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Abstract

Purpose – The study investigated dimensions related to the gender role and identity perceptions of adolescent girls in Hong Kong. A typology based on the dimensions was developed and its ability to predict brand relationship variables was examined.

Design/methodology/approach – A convenience sample of 355 Hong Kong female secondary school students aged 12 to 19 were asked to answer questions about gender roles and identities, ideal female images, and liking of global brands. A segmentation approach was employed to classify the respondents.

Findings – Four distinct clusters of adolescent girls were identified and profiled. They were *Middle of the roaders*, *Achievers*, *Conservatives*, and *Inactives*.

Practical implications – Understanding the unique characteristics of the clusters and the similarities and differences among them can enhance the targeting of marketing communication to adolescent girls, including the selection of celebrity presenters and visual images.

Originality/value –This was the first study to segment Chinese adolescent girls using gender roles and ideal female images.

Key words: segmentation, psychographics, young consumers, gender roles, global brands

Paper type Research paper

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Introduction

A recent television commercial for the Canon EOS 600D camera shows an office lady, age about 25, rushing to get ready for work. The camera lying on the table triggers her to pretend to be sick and apply for leave from her boss. She admits that she sometimes just wants to indulge herself. She visits an exotic place in southern Taiwan and takes many pictures with the aboriginal inhabitants. She seems to enjoy traveling alone and exploring new experiences (Canon, 2011). Such active and adventurous females are being presented more often nowadays as purchase decision makers for consumer products, including technical products for which the ads used to target males. Commercials such as this one apparently aim to appeal to females who endorse modernity and aspire to a better quality of life.

A review of previous studies on the psychographics of female Chinese consumers found that there was a continuum of values and lifestyles from conservative and traditional, to idealists and experiencers. It also found that segmentation based on values and lifestyle effectively predicted consumption choice and brand relations. However, none of the studies reviewed focused on young females. Also, none focused on females' perceptions of gender roles and identity. Gender differentiation is a classic lens for the study of consumption, since "masculinity" and "femininity" are clearly inscribed in material culture (Benwell, 2003; Gill, 2003; Skeggs, 2004). Previous studies have found that gender perceptions are associated with interpretations of and responses to gendered advertisements and closely related with consumers' decision-making (Hogg and Garrow, 2003) as well as brand name response (Grohmann, 2009; Klink, 2009). Females are

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sensitive to brand images and brand personality highly associated with their perception of self-identity (Lau and Phau, 2010).

   This has been the first study on the psychographics of Chinese adolescent girls. This study attempted to segment adolescent Chinese girls into meaningful groups according to their perceptions of gender roles and ideal female images. Gender roles were singled out as the basis of the segmentation because gender roles and identities play such an important part in adolescents' lives (Martin, 1996). Also, a previous psychographic study of 36 activities, interests and opinions of Chinese females identified twelve significant factors, among which at least five were related with gender roles (Tam and Tai, 1998). This study was designed to help marketers and policy makers communicate better with young Chinese females about products, services and social concerns.

The importance of the female market

Females are an important market because they often buy for their families as well as for themselves. As women now are enjoying higher incomes and more women are participating in the labor force, they are of obvious importance to marketers (Feng and Karen, 2011). Marketing and advertising professionals strive to keep up-to-date about females' changing values and roles in society (Tai and Tam, 1997). Consumer analysts are interested in monitoring women's changing perceptions about the gender roles of females as individuals and as shopping decision makers for their families (Blackwell et al., 2006). "Gender role" in this context refers to what the typical occupant of a given position is expected to do in that position in a specific social context (Wilson, 1980). Female consumers undergo a socialization process in which they learn about consumer skills and values. Family, peers and schools all play a part as socializing agents (Chan

and McNeal, 2004). Marketers who want to map how gender roles change with time are interested in examining how adolescents perceive gender roles and identities. Adolescents, after all, represent the next generation of consumers. The teenage market is growing in both size and consumption power. American teens have been found to spend 40 percent of their budget on fashion goods and also to influence their parents' purchase decisions (Klinefelter and Tamminga, 2007).

Adolescent girls in Hong Kong

As a former British colony, Hong Kong has laws encouraging gender equality in education, employment and pay (Chan, 2000). Nine years of free education are provided to all children, male and female. Due to the improvements in education and economic development, and due as well to the influence of the Western feminist movement, the status of women in Hong Kong has improved significantly in the last two decades (Lee and Collins, 2008). However, studies have shown that adolescents in Hong Kong hold robust gender stereotypes. Surveys of school children aged 10, 13 and 16 found that the respondents perceived distinctly different desirable personality traits for girls and boys. Qualities important for girls included being kind and approachable, conforming to others' needs, being generous, and being presentable. Qualities important for boys included being active, ambitious, brave, career-minded, and persevering (Keyes, 1979; 1984). A qualitative study of Hong Kong girls aged 8 to 12 found that the gender roles and identities they preferred for females were a combination of traditional and contemporary stereotypes (Chan et al., 2011).

An earlier qualitative study of adolescents in Hong Kong had shown that social comparisons with peers of material possessions were common. Adolescent girls were

prone to compare handbags, wallets, clothing and accessories in order to construct a desirable social self-image and gain popularity among their peers. Teenage girls in Hong Kong pay attention to brand names and often read magazines for shopping purposes. A survey of 237 secondary school students found that most such adolescents were familiar with global fashion brands. Nearly 70 percent of the female respondents had heard of the Gucci and Louis Vuitton brands, and about half had heard of D&G and Prada. The same study found that Hong Kong teenage girls perceived a young person with a lot of branded products as happier and having more friends than a young person without branded products (Chan, 2010).

The psychographic segmentation of Chinese females

Tam and Tai (1998) were the first to report a psychographic segmentation of females in greater China (limited to Hong Kong, southern mainland China, and Taiwan). Before that study, two others had reported on Hong Kong females (Asian Advertising and Marketing, 1990) and Taiwan females (Asia's Media and Marketing Weekly, 1991). In Tam and Tai's study, a cluster analysis of a sample of 558 females aged 18 to 35 generated four groups. The *Conventional females* group (40.7 percent) constituted the largest segment. They adhered strongly to the traditional value of filial piety and valued their family life more than their career. *Contemporary females* (21.9 percent) attempted to balance family and career while gaining financial independence and higher employment status. The *Searching singles* (19.4 percent) were primarily career-oriented. They had more time to spend with their friends and on shopping. The *Followers* (18.1 percent) were the fourth group. They had no strong opinions about their family, their career or their surroundings. They were socially and culturally inactive (Tam and Tai, 1998).

Sin and his colleagues later attempted to identify common beliefs about gender roles held by Hong Kong females influenced primarily by Chinese or by Western cultural values (Sin et al., 2001). Their sample of 977 females aged over 18 generated three clusters. The first group of *Individualists* (33.0 percent) cherished individual freedom and did not want to be bound by traditional Chinese values. For example, they did not want to obey to their fathers, husbands or sons unquestioningly. The second group of *Traditionalists* (28.2 percent) admitted unequal gender status and felt that males should have a higher social status than females. They listened to their husbands and accepted that bearing children was a great achievement and responsibility in life. The *Pro- societalists* (38.8 percent) perceived themselves to be different from traditional Chinese females. They were economically independent and were willing to express their opinions about societal issues such as environmental protection and social justice (Sin et al., 2001).

Another study was conducted among a large sample of 9,841 respondents (5,247 males and 4,594 females) aged 18 to 45 from 12 cities in China including Beijing, Guangzhou and Shanghai (Gao et al., 2009). The study generated five groups of consumers. The first group were termed *Achievers* (20.8 percent; females: 25.5 percent) and were mainly male. It was important for them to symbolize status, power and success using prestigious brand names. Their knowledge of and interest in fashion was limited. The second group of *Conservatives* (16.6 percent; females: 55.9 percent) perceived family as more important than career. They spent less on clothing than the other market segments. The third group of *Experiencers* (24.0 percent; females: 54.9 percent) were the most fashion-conscious segment. They participated in a variety of social and cultural activities. The fourth group of *Followers* (21.5 percent; females: 51.3 percent) less often attended social and cultural

activities. They did not want challenge, novelty or change. They spent moderately on clothing but bought luxury fashion brands. The fifth group of *Idealists* (17.1 percent; females: 46.0 percent) were sophisticated, reflective, and open-minded. They perceived that taking responsibility for their families and society was more important than enjoying life. Idealists lagged behind only the Experiencers in clothing expenditure and the purchase of luxury fashion brands. Idealists were the least conscious of well-known brands (Gao et al., 2009).

To what degree are female values and roles in the family and society likely to change as a new cohort of young females emerges? In what ways are young Hong Kong females different from adult females in Hong Kong? Do young females focus on their appearance? Do they place great emphasis on their careers? Do they aspire to be wives and mothers? Are they keen to pursue their dreams? All are topics with potential marketing relevance.

To answer those questions, a quantitative study was designed to develop a segmentation of adolescent girls according to their gender perceptions. It addressed the following three research objectives:

1. to define dimensions related to the gender and identity perceptions of adolescent girls in Hong Kong;

2. to develop a typology of female adolescent consumers based on their gender role and identity perceptions as related to female images; and

3. to examine if the typology of female adolescents is able to predict brand relationship variables such as liking of brands.

Methods

Respondents

The respondents were 355 Chinese females aged 12 to 19 residing in Hong Kong. The mean age of the sample was 15.8. All of them were studying in secondary school. One hundred and sixty-three of them (46 percent) were living in public housing, 97 (27 percent) in an apartment owned by their family, and 63 of them (18 percent) in a rented apartment. (Detached houses are extremely rare in Hong Kong.) Nearly half of them (49 percent) reported a family monthly income between HK$20,000 and HK$50,000, with forty percent earning less and the remaining ten percent earning more. The median family income in Hong Kong was $18,000 in 2010 (Census and Statistics Department, 2012). In other words, the sample had, on average, higher household income than the Hong Kong population as a whole.

Procedure

A convenience sample was designed. Students of a public university taking a course on consumer behavior were asked to recruit female secondary school students from among their social networks to participate in the study. Participation in the study was voluntary and anonymous. The respondents were invited to fill in an online questionnaire. The respondents' time to complete the questionnaire ranged from two to nineteen minutes, with a mean of five minutes. The study was conducted during November 2011.

Measures

The questionnaire was constructed in Chinese. It included 36 statements about gender roles and identities, six photos depicting female images, and references to eight global brands. The 36 statements about gender roles and identities were derived from a qualitative study of perceptions of gender roles among girls aged 15 to 18 in Hong Kong

(Chan and Williams, 2012). A set of statements (in English) about females and their physical appearance, family and marriages, work, study, community service and the environment was extracted from that qualitative study. Examples of statements included "Females should pursue their dreams" and "Females should accept their body image". The statements were translated into Chinese, and back-translation was conducted by a second researcher to ensure the resulting instrument could be used in cross-cultural research in the future, as suggested by Brislin (1986). Participants were asked to respond to these statements on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Six photos representing female images were selected from the internet and from a previous study (Chan et al., 2011) to represent cute, sporty, homemaking, career-oriented, gorgeous, and sexy females. The participants were asked to indicate to what extent each image represented their ideal using a 5-point Likert-type scale ranging from 1 (absolutely not my ideal image) to 5 (absolutely my ideal image).

Eight brands—Coca Cola, Google, McDonald's, Nokia, Disney, Louis Vuitton, Apple and Samsung—were selected from the 2011 list of the top 20 global brands (Interbrand, 2011) based on their assumed relevance and familiarity to adolescent girls in Hong Kong. The participants were asked how much they "liked" the brands on a scale of 1 (dislike a lot) to 10 (like a lot).

Demographic data were also collected, including the participant's age, year in school, type of housing, and the student's estimate of the family's monthly income.

Factor analysis on gender roles and identities

Exploratory factor analysis was conducted to extract any underlying structure of the

adolescent girls' gender role and identity perceptions. The Kaiser-Meyer-Olkin (KMO) index for the resulting structure, which measures sampling adequacy, was 0.838, and Bartlett's test of sphericity showed high statistical significance ($p \leq 0.001$). It was therefore appropriate to conduct factor analysis, and so a principal component factor analysis with varimax rotation was performed on the 36-item gender role and identity evaluations.

Scree tests and an eigenvalue greater than one were the criteria for extracting valid factors. Nine factors with eigenvalues greater than one were extracted, accounting for 59.7 percent of the variance. Most variables loaded strongly (> 0.5) on the corresponding factors. After an exhaustive examination and interpretation of the factor loadings, the nine factors were labeled according to the content of the variables which contributed the most to those particular dimensions. Internal reliability was tested to assess the internal consistency among the items contributing to the nine factors. Cronbach's alphas ranged from 0.54 to 0.84, which indicated the results were satisfactory for use in the early stages of research (Nunnally, 1978). Factor 8 (Independent) had the lowest Cronbach's alpha of 0.54. However, removing any of the four items failed to generate a higher alpha. The factor analysis results are summarized in Table 1.

[ADD TABLE 1 ABOUT HERE]

Cluster analysis

The participants were segmented into homogeneous segments based on factor scores on the 36 gender identity items and the 6 ideal female images. Ward's hierarchical clustering method was applied to obtain the cluster solution and centroid estimates, and *K*-means cluster analysis was also conducted (Gao et al., 2009; Hiu et al., 2001; Sin et al., 2001;

Tam and Tai, 1998). Alternative analyses with 3 to 7 clusters were conducted using both methods. Both methods provided similar results. A four cluster solution developed using Ward's method was selected, as it was adjudged to have produced the most actionable, interpretable and stable results.

The internal validity of the four-cluster result was assessed by analysis of variance (ANOVA) (Gao et al., 2009; Tam and Tai, 1998). The results revealed significant differences among the four clusters. Discriminant analysis revealed that 89.3 percent of the cases were classified correctly, a result statistically significant at the 5 percent level of confidence. The stability of the cluster results was tested by splitting the sample in half randomly and applying discriminant analysis to each half separately (Tam and Tai, 1998). The results showed that 89.8 percent of the cases were classified correctly for the first half of the sample and 91.0 percent for the second half, confirming the validity of the classification.

The four psychographic segments were labeled as *Middle of the roaders*, *Achievers*, *Conservatives*, and *Inactives*. One-way ANOVA was performed to test whether the four segments differed significantly in gender identity and ideal female image. A post hoc Tukey-Kramer test for honestly significant differences was then conducted because the sizes of the four psychographic segments were unequal. Table 2 and Figure 1 show the gender identities and ideal female images of the four clusters. Clusters significantly different in terms of mean scores on the gender identities statements or ideal female images are identified by the superscripts. The ideal female images scored the highest by the four clusters are displayed in Figure 2.

[ADD TABLE 2 ABOUT HERE]

[ADD FIGURE 1 ABOUT HERE]

[ADD FIGURE 2 ABOUT HERE]

Results

Segment profiles

Middle of the roaders

This was the largest segment, describing 40% of the respondents. Middle of the roaders cannot be described as either conventional or contemporary, but are active, caring, professional and independent. They do not think females should be solely responsible for housework, and at the same time do not think it is important to be successful in a career. Girls in this group do not care very much about their appearance. They do not agree that females need to have flawless skin and a slim body. They were the respondents least likely to choose a gorgeous or sexy female as their ideal image.

Achievers

This was the smallest of the segments (11.5%). They are active above all. They believe females should pursue their dreams, have courage to express their views, appreciate their own strengths, and should be truthful to themselves. Girls in this cluster care about others and the environment. They aspire to be successful in all they do. They think that females should attain an advanced academic qualification, be knowledgeable, be skillful in housework, as well as presentable in appearance. They do not (yet) perceive being single as a problem. They perceive that females can be successful in a career, enjoy economic independence, and be able to manage their wealth. They accept who they are in terms of physical appearance. Females in this group reject cosmetic surgery, wearing heavy makeup, and pursuing a slim body at all costs. Overall, they want to make a difference.

They were the most likely to choose the successful and sporty images as depicting their ideal woman. They were the least likely to choose the sexy image as their ideal.

Conservatives

This segment was the second largest (34.9% of the respondents). The adolescent girls in this cluster prefer to be a traditional female. They consider that marriage gives a woman a home. They perceive housekeeping and taking care of children to be a mother's main responsibility. They do not accept getting pregnant before marriage. They consider family more important than career. These respondents were the most likely to choose the homemaking and cute images as depicting their ideal woman.

Inactives

This cluster incorporated 13.5% of the respondents. Its members recorded the lowest scores on (i.e. disagreed the most with) most of the statements about the roles and identities of females. Inactives have neither strong opinions regarding their career development nor their marriage. These adolescent girls also were not enthusiastic about their appearance. Compared with the other segments, they were less interested in taking care of the environment or other people. They expressed no particular eagerness to develop their own interests or pursue their dreams. Overall, they simply wait for things to happen to them. These girls were the most likely to choose a cute, gorgeous or sexy image as representing their ideal woman and the least likely to choose the sporty or successful image.

Segment demographics

Chi-square analysis was conducted to test for significant demographic differences among the four segments. The results are summarized in Table 3. *Achievers* were significantly

more likely to come from (self-professed) high income families. Three quarters of the *Achievers* were in the last two years of secondary school, which are optional years in the Hong Kong system in preparation for college after students have already received their high school diploma. *Middle of the roaders* came disproportionately from low income families. Over half of the *Inactives* were in the early years of secondary school.

[ADD TABLE 3 ABOUT HERE]

Global brand perceptions

The differences in liking global brands among the four clusters were explored using one-way ANOVA with a post hoc Tukey-Kramer test for honestly significant differences. Table 4 summarizes the results. The table shows that global brand perceptions did not differ greatly among the four clusters, but there were significant differences in liking for three of the eight global brands. *Conservatives* liked the Disney brand the most. *Inactives* liked Louis Vuitton the most. *Middle of the roaders* liked these two brands least. Among the four clusters, the *Inactives* were the most likely to like McDonald's, whereas the *Achievers* were least likely to like this global brand.

[ADD TABLE 4 ABOUT HERE]

Discussion

These results share much similarity with previous psychographic studies of adult Chinese consumers (Gao et al., 2009; Tam and Tai, 1998). Table 5 presents a summary comparison of the segments those studies generated. All three studies reported some version of a *Conservatives* segment, though the definitions vary. This group was the largest in two of the studies. All three studies also reported some sort of "modern"

segment less likely to endorse traditional values and gender roles. This segment is inspired to pursue a career, to be in control of their lives, and is out-spoken about environmental issues. But this group was a minority in all three studies. All three studies also reported some sort of *Inactives* or *Followers* segment. In each case, this segment expressed the least interest in the activities and attitudes surveyed and was the least interested in getting married.

The group of *Middle of the roaders* identified in this study was not identified in any of the others. This segment was neither as traditional as the *Conservatives* nor as contemporary as the *Achievers*. They had moderate views on nearly all the gender role items. This was also the largest segment identified in the current study.

[ADD TABLE 5 ABOUT HERE]

The two clusters labeled *Middle of the roaders* and *Conservatives* constituted three quarters of the sample. Their gender role perceptions reflected those of the majority of the adolescent girls sampled. The two clusters shared much similarity on factors including active agency, professional, caring, natural outlook, and independent. Both clusters were keen on self-expression and achieving financial independence. Both clusters considered knowledge and academic qualifications important. Both clusters showed care about others and the environment. Both felt that women should accept their bodies and should have a natural outlook.

The major differences in the gender role perceptions of the two clusters lies in their attitudes toward housekeeping, child-bearing, and having a perfect body and skin. *Conservatives* were more likely to endorse traditional housekeeping and childcare roles than *Middle of the roaders*. More *Conservatives* agree that child-bearing women enjoy a

complete life while *Middle of the roaders* less often think so. A slim body and flawless skin were more important to *Conservatives* than to *Middle of the roaders.*

The results suggest that this young female cohort do not focus inordinately on their physical appearance. They perceive knowledge and financial security as important, but they do not visualize themselves as aggressive in seeking career success. They appreciate the benefits of marriage but also accept the choice of staying single. Compared with the large cluster of conventional females in Tam and Tai's (1998) study of adult Chinese women, young females in Hong Kong intend to be more active in pursuing their dreams and are more open toward staying single.

The four clusters differed significantly in terms of school year and family income. The fact that the *Achievers* segment contained a higher proportion of girls in the upper forms and from higher income families indicates that adolescent girls with more resources are more likely to aspire to career success. This is of interest from a marketing perspective, but it also indicates a need for society to support adolescent girls from lower social classes to dare to dream.

Contradicting expectations, the four clusters did not differ significantly in their liking of global brands.

Middle of the roaders and *Conservatives* appear to be important segments for marketers and also for policy makers who want to sell social messages, as these two groups were the largest. Cute female images can be used to appeal to both groups. The difference in ideal female images between these two segments lies in the use of sporty images. *Middle of the roaders* are more receptive to sporty females as ideal images than the *Conservatives*.

Achievers are active, career-oriented, and care about the community, so marketers of overseas education, self-improvement courses and sports facilities should emphasize this segment. This is also a target that non-government organizations should aim at in recruiting volunteer workers. Because of their active lifestyles and willingness to express their views, marketers should target them as innovators or advocators for accepting new products and ideas. Marketers might identify members of this market segment through their personal web sites, Facebook pages, or membership of NGO groups. Marketers should involve them in generating consumer-related content and positive word-of-mouth. This segment tends to endorse a natural and professional physical appearance. Cosmetics and skincare product marketers should communicate with them about the importance of a presentable appearance in achieving their career goals. This segment is most receptive to successful and sporty females as presenters.

The *Inactives* do not hold strong views about gender roles and identities. Because of the segment's relatively small size, youth and passivity, marketers might rely on marketing communication targeted at other clusters spilling over to them. The *Inactives* are the segment most receptive to gorgeous and sexy female presenters. They also like mature female brands such as Louis Vuitton, which suggests that marketers can communicate to them through their communication with older women.

The similarity in gender role and ideal image segmentation between adolescent and adult females using psychographics suggests two important directions for future studies. First, gender roles and identity seems to be a major determinant of females' endorsement of values and lifestyles. The psychographics of activities, interests and opinions represent a person's choices among all available alternatives. Gender roles and identities, on the

other hand, represent a person's perceptions about what males and females should do or should be. An adolescent girl may opt to participate in voluntary work because she thinks that females should care about, for example, society's minorities. That represents an opinion and an activity, but on the other hand, it represents an underlying belief about gender roles. Further studies should continue to examine how gender roles are related to psychographics and lifestyles, and whether gender roles are core components of psychographics.

Cross cultural comparison of segmentations based on gender roles might fruitfully be conducted across Asian consumer markets, as well as between Asian and Western markets.

The similarity in segmentation among adolescent and adult females encourages us to examine the transfer of values and meanings across generations. Qualitative research methods can be used to collect the early life experiences of children and adolescent girls to examine the origin of their perceptions of gender roles and identities. The relative importance of peers, parents and the media in the formation of specific gender roles can be measured in quantitative terms. Cross-sectional comparison of female gender role perceptions across different generation cohorts can be conducted. Longitudinal studies of female gender role perceptions might also be carried out to map the changes over time.

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Table 1. Summary of factor analysis results

Items	Means	Factor loadings
Factor 1: Active agency	*4.1*	
(10.8% of variance explained; α = 0.84)		
Females should pursue their dreams	4.1	.80
Females should be truthful to themselves	4.1	.79
Females should have courage to express their views	4.0	.77
Females should appreciate their own strengths	4.2	.69
Females should have good manners	4.0	.47
Females should have their own interests and hobbies	4.0	.46
Factor 2: Caring	*3.8*	
(7.7% of variance explained; α = 0.70)		
Females should be kind-hearted	3.9	.79
Females should be gentle	3.5	.59
Females should be knowledgeable in money management	3.8	.59
Females have a responsibility to protect the environment	3.8	.57
Females should not smoke, as it affects their image	3.8	.35
Factor 3: Professional	*3.7*	
(7.3% of variance explained; α = 0.70)		
It is necessary for females to be knowledgeable	3.9	.68
Females should exercise often	3.7	.65
Females should attain higher academic qualifications	3.8	.58
Females should be skillful in housework as well as presentable	3.4	.54
Females should wear makeup on social occasions	3.8	.48
Females who wear sexy clothes are inviting trouble	3.4	.47
Factor 4: Housekeeping	*2.6*	
(7.2% of variance explained; α = 0.74)		
Females should be responsible for housework	2.8	.80
"Men are breadwinners; women are homemakers" is appropriate	2.6	.78
Taking care of children is the sole responsibility of mothers	2.3	.64
Factor 5: Natural outlook	*3.6*	
(5.9% of variance explained; α = 0.63)		
Females should not wear heavy makeup	3.4	.79
Females should not have cosmetic surgery	3.5	.75

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Females should not pursue a slim body at all cost	3.8	.50
Females should accept their body image	3.8	.38
Factor 6: Marriage and motherhood	*3.3*	
(5.5% of variance explained; α = 0.59)		
Marriage gives a woman a home	3.4	.75
Females should not have babies before marriage	3.6	.59
Females who bear children enjoy a complete life	3.0	.53
Factor 7: Perfect body and skin	*3.4*	
(5.4% of variance explained; α = 0.57)		
Females should have flawless skin	3.1	.78
It is fashionable for females to have a slim body	3.4	.70
Females should wear presentable clothes	3.9	.47
Factor 8: Independent	*3.7*	
(5.3% of variance explained; α = 0.54)		
Females can eat and drink extravagantly if they want to	3.7	.72
Females should earn their living and enjoy economic independence	3.9	.54
It is appropriate for females to stay single	3.4	.52
Women should have close female friends	3.9	.50
Factor 9: Career and community service	*3.6*	
(4.7% of variance explained; α = 0.56)		
It is important for females to be successful in their careers	3.5	.70
Females should participate in voluntary work	3.6	.54

Note: 5-point scale (1 = strongly disagree; 5 = strongly agree).

Table 2. Gender identity items and ideal female images among the four clusters

Variables	Middle of the roaders n = 142	Achievers n = 41	Conservatives n = 124	Inactives n = 48	F value
Gender identity items					
Factor 1: Active agency					
Females should pursue their dreams	4.3^c	4.7^d	4.0^b	3.5^a	31.6***
Females should be truthful to themselves	4.2^b	4.7^c	3.9^{ab}	3.7^a	24.0***
Females should have courage to express their views	4.1^b	4.6^c	3.9^b	3.6^a	19.7***
Females should appreciate their own strengths	4.4^c	4.7^d	4.0^b	3.6^a	33.3***
Females should have good manners	4.1^b	4.5^c	4.1^b	3.3^a	24.2***
Females should have their own interests and hobbies	4.1^b	4.6^c	3.9^b	3.6^a	18.7***
Factor 2: Caring					
Females should be kind-hearted	3.9^b	4.1^b	4.0^b	3.2^a	14.8***
Females should be gentle	3.4^b	3.4^b	3.9^c	2.9^a	17.2***
Females should be knowledgeable in money management	3.9^b	4.3^c	3.8^b	3.3^a	16.4***
Females have a responsibility to protect the environment	3.9^b	4.2^c	3.8^b	3.1^a	19.2***
Females should not smoke, as it affects their image	3.7^b	4.0^b	4.1^b	2.9^a	23.5***
Factor 3: Professional					
It is necessary for females to be knowledgeable	3.8^{ab}	4.7^c	3.9^b	3.5^a	22.0***
Females should exercise often	3.7^b	4.4^c	3.7^b	3.1^a	23.8***
Females should attain higher academic qualification	3.6^a	4.7^b	3.8^a	3.5^a	26.6***
Females should be skillful in housework as well as presentable	3.1^b	4.0^c	3.7^c	2.7^a	28.6***
Females should wear makeup on social occasions	3.6^a	4.2^b	4.0^b	3.4^a	19.0***
Females who wear sexy clothes are inviting trouble	3.4^b	3.7^b	3.7^b	2.7^a	14.5***

Factor 4: Housekeeping

Females should be responsible for housework	2.4[a]	2.5[a]	3.5[b]	2.5[a]	42.4***
"Men are breadwinners; women are homemakers" is appropriate	2.3[a]	2.1[a]	3.4[b]	2.3[a]	51.7***
Taking care of children is the sole responsibility of mothers	1.9[ab]	1.5[a]	3.0[c]	2.3[b]	47.9***

Factor 5: Natural outlook

Females should not wear heavy makeup	3.3[a]	4.0[b]	3.3[a]	3.3[a]	6.2***
Females should not have cosmetic surgery	3.5[b]	3.7[b]	3.6[b]	2.9[a]	7.8***
Females should not pursue a slim body at all cost	4.1[c]	4.2[c]	3.6[b]	3.1[a]	28.1***
Females should accept their body image	4.0[b]	4.3[c]	3.7[b]	3.3[a]	19.1***

Factor 6: Marriage and motherhood

Marriage gives a woman a home	3.5[b]	2.9[a]	3.8[b]	2.8[a]	19.7***
Females should not have babies before marriage	3.7[b]	3.5[b]	3.8[b]	2.7[a]	22.3***
Females who bear children enjoy a complete life	2.7[a]	2.6[a]	3.6[b]	2.6[a]	28.4***

Factor 7: Perfect body and skin

Females should have flawless skin	2.7[a]	3.4[b]	3.4[b]	3.3[b]	15.3***
It is fashionable for females to have a slim body	3.1[a]	3.7[c]	3.6[bc]	3.3[ab]	10.8***
Females should wear presentable clothes	3.9[b]	4.3[c]	3.8[b]	3.5[a]	10.5***

Factor 8: Independent

Females can eat and drink extravagantly if they want to	3.9[b]	3.9[b]	3.7[b]	3.3[a]	8.1***
Females should earn their living and enjoy economic independence	4.0[b]	4.4[c]	3.7[b]	3.3[a]	22.2***
It is appropriate for females to stay single	3.4[ab]	3.7[b]	3.4[ab]	3.1[a]	4.8**
Women should have close female friends	4.0[bc]	4.3[c]	3.8[b]	3.4[a]	14.2***

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Factor 9: Career and community service

It is important for females to be successful in their careers	3.4[a]	4.1[b]	3.6[a]	3.4[a]	11.5***
Females should participate in voluntary work	3.6[b]	4.2[c]	3.7[b]	3.1[a]	18.1***

Ideal female images

cute	3.2[b]	2.7[a]	3.2[b]	3.2[b]	3.5*
sporty	3.4[b]	3.8[c]	2.8[a]	2.8[a]	20.8***
homemaking	3.3	3.1	3.3	3.0	1.2
successful	3.4[b]	4.1[c]	3.3[ab]	3.0[a]	16.4***
gorgeous	2.6[a]	2.7[a]	3.0[ab]	3.2[b]	5.6**
sexy	2.1[ab]	1.7[a]	2.4[b]	2.9[c]	14.8***

Notes: $N = 355$. 5-point scale (1 = strongly disagree; 5 = strongly agree).

Means in the same row that do not share superscripts differ at the $p \leq 0.05$ level of confidence in the Tukey-Kramer test for honestly significant differences.

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

a < b < c < d.

Table 3. Demographic characteristics of the four clusters

Variables	Middle of the roaders n = 142 (%)	Achievers n = 41 (%)	Conservatives n = 124 (%)	Inactives n = 48 (%)	χ^2 value
Age					7.0
12-15	50.7	31.7	46.0	58.3	
16-19	49.3	68.3	54.0	41.7	
Grade					8.3*
F1-F3	47.2	24.4	43.5	52.1	
F4-F7	52.8	75.6	56.5	47.9	
Type of housing					13.8
Public housing	47.2	31.7	47.6	50.0	
Rented apartment	16.2	12.2	21.0	18.8	
Owned apartment	25.4	48.8	25.0	20.8	
Others	11.3	7.3	6.5	10.4	
Family monthly income (HK$)					17.8**
under $20,000	45.8	36.6	40.3	39.6	
$20,001-$50,000	47.2	36.6	53.2	50.0	
over $50,001	7.0	26.8	6.5	10.4	

*Note: * $p < 0.05$. ** $p < 0.01$.*

Table 4. Liking of global brands among four clusters

	Middle of the roaders n = 142	Achievers n = 41	Conservatives n = 124	Inactives n = 48	F value
Coca Cola	6.0	6.0	6.3	6.4	0.8
Google	6.8	7.4	6.6	6.8	1.9
McDonald's	6.0^{ab}	5.6^{a}	6.4^{ab}	6.5^{b}	2.6*
Nokia	5.2	5.3	5.3	5.7	0.9
Disney	6.5^{a}	6.9	7.3^{c}	6.9	3.0*
Louis Vuitton	4.6^{a}	5.0^{a}	5.5^{ab}	6.4^{b}	9.5***
Apple	7.0	7.4	7.6	7.4	1.8
Samsung	6.2^{ab}	6.8^{b}	5.9^{a}	6.2^{ab}	2.3

Notes: $N = 355$. 10-point scale (1 = strongly dislike; 10 = strongly like).
Means in the same row that do not share superscripts differ at the $p \leq 0.05$ level of confidence in a Tukey-Kramer test for honestly significant differences.
* $p < 0.05$. *** $p < 0.001$.
a < b.

Table 5. A comparison of the results of studies segmenting Chinese females

Current study	Tam and Tai (1998)	Gao et al. (2009)
Middle of the roaders (40%)		
Conservatives (35%)	Conventional (40%)	Conservatives (17%*)
Inactives (14%)	Followers (18%)	Followers (21%*)
Achievers (12%)	Contemporary (22%)	Achievers (12%*)
		Idealists (17%*)
		Experiencers (24%*)
	Searching singles (19%)	

Note: * Included both males and females.

Figure 1. Mean scores of the four clusters on the gender identity factors
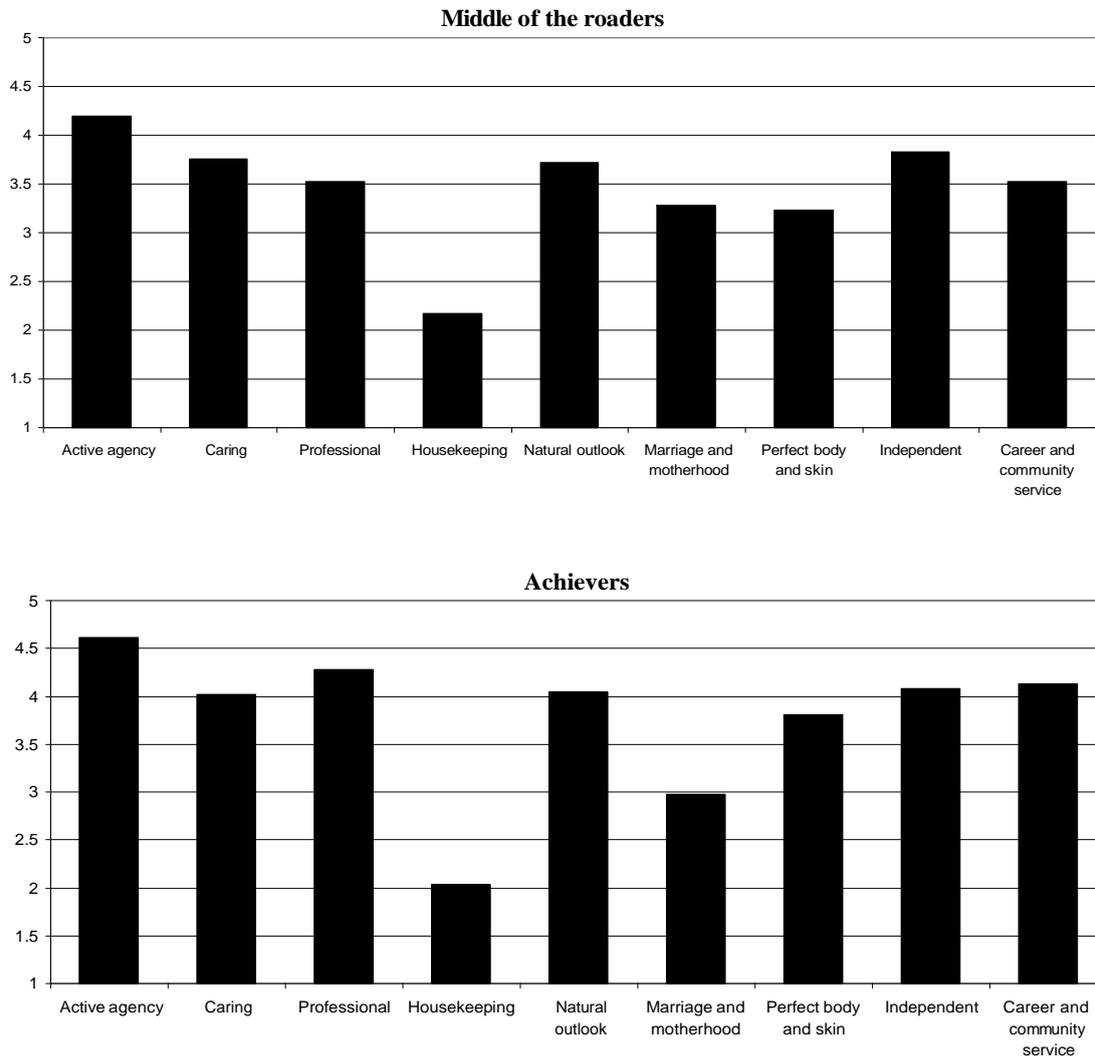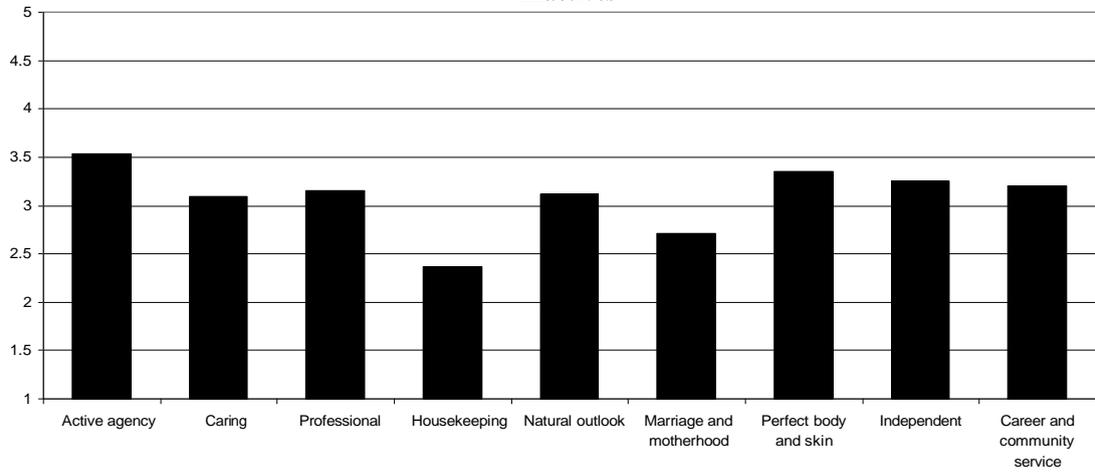
Conservatives
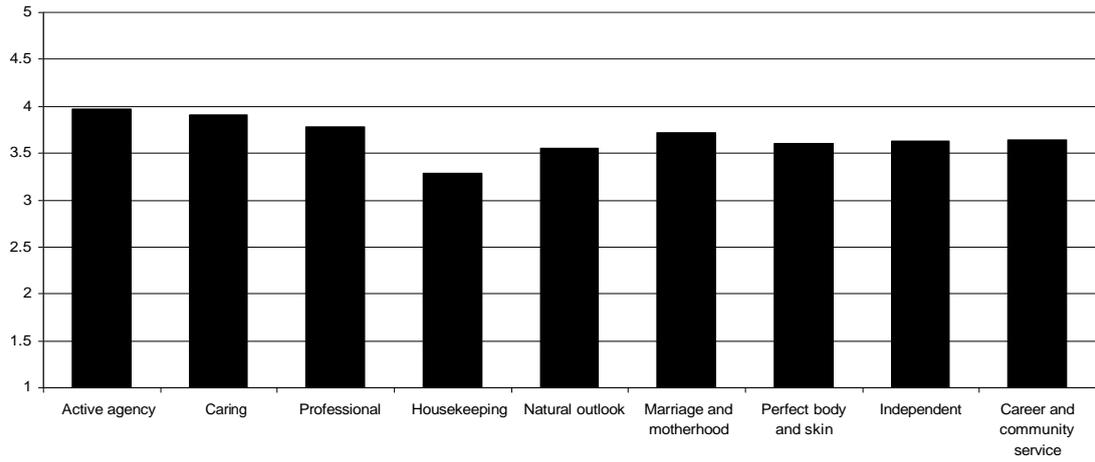
Inactives

Figure 2. The ideal female images scored highest by the four clusters

Middle of the roaders

Achievers

Conservatives

Inactives

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