 0.993$, Skirt length (highest) $\alpha = 0.999$, and Skirt length (lowest) $\alpha = 0.999$.

An ANOVA revealed that differences in neckline depth across recession and control conditions were statistically significant ($F(1, 98) = 4.648$, $p = 0.034$, Cohen's $d = 0.43$). That is, the neckline of outfit illustrations in the recession condition was significantly deeper than that in the control condition ($M_{\text{Recession}} = 1.67$ cm, $SD = 0.69$ cm;

$M_{Control}$ = 1.39, SD = 0.61), supporting Hypothesis 1. However, ANOVA results on waistline tightness did not support Hypothesis 2. Economic recession cues did not lead to a significantly tighter fit at the waist ($M_{Recession}$ = 1.92 cm, SD = 0.36 cm; $M_{Control}$ = 1.91, SD = 0.29), ($F(1, 90) = 0.067$, p = .796, Cohen's d = 0.03). Moreover, ANOVAs revealed that the effect of the manipulation on skirt length was not significant for both highest ($M_{Recession}$ = 4.06 cm, SD = 1.29 cm; $M_{Control}$ = 4.30, SD = 1.74), ($F(1, 63) = 0.40$, p = .530, Cohen's d = 0.16) and lowest points of the hemline ($M_{Recession}$ = 4.40 cm, SD = 1.41 cm; $M_{Control}$ = 4.81, SD = 1.89), ($F(1, 63) = 1.02$, p = .316, Cohen's d = - 0.25). That is, Hypothesis 3 was not supported.

Exploratory Analyses

Types of Apparel/Accessories

Types of apparel resulting from the visual analysis included the following: "dress," "jumpsuit & romper," "top," "skirt," "pants," "shorts," "layered pullover," and "cardigan/jacket." When a pullover was worn over a top, the second piece was regarded as "layered pullover" (Figure 3). For types of accessories, "necklace," "earrings," "bracelet," "ring," "watch," "scarf," and "handbag" were enlisted. Belts were also observed, but those were analyzed as a design feature of apparel. Therefore, "belt" was not enlisted as a type of accessory.

In terms of inter-coder reliability, for each type of apparel/accessories, initial percent agreement was calculated and is presented in Table 2. The percent agreement

means the percentage of illustrations where initial codes assigned by two coders were identical to the total illustrations. As seen in Table 2, the types of apparel/accessories showed good initial inter-coder reliabilities ranging from 97.03 to 100 percent. As mentioned in the analysis section above, the two coders discussed and resolved discrepancies in coding and the codes that both coders agreed on were used for further analysis.

Results of chi-square tests on types of apparel did not generate any significant differences in the frequency of appearance of "dress," "jumpsuit & romper," "top," "skirt," "pants," "shorts," and "cardigan/jacket" across recession and control conditions. However, the difference in the frequency of appearance of "layered pullover" was marginally significant (Table 3). The participants in the recession condition were less likely to wear a pullover over a top than those in the control condition.

For accessories, differences in frequencies of appearance of "bracelet," "ring," "no jewelry," "watch," "scarf," and "handbag" were not significant across the two conditions. However, "necklace" and "earrings" generated a marginally significant and a significant difference across two conditions, respectively. The participants in the recession condition were more likely to wear a necklace than those in the control condition. On the other hand, the participants in the recession condition were less likely to wear earrings as opposed to those in the control condition. Chi-squared tests results for all types of apparel and accessories are presented in Table 4.

Figure 3. Examples of Illustrations with a Layered Pullover

Table 2

*Initial Percent Agreement for Types of Apparel/Accessories (*N = *101)*

Types of Apparel/Accessories	n	%
Type of apparel		
Dress	98	97.03
Jumpsuit & Romper	101	100
Top	98	97.03
Skirt	98	97.03
Pants	101	100
Shorts	101	100
Layered pullover	101	100
Cardigan/Jacket	101	100
Type of accessories		
Necklace	101	100
Earrings	101	100
Bracelet	100	99.01
Ring	101	100
Watch	101	100
Scarf	101	100
Handbag	101	100

Table 3

Prevalence of Each Type of Apparel in Recession Condition (n = 51) and Control Condition (n = 50)

Type of apparel	Recession		Control			
	n	%	*n*	%	χ^2 (1)	*p*
Dress	15	29.41	17	34	0.25	.622
Jumpsuit & Romper	0	0	2	4	2.08	.243[a]
Top	36	70.59	31	62	0.83	.364
Skirt	20	39.22	13	26	2.01	.159
Pants	16	31.37	16	32	0.01	.946
Shorts	0	0	2	4	2.08	.243[a]
Layered pullover	0	0	3	6	3.15	.077
Cardigan/Jacket	1	1.96	3	6	1.08	.300

Note. For the chi-squared tests, the recommendations of Campbell (2007) for tests of two-by-two tables were followed. When all expected counts were at least 1, the $N - 1$ chi-squared tests were used. Otherwise, Fisher–Irwin tests were employed. Note that a = Fisher–Irwin tests results.

Table 4

Prevalence of Each Type of Accessories in Recession Condition (n = 51) and Control Condition (n = 50)

Type of Accessories	Recession		Control			
	n	%	*n*	%	χ^2 (1)	*p*
Necklace	24	47.56	15	30	3.10	.080
Earrings	2	3.92	8	16	4.13	.043
Bracelet	15	29.41	12	24	0.38	.541
Ring	3	5.88	2	4	0.19	.664
No jewelry	23	45.10	29	58	1.67	.197
Watch	4	7.84	2	4	0.67	.416
Scarf	1	1.96	0	0	0.99	1[a]
Handbag	4	7.84	5	10	0.15	.705

Note. For the chi-squared tests, the recommendations of Campbell (2007) for tests of two-by-two tables were followed. When all expected counts were at least 1, the $N - 1$ chi-squared tests were used. Otherwise, Fisher–Irwin tests were employed. Note that a = Fisher–Irwin tests results.

Specific Apparel/Accessories Items

As a result of visual analysis, “gold-tone necklace,” “pink top,” “black solid skirt (black skirt where no other color is used),” “blue pants,” and “black/gray pants” were enlisted. The calculated initial percent agreements (i.e., the percentages of illustrations that two coders initially assigned the same code) are presented in Table 5. Again, very good inter-coder reliabilities were achieved, showing initial percent agreements ranging from 98.02 to 100 percent. As in the analysis for types of apparel/accessories, the two coders resolved discrepancies in coding through discussion, and the codes that both coders agreed on were used for further statistical analyses.

The differences in frequencies of appearance of “blue pants” and “black/gray pants” across the conditions were not statistically significant. However, frequencies of appearance of “gold-tone necklace” (Figure 4), “pink top” (Figure 5), and “black solid skirt” (Figure 6) in the recession condition were significantly higher than those in the control condition. That is, the participants in the recession condition were more likely to wear a gold-tone necklace, a pink top, and a black solid skirt than those in the control condition. The chi-square test results are presented in Table 6.

Table 5

*Initial Percent Agreement for Specific Apparel/Accessory Items (*N = *101)*

Specific Apparel/Accessory Items	*n*	*%*
Gold-tone necklace	101	100
Pink top	99	98.02
Black solid skirt	99	98.02
Blue pants	101	100
Black/gray pants	101	100

Figure 4. Examples of Illustrations with a Gold-tone Necklace

Figure 5. Examples of Illustrations with a Pink Top

Figure 6. Examples of illustrations with a black solid skirt

Table 6

Prevalence of Each Specific Apparel/Accessory Item in Recession Condition (n = 51) and Control Condition (n = 50)

Apparel/Accessory Items	Recession		Control			
	n	%	*n*	%	χ^2 (1)	*p*
Gold-tone necklace	10	19.61	3	6	4.17	.042
Pink top	7	13.73	1	2	4.76	.030
Black solid skirt	9	17.65	0	0	9.69	.002
Blue pants	6	11.76	11	22	1.89	.171
Black/gray pants	8	15.69	3	6	2.44	.120

Note. For the chi-squared tests, the recommendations of Campbell (2007) for tests of two-by-two tables were followed. When all expected counts were at least 1, the $N - 1$ chi-squared tests were used. Otherwise, Fisher–Irwin tests were employed.

CHAPTER 5

DISCUSSION AND FUTURE RESEARCH

Discussion

The purpose of this study was to examine the effects of economic recession on women's choice of dress by experimentally manipulating perceived economic conditions. Based on life history theory and previous empirical studies, the researcher tested predictions that economic recession cues would lead to deeper necklines, tighter waistlines, and shorter skirts in clothing chosen by women. Moreover, the researcher explored the effects of economic recession cues on types and design features of apparel and accessories selected by female participants.

Perceived economic conditions were manipulated by exposing participants in the experimental condition to economic recession cues. Specifically, participants in the recession condition were asked to read text describing economic recession, whereas participants in the control condition were asked to read text unrelated to recession. Next, the participants were asked to draw an outfit they would be wearing to a party on a given croquis.

As a result of hypothesis testing, exposure to economic recession cues significantly resulted in deeper necklines as predicted. However, no significant differences in waistline tightness were revealed. The waist width of croquis given to

participants was 1.7 cm. There were only small differences between the waist width of croquis and averages waist width of outfits in both the recession (1.92 cm) and control (1.91 cm) conditions. It is possible that a significant difference was not found because fit at the waist was already very close to the body.

Moreover, the economic recession cue did not make a difference in the length of women's skirts. This result has several possible explanations. If women wear a top with a deep neckline and a short skirt or a dress with a deep neckline and a short skirt, then they may be perceived as promiscuous. Although women's clothing is unrelated to actual promiscuousness, men tend to connect women's clothing to being sexually unrestricted (Stillman & Maner, 2009). Given that women do not prefer short-term sexual liaisons (Clark & Hatfield, 1989; Schmitt et al., 2003), they would not want to be perceived as sexually unrestricted. Therefore, women may choose not to wear a shorter skirt while choosing clothes with deeper necklines under economic recession. Another possible explanation is that economic recession did not shorten women's skirts because they were already short at the time of this study. The average of skirt lengths in both recession and control conditions were above the knee. Therefore, skirt lengths may be already too short to become shorter. Finally, skirt length may not be influenced by economic recession as a basic dimension in Kroeber's (1919) discussion and as a part of structural components in Lowe and Lowe' (1982) argument.

The effects of economic recession cues on the types and design features of apparel/accessories chosen by women revealed through exploratory analyses are as follows. Women were less likely to wear a layered pullover over a top when exposed to

economic recession cues. Body contour is closely related to the perception of women's attractiveness (Karremans, Frankenhuis, & Arons, 2010; Singh, 1993; Singh & Luis, 1995). Women's body contour is concealed when another garment is worn over a top. Therefore, when exposed to recession cues, women may be less likely to wear a layered pullover because it conceals body contour.

In terms of accessories, women were more likely to wear a necklace, but they were less likely to wear earrings when exposed to economic recession cues. Necklace and earrings enhance attractiveness by adorning body parts. However, they adorn body parts that are in close proximity. Therefore, wearing both the necklace and earrings may be perceived as "too much." The results on increase in necklace and decrease in earrings may reflect this. However, further research on why women are more likely to choose a necklace over earrings when exposed to economic recession cues should be conducted.

Economic recession cues significantly increased the frequency of gold-toned necklaces. Gold represents a material that humankind has used for adornment for a long time. The surface of gold is glossy. Moreover, gold has a warm color. Thus, its beatification effect is higher than other glossy materials with cooler hues, such as platinum and silver. Women may be more likely to choose gold tone necklaces under economic recession to more effectively beautify their appearance.

Women were also likely to choose a pink top when exposed to economic recession cues. Women's attractiveness is linked to femininity, which is supported by the fact that more feminine faces are perceived as more attractive (Perrett, Lee, Penton-Voak, Rowland, Yoshikawa, Burt, Henzi, Castles, & Akamatsu, 1998). The color pink is a

representative feminine color in the United States (Paoletti, 2012). Therefore, women's desire to enhance their attractiveness by being perceived as feminine under economic recession may be revealed through the color pink. Another explanation is also possible. The color pink is a symbol of romance (Fiore, 2010). Women's romantic relationship motives activated by economic recession cues may be revealed through a pink top.

When exposed to the economic recession cue, women were likely to wear a black solid skirt. Black is the darkest color without hue and chroma. When the color black is placed next to another color, the viewers' eyes are attracted to the contrast of the other color over black. Moreover, black solid skirts attract minimum attention from viewers because no other color is used. The perception of women's attractiveness is more closely related to the upper body than the lower body (Garza, Heredia, & Cieslicka, 2016; Suschinsky, Elias, & Krupp, 2007). During economic recession, women may be likely to wear a black solid skirt to focus the viewers' attention to the upper part of their bodies that are more closely related to attractiveness than the lower body.

Implications

This study contributes to theories on the stylistic change of fashion. This study provides evidence that economic recession can affect women's choice of apparel and accessories. When a discernable proportion of people in a particular group collectively choose an item with a certain design feature or combination of features, it is called fashion. Therefore, results related to the effects of economic recessions on women's

choice of apparel and accessories indicate the effects of economic recession on women's fashion.

In terms of stylistic change, early researchers, such as Kroeber (1919) and Young (1937), insisted on the cyclical change of fashion, whereas many other fashion researchers linked fashion change to the change in environments of the society (i.e., external factors). The effects of economic recession cues on fashion revealed in this study support the contention of many fashion researchers regarding the connection between external factors and fashion change. Of course, styles that are not provided by the fashion system cannot become fashion (Hamilton, 1997). However, the findings of the current study are related to basic colors or items (e.g., gold-toned necklace, pink top, and black solid skirt), which are continuously presented to consumers. Therefore, market infrastructure theory cannot weaken the contributions of this study to fashion theories on stylistic change.

However, the findings of this study are not necessarily contradictory to early researchers' argument on the internal cycle of fashion. Kroeber's discussions of cyclical change focused on basic dimensions. He is known for his argument that fashion changes with an internal cycle like a pendulum swing, but he admitted that color and details chaotically fluctuate. Lowe and Lowe's (1982) discussion on the structural components and random portions is consistent with Kroeber's (1919) argument. Lowe and Lowe insisted that structural components gradually change, but random portions are open to change by external factors. As another representative early scholar, Young's (1937) research was also about skirt silhouette, which is part of basic dimensions.

In the present study, the effects of economic recessions on women's fashion were empirically proven through experimental manipulation of perceived economic conditions. However, the findings of this study are centered on color and details (e.g., gold tone necklace, pink top, and black solid skirt) rather than basic dimensions. Therefore, as early researchers insisted, external factors may influence color and details, whereas basic dimensions evolve with internal cycles.

Limitations and Suggestions for Future Research

As the first study that examined the effects of economic recessions on women's choice of apparel and accessories through an experimental economic recession manipulation, this study showed a causal relationship. This study contributes to fashion theories and the industry, but limitations should be addressed.

The participants of this study were college students. Therefore, the results of this study cannot be easily generalized to non-college-attending population. Moreover, 12.75% of the participants were enrolled in a course in apparel design. This means that at least 12.75 % of the participants were majoring in apparel design or very interested in fashion. The characteristics of the participants of this study may have influenced the results. Future research might test the effects of economic recessions cues on participants recruited from a different pool. Moreover, the participants of this study were asked to draw an outfit they were going to wear to a party. When people choose what to wear, they consider the situations they are going to be in for the chosen apparel and accessories.

Therefore, the effects of economic recession on women's dress choice for other situations may be different. Future research may test the effects of economic recession cues on women's dress choice with different situations other than a party. For example, future researchers might replicate this study by asking participants to draw an outfit for a workplace.

Another limitation is the difficulty of generalizing the results to other cultures. Adorning the body is a universal phenomenon observed in all cultures. However, the specific forms of adornments vary from culture to culture. Even for the same adornments, meanings attached to the adornment may vary depending on the society. The activation of romantic relationship motives under economic recessions as evolved heuristics would occur in the human mind regardless of cultures. However, the apparel and accessories that women choose to enhance their attractiveness under economic recessions may differ from culture to culture. Therefore, the effects of economic recession on women's choice of dress in another culture may be different from that in the United States where this study was conducted. For example, in countries where a deeper neckline is perceived to be particularly immodest and wearing clothes with such a design feature rather decreases desirability as a romantic partner, women would not choose such clothes under economic recessions. Future research might replicate this study in another culture. The results will be useful to apparel companies that enter the overseas markets.

Furthermore, there are limitations related to the data collection method. In this study, the researcher asked participants to draw on a given croquis an outfit they would like to wear to a party. The researcher made the croquis as faint as possible to prevent the

croquis from influencing the participants' drawings. However, the participants' drawings might still have been influenced by the croquis. Moreover, the participants might not have been able to fully express the outfits they would like to wear due to lack of drawing ability. Therefore, future research may conceptually replicate this study by preparing pictures of diverse outfits and asking participants to choose what they would like to wear.

This study strongly focused on investigating the effects of economic recession on women's choice of dress and fashion changes. Therefore, no mediators were considered. Future research may explore the kind of mediators that drive the effects revealed in this study. The desire to look attractive to potential romantic partners, to look more attractive than other women, and to stand out from others may be included as mediators.

Hill and her colleagues (2012) confirmed that their findings on the effects of economic recession on women's desire for attractiveness-enhancing products are not driven by negative affect elicited from reading text on economic recession. The current study was conducted based on their findings. However, the possibility that the findings of this study were driven by negative affect elicited from the economic recession article cannot be completely ruled out. Therefore, future research should replicate this study by using an article that elicits a similar level of negative affect for a control condition to eliminate this possibility.

Finally, future research could test the effects of economic recessions cues on men's choice of apparel and accessories. Men's attractiveness is closely related to muscles (Dixson, Halliwell, East, Wignarajah, & Anderson, 2003) and width of the shoulder (Hughes & Gallup, 2003). Therefore, when romantic relationship motives are

activated under economic recessions, men might choose clothes that can emphasize their muscles and make their shoulder look wider to enhance their attractiveness. Moreover, tactics that men use to attract a romantic partner are related to economic power and social status (Buss, 1988; Hall, Park, Song, & Cody, 2010; Haselton et al., 2005; Schmitt & Buss, 1996). Therefore, men might choose formal clothes and a watch as an accessory under economic recessions to look like a person with high status and considerable resources.

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APPENDIX A
Croquis

APPENDIX B
Economic Recession Article

The New York Times

Tough Times Ahead: The New Economics of the 21st Century

By MORGAN JAMESTON, Senior Times Writer

Less than a year ago Jonathan Pierce had a stable, well-paying job. Having earned a college degree, Jon was doing well at age 25. He even believed he was about to be promoted. Today, however, Jon is yet again standing in the dreary unemployment line downtown. "I didn't think this could happen to me," he mutters while shaking his head. "I have a college degree and I can't even get a job interview, let alone a job. I'm facing foreclosure on my house, and I just don't know where the money is going to come from."

This depressing scene is not unique. Unemployment lines are full across the country. "The numbers are staggering," notes Oliver Windsor, the head of the U.S. Economic Commission. And it's not just blue-collar jobs like construction and food service that are being cut. It's the white-collar jobs like management and office work that are being hit the hardest. According to Windsor, "the worst is not over yet by a long shot." Unfortunately, there is little that the government can do to remedy the situation. As every economist knows, while government bailouts can slow the bleeding, it can't fix the underlying problems.

The economic crisis is only the beginning of the new reality faced by Americans. After decades of economic growth, experts agree that the U.S. is on the verge of an economic shift. "The economy of the 21st century is fundamentally different from that in the past," explains Dr. Patricia Wharton, chair of the panel for U.S. Economic Stability. "The sad truth is that this generation is certain to be the first generation to do worse than their parents. The housing bubbles, bank crises, skyrocketing food and energy prices, and the credit crisis only begin to scratch the surface of our economic problems. Instead of college graduates wondering whether they will be able to afford a flat screen TV, they'll soon be wondering where there next meal is going to come from, how they'll clothe themselves, and how they can possibly afford a place to live."

The fact that younger Americans should expect to have little economic advancement is only part of the imminent economic disaster. Skyrocketing worldwide population growth and scarcity of natural resources are both working together to transform the U.S. economy. To understand how these factors are changing life for Americans, Oliver

Windsor, one of 80 leading scientists who contributed to the government report, reminds us of the basics: “There are literally billions of people out there competing with each other. And these people are not just competing for jobs. The truth is that they’re competing for food, water, and air.”

While it may be difficult for some to imagine that the U.S. might one day be in poverty, the world in the 21st century is highly inter-connected. Things that happen in China, India, and Africa have tremendous consequences for what happens in the rest of the world. As the people across the globe gain skills and opportunities, competition for scarce jobs and resources will only increase. As necessities such as safe food, drinkable water, and breathable air become scarcer and more expensive, the world as we know it will become a very different place. Instead of walking into a supermarket and buying a gallon of water for under a dollar, consumers may soon be spending as much as $10 for only a small bottle of clean water.

Watching Jonathan Pierce wait in the unemployment line downtown, one can’t help but be reminded of the Great Depression—a time in American history that most people only remember from their history classes. The images of the Depression are difficult to erase: Malnourished children begging for food, people standing in line all day to get a slice of bread and a cup of soup, everyone struggling to feed themselves and their families. The sad truth for people like Jonathan Pierce and countless others is that losing a job is only the beginning. Tough times are ahead.

APPENDIX C
Control Article

Imagine that today you need to do laundry. You haven't done laundry in a while, so you have a lot of clothes, towels, and other things that need to be washed. You begin the task by sorting all of your dirty laundry from the hamper into piles. After everything is sorted, you take the laundry to the washing machine. Piece by piece you fill up the washer with a full load. You look through your cleaning products for the laundry detergent, and carefully measure the right amount of detergent for the load into the washer. You pour the detergent into the machine and check the setting. After making sure that you have the right setting, you turn on the washer.

After the washer finishes with your load, you check the dryer to make sure that it's empty. Opening the washing machine, you take each piece of clothing, shake it out, and put it into the dryer. You pull a sheet of fabric softener out of the box and toss it in with the clothes in the dryer. You look at the dial on the dryer and set it to the correct time and setting. Finally, you turn on the dryer.

As your first load is drying, you begin putting a second load of laundry into the washer. Again, you empty your pile of clothes into the washer until it's full. You measure the right amount of detergent and put it in the washer. Before starting, you change the setting on the washer to better fit this particular load. Finally, you turn on the washer.

The dryer soon finishes drying your first load. You open it and put your hand inside to make sure that everything is dry—it is. You take the clothes out of the dryer and put them into a basket. You go back to the dryer and check to make sure that there is nothing left—there isn't.

Because the dryer is now empty and your second load of laundry finished washing, you transfer the second load from the washer to the dryer. When all the clothes have been moved to the dryer, you check the dryer's settings, close the door, and turn the dryer on.

As the second load dries, you bring the basket with the already dry clothing from the first load to a table. You clear up some space and fold the clothes, sorting them into new piles to make it easier for when you'll be putting them away later. Taking your folded clothes, you go to put them away in their rightful place.