

A Study on Care Labels for Wearing and Handling Behaviors of Jeans

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Abstract

This research endeavors to provide correct handling methods of jeans through a study on care labels for wearing and handling behaviors of female university students in their twenties. The conclusion of the research is as follows: The study indicates that coeds own more than seven jeans and wear them three or four times a week on the average. The research showed that washing jeans once weekly is the highest. It showed that the jeans are mainly laundered with water and also with water and dry cleaning together. The students responded that they dry cleaned the pants several times and then water wash them after buying the pants in order to prevent change in colors and shapes of the pants. Content of labels should be improved because most female students indicated the importance of the care labels. The reliability and understanding of the labels were surveyed to be lacking. The survey indicated that the percentage of checking the sizes was the highest when the students bought the jeans. Furthermore, the label "handle with care" turned out to be examined more frequently than the indication, "textile materials breakdown" when they took care of the clothes including laundering or ironing. Moreover, the students experienced extensive color change after water washing and other accidents when taking care of their clothes. Their attitudes were surveyed to be very passive on handling the problems after washing or handling jeans. Therefore, the study concluded that the labeling methods should be improved especially in regard to the validity verification of the label contents and also the manufacturers should make concerted efforts to improve and enhance the consumer's rights and interests for effectiveness and accuracy of the descriptive labels.

Key words : handling behaviors, care label, jeans, washing.

I. Introduction

Korea has changed considerably after 2003 when the garment industry entered a low growth period and the market became bearish with restructuring ensuing and changes in qualities also following. Under such circumstances, the only

sector that actually grew was the casual jean one which jumped 1.5 times in 2004 when other fields showed a negative 20~23% growth¹⁾. The blue jean, which is a representative of casual jean, is worn disregarding the age, sex, seasons and occupations in a convenient manner and with the coming of the five-day week, the opportunities for leisure time have increased along

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¹⁾ Fashion Business (Jan. 2005).

with the demand for casual wear blue jeans. Now the blue jean should no longer be considered as simple outdoor clothing but its concept should be transformed as a unique fashion item in its own rights with emphasis in creation of designs, fads and characters. With such trends, the growth potential can be considerable but its quality management should be improved so that the consumers have a better understanding and recognition of its quality marks.

Quality markings can be expressed as kinds of industry-wide standards or regulations that describe the product with various sorts of information. They have the purpose of assisting the consumers to select the products in a rational and logical manner from the mass merchandising market. It should also lead to an easy-to-understand and reliable form of descriptions. Such quality markings should enable the consumers to purchase the products safely and reliably with the necessary product information attached. This information should enable the consumers to avoid purchasing unnecessary goods or handle quality products in a unsafe manner. Such conditions would bring about improvement in reliability for both the consumers and the manufacturers for their mutual benefits. The quality markings of the clothing products should entail the cloth's composition, measurements, waterproofing, water resistance and fire resistance and others. In addition, the manufacturing procedures, filling materials, handling warnings, manufacturing company, year and month of manufacturing, name of importer (in case of imported product), address and telephone number, and the country of origin should be indicated. The handling warnings should include laundering methods, chloride or oxidation bleaching process, ironing, dry cleaning, wringing, drying methods and others. These methods should be classified

into six categories and more than three suitable methods should be indicated with the procedures in compliance with the KS K 0021 standardization. In addition, if the handling warnings cannot be provided, they could be presented in simple forms other than warning labels. The clothing's quality labels should be attached so that the consumers can easily identify them and it should not prevent the usage or become an obstacle to any external form of the product. Furthermore, the labels should be printed in a clearly legible form that should be attached to each piece of clothing. They should not fall off easily or become illegible²⁾.

Presently, due to incorrect warning labeling by the manufacturers and careless handling by the consumers, the number of clothing-related accidents are on the rise. Statistically, in reference to research results from the 2005 Korean Consumer Protection Board, the cases of consumer complaints of cloth-related products are continuously increasing with the number of complaints of such products in 1997 being 8.7% and in 2004, the figures reached 15.8%. Among such numbers, the laundering cases were 33.6% in 1997 and 38.3% in 2004. In analyzing the laundering cases of clothing products, the complaints of durability to laundering was 40.3%, durability complaints 38.2%, dye-related complaints 18.2% and for complaints after drying cleaning, color change came at 22.5%, measurement changes at 6.4%, chlorine bleach and contamination at 5.9%, and form change at 5.4%. This indicated that the complaints rising from change in colors was significant³⁾.

In reviewing the past studies of clothing product's handling labels, researches by Choi⁴⁾ for garments sold and related complaints for the period between 1981 and 1990 (ten year period) at the Seoul's YWCA consumer complaint counsel-

² FITI Testing & Research Institute. *Quality Standard Guide of Textile Goods*. (FITI Testing & Research Institute, 2003).

³ Korea Consumer Protection Board. *Consumer Complaints and Trouble Factors of Textile Goods 1997-2004*. (Korea Consumer Protection Board, 2005).

⁴ H. W. Choi. "A Study on the Consumer's Dissatisfaction for the Clothing Product," (Master's Thesis, Hanyang University, 1992).

ing center, the figures were 217 for 1981, 1743 for 1990 and increasing continuously. For complaints related to laundering, the numbers were 68 for 1981 and 1058 for 1990, which represented the highest ratio. As a result, researchers recommended that the products during the laundering should follow the quality markings closely in order to minimize damage to the products with the content of the markings being in detail and the consumers following the quality markings to the best of their abilities.

Similarly, in studies conducted by Bae⁵⁾ for textile product's handling method labels, the researcher noted that even the consumers have inadequate understanding for the warnings and do not always follow the instructions as indicated especially during laundering. On one hand, even when the consumers adhered to the warning marks for laundering, problems continued to persist. This could be accounted by the manufacturers making inappropriate labels or adding incorrect or deleting necessary markings. Therefore, in order to create conditions leading to sound clothing management culture, the content of the marks should be made more realistically, and accurately with the consumers also having a more active attitude towards the warning labels.

In a study carried out by researcher Park⁶⁾ for U.S.-manufactured products or those imported into the U.S., results showed that there were 13.6% incorrect care labels for products sold within the U.S.

In yet another case study by researcher Hong⁷⁾, experiments with blue jeans warning labels and laundering status, survey for results relating

to shrinkage ratio during laundering, the contents of the warning labels were largely followed correctly but the types in the content was excessive and inappropriate with the wordings of the content leaning towards protecting the manufacturers. This led to conditions where the features of the products were not represented fairly. Also for homemakers during laundering, 83.5% of cases did not follow the warning marks and the laundering process indicated considerable difference with the warning labels. The study showed that this was not entirely because of the consumers failing to follow the warning labels but the careless and insincere attitude of the manufacturers in attaching the warning marks.

For a study conducted by researcher Park et al.⁸⁾ for infant and children garment labels, the materials of the trade mark labels were 100% polyester, for quality labels mostly nylons and for complaints against labels, the consumer commented that the labels were too rigid and its surface and the edges were too rough and many labels being attached together creating an awkward sight. Therefore, researchers recommend that labels for infant and children have them attached outside the garments and should be made from similar materials.

Another research⁹⁾ carried out a study based on consumers and sellers for ladies' formal wears and presented results on the recognition levels of quality labels. In case for brand products, measurement, and textile composition ratio category which are prerequisite for quality markings, the study indicated that 95% of the brand products carried the relevant handling marks but for ge-

⁵ S. W. Bae, "A Study on the Consumer's Perception and Attitude to Care Labels of Textile Products," *Journal of the Korean Society of Clothing and Textiles* 18, no. 4. (1994): 480-489.

⁶ K. H. Park, "Care Labeling Compliance," *Journal of the Korean Home Economics Association* 33, no. 2. (1995): 159-166.

⁷ J. M. Hong and H. W. Shin, "A Study on the Care Labels of Blue Jeans," *Journal of the Korean Society of Clothing and Textiles* 22, no. 6. (1998): 716-724.

⁸ S. K. Park, J. M. Hong, J. S. Lee, H. W. Shin, and H. S. Ryu, "A Study on the Consumer Complaints over Labels on Children's Clothing," *Journal of the Korean Society of Clothing and Textiles* 23, no. 2. (1999): 307-313.

⁹ Y. E. Yuk, H. S. Bae, and I. S. Kang, "A Study on the Consumer and Seller's Perception to Quality Label of Clothing Products," *Journal of Living Science Research* 4. (2000): 7-19.

neric products, only 20% of the products had the necessary information attached which led to a much stronger reliability for brand products. In addition, when the consumers are considering on purchasing the garments, they concentrated mostly on prices, measurements and textile composition ratio respectively and emphasize for warning labels ranked lower. This trend naturally led to more complaints by the consumer during laundering. For consumer improvements related to quality markings, additional education would seem imperative.

An¹⁰⁾ conducted a study on handling warnings for female wear for over 20. The focus of the research was on the recognition level and clothing care complaints. The results indicated that when they purchased the products, the laundering and care methods are important as well as A/S criteria. For caring methods, after laundering, criteria like form change, cloth shrinkage, suitability for laundering at home were some elements considered important. For the necessity of warning labels, 92.5% expressed its importance but only 24.1% indicated as to the reliability of the labels.

According to Chung¹¹⁾ study on formal wear (jacket and pants), casual wear (jacket and pants), knit jacket and shirts' garment labels, the understanding of measurement and warning content were relatively high but for textile composition, it was quite low. In addition, the warning label content was relied on the most, with the measurements, textile composition, and manufacturer's information being given lower marks. The level of satisfaction for labels by the consumers was relatively low especially regarding the material of the label. Furthermore, the consumer showed high concern for the label's measurement, textile composition, warning contents but the compliance of these information was somewhat lacking.

In surveying similar topics, many studies were carried out for garment management quality markings, but for wearing and handling of blue jeans only and its management for quality markings, detailed research has yet to be done.

This study centers its focus around coeds in their 20s and the blue jeans that they enjoy wearing. The activities concerning its wearing and management for quality markings and its sound understanding with comments on the complaints are dealt with in this research. The contents of the research is as below: (1) The wearing and ownership status of the blue jean, (2) Status of blue jean laundering and repairs, (3) General recognition, implementation and level of satisfaction of the quality markings of the blue jeans, and (4) Experience for management complaints and processing for blue jeans.

II. Research Method

1. Instruments

The questionnaire was based on the previous research conducted by An¹²⁾ and Chung¹³⁾, which were developed so that it was suitable for blue jean wearing and management activity survey. The questionnaire content was divided into blue jean ownership and storing-related questions (6), and laundering-related questions (6) in a multiple choice format with general opinion, implementation, satisfaction and garment management-related questions for quality marking making up 26 other criteria in a five point Likert type scales.

2. Sample, Data Collection and Data Analysis

For coeds between their freshmen and senior years for colleges located in Seoul and Gyeonggi province, data were collected through questionnaires between the periods of Oct. to Dec. 2005. A total of 195 copies of the questionnaires were

¹⁰ S. T. An, "Consumers' Care Label Recognition for Clothes Handling," (Master's Thesis, Konkuk Univ., 2001).

¹¹ K. H. Chung, "A Study on the Labels of Clothing Products," (Master's Thesis, Kyung Hee Univ., 2003).

¹² S. T. An, *Op. cit.*

¹³ K. H. Chung, *Op. cit.*

distributed and from them, 181 samples were selected as deemed appropriate for research. For the data collected, they were processed using the SPSS WIN 12.0 statistics software.

III. Results and Discussion

1. Ownership Status and Purchasing Brand of Blue Jean

In order to survey the ownership status of blue jeans by the female students, the numbers and designs of the garments are described as in <Table 1>. Seven or more jeans accounted for 38.7%, which was the highest, followed by five to six at 32.6%, three to four at 24.9%, one to two at 3.9%. Such data indicated that the coeds possessed relatively high number of jeans. As for the types of design, 39.2% had basic 21.6% with ripped ones, 20.0% with wrinkled

ones, and 5.5% with painted ones. This indicated that they own a wide variety of blue jeans.

For the blue jean brands purchased by the coeds, the results are as in <Table 2> with directly imported ones like Levi's, Calvin Klein, Guess, Seven for all Mankind, Diesel taking the top five positions with local brands, Nix, Clide, Whoau, Chambang following. This is a clear indication that the coeds prefer foreign brands as to local ones and is similar to a study conducted by Park¹⁴ for licensed trademark (Levi, Calvin Klein, Guess and Others) 45.9%, directly imported ones (Diesel, Seven, Take Two) 18.3%, local ones (Chambangyi, Ongkoljin, Bangbang and Others) 17.2%.

2. Related Criteria for Wearing & Storing of Blue Jeans

<Table 1> Ownership Status of Blue Jean Pants

Content	Category	Frequency (Person)	Ratio (%)
Number of Jeans Owned	1 ~ 2	7	3.9
	3 ~ 4	45	24.9
	5 ~ 6	59	32.6
	7 or more	70	38.7
	Total	181	100.0
Designs of the Blue Jeans Owned (Multiple Reply)	Basic Blue Jean	171	39.2
	Wrinkle Processed	87	20.0
	Ripped Pants	94	21.6
	Painted Pants	24	5.5
	Decorated with Spangle, Beads and Baubles	23	5.3
	Embroidery Pants	12	2.8
	Others	25	5.7
	Total	436	100.0

¹⁴ N. Park, "Product evaluation criteria and clothing image related to preferred brand and benefits of apparel product purchaser : focused on jeans product." (Master's Thesis, Hanyang Univ., 2006): 64-66.

〈Table 2〉 Purchasing Brand of Blue Jean Pants

Rank	Brand	Frequency	Rank	Brand	Frequency
1	Levi's	85	11	TBJ	6
2	Calvin Klein	37	12	Armadi Exchange	6
3	Guess	25	13	GIODANO	5
4	Seven Jean (Seven for all Mankind)	14	14	EGOIST	5
5	DIESEL	12	15	ONG)	4
6	NIX	11	16	BANG BANG	4
7	Clide	7	17	BEANPOLE	4
8	Whoau	7	18	MAJAH FLAVAH	4
9	Abercrombie & Pitch	6	19	Maru	4
10	Jambanges	6	20	POLHAM	4

In order to observe the coed's wearing and storing status and its frequency for pants that were not worn for over one year, the reasons for not wearing, and the processing of the pants not worn, the details are as described in 〈Table 3〉. For pants worn three to four times a week, the figure stood at the highest 42.0%, for once or twice weekly, the frequency showed a 28.2% rate, for five to six times, it was 25.4% and for everyday of the week, it stood at 3.9% and for minimum wearing, the figure stood at 0.6%. For jeans that were not worn for over one year, the female students indicated that they had one pants (34.4%), two pants (23.2%), three pants (15.5%) and even for over five pants, the respondents indicated a 12.2% from the total. When inquired why they did not wear those jeans, the students responded that they had become out of fashion or had become tired of the colors (53.9%), or the size had changed (32.0%), or the pant had become worn out (5.0%). For those pants not worn, they were redesigned (34.8%) which showed the highest figure, continued to be stored at home (22.8%), placed in a separate recycling bin (15.6%), or given to

other persons (14.8%).

3. Blue Jean's Laundering-related Criteria

In observing the blue jean-related criteria, the information concerning laundering frequency, person laundering the blue jean, the method of laundering and the reasons behind laundering, 〈Table 1〉 gives us some valuable informations. Laundering the blue jean once a week accounted for 38.1%, which represented the highest figure, once a month figure stood at 34.8%, once every season showed a 9.4% rate, which indicated that the blue jeans were not washed often. As for the person washing them, the mother represented 49.5%, the owner 34.2%, at the dry cleaner's 13.2% or the maid 2.6%. The method of laundering the blue jeans were always water washing (70.2%), water washing and dry cleaning at the same time (24.9%), always dry cleaning (4.4%), and as indicated by Hong¹⁵⁾ and other's survey (1998), the cases of laundering by hand and dry cleaning including water laundering showed a 100% frequency and dry cleaning at 0%. This was an aberration from this study and also went against common sense of water washing the blue

¹⁵⁾ J. M. Hong and H. W. Shin, *Op. cit.*

〈Table 3〉 Wearing and Storing-related Criteria of Blue Jean Pants

Content	Category	Frequency (Person)	Ratio (%)
Blue Jean Wearing Frequency	Once ~ Twice Weekly	51	28.2
	3 ~ 4 Times Weekly	76	42.0
	5 ~ 6 Times Weekly	46	25.4
	Through Out the Week	7	3.9
	Hardly Ever	1	0.6
	Total	181	100.0
Blue Jeans Not Worn for Over Year	1	62	34.3
	2	42	23.2
	3	28	15.5
	4	19	10.5
	5 or above	22	12.2
	None	8	4.4
	Total	181	100.0
Reason for Not Wearing (Multiple Answer)	Incorrect Size	70	32.0
	Out-of-Fashion or Color	118	53.9
	Worn-out Due to Excessive Wear	11	5.0
	Have not had the Chance to Wear because of too many Jeans	9	4.1
	Others	11	5.0
	Total	219	100.0
Processing of Blue Jean (Multiple Answer)	Given to Other Persons	37	14.8
	Stored into Clothing Box or Separate Recycling Bin	39	15.6
	Put into Waste Bin	6	2.4
	Stored in House	57	22.8
	Redesigned	87	34.8
	Others	24	9.6
	Total	250	100.0

jeans in case of expensive or processed jeans. For such cases, dry cleaning methods were frequently used. In case of water washing the blue jeans, when inquired to the method of laundering, 85.0% responded that they used the washing

machine, 11.0% answered that they washed by hand, and 3.9% indicated that both methods were used. This indicated that in case of water washing, the washing machine was used most often which coincided with Hong's¹⁶⁾ study of

〈Table 4〉 Laundering-related Criteria of Blue Jean Pants

Description	Category	Frequency (Persons)	Ratio(%)
Frequency of Laundering Blue Jeans	Laundering After Wearing Once	8	4.4
	Laundering Once a Week	69	38.1
	Laundering Once a Month	63	34.8
	Laundering Once a Season	17	9.4
	Others	24	13.3
	Total	181	100.0
Persons Laundering the Blue Jean (Multiple Reply)	Owner	65	34.2
	Mother	94	49.5
	Maid	5	2.6
	Dry Cleaner's	25	13.2
	Others	1	0.5
	Total	190	100.0
Blue Jean's Laundering Methods	Always Water Laundering	127	70.2
	Always Dry Cleaning	8	4.4
	Water Laundering & Dry Cleaning Simultaneously	45	24.9
	Others	1	0.6
	Total	181	100.0
Water Washing Methods	Hand Washing	14	11.0
	Laundering with Washing Machine	108	85.0
	Hand Washing & Washing Machine Laundering Simultaneously	5	3.9
	Total	127	100.0
Reasons for Dry Cleaning	Due to High Price of Blue Jeans	1	12.5
	Due to Change in Color from When Washing	4	50.0
	Due to Change in Form	1	12.5
	Because of Handling Warning in the Label for Dry Cleaning	2	25.0
	Total	8	100.0
Reasons for Water Washing and Dry Cleaning Simultaneously	After Purchase of Blue Jeans, Dry Cleaning Several Times & Water Washing Thereafter	21	46.7
	Dry Cleaning Expensive Blue Jeans & Water Washing Cheaper Ones	14	31.1
	Water Cleaning or Dry Cleaning as per Labeling Instructions	9	20.0
	Others	1	2.2
	Total	45	100.0

using the washing machine for laundering (89.2%). In case of dry cleaning the blue jeans frequently, the respondents answered due to the

blue jean color fading (50.0%) which was the highest figure. After that, following the indications in the handling labels for dry cleaning

recommendations (25.0%), concern over change of form (12.5%), due to the high price of the blue jeans (12.5%) respectively. The reasons for using water laundering and dry cleaning simultaneously was because of the norm of dry cleaning several times after purchasing and water washing thereafter (46.7%), drying cleaning for highly priced blue jeans and water washing for lower ones (31.1%), and as per instructions concerning dry or water cleaning in the labels (20%). In general, the customers tended to dry clean the jeans right after purchase several times and water wash thereafter and the inclinations for dry cleaning expensive jeans were observed.

4. Blue Jean's Repair-related Criteria

For blue jean repair-related criteria, when observing experience related to repairs, the reasons are as indicated in <Table 5>. 73.5% indicated that they had experience with repairs, 26.5% replied that they had no experience and for reasons, 66.3% responded that because of the length of the blue jean which showed the highest figure, and 17.2% to decrease the waistline, 7.1% to decrease the pant legs, 3.6% for others, 3.0% for decreasing the behind and 3.0% for changing the design respectively.

5. Blue Jean's Quality Marking Label-related Criteria

To measure the recognition level of blue jean's quality, markings for female students, they were divided into general recognition for labels, application levels, satisfaction levels and measurements using the 5 point Likert type scales with the results presented as in <Table 6>. In analyzing the content, the students gave high point of 4.21 for the necessity of the labels, which was an evidence for the coed's need for the labels. On the other hand, the reliability point was only 3.44 and the level of understanding were from 2.97~3.22 points. The points for application level were from 2.29~3.67, the satisfaction levels from 2.82~3.67, experiences with quality problems from 3.08~3.64 which all indicated some moderate features of responses. But for management and laundering of blue jeans after problems arose, the attitudes for problem resolving were extremely low at around 1.43~1.73.

1) General Recognition of Quality Markings

To derive a response distribution for female student's blue jean quality marking's general recognition, the frequency distribution results are as in <Table 7>. In analyzing the details, 86.2% of

<Table 5> Repaire-related Criteria of Blue Jean Pants

Section	Category	Frequency (Person)	Ratio (%)
Repair Experience	Yes	133	73.5
	No	48	26.5
	Total	181	100.0
Reason for Repair (Multiple Answer)	Shortening of Length	112	66.3
	Shortening of Waist	29	17.2
	Shortening of Behind	5	3.0
	Shortening of Pant Legs	12	7.1
	Change of Design	5	3.0
	Others	6	3.6
	Total	169	100.0

¹⁶ J. M. Hong, and H. W. Shin, *Op. cit.*

<Table 6> The Consumer's Attitude for Average Figure by Measurement Categories for Blue Jean's Quality Markings

Content	Category	M	S.D
General Recognition	The need for the quality markings attached with the garment	4.21	0.72
	Reliability of the Quality Markings on the Garments Worn Presently	3.44	0.70
	Easy Understanding of the Measurements on the Labels	2.97	0.82
	Easy Understanding of the Textile Composition Ratio on the Labels	2.85	0.84
	Easy Understanding of Markings for Handling Criteria for Labels	3.22	0.73
	Due to Detailed and Accurate Label Markings, Contributes to the Management of the Garment	3.03	0.80
Level of Application	Confirmation of Measurement Markings on Purchase of Blue Jeans	3.50	1.05
	Confirmation of Textile Composition Ratio for the Labels on Purchase	2.79	1.04
	Confirmation of Handling Markings on Purchase	2.85	1.02
	Confirmation of Manufacturer's Information on Purchase	2.29	1.05
	Confirmation of Markings for Textile Composition Ratio on the Labels When Laundering	3.03	1.04
	Confirmation of Markings for Handling Warnings on the Labels When Laundering	3.17	1.02
	Confirmation of Markings for Textile Composition Ratio When Ironing	3.02	1.02
	Confirmation of Markings for Handling Warnings When Ironing	3.20	1.02
	Confirmation of Handling Warnings on the Markings When Problems or Accidents Occur for Management and Laundering	3.67	0.98
	Compliance to the Handling Warnings	3.23	0.87
Level of Satisfaction	Appropriateness of Label Attachment Locations on the Blue Jeans	3.33	0.72
	For Repeated Laundering, Erasing of the Printed Content on the Labels	3.67	0.92
	Inconvenience Caused by the Rigid and Rough Composition of the Label Material	3.21	1.01
	Removal of the Labels Due to Prickly Features	2.82	1.06
Experiencing Quality Problems	After Water Washing, the Blue Jean Becomes Longer or Shorter	3.22	0.98
	Experiencing Changing Colors When Water Washing the Blue Jeans	3.64	0.82
	Cases of Accessory Detachment or Erasing of Prints on the Label	3.08	0.96
	Incidents of the Blue Jeans Becoming Longer or Shorter on Ironing	2.65	0.85
Post-Processing	Cases of Lodging Complaints Against the Manufacturers When Problems Occur After Management or Laundering	1.73	0.84
	Incidents of Referring to the Consumer Protection Board for Problems with Blue Jeans	1.43	0.63

Agree Highly (5 Points) Do Not Agree (1 Point)

the respondents replied positively to the necessity of attaching quality markings on the garments, but only 46.9% replied as to the reliability of the quality markings. When compared to the

handling warning study by An^[7], the need for handling warnings was 92.5% and to its reliability, it was 24.1%. This comparison indicated that although the percentage does not correlate,

〈Table 7〉 General Recognition for Quality Markings

Unit: Frequency (1/100%)

Content	Very Rarely	Rarely	Normal	Sometimes	Often	Total
The Need for Quality Markings of Garments	0(0)	3(1.7)	22(12.2)	90(49.7)	66(36.5)	181(100.0)
Reliability to the Quality Markings on Garments Worn Presently	1(0.6)	11(6.1)	84(46.4)	77(42.5)	8(4.4)	181(100.0)
Easy to Understand Measurements of Label Markings	5(2.8)	44(24.3)	89(49.2)	38(21.0)	5(2.8)	181(100.0)
Easy to Understand the Textile Composition Ratio of Label Markings	5(2.8)	61(33.7)	75(41.4)	37(20.4)	3(1.7)	181(100.0)
Easy to Understand the Markings for Handling Warnings on the Label	1(0.6)	27(14.9)	88(48.6)	62(34.3)	3(1.7)	181(100.0)

〈Table 8〉 Level of Application for Quality Markings

Unit: Frequency (1/100%)

Content	Very Rarely	Rarely	Normal	Somewhat	Very Positive	Total
Examining the Measurements of the Label on Purchase	6(3.3)	31(17.1)	39(21.5)	77(42.5)	28(15.5)	181(100.0)
Examining the Label for Textile Composition Ratio on Purchase	15(8.3)	67(37.0)	48(26.5)	43(23.8)	8(4.4)	181(100.0)
Examining the Markings for Handling on Purchase	11(6.1)	68(37.6)	48(26.5)	45(24.9)	9(5.0)	181(100.0)
Examining the Manufacturer's Information on Purchase	40(22.1)	83(45.9)	30(16.6)	22(12.2)	6(3.3)	181(100.0)
Referring to Markings for Textile Composition Ratio When Laundering	8(4.4)	57(31.5)	51(28.2)	51(28.2)	14(7.7)	181(100.0)
Referring to Markings for Handling Warnings When Laundering	8(4.4)	45(24.9)	49(27.1)	67(37.0)	12(6.6)	181(100.0)
Referring to Markings for Textile Composition Ratio When Ironing	11(6.1)	52(28.7)	49(27.1)	61(33.7)	8(4.4)	181(100.0)
Referring to Markings for Handling Warnings When Ironing	9(5.0)	39(21.5)	54(29.8)	65(35.9)	14(7.7)	181(100.0)
Referring to Markings for Handling Warnings When Problems Occur for Management or Laundering	6(3.3)	17(9.4)	40(22.1)	86(47.5)	32(17.7)	181(100.0)
Close Compliance With Content of the Markings for Handling Warnings	8(4.4)	22(12.2)	79(43.6)	65(35.9)	7(3.9)	181(100.0)

the recognition for the needs of the labels are high and low for reliability surveys. For questionnaire

concerning the markings on the labels, only 23.8% for measurement, 22.1% for textile com-

position ratio and 36.0% for handling warnings were considered easy to understand which showed some improvements as to the markings of the labels.

2) Level of Application for Quality Markings

The level of applications for quality markings of coed's blue jeans are as indicated in <Table 8>. On observing the details, those who consider that they use the labels well for measurements were (58%), the textile composition ratio were (28.2%), the handling warnings were (43.6%) and the manufacturer's information were (15.5%). When laundering, the textile composition ratios (35.9%), and the handling warnings (43.6%) were examined. For ironing, examining the content for textile composition ratio stood at 38.1%, handling warning confirming at 43.6% and during purchasing, checking the measurements were given the highest priority and for laundering and ironing, the handling warnings were given more emphasis than the textile composition ratios. This study showed a lower rate of label confirmation as compared with studies of researcher Chung¹⁸⁾

and Yuk¹⁹⁾ which included all female consumers from their 20s to their 50s. The reason was that for the survey conducted by Chung²⁰⁾, there were noticeable differences based on age. With the older age group, the level of confirmations was higher than that of the 20 age bracket. On one hand, when asked whether the respondents complied closely with the handling warnings, only 39.8% answered positively and when inquired as to the examination of the handling warnings, when management and laundering problems arose, 65.2% responded positively. Therefore, the survey concluded that the consumers paid attention to the handling contents after problems occurred as oppose to when they purchased or laundered the blue jeans. This was a strong indication that managing the problem prior to its outbreak is more important than after.

3) Level of Satisfaction for Quality Markings

The level of satisfaction for female student's blue jean quality markings are described as in <Table 9>. On examining the details, when asked if the quality markings were detail and

<Table 9> Level of Satisfaction for Quality Markings

Unit: Frequency (1/100%)

Content	Very Rarely	Rarely	Normal	Somewhat	Somewhat Positive	Total
The Quality Labels are Generally Detailed and Accurate Leading to Sound Management of the Garments	5(2.8)	34(18.8)	98(54.1)	38(21.0)	6(3.3)	181(100.0)
The Appropriateness of the Location of Label Attachment	3(1.7)	14(7.7)	87(48.1)	74(40.9)	3(1.7)	181(100.0)
Erasing of the Print on the Label After Repeated Washing	1(0.6)	20(11.0)	50(27.6)	77(42.5)	33(18.2)	181(100.0)
Inconvenience Caused by the Rigid & Rough Materials of the Labels	4(2.2)	44(24.3)	63(34.8)	50(27.6)	20(11.0)	181(100.0)
Cases of Removal of Labels Due to its Prickly Feature	20(11.0)	50(27.6)	63(34.8)	38(21.0)	10(5.5)	181(100.0)

¹⁷ S. T. An, *Op. cit.*

¹⁸ K. H. Chung, *Op. cit.*

¹⁹ Y. E. Yuk, H. S. Bae and I. S. Kang, *Op. cit.*

²⁰ K. H. Chung, *Op. cit.*

〈Table 10〉 Consumer's Attitude for Average Figures by Measurement Categories for Management Problems and Accident Processing (N: 181)

Content	Description	M	S.D
Experiences of Management Accidents	Becoming Longer or Shorter After Water Washing	3.22	0.98
	Cases of Changing Colors After Water Washing	3.64	0.82
	Instances of Accessories Detaching or the Prints in Labels Erasing	3.08	0.96
	Becoming Longer or Shorter After Ironing	2.65	0.85
Experiences of Processing the Accidents	Cases of Submitting Complaints Against the Manufacturers for Management and Laundering Problems	1.73	0.84
	Incidents of Reporting the Problems to the Consumer Protection Board	1.43	0.63

※ Agree Highly (5 Points)-Agree Rarely (1 Point)

accurate, 24.3% responded positively and 21.6% answered negatively which was some indication to the low level of satisfaction. For the appropriateness of the attachment location of the markings, 42.6% replied positively, for cases of prints being erased in the labels after repeated washing, 60.7% of the respondent replied positively and for the rigid and rough materials of the labels, 38.6% answered to its inconvenience which all indicated to a low level of satisfaction of the labels. As a conclusion, serious measure is called for to raise the level of satisfaction for the content and the material of the quality markings.

6. Experiences of Management Mishaps & Resolving

To study the management incidents and its resolutions, the 5 point Likert type scales was applied and the results were tabulated in 〈Table 10〉. For categories when the focus and colors changed after laundering, a high point of three was given and for response to problems arising after management and laundering of the blue jeans, 2 points were given. This low response indicated an extremely passive attitude when addressing the problems.

After water washing, the experiences of quality loss were summarized in form of frequency analyses in 〈Table 11〉. In observing the high

frequency respondents such as "Agree Highly" or "Agreement", instances of the length becoming longer or shorter after water washing accounted for 45.8%, change of color figure stood at 61.9%, and accessories becoming detached or prints erasing at 40.9%. Such studies indicated a high level of comparative quality loss and to prevent such incidents, a research carried out by Choi²¹⁾ concerning the consumer's complaints for garment products research should be referred to. The garment products, in themselves, are characterized by the need and importance for laundering so care must be taken to avoid damage to the product. Therefore, the quality markings should be precise and the consumers should follow the quality markings with care. On the other hand, in observing the responses from the coeds who confronted the issues after management of the blue jeans and laundering, 5.6% indicated that they lodged complaints to the manufacturers and 1.7% filed complaints with the consumer protection board. Such background can only be interpreted as being extremely passive and it is believed that additional feedbacks to the manufacturers or the sellers are necessary so that improvements in quality and service can be made for the ultimate benefits and protections of the consumers.

IV. Conclusion and Suggestions

²¹⁾ H. W. Choi, *Op. cit.*

〈Table 11〉 Experiences of Blue Jean Quality Loss & Accident Processing

Content	Very Rarely	Rarely	Normal	Somewhat	Very Likely	Total
Becoming Longer or Shorter After Water Washing	7(3.9)	39(21.5)	52(28.7)	73(40.3)	10(5.5)	181(100.0)
Cases of Changing Colors After Water Washing	1(0.6)	15(8.3)	53(29.3)	91(50.3)	21(11.6)	181(100.0)
Detaching of Accessories or Prints or the Labels Erasing After Water Washing	8(4.4)	48(26.5)	51(28.2)	70(38.7)	4(2.2)	181(100.0)
Becoming Longer or Shorter After Ironing	10(5.5)	75(41.4)	68(37.6)	25(13.8)	3(1.7)	181(100.0)
Cases of Referring to Manufacturer After Problems Arise from Management & Laundering	82(45.3)	77(42.5)	12(6.6)	9(5.0)	1(0.6)	181(100.0)
Experiences of Filing Cases to the Consumer Protection Board for Problems	114(63.0)	59(32.6)	5(2.8)	3(1.7)	0(0)	181(100.0)

Among jean casuals, the blue jean is a representative garment, which can be worn conveniently by anyone regardless of age, sex, seasons and occupations. With the expansion and implementation of the five-day workweek, increasing interests in leisure time has led to popularity of the blue jeans. Subsequently, the blue jean has now exceeded its role as a simple outdoor garment and is presently able to create fashion and features in its own right as a fashion item. Therefore, the blue jean which now has potentials for substantial growth, its quality assurances should be given additional emphasis and some development for its structural technology and accurate information are called for. Based on such background, this study concentrates on the blue jean popular with coeds in their 20s in regard to wearing and management of the garment. This survey centers on the quality markings and tries to implement correct understanding and recommendation for complaints. As such, the conclusion of the study is as follows:

First, the highest number of blue jeans possessed by the coeds were seven with the designs being basic type, torn ones, wrinkled ones

in that order which showed that various types of blue jeans were owned. The highest frequency of wearing was 3~4 times a week and those not even worn annually accounted for 1, 2, and 3 pants respectively. Even for not wearing 5 pants a year, 12.2% of the coeds replied to that figure. The reasons behind not wearing the pants for over one year was because of the pants becoming out-of-fashion or the colors no longer was popular and the methods for processing these pants were redesigning, storing at home, or keeping in the garment box or putting it into the separate recycling bin respectively.

Second, laundering the pants once weekly was surveyed to be the highest, then once monthly and one time a season in that order. This indicated that the pants were not washed frequently and that the mother washed them mostly. For the laundering methods, they were water washed or water washed or dry cleaned at the same time and for only dry cleaning, 4.4% figure was surveyed. For water washing, the washing machine was used most often and the reasons for dry cleaning were to avoid change in color and form. To this end, the pants were dry cleaned several times after purchase and then

water washed. Aside from the general knowledge that when the pants carry a high price tag or is specially treated that they should be water washed, the coeds tended to rather dry clean the jeans. Furthermore, most of the coeds had limited experience in repairing the jeans and when doing so, they did it to shorten the length, the waistline and the pant legs respectively.

Third, most of the female students agreed to the necessity of the quality markings but their trust and understanding of them were limited which entailed improvement in labels. For examining the contents of the labels, the measurements ratios were ranked the highest on purchase and for garment management such as laundering and ironing, the handling warnings were given a higher priority than the textile composition ratios. On one hand, the handling warnings were studied after problems occurred rather than when purchasing or laundering which called for emphasis in prior management rather than after. In addition, the female student's levels of satisfaction for the quality markings were surveyed to be extremely low so efforts to increase the level of satisfaction for the quality marking's contents and the materials are recommended highly.

Fourth, for problems in garment management, change in colors after water washing was the highest, and next came the length becoming longer, then the accessories falling off or the prints erasing respectively. This indicated a relatively high rate of accidents. After the accidents, it was found that the responses of the coeds were extremely passive in nature.

As a conclusion to this study, it is believed that the correct quality markings are essential to the sound usage of the garments and in order to make this possible, accurate and precise information must be provided. But due to the practice of giving informal data, the consumers do not have much trust on the labels and subsequently, the laundering problems were not addressed. As a result, for improving the status of the consumers, the quality marking's practicalities should be raised by improving the mark-

ing methods and by inspecting the feasibility of the contents with active efforts given by the manufacturers.

Since this study's status report is only limited to that of blue jeans, the results cannot be easily applied to that of all the garment and textile industries and since the surveyed areas and object is limited, the research result cannot be generalized. In the future, it is hoped that the research range should expand to include other areas and also target male students who enjoy wearing blue jeans and its management.

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