

## Comparison Research on the Patterns of No-Tuck Slim-Fitting Slacks for Young Men in Their 20s.

Sanghee Park\* · Eunhye Lee<sup>†</sup>

Dept. of Traditional Korean Costume Baewha Women's University\*  
Dept. of Fashion Industry Yeonsung University

### Abstract

Because young men's slacks are becoming more slim-fitting today, this study attempts to identify room for improvement by comparing and analyzing the patterns of men's slacks in the literature and those of manufacturers. Selected for the study are two patterns from the literature and one from manufacturers (Slacks A, B, C); those from studies are slim silhouette pants with no tucking around the waist at the front. Subjects for the Fit tests and the pattern designs were men in their twenties with average body shapes in accordance with the figures in *Size Korea* 2010. Pants were made from muslin fabric and the Fit tests were carried out with three subjects and a panel of five experts to evaluate comfort and appearance. The analysis of the patterns revealed that Slacks A were the longest followed by C and then B. Slacks C had the most girth ease, and Slacks B were the slimmest in both length and girth. Movement tests showed Slacks A to be the most comfortable followed by B and then C. The appearance test found that Slacks B were the most attractive, followed by A, and then C. The fits at the front, back and sides of all three pants were more or less the same. We suggest that more studies be done on pants patterns adjusting them for proper ease and using elastic fabric in order to maintain the slim fit and also to be comfortable to wear.

**Key words** : Men's Wear, No-Tuck Pants, Slim Fit, Fashion, SizeKorea 2010

### I. Introduction

Urbanization and economic growth are creating more emerging client targets for fashion, especially among the young men living in cities. More and more male consumers are, unlike in

the past, eager to express themselves through fashion(Yoo, 2006, p.159). Today, so-called "Yummys" that are young gentlemen with strong interests in fashion are turning up as a significant consumers group. YUMMY is a newly coined word meaning a 'Young' 'Urban' 'Male'

---

<sup>†</sup>Corresponding author: Eunhye Lee, Tel. +82-31-441-1385  
E-mail: gnleena@gmail.com

in his 20~30s who is enthusiastic about fashion. Willing to invest their dollars in clothes, they show a lot of interest in casual suits. Besides, the current trend of fashion has it that customers over all age groups are more likely to turn to practical and unconventional wear rather than formal wear; more stylish men's clothes are now leading the market. More and more Men have a lot of interest in maintaining a good shape, in modern consumer society, body shape is considered as a symbol through which they expose themselves, thus should be taken care of. It has emerged as a major means of self expression(Jung, 2010, p.2). This explains a tendency that businesses or government offices no longer require their employees to wear classic formal suits. LF, one of the largest Korean apparel manufacturers, says that there's such an increasing demand by the middle-aged for slim clothes that they have increased production of slim-line suits by 40% and also increased tailored suits brands which reflect body shapes and individual tastes, etc. ("Middle Age Man's Suit", 2015) Meanwhile, accessories are selling like hot cakes that work for slim fit of suits by preventing shirts to be pushed up or get lumped in the pants.

It is also notable that the drop value, which is the difference between chest size and waist size, for men's clothes has been largely increased up to over 6 inch-drop compared to what it was in the past. It means that men are wearing clothes more fitting their body shapes these days(Kim, 2015, p.93). Popular in the market are such business suits with the nattiness of traditional formal suits plus the comfortability of casual wear, which makes European suits a current trend of men's suits. ("How to Wear a Men's Suit", 2015) Men's wear brands that recently launched or reestablished

are characterized by designs bearing contemporary sentiment and comfortability. ("Contemporary", 2015) Consequently, unlike in the past when men's pants were usually tucked in front to go with a loose girth, nowadays men's pants are basically no-tucked. ("The Slimmer You Look", 2014) With the rapid change in men's fashion trends, corresponding researches on the trend are on the increase. However, studies on the patterns of men's slim slacks are insufficient.

Therefore, the purpose of this study is to find the appropriate amount of ease of men's no-tuck slim slacks through comparison and analysis of the ease of slacks in different patterns with actual fitness test. Slacks were made from muslin with the average body shapes in the accordance to the figures suggested by *Size Korea* 2010 to be actually worn by models to evaluate the properness of ease and comfortability in several postures and movements. We hope that what we found from this study will be a boon to insufficient literature by suggesting a proper ease and pattern of slim slacks recently popular among young men in their 20s.

## II. Methods and Procedures

### 1. Making No-Tuck Slacks

The patterns used for making the slacks were (1) a darted pants pattern from *Men's Pattern Design*(Ok-Kim, 2004) for Slacks A, (2) a pattern from a manufacturer of men's apparel for Slacks B, and (3) a casual slacks pattern from *The Practice of Industry Patterns*(Heo, 2006) for Slacks C. The patterns selected from the literature were those of no-tuck slim slacks

in men's clothing pattern textbooks published in the market. Most materials involved tucked slacks patterns which were not suitable for this study, so they were excluded from the selection. For selecting a pattern from a manufacturer, we selected a major supplier in Korea, whose sales goal in 2012 is 40 billion won, that operates a distribution network of over 30 domestic and overseas department stores and outlets (Apparel News, 2012). The selected pattern for this study is the one that was also shown and sold in 2014 S/S Collection. The illustration of each slacks are as Figure 1. Slacks A has a dart at the waist each on the front and back. Slacks B

has no dart on the front, but has two waist darts on the back. Slacks C has no dart on the front and it has one dart on the back.

For drafting the slacks patterns, we used the data, the standard measurements of Korean male in 20s, taken from Size Korea 2010. The material used for the slacks is muslin, thread counts of 20. Bottom seam allowance was rendered as 1cm, the waistband was produced by attaching a fusible interlining. Appearances of the slacks made are shown in Figure 2.

Table 2 shows the method of making patterns and the size of each part of the pattern used in the study (Fig. 3).

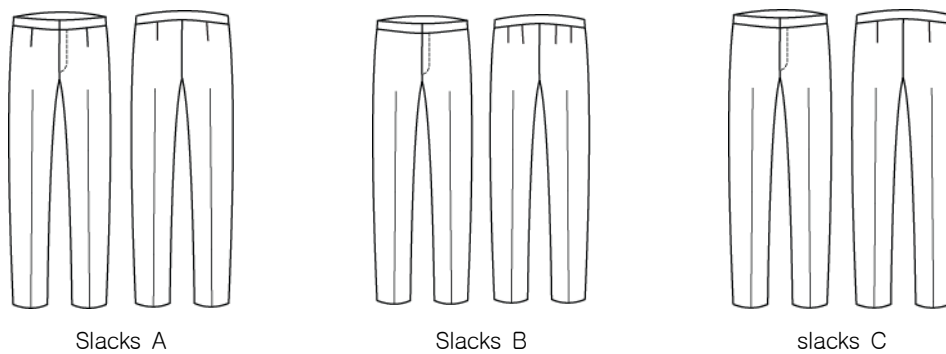


Figure. 1 Illustrations of No-Tuck Slacks



Figure. 2 Appearance Evaluation Pictures

Table 1. Experimental Pattern Size

No.	Item	Slacks A	Slacks B	Slacks C
1	Waist Circumference	○	-	○
2	Hip Circumference	○	-	○
3	Front Hip width	$H/4+0\sim 1$	22.3	$H/4$
4	Back Hip width	$H/4+1\sim 2$	24.8	$H/4+2.5$
5	Hip length	$\text{bodyrise}-(H/20+3)$	17	$(H/4+1.5)-H/12$
6	bodyrise	24~25	22	$H/4+1.5$
7	Knee length	$(\text{bodyrise}\sim \text{hem line})/2-5$	$(\text{bodyrise}\sim \text{hem line})/2-8$	$(\text{bodyrise}\sim \text{hem line})/2-5$
8	Total Crotch width	$H/4-4\sim 5$	-	-
9	Front Crotch width	$H/20+0.5\sim 0.7$	4.2	4.5
10	Back Crotch width	$(H/4-4\sim 5)- (H/20+0.5\sim 0.7)$	6 from Front Crotch point	6 from Front Crotch point
11	Hem girth/2	21	18.5	22

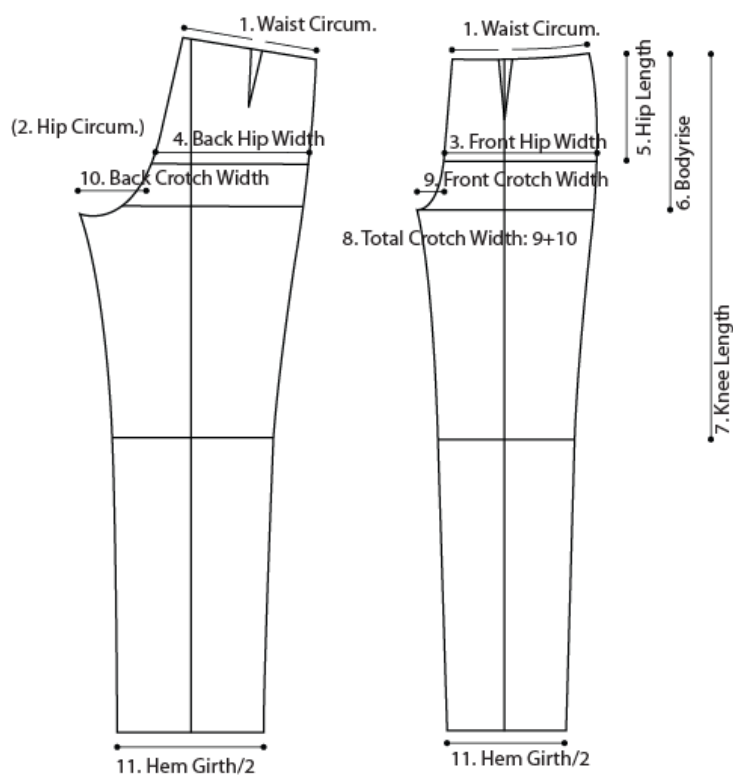


Figure. 3 Experimental Pattern Sizes

## 2. Subjects Body Features

The subjects were selected out of Korean males with body shapes equivalent to the standard body measurements of males 20s according to SizeKorea 2010. Male subjects that participated in this experiment were three people whose physical data are shown in Table 1.

The average height was 176.0cm, waist circumference is 78.4cm, hip circumference was 93.0cm. Subjects who participated in this experiment were taller by 2.5cm, but smaller by 3.4cm in waist circumference and 0.3cm in hip circumference when compared with the data of SizeKorea 2010. Where there's no standard deviation values of Rise in the measurements of SizeKorea, we calculated the values by subtracting the average groin height from the average waist height.

## 3. Performance Evaluation

The Fit test was done divided into two kinds

of evaluations: (1) Movement evaluation where the subjects tried several postures to evaluate the comfortability, (2) Appearance evaluation to assess the beauty of them by the experts. In movement evaluation, we checked erected posture (14 questions), squatted posture (11 questions), and stairs-climbing posture (8 questions) to evaluate the activity and comfortability of the circumference parts and the length parts. (Fig. 4) The appearance evaluation was carried out by five experts of at least Master's or upper degrees holders in fashion major. They checked the position of the baseline in each region (9 questions), the fitness of circumference Ease of front, back, and sides (12 questions), and also the appearance of the silhouette and the length (Fig.1) All questions were evaluated by seven-point scale; 1 point indicates 'too loose / high / wide ', and the three points 'suitable', and 7 points 'pretty much tight / low / narrow'.

Table 2. Subjects' Body Measurements

(cm)

Item	Subject			Ave.	Standard shape of early 20s (Size Korea, 2010)	
	A	B	C		Body measurement	S.D
Chest Circumference	90.0.	88.0	94.0	90.7	93.9	5.7
Waist Circumference	74.0	75.0	76.0	75.0	78.4	7.1
Hip Circumference	89.0	93.0	97.0	93.0	93.3	5.2
Waist to Hip Length	21.0	21.0	20.3	20.8	19.5	1.8
bodyrise	27.0	27.0	26.5	26.8	25.6	-
Outside Leg length	113.0	112.0	110.0	111.7	107.4	3.7
Stature	176.0	177.0	175.0	176.0	173.5	5.1

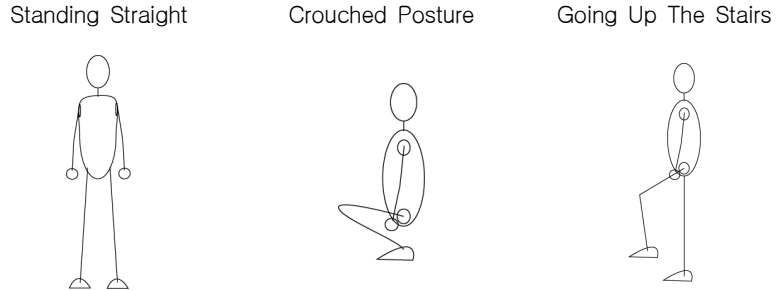


Figure 4. Posture and Parts of the Fit Test

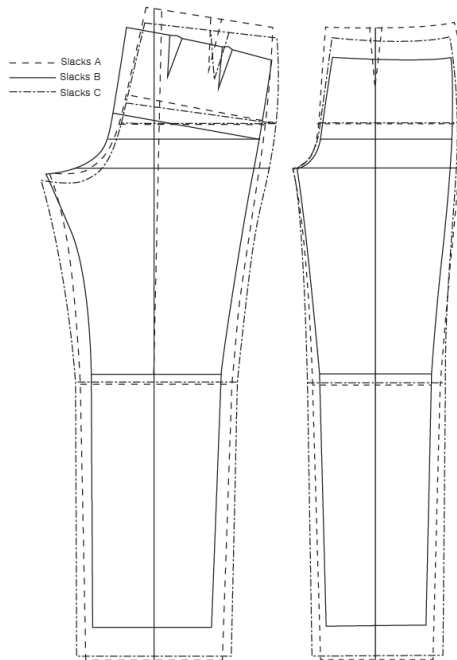


Figure 5. Slacks Patterns Nested

### III. Result and Discussion

#### 1. Comparison of Slacks Patterns Sizes

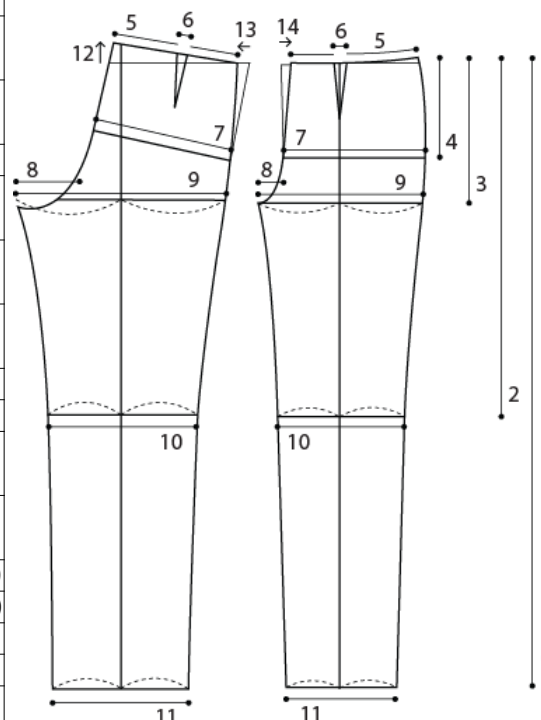
For the actual size comparison of the patterns, we set the reference points to be the centerline and the crotch line of the patterns.

(Fig. 5) We also made measurement comparison of the parts that affects the silhouette (Table. 3).

As for length, which includes length of the pants from top to the bottom, knee, crutch, and buttocks, Slacks A showed to be the longest, then came Slacks C, and Slacks B in order.

Table 3. Experimental Pattern Sizes

No	Item	Slacks A	Slacks B	Slacks C
1	Slacks Length	107.3	100.0	104.3
2	Knee Length	60.6	57.5	58.0
3	bodyrise	24.0	18.5	22.3
4	Hip Length	16.5	13.3	14.5
5	Waist Circumference(Front)	20.0	20.0	20.0
	Waist Circumference(Back)	20.0	21.6	20.0
6	Dart (F:Width/Length)	2.0/10.0	-	-
	Dart (B:Width/Length)	1.8/9.0	①2.0/6.8 ②1.7/6.8	2.8/8.0
7	Hip Circumference (Front)	24.2	22.2	23.2
	Hip Circumference (Back)	24.6	25.0	25.8
8	Crotch Width (F)	4.8	4.0	4.4
	Crotch Width (B)	11.8	10.2	12.5
9	Thigh Circumference (F)	28.0	26.0	28.0
	Thigh Circumference (B)	35.6	35.0	38.3
10	Knee Circumference (F)	21.4	19.0	23.2
	Knee Circumference (B)	25.6	22.0	27.2
11	Hem Girth (F)	19.0	16.8	22.0
	Hem Girth (B)	23.0	20.0	26.0
12	Center Back: Waist Extension	3.0	5.0	2.0
13	Back Side Seam: Waist Dart	0.8	0.3	1.8
14	Center Front: Waist Dart	0.5	2.0	1.8



Slacks B had the shortest total pants length of 100 cm, but it included the extra 15 cm for adjustment. Slacks A and Slacks B showed 5.5 cm differences in Rise, which appears to be most sensitive to trends, for Slacks A having length of 24.0 cm while Slacks B that of 18.5 cm. Meanwhile, the Rise of Slacks B, which had shortest length from top to the crotch, was 13.3

cm.

The measurement of waistline is separated into front and back: the front measurement of all three types of Slacks were the same 20 cm, however, the measurement of back waistline was 21.6 cm for Slacks B and 20 cm for Slacks A and C. As for darts, only Slacks A had front dart, but Slacks B and C did not. However, all

three had back dart: Slacks A and C with one and Slacks B with two. Slacks B had two waist darts in the back and 2 cm one in the centre of the front which give Slacks B the most slim waistline of all three. Slacks C did not have waist dart in the front, but had 2.8 cm one in the back and 1.8 ones on each side which is more darts than Slacks A. The difference between the waist circumference and buttocks circumference were less than 2 cm for all three, the total buttocks circumference was 49.0cm for Slacks C, 48.8cm for Slacks A. Moreover, Slacks B had the greatest difference of 2.8 cm between front and back. Therefore, Slacks A had longest length and largest waistline compared to the other two slacks.

Regarding the crotch part, which has huge influence on the feelings of wearing, Slacks B had smallest of all while it also had longest middle waist extension of 5cm. On the other hand, Slacks C which had the longest back crotch piece of 12.5 cm had shortest middle waist extension of 2 cm.

Opposite to that of length, the circumference of thigh, knee, and ankle went from Slacks C, and Slacks A, to Slacks B in order from biggest to smallest. The measurement shows that Slacks C had largest girth of the leg including the hem, while slacks B was the shortest in length and slimmest in the overall leg circumference as well.

The width of waist band was 3 cm for Slacks A and C while that of Slacks B was widest with 3.5 cm. The waist circumferences of all three patterns were made with waist band without ease. Male suit has little difference between the Rises. The width of front buttocks was Slacks A>Slacks C>Slacks B in order, and the width of front buttocks was Slacks C>Slacks B>Slacks A in order.

Slacks B had distinctive appearances because it has slim silhouette overall and had low waistline to the point of belly bottom. This features of Slacks B seems to be the result of following the current trend of clothing company on the market.

## 2. Fit test

### 1) Movement Evaluation

The result of the movement evaluation showed that Slacks A had the top score, then Slacks B, then came Slacks C. (Table 4)

In vertical position, the overall slim fit of the Slacks A showed to be the best with the most appropriate waist and buttocks circumference. Slacks A also had good assessment in crouching position, saying it has comfortable middle thigh and Rise circumference. In movement such as walking or going up stairs, the pull of the Rise and the slacks lengths had evaluated best in patterns of enterprises, and the position of waist line and width of gem found in enterprises is most preferred.

It seems to be due to having average ease in the girth of the leg. On the other hand, Slacks C had the most overall ease in measurement, and this brought good result only in the waist circumference area but lowest in other criteria. Lastly, Slacks B had the last ease in circumference in upright position and was most tight in motion because it has the smallest actual waist circumference at the belly button. As for ease of waistline circumference, Slacks A had the lowest score on both upright and crouching positions. The position of the waist line of both front and back as well as the position of buttocks and crutch line was excellent in Slacks A. On the other hand, Slacks



Table 4. Subjects' Fit Tests

Item	Slacks A			Slacks B			Slacks C			F value	
	M	S.D	Sheffe	M	S.D	Sheffe	M	S.D	Sheffe		
Standing straight	Overall fitness	3.00	1.73	A	2.33	0.58	A	2.67	1.00	A	0.27
	Front waist line	5.00	0.00	A	3.33	2.08	A	3.00	1.00	A	1.94
	Back waist line	4.33	1.15	A	4.00	2.65	A	3.33	1.15	A	0.24
	Hip line	4.00	0.00	A	4.00	1.00	A	4.00	1.00	A	0.00
	Crotch line	4.00	0.00	A	4.00	0.00	A	3.67	0.58	A	1.00
	Knee line	5.33	0.58	A	5.33	0.58	A	3.67	1.53	A	2.78
	Slacks Length	2.33	0.58	A	3.67	0.58	A	2.67	1.15	A	2.17
	Waist Circumference	4.33	0.58	A	1.33	0.58	B	4.67	0.58	B	30.03**
	Hip Circumference	4.33	0.58	A	3.67	1.53	A	4.33	0.58	A	0.44
	Front crotch girth	4.00	0.00	A	3.67	0.58	A	3.67	0.58	A	0.50
	Back crotch girth	4.33	0.58	A	3.33	1.15	A	3.67	0.58	A	1.17
	Thigh Circumference	3.33	1.15	A	3.33	1.15	A	3.00	1.73	A	0.06
	Knee Circumference	2.67	1.15	A	3.00	1.00	A	2.33	1.53	A	0.21
	Hem girth	2.67	1.53	A	3.33	1.15	A	1.67	0.58	A	1.58
Crouched posture	Front waist line	4.33	0.58	A	4.00	1.00	A	3.33	1.15	A	0.88
	Back waist line	4.00	0.00	A	4.00	1.00	A	3.67	1.53	A	0.10
	Knee line	4.33	1.53	A	4.33	0.58	A	4.33	1.53	A	0.00
	Slacks Length	3.33	1.15	A	4.00	0.00	A	3.33	1.53	A	0.36
	Waist Circumference	5.33	1.15	A	2.33	0.58	B	5.33	1.15	B	9.00*
	Hip Circumference	4.33	0.58	A	4.00	1.00	A	4.33	0.58	A	0.20
	Front crotch girth	4.00	0.00	A	3.67	0.58	A	3.67	0.58	A	0.50
	Back crotch girth	4.33	0.58	A	3.67	0.58	A	3.33	0.58	A	2.33
	Thigh Circumference	3.33	1.15	A	4.00	0.00	A	3.33	1.15	A	0.50
	Knee Circumference	2.67	1.15	A	4.00	0.00	A	2.67	1.53	A	1.46
Hem girth	2.33	1.15	A	3.33	1.15	A	2.33	1.53	A	0.60	
going up the stairs	Knee line	3.33	1.15	A	4.00	1.00	A	3.67	1.53	A	0.21
	Slacks Length	2.67	1.53	A	4.00	0.00	A	3.33	1.53	A	1.09
	Hip Circumference	4.33	0.58	A	3.67	1.53	A	4.00	1.73	A	0.18
	Front crotch girth	4.33	0.58	A	4.00	1.00	A	3.33	0.58	A	1.40
	Back crotch girth	4.67	0.58	A	3.67	0.58	A	3.67	0.58	A	3.00
	Thigh Circumference	3.33	1.15	A	4.33	1.15	A	3.33	1.73	A	0.77
	Knee Circumference	3.33	1.00	A	3.67	0.58	A	2.67	1.53	A	0.64
Hem girth	2.67	1.53	A	3.33	1.00	A	2.67	2.08	A	0.04*	

\*p<.05 \*\*p<.01 \*\*\*p<.001

B, which was shortest of all, had the best score in the overall length of the pants. Slacks A had good assessment in both waist and buttock

circumferences whereas Slacks had best result overall in knee circumferences and the hem.

In conclusion, in movement evaluation, there

was no great differences in movement adaptability, and shows significant difference only in the evaluation of waistline in crouching position and moving up and down the stairs.

2) Appearance Test

The appearance evaluation had a result that Slacks B has the best evaluation on overall slim fit while Slacks A to be slightly loose and Slacks C has the most loose fit (Table 5), and overall fitness had the same result. The result has further indicated that Slacks A is slightly tight in

**Table 5. Fit Appearance Evaluations**

Item	Slacks A			Slacks B			Slacks C			F value		
	M	S.D	Sheffe	M	S.D	Sheffe	M	S.D	Sheffe			
Front side	Overall fitness	3.33	1.37	A	3.91	0.79	B	2.00	0.73	B	11.38***	
	Waist line	3.67	0.78	A	4.75	1.06	A	3.75	0.75	B	5.72**	
	Hip line	5.08	1.00	A	4.58	0.90	A	4.25	0.62	A	2.89	
	Crotch line	4.83	0.94	A	4.25	0.62	A	4.58	0.90	A	1.49	
	Knee line	5.08	0.79	A	4.50	0.90	A	6.08	0.67	B	12.19***	
	Side line	4.17	0.58	A	3.91	0.79	A	4.08	2.89	A	0.56	
	Slacks Length	3.92	1.44	A	3.83	0.72	A	3.83	1.47	A	0.18	
	Waist Circumference	4.16	0.39	A	3.25	1.06	B	4.25	0.62	B	6.71**	
	Hip Circumference	4.25	1.22	A	4.08	0.51	A	3.83	1.40	A	0.43	
	Front crotch girth	3.75	1.14	A	4.17	0.94	A	3.33	1.15	A	1.78	
	Thigh Circumference	3.08	0.51	A	3.75	0.75	AB	2.50	1.31	B	5.50**	
	Knee Circumference	2.75	0.62	A	3.83	0.39	B	1.67	0.65	C	43.91***	
	Hem girth	3.00	0.95	A	4.08	0.29	B	1.58	0.67	C	39.31***	
	Back Side	Overall fitness	3.58	1.44	A	3.91	0.51	B	2.00	0.60	B	18.86
Waist line		3.50	0.67	A	4.41	0.67	AB	3.75	0.62	B	21.32**	
Hip line		5.42	0.90	A	4.25	0.45	A	4.00	0.43	B	13.91***	
Crotch line		4.16	0.72	A	4.17	0.39	A	4.25	1.06	A	13.92	
Knee line		4.17	0.94	A	4.42	0.79	AB	5.92	0.79	B	6.28**	
Slacks Length		3.75	1.05	A	4.17	0.58	A	4.25	1.96	A	17.20	
Waist Circumference		4.33	0.65	A	3.25	0.96	B	4.42	1.00	B	0.05*	
Hip Circumference		4.00	1.41	A	4.33	0.65	A	3.25	1.64	A	9.48	
Back crotch girth		4.08	1.08	A	4.33	0.49	A	3.33	1.83	A	0.49	
Thigh Circumference		3.33	0.43	A	3.75	0.62	B	2.08	0.51	C	6.49***	
Knee Circumference		2.83	0.39	A	3.67	0.49	B	2.08	0.79	C	2.14***	
Hem girth		3.25	1.06	A	4.00	0.00	B	1.58	0.51	C	2.05***	
Overall		Front	3.25	0.97	A	3.92	0.51	B	2.08	0.67	B	30.10***
		Back	3.58	1.31	A	3.83	0.58	B	2.08	0.51	B	22.08***
	Side	3.33	0.98	A	4.00	0.43	B	2.08	0.67	B	39.95***	

\*p<.05 \*\*p<.01 \*\*\*p<.001

back side and had a lower evaluation on hip line, Rise line, and knee line. Slacks B turned out to be the most loosely fit in waist line. It is because the front form of the slacks is small while back form is bigger relative to the front form. As for appropriateness of the waist and buttock circumference and the position of the Rise line, which are the reference line of the body, the results shows to be Slacks B, Slacks C, and Slacks A in order. Especially for Slacks C, knee line has evaluated to be greatly lower than their actual knee This has the same result in movement evaluation. Slacks A has best result in waistline ease, while hipline had best evaluation only of the back. Slacks length which showed definite difference in their movement evaluation had similar results In appearance evaluation for all three patterns. Slacks C has evaluated that its gem, thigh, and knee girth is very loose while Slacks B has evaluated best in its ease in Rise, thigh, knee, and gem girth. Thus, it can be concluded that Slacks B has best silhouette of the slacks.

Overall fitness of the front, back, and side showed significant difference( $p < .001$ ). Further, knee line, knee girth, hem girth in fitness of the front and hip line, thigh girth, knee girth, hem girth in fitness of the back had a significant difference. All three patterns showed to have better appearance evaluation on front than its back. On the parts that adhere to the body such as hip girth and waist girth, slacks A showed to have best ease in its fitness, while Slacks B had the best evaluation in others.

#### IV. Conclusion

This study has contributed in comparison analysis of patterns in literature and

manufacturers on its no tuck dress slacks for men. The ones that showed different patterns in its lengths and girth ease has been made in muslin and the fitness evaluation has been preceded. The result of the study is as followed.

As for subjective movement evaluation, Slacks A showed the best score in ease criteria. On other criteria, Slacks B had the best score in other positions, Slacks A in waist and buttocks circumference for appearance, and Slacks B showed the best result in others. The evaluation on overall circumference for Slacks C was loose, while its overall length was long and its reference lines, which are waistline, Rise line, and knee point, was too low. In the overall length criteria, Slacks B which has length of 100 cm had the best evaluation result and 104~107 cm was considered to be not appropriate. As Slacks B, which has most slim fit in its girth, evaluated to be the best in both its movement and appearance evaluation, it can be concluded that slim fit ease suggested in literature is not appropriate for its trend. Slacks B with the least ease in its girth but has the best evaluation on its movement and appearance evaluation shows difference from its patterns in literature. slacks B has its waist girth of the front slightly bigger than its back while the front hip Circumference showed to be 2.8cm bigger than its back girth. The difference of front and back girth of crotch showed to be the least while back center waist Circumference has extended to 5cm and has secured the movement. Thus, the pattern that maintains overall slim fit while allowing a free and comfortable movement should be further studied both in literature and enterprises. Also, in the case of the slim fit, the fitness of hip Circumference has crucial role in deciding its overall appearance, while width of gem has greatest effect on its fit of slacks. As showed in

subjective evaluation on its movement, the fitness in each posture is affected by the ease of the girth, and elastic material cloth should be considered in making slim fit slacks to secure one's availability of movement.

## References

- Heo, D. (2006) *Industrial Pattern Planning*, Paju: Kyo-hak: Research Publisher
- How to Wear a Men's Suit like "Kingsman". (2015, March. 26). *The Maeil Shinmun*, Retrieved June 13, 2015, from <http://www.imaail.com>
- Jeong, H., Kim, S. (2010). Development of Original Pants Form for Muscular Male. *Journal of Business Research*. 12(2), 1-13.
- Kim, M. (2015). Patternmaking of Men's Slim-fit Jacket Sloper in Their 30's Part 2. *Journal of Business Research*. 17(1), 93-101.
- Kim, O., Park, K. (2004) *Men's Wear*, Seoul: Kyeong-Chun: Pulisher
- SizeKorea, (2010) 6th body measurement survey, 6th edition, <http://sizekorea.kats.go.kr>
- 'The More Exposure, the Slimmer you Look' for Those with Belly Fat. (2014, November. 05). *Chosun-Biz*, Retrieved June 22, 2015, from <http://biz.chosun.com>
- The Keyword for This Spring is 'Contemporary + Comfortable'. (2015, March. 16). *Fashion-N*, Retrieved June 20, 2015, from <http://m.fashionn.com>
- The Crisis of 'Middle Age Man's Suit', Change of Man's Suit for Survival. (2015, June. 18). *Hankooki.com*, Retrieved March 12, 2015, from <http://daily.hankooki.com>
- Yoo, H., Sim, B. (2006). Study on Male's Tendon Development for Pattern-making. *Journal of Business Research*. 10(5), 159-179.

---

Received (June 19, 2015)

Revised (July 6, 2015; July 15, 2015)

Accepted(July 17, 2015)