

CLOTHING FOR PREGNANT WOMEN

by

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Chapter I

INTRODUCTION

Pregnant women today are expected to lead active, well-rounded lives. They no longer need to live in seclusion wearing drab, unattractive maternity dresses. Instead, maternity fashions are something to enjoy rather than something to endure. Newspapers, periodicals and popular books all point up this new attitude toward pregnancy. Designers are translating into maternity clothes the thinking of doctors that mothers-to-be should lead as nearly normal lives as possible (1). "The most important consideration in regard to the expectant mother's wardrobe is that it should be attractive..." (2). Today's maternity fashions reflect the latest styles. In addition to trim lines, comfort and functionalism, designers are incorporating into maternity wear the latest trends in color, necklines, collar and sleeve treatments, bodice lines and fabric combinations (1). Evening dresses, afternoon dresses, cocktail dresses, hostess gowns, suits, shorts, slacks and swimsuits as well as panties, girdles, garter belts, brassieres, slips, nightgowns and pajamas are available to the consumer.

Review of Literature

The history of maternity wear has been interesting, but styles have not always been successful or glamorous. The clothes through the ages that have accommodated pregnancy have often been the great fashions of their time. The stola of the ancient Romans was a maternity costume decreed by law. Medieval days had the peignoir. The Empire silhouette was begun as a maternity costume for the Empress Josephine and copied by all the women of the court, pregnant or not (3,4). The Chinese unwaisted sheath may also be termed a maternity costume. The Victorian era was the only era which had no provision for the pregnant woman to appear in public (3). In the United States before the turn of the century the pregnant woman lived in seclusion, venturing out for a walk at dusk or after dark on the arm of her husband. She owned one or two shapeless, wrap-arounds "with lap" which the family seamstress had sewn up (5). Lane Bryant, an immigrant seamstress who had been designing tea gowns, was asked by a customer who was expecting a baby to make one with elastic instead of a tight belt. These tea gowns with adjustable waistlines and camouflaging pleats were an instant success. When Lane Bryant's first

advertisement appeared in a newspaper in 1911, customers flocked to her shop. Though the styles were very limited it was the beginning of the maternity wear industry in America. However, it was the baby boom after World War I which was responsible for maternity party dresses (6,7). There were no outstanding new developments in the field of maternity wear until just before World War II when sportswear for the pregnant woman began to appear. The first maternity slacks were made in 1940, maternity swim suits appeared in 1942, and today there are even blue jeans for the expectant mother (6).

The growth of the industry since 1940 has been tremendous. At that time it was estimated that the entire output of maternity manufacturers amounted to \$1,500,000 worth of business. The most conservative estimate on the business done five years later was \$10,000,000 (5). In 1953 the business boomed to \$460,000,000 (6). Some of the reasons given for the success of the maternity wear industry are that pregnancy is a fashionable subject for conversation and that movie stars who are having children are receiving publicity and "holding their glamor

status quo..." . When style discovered maternity clothes, skilled designers took over (5). In 1939 in Dallas, Texas one of three sisters cut a hole in the front of a suit skirt for her sister who was pregnant. When people saw the straight slim skirt with an even hemline a favorable stir was created. The skirt was patented and the two sisters went into business and were later joined by the third sister. Their Page Boy Shops spread from Dallas to Los Angeles, Beverly Hills and other cities. In 1950 the stock included 100 different styles ranging in price from \$17.95 to \$100.00 (8,9,10,11). Eloise Glover will be remembered as the first to give glamor to maternity clothes. As a fashion artist she designed her own maternity clothes and was asked for copies. She went into the maternity wear business, retiring in 1945 after seven years as a wholesaler. In the first six months of 1945 she had \$800,000 worth of business (5). Some of the most important designers in the field are designing maternity clothes. Philip Hulitar got his start when he overheard his wife refuse an invitation because she felt that her maternity clothes would not be suitable for that particular occasion. He designed her costume and she was considered the best dressed

woman present (12). Charles James, another designer of maternity fashions, was so enthusiastic about the pyramid silhouette, which he believed to be the most becoming to any woman, that he designed "pregnant coats for non-pregnant women" (6). Helene Scott, a former Powers model who designed her own maternity clothes, was seen by a representative of a large buying office; the representative wanted her clothes duplicated, and now she and her husband have entered the maternity clothing industry (13). Nat Avorn of Avorn, Incorporated, as a Seebee in World War II, heard men longing for home and telling about the families they hoped to have. He decided that maternity fashions offered excellent business opportunities (13). Canujo from Rome and Edna Christelman have also given impetus to the increase in maternity fashions (14). Movie actresses have added more than a small part to the importance of fashion in maternity wear and to the glamor it has achieved. Lauren Bacall successfully designed her own maternity clothes as did Dorothy McGuire, who went into the business (15,16).

It is recommended that certain factors be observed in selecting a maternity wardrobe. Alice S. Morris (17) advises the mother-to-be in "Dressing for Two" to look

small where possible. Since the figure becomes very large in the middle, the shoulders should be kept slim, necklines unconfused, gloves short or near short, coiffure close, and feet neat. The lines of the figure are disorderly so the lines of the clothes should remain clear and precise, using crisp fabrics that tend to stand away from the figure (17). Color should be used as color and not as camouflage for the pregnant figure. No longer is the expectant mother limited to "safe" browns, blacks and navies, but instead may choose any color that strikes her fancy such as blazing red, bright blue, or white (17,18,19,20). Mr. Hulitar has developed the theory that the head and shoulders should be the center of attention. Mothers-to-be have a beauty and radiance which should be emphasized, therefore the neckline is most important. In evening gowns the décolletage can be wide and deep, but in the day-time the jacket or dress color should be brought to the throat by means of a scarf or jewelry (12).

Helpful advice is available for the woman who sews her own maternity clothes. The sewing and fitting of maternity garments are not much different from other sewing. Maternity patterns have been made to allow for

expansion so there should be no improvisation there. Interfacings keep edges of jackets, collars and cuffs straight and crisp so they should be used. Patterns are available in junior, misses, and women's sizes and all are designed to balance. If fabrics are selected that suit the pattern they will always be right. Crisp finished fabrics lead to the smartest maternity clothes. Hooks are better than snaps at crucial points since they withstand the strain (18).

Some precautions must be considered when selecting a maternity wardrobe. After the fifth month clothes should hang from the shoulders as much as possible so that there is no constriction about the waistline. Round garters and rolled stockings are taboo because they interfere with the flow of blood. High heels only accentuate the sway-back posture of the pregnant woman and are likely to cause accidents because of tripping and unsteadiness (2,4,21,22,23,24).

Medical textbooks generally list the necessary precautions for dress during pregnancy. In addition to the precautions already mentioned they state that the clothing should be loose and light in weight but warm. The proper shoes to wear during pregnancy are those that

are low, though not necessarily flat, with a broad heel, good support and comfortably loose toe (25,26,27,28).

Bookmiller and Bowen (29) mention when the pregnant woman can expect to begin wearing maternity garments as well as advice on the types of undergarments and shoes to wear.

The most detailed information on maternity clothing that could be located in any one popular book or article was found in Phillips' More Than Pregnancy (4). A brief history of maternity clothes through the ages preceded a description of all types of maternity clothing: supportive garments, lingerie and outer garments. Concrete advice was given on what types of garments to buy, what to look for in garment construction, what price one should expect to pay and how to judge whether the garment fits properly, as well as how to plan the maternity wardrobe to fit one's budget, utilize the garments and accessories already on hand and select the most attractive and becoming wardrobe to fit the personality and needs of the new mother-to-be (4).

The Parents' Magazine Book for Expectant Mothers (23) gives general suggestions pertaining to grooming during pregnancy in addition to advice to the expectant mother

on the types of undergarments to buy, how to shop for them, care for them and what to expect from them. Outer garments are also discussed with mention of the special features of these garments and the quantity the pregnant woman needs.

Research on maternity wear has been rather limited. All that could be located were two master's theses. Elizabeth Moomaw (30) investigated the source material concerning the selection of maternity clothes and made suggestions for presenting this information to the public. She felt that some of the customers' dissatisfaction with maternity wear stemmed from unwise selection and inadequate information as to what is really needed in maternity wear. Her investigation included a compilation of information from medical textbooks on obstetrics, practicing obstetricians, public health nurses and agencies interested in the pregnant woman. She also conducted a survey dealing with the likes and dislikes of maternity clothing among a small number of mothers and expectant mothers. Some experimental work was done on an expansion feature for lengthening the front of the one-piece dress. As a result of her study the following recommendations were made. Anatomic changes in the

pregnant woman relate the clothing requirements more closely to the health of the wearer than usual. The clothing should aid in maintaining good body mechanics and normal body temperature. There should be no constriction of the body or interference with body development. If possible, the clothing should assist in carrying the extra weight of pregnancy. Although changes are to be expected in any study involving fashion, certain lines, fabrics, textures and colors are more suited to the pregnant figure than are others and regardless of fashion changes these principles of good design should be adhered to. Nothing entirely satisfactory was found for lengthening the one-piece dress. Bias cutting, diagonal pleats and shirred diagonals were suggested as possibilities for further development.

Louise Kleh (31) found, in a study on the buying practices in relation to a maternity wardrobe, that there was great interest in personal appearance among pregnant women. The results of her study indicate that large department stores were the most popular places for expectant mothers to shop, with the special maternity shop second. In decreasing order of participation, the

activities of the women in the study included home entertaining, church, clubs, movies, swimming, P.T.A. and dances; however, no activity influenced their clothing purchases to any extent. A slight majority of women preferred the one-piece dress to the two-piece suit in the first half of pregnancy, but in the second half they definitely preferred the two-piece suit. The cut-out and zipper or button method of adjusting the skirt were about evenly distributed in popularity. Cotton and rayon were the fabrics preferred for outer wear. If all the outer garments in the maternity wardrobe had been purchased, it was found that the average amount spent would have been \$81.00. However, gainful occupation, previous pregnancy and ability to sew had little or no effect on the content or cost of the wardrobe.

Kleh and Moomaw (30,31) both recommend that the suggestions for a maternity wardrobe be put in booklet form to be distributed in obstetricians' offices so that the suggestions would reach the women early in pregnancy. This way the information could be presented objectively, unbiased by the usual pressures of commercial advertising.

Purpose

Since a limited amount of research has been conducted concerning maternity wear it was thought that another study of maternity clothing might give a clearer picture of the clothing needs and problems of pregnant women and how these needs are met and the problems overcome. Specifically the purposes of this thesis are:

1. To study the clothing needs of pregnant women and the ways by which these needs are met:
 - a. Types and number of outer and under-garments
 - b. Sources of these garments
 - c. Cost
2. To evaluate the under and outer clothing selected by pregnant women, namely:
 - a. Likes and dislikes of the women for selected styles of garments
 - b. Comfort in relation to garment
 - c. Ease of care
 - d. Adaptability of garment to physical changes in the body
 - e. Usability of garment after pregnancy

3. To design one or more outer garments incorporating the features found suitable for clothing for pregnant women.

Procedure

The subjects in this study consisted of 88 women living in the city of Blacksburg, Virginia. The names of the women were secured through local doctors, the Red Cross class for parents, the Blacksburg Home Economics Homemakers Club, the Junior Woman's Club and through personal references.

After the names were secured, each individual was contacted personally by the investigator; the purpose of the study was explained and the individual's cooperation sought.

For the woman to qualify for the study her pregnancy had to be far enough advanced for her to be wearing maternity clothes, or she must have been pregnant within the twelve months preceding the survey.

Of the 108 women originally contacted, 95 qualified for the study, 88 of whom cooperated with the study. The seven women who did not cooperate with the study gave the following reasons. Three women were in the process

of moving from Blacksburg, two women were leaving for vacations and did not expect to return before the investigator hoped to complete the survey, one woman felt that she was too busy to participate and the last one was in very poor health.

The data on maternity garments were obtained through personal interviews and recorded on schedules especially designed for the study. The data were collected through the months of April, May and June, 1958.

Based upon the analysis of the data on maternity clothes received from these women, five maternity garments were designed and constructed by the investigator. They were evaluated for suitability for maternity wear by a selected group of women who had participated in the study and by three professional people in the clothing field.

Description of Sample

In compiling the data it was thought that there might be some differences among those who were experiencing or had experienced their first pregnancies, compared to those women who were experiencing or had experienced their second or later pregnancies.

Women in their second or later pregnancies were significantly older than those experiencing their first pregnancies. Table I shows that 76 per cent of the women in their first pregnancies were 25 years or under and 24 per cent were over 25, while 30 per cent of the women in their second or later pregnancies were 25 and under and 70 per cent were over. In the total group approximately half the women were 25 and under and half were over 25.

Table I also shows a significant difference between the two groups in regard to income. Those women experiencing their second or later pregnancies seemed to have higher incomes. For women in their first pregnancies 49 per cent had incomes under \$3000, 32 per cent from \$3000 to \$5000 and 19 per cent over \$5000. Among those in their second or later pregnancies 38 per cent had incomes under \$3000, 15 per cent incomes from \$3000 to \$5000 and 47 per cent over \$5000. Forty-three per cent of the total group had incomes under \$3000, 23 per cent incomes from \$3000 to \$5000 and 34 per cent over \$5000. The fact that the largest per cent of the total women in the study had incomes under \$3000 may be attributed to the number of the breadwinners in these families who are college students.

TABLE I
Age and Income of Women in Study Expressed in Per Cent of Women

	Number of Women	Age		Income		
		25 Years and Under	Over 25	Under \$3000	\$3000 to \$5000	Over \$5000
		%	%	%	%	%
First pregnancy	41	76	24	49	32	19
Second or later pregnancy	47	30	70	38	15	47
Total	88	51	49	43	23	34
		$\chi^2 = 18.28$		$\chi^2 = 7.22$		
		$P \approx 0.01$		$P \approx 0.01$		

There was no significant difference between the two groups of women in regard to education. Their education ranged from one with a seventh grade education to two with master's degrees in home economics and one with graduate work toward a master's degree in mathematics. Table II shows that 66 per cent of the women experiencing their first pregnancies and 57 per cent experiencing second or later pregnancies had two years of college or less. Sixty-one per cent of the total group had two years or less of college. Among those women who had completed three years of college or more, 34 per cent were experiencing their first pregnancies and 43 per cent were experiencing second or later pregnancies. Thirty-nine per cent of the total group had completed three or more years of college.

The sample was described in regard to degree of education. This was done, not because any idea existed that the degree of education is related to number of pregnancies, but on the assumption that the degree of education might significantly influence clothing practices in a given pregnancy.

The differences in education between husbands of the two groups were not great enough to be significant. The

TABLE II
Education of Women and Husbands of Women in Study
Expressed in Per Cent of Women

	Number of Women	Women		Husbands		
		2 Years College or Less %	3 Years College or More %	2 Years College or Less %	3 or 4 Years College %	More Than 4 Years College %
First pregnancy	41	66	34	22	63	15
Second or later pregnancy	47	57	43	11	59	30
Total	88	61	39	16	61	23
		$\chi^2 = 0.65$		$\chi^2 = 2.90$		
		$P \approx 0.40$		$P \approx 0.20$		

education of the husbands ranged from one with a seventh grade education to nine with master's degrees, one doing graduate work toward a master's degree, and ten with doctor of philosophy degrees. As shown by Table II, of those husbands who had completed two years of college or less, 22 per cent had wives experiencing a first pregnancy and 11 per cent had wives experiencing a second or later pregnancy. Sixteen per cent of the total group were among those with two years or less of college. Among those who had completed three or four years of college 63 per cent had wives experiencing a first pregnancy and 59 per cent had wives experiencing a second or later pregnancy. Sixty-one per cent of the total group of husbands had completed three or four years of college. Of those who had done work beyond the fourth year of college 15 per cent had wives experiencing a first pregnancy and 30 per cent had wives experiencing a second or later pregnancy. Twenty-three per cent of the total group had done work beyond the fourth year of college.

Although there is some difference between the two groups of women as far as employment is concerned, it is not significant. Table III shows that 61 per cent

TABLE III
Employment of Women and Occupations of Husbands of Women
in Study Expressed in Per Cent of Women

	Number of Women	Women			Husbands		
		Employed Before Marriage	Employed After Marriage	Employed at Time of Survey	Profes- sional Men	Business Men	College Students
		%	%	%	%	%	%
First pregnancy	41	61	73	29	27	12	61
Second or later pregnancy	47	77	77	13	38	19	43
Total	88	69	75	20	33	16	51
		$\chi^2 = 2.59$			$\chi^2 = 3.41$		
		$P \approx 0.30$			$P \approx 0.20$		

of the women who were experiencing or who had experienced a first pregnancy were employed before marriage, while 73 per cent were employed after marriage and 29 per cent were employed at the time of the survey. Of those in their second or later pregnancies 77 per cent were employed before marriage, 77 per cent after marriage and 13 per cent at the time of the survey. Sixty-nine per cent of the total group were employed before marriage, 75 per cent after marriage and 20 per cent at the time of the survey.

The occupations of the husbands are shown on Table III. It will be noted that the largest group of husbands whose wives were experiencing or had experienced their first pregnancies (61 per cent) as well as those whose wives were experiencing or had experienced second or later pregnancies (43 per cent) was college students. The second largest per cent of husbands for both groups was professional men, with 27 per cent of the husbands of women experiencing their first pregnancies and 38 per cent of the husbands of women in their second or later pregnancies falling into this category. Of the remainder of the complete group, 12 per cent for the first group and 19 per cent for

the second were business men. For the total group the largest per cent was college students (51 per cent), the next largest group (33 per cent) professional men and smallest group (16 per cent) business men. There was no significant difference in regard to occupation between the husbands of women in their first pregnancies and the husbands of women in their second or later pregnancies.

Chapter II

WOMEN DURING PREGNANCY

The women during pregnancy were divided into two groups, those who were experiencing their first pregnancies and those experiencing their second or later pregnancies. It was thought that the number of the pregnancy (first, second or later) might influence the women regarding their attitudes toward clothing and also how they met their clothing needs.

Moomaw (30) found the fifth month to be the time most women required maternity wear; however, in this study it was found that the largest number of women began wearing maternity clothing in the fourth month of pregnancy (Table IV). Although the difference between the two groups is not significant it will be noted that more women in their second or later pregnancies (21 per cent) began wearing maternity clothes under four months as compared to the 10 per cent of women in their first pregnancies who began wearing maternity clothing at this time. Thirty-six per cent of the women in their first pregnancies began wearing maternity clothing during the fourth month of pregnancy, while 43 per cent of those women in their second or later pregnancies began wearing

TABLE IV

Time Women in Study Required Maternity Wear

Expressed in Per Cent of Women

	Number of Women	Under 4th Month	4th Month	5th Month	6th Month or Later
		%	%	%	%
First pregnancy	41	10	36	32	22
Second pregnancy or later	47	21	43	34	2
Total	88	16	40	33	11
$\chi^2 = 2.97$					
$P \approx 0.10$					

maternity clothing at this time. During the fifth month of pregnancy 32 per cent of the women in the first group and 34 per cent of those in the second group began wearing maternity clothing. During the sixth month of pregnancy a larger number (22 per cent) of those in the first group required maternity wear than did those in the second group (two per cent). Of the total group, 16 per cent began wearing maternity clothing before the fourth month, 40 per cent during the fourth month, 33 per cent during the fifth month and 11 per cent during the sixth or later months. In a second or later pregnancy women tend to carry the baby lower than do women in their first pregnancies (26), which probably accounts for the fact that more women in their second or later pregnancies began wearing maternity clothing earlier than did the women in their first pregnancies. This would also seem to be the reason why a larger number of women in their first pregnancies waited until the sixth month or later to wear maternity clothes than did those women in their second or later pregnancies.

Table V shows when the babies were born or expected for both groups of women. There was no significant difference between summer pregnancies when maternity

TABLE V

Birth Dates or Expected Birth Dates
of Babies of Women in Study
Expressed in Per Cent of Women

	Number of Women	November through April %	May through October %
First pregnancy	41	34	66
Second pregnancy or later	47	26	74
Total	88	30	70
$\chi^2 = 0.87$			
$P \approx 0.40$			

clothing was worn mainly from May through October and winter pregnancies when maternity clothing was worn mainly from November through April for the two groups. Both groups of women had the largest percentage of babies during the summer months, May through October. Sixty-six per cent of those in their first pregnancies had their babies at this time as did 74 per cent of the women in their second or later pregnancies. Thirty-four per cent of the women in their first pregnancies and 26 per cent of the women in their second or later pregnancies had or were expecting babies during the months November through April.

Sixty-six per cent of the women experiencing their first pregnancies were employed during pregnancy. Table VI shows that of these women 11 per cent were employed through the first to through the third month of pregnancy, 37 per cent through the fourth to through the sixth and 52 per cent through the seventh month or later. Twenty-six per cent of the women in their second or later pregnancies were employed during pregnancy. Of this group of women 17 per cent were employed through the first month to through the third month, 50 per cent through the fourth month to through the sixth month and

TABLE VI

Employment During Pregnancy of Women in Study
Expressed in Per Cent of Women

	Number of Women Employed	Employed 1st through 3rd Month %	Employed 4th through 6th Month %	Employed through 7th Month or More %
First pregnancy	27	11	37	52
Second or later pregnancy	12	17	50	33
Total	39	13	41	46
 $\chi^2 = 6.11$ $P \approx 0.01$				

33 per cent through the seventh month of pregnancy or later. This seems to indicate that significantly more women were employed during first pregnancies than were employed during second or later ones. This might be because those women having their first babies had no small children at home to care for and because a large number of them were students' wives and worked to supplement the family income. For the total group the smallest number of women employed (13 per cent) worked through the third month of pregnancy. Forty-one per cent were employed through the fourth to through the sixth month and 46 per cent worked through the seventh month or later.

Table VII shows that of those women in their first pregnancies 36 per cent were pregnant at the time of the survey, and 64 per cent had already had their first child before the time of the survey. Of those in their second or later pregnancies 51 per cent were pregnant at the time of the survey and 49 per cent had had their second or later child before the time of the survey. For the total group 44 per cent were pregnant at the time of the survey and 56 per cent had already had the child before the time of the survey. Sixty-four per cent of

TABLE VII
Pregnancy Status and Health of the Women in the
Study in Relation to the Number of the
Pregnancy Expressed in Per Cent of Women

	First Pregnancy	Second or Later Pregnancy	Total
1. Number of women	41	47	88
	%	%	%
2. Pregnant at time of survey	36	51	44
3. Child born before time of survey	64	49	56
4. Had first child or was expecting first child	100	0	46
5. Had second child or was expecting second child	0	64	34
6. Had three or more children or was expecting third or later child	0	36	20
7. Health before pregnancy good	100	96	98
8. Health before pregnancy fair	0	4	2
9. Health before pregnancy poor	0	0	0
10. Health during pregnancy good	98	94	96
11. Health during pregnancy fair	2	4	3
12. Health during pregnancy poor	0	2	1
13. Health after pregnancy good	64	47	55
14. Health after pregnancy fair	0	2	1
15. Health after pregnancy poor	0	0	0

those women experiencing their second or later pregnancies had had their second child or were expecting their second child. Of this same group 36 per cent already had three or more children or were expecting their third or later child.

It will also be noted in Table VII that the health of the women in the study is good. Among those women in their first pregnancies 100 per cent considered themselves to be in good health before pregnancy, 98 per cent during pregnancy, and 64 per cent after pregnancy (which is 100 per cent of those women whose first child had been born before the time of the survey). Of those women in their second or later pregnancies 96 per cent considered themselves to be in good health before pregnancy, 94 per cent during pregnancy and 47 per cent after pregnancy (which is 96 per cent of all women whose second or later child had been born at the time of the survey). None of the women in their first pregnancies listed their health as fair or poor before pregnancy, only two per cent as fair and none poor during pregnancy, and none as fair or poor after pregnancy. Among those women in their second or later pregnancies four per cent listed fair health and none poor health before pregnancy, four per

cent fair and two per cent poor during pregnancy, and two per cent fair (which is four per cent of all women in their second or later pregnancies) and none poor after pregnancy. For the total group 98 per cent termed their health good, two per cent fair and none poor before pregnancy; 96 per cent good, three per cent fair and one per cent poor during pregnancy; and 55 per cent good, one per cent fair and none poor after pregnancy. Because such a small number of women listed their health as anything but good it is not possible to test for a significant difference between the two groups.

All the women in the study enjoyed church, social and community activities. Table VIII shows the activities and percentage of women attending during their first pregnancies and second or later pregnancies. There was no significant difference between the two groups as far as participation in clubs, trips, concerts, sports events, swimming, dances (Table IX), home entertaining (Table X) and picnics (Table XI) was concerned. These tables show that the women in both groups participated just about equally. However, there was significant difference between the two groups in participation and/or attendance in church and church activities, participation in bridge clubs and

TABLE VIII

Activities During Pregnancy of Women in Study
Expressed in Per Cent of Women Participating

	First Pregnancy	Second or Later Pregnancy
	%	%
Movies	88	72
Home entertaining	88	72
Trips	78	68
Church and church organizations	63	76
Picnics	58	74
Concerts	32	34
Bridge clubs	27	49
Clubs	24	40
Dances	24	40
Swimming	17	15
Spectator sports	12	13

TABLE IX

Attendance and/or Participation of Women During Pregnancy in Clubs, Trips,
Concerts, Sports Events, Swimming and Dances Expressed in Per Cent of Women

	Number of Women	Did Not Attend and/or Participate %	Attended and/or Participated Less Than One or More Times Per Month %
Clubs			
First pregnancy	41	76	24
Second or later pregnancy	47	60	40
Total	88	67	33
	$\chi^2 = 3.30$		
	$P \approx 0.10$		
Trips			
First pregnancy	41	22	78
Second or later pregnancy	47	32	68
Total	88	27	73
	$\chi^2 = 0.92$		
	$P \approx 0.30$		

TABLE IX - Continued

	Number of Women	Did Not Attend and/or Participate %	Attended and/or Participated Less Than One or More Times Per Month %
Concerts			
First pregnancy	41	68	32
Second or later pregnancy	47	66	34
Total	88	67	33
	$\chi^2 = 0.21$		
	$P \approx 0.60$		
Sports Events			
First pregnancy	41	88	12
Second or later pregnancy	47	87	13
Total	88	88	12
	$\chi^2 = 0.00$		
	$P \approx 1.00$		

TABLE IX - Continued

	Number of Women	Did Not Attend and/or Participate %	Attended and/or Participated Less Than One or More Times Per Month %
Swimming			
First pregnancy	41	83	17
Second or later pregnancy	47	85	15
Total	88	84	16
	$\chi^2 = 0.17$		
	$P \approx 0.70$		
Dances			
First pregnancy	41	76	24
Second or later pregnancy	47	60	40
Total	88	67	33
	$\chi^2 = 3.30$		
	$P \approx 0.10$		

TABLE X

Participation of Women in Home Entertaining
During Pregnancy Expressed in Per Cent of Women

	Number of Women	Entertained 0 to less than 2 times per month %	Entertained 2 to less than 5 times per month %	Entertained 5 or more times per month %
First pregnancy	41	12	64	24
Second or later pregnancy	47	28	49	23
Total	88	20	56	24
 $\chi^2 = 2.76$ $P \approx 0.30$				

TABLE XI

Participation of Women in Picnics During
Pregnancy Expressed in Per Cent of Women

	Number of Women	Did Not Participate %	Participated Less Than 1 to Less Than 2 Times Per Month %	Participated 2 or More Times Per Month %
First pregnancy	41	41	42	17
Second or later pregnancy	47	26	53	21
Total	88	33	48	19
$\chi^2 = 2.33$				
$P \cong 0.10$				

attendance at movies. Table XII shows that those women experiencing second or later pregnancies attended and participated in church and church activities more frequently than did those women experiencing first pregnancies. This may be because those women having second or later children have more permanent homes and wish to take an active part in community activities. Table XIII shows that 73 per cent of the women experiencing their first pregnancies did not attend any bridge clubs compared to 51 per cent of the women in their second or later pregnancies who did not attend. Sixty-one per cent of the total group did not attend any bridge clubs during their pregnancies whereas 39 per cent attended occasionally or more frequently. Perhaps the reason more women in their second or later pregnancies play bridge than do those in their first pregnancies is that they are more permanently established and have more permanent social contacts. Also, fewer of the women in second or later pregnancies are employed than are women in first pregnancies (Table VI) which means that possibly those women in second or later pregnancies have more time to devote to this type of entertainment.

TABLE XII
 Participation and/or Attendance of Women During Pregnancy
 at Church and Church Activities Expressed
 in Per Cent of Women

	Number of Women	Did Not Attend and/or Participate %	Participated and/or Attended Less Than 1 to Less Than 2 Times Per Month %	Participated and/or Attended 2 to Less Than 3 Times Per Month %	Participated and/or Attended 3 or More Times Per Month %
First pregnancy	41	37	18	15	30
Second or later pregnancy	47	24	33	11	33
Total	88	30	26	12	32

$$X^2 = 7.33$$

$$P \approx 0.025$$

TABLE XIII

Participation in Bridge Clubs of Women During
Pregnancy Expressed in Per Cent of Women

	Number of Women	Did Not Participate %	Participated Less Than 1 or More Times Per Month %
First pregnancy	41	73	27
Second or later pregnancy	47	51	49
Total	88	61	39
$\chi^2 = 4.43$			
P. $\approx$ 0.05			

Table XIV shows that more women in their first pregnancies attended movies during pregnancy than women in their second or later pregnancies. It is interesting to note that the number of women in their first pregnancies who attended an average of less than one to less than two movies per month was 37 per cent compared to 59 per cent of women in their second or later pregnancies who attended movies an average of less than one to less than two times per month. However, among those women who attended an average of two or more movies per month a greater number (15 per cent) were in their first pregnancies than were in their second or later pregnancies (13 per cent). For the total group 20 per cent did not attend movies at all during pregnancy, 49 per cent attended an average of less than one to less than two times per month and 13 per cent attended an average of two or more times a month.

Although the women during pregnancy enjoyed many activities, certain of these activities were discontinued because they conflicted with doctor's orders, because they became inconvenient or because the women no longer felt able to do them. The activities discontinued during pregnancy are shown on Table XV.

TABLE XIV

Attendance at Movies of Women During Pregnancy
Expressed in Per Cent of Women

	Number of Women	Did Not Attend %	Attended Less Than 1 to Less Than 2 Times Per Month %	Attended 2 or More Times Per Month %
First pregnancy	41	12	37	51
Second or later pregnancy	47	28	59	13
Total	88	20	49	31
$\chi^2 = 13.85$				
$P \approx 0.01$				

TABLE XV

Activities Given Up During Pregnancy by Women
in Study Expressed in Per Cent of Women *

	Number of Women	Physical Activities %	Employment and School %	Social and Community Activities %
First pregnancy	41	61	56	22
Second or later pregnancy	47	51	21	23
Total	88	56	38	23
$\chi^2 = 3.97$ $P \approx 0.10$				

* The per cents do not equal 100 because some women gave up more than one activity and some did not give up any.

There is no significant difference between the two groups of women in regard to activities given up. It will be noted that 61 per cent of the women in first pregnancies gave up physical activities as did 51 per cent of the women in second or later pregnancies. There is a greater difference between the two groups who gave up school or employment, with 56 per cent of the women being in their first pregnancies and 21 per cent being in their second or later pregnancies. Approximately the same number of women in both groups gave up social and community activities with 22 per cent of the women being in their first pregnancies and 23 per cent of the women being in their second or later pregnancies.

It was felt that if there were a difference between the two groups of women in adequacy of garment storage, access to laundry equipment (washer and dryer) and laundry activities, there might be a significant difference in the types, quantity, cost and fabric of the maternity garments the women in their first pregnancies selected as compared to those women in their second or later pregnancies (Chapter III). The differences between the two groups, which are not significant, are shown in Table XVI. Since the adequacy

TABLE XVI

Garment Storage, Accessibility of Laundry Equipment and Laundry
Activities of Women in the Study Expressed in Per Cent of Women

	Number of Women	Garment Storage		Laundry Equipment		Laundry Activities	
		Ade- Quate	Inade- quate	Owns or Has Access to		Does All the Laundry	Does Part or None of the Laundry
		%	%	Washer	Dryer	%	%
First pregnancy	41	59	41	90	24	44	56
Second or later pregnancy	47	43	57	96	32	57	43
Total	88	50	50	93	28	51	49
		$\chi^2 = 2.30$		$\chi^2 = 0.21$		$\chi^2 = 1.65$	
		$P \approx 0.10$		$P \approx 0.60$		$P \approx 0.20$	

of storage, access to laundry equipment and laundry activities are similar for both groups, any differences in selection of maternity clothing in regard to type, quantity, cost and fabric of maternity clothes would not seem to be dependent upon the laundry habits of the women in the study.

It was also thought that the number of garments constructed by the women might influence the quantity and cost of garments in the maternity wardrobe (Chapter III). The types and extent of garment construction for women in their first pregnancies as compared to the types and extent of garment construction for women in their second or later pregnancies is shown in Table XVII. There was no significant difference between the two groups in construction of women's garments, maternity garments, men's clothing and household items between the two groups. Therefore, any differences in the cost and quantity of the garments in the maternity wardrobes is not attributed to the number of women who constructed maternity garments. However, it will be noted in Table XVII that significantly more women in second or later pregnancies constructed children's garments than did women in first pregnancies.

TABLE XVII
The Type and Extent of Clothing Construction During Pregnancy
Expressed in Per Cent of Women *

	Women's Garments			Maternity Garments			Children's Garments		
	First Preg- nancy	Second or Later Preg- nancy	Total	First Preg- nancy	Second or Later Preg- nancy	Total	First Preg- nancy	Second or Later Preg- nancy	Total
Number of women	41	47	88	41	47	88	41	47	88
Number of garments	%	%	%	%	%	%	%	%	%
0	54	36	43	54	36	43	54	36	43
1-5	24	32	28	17	17	17	22	23	23
6-10	5	6	6	5	11	8	5	13	9
11-15	5	6	6	2	0	1	0	6	3
16 or more	0	0	0	0	0	0	0	21	10
	$\chi^2 = 1.98$			$\chi^2 = 1.11$			$\chi^2 = 3.71$		
	$P \approx 0.20$			$P \approx 0.30$			$P \approx 0.05$		

* The per cents do not equal 100 because some women constructed more than one type of garment.

TABLE XVII - Continued

	Men's Garments			Household Items		
	First Preg- nancy	Second or Later Preg- nancy	Total	First Preg- nancy	Second or Later Preg- nancy	Total
Number of women	41	47	88	41	47	88
Number of garments	%	%	%	%	%	%
0	54	36	43	54	36	43
1-5	5	11	8	12	13	13
6-10	0	2	1	0	0	0
11-15	0	0	0	0	0	0
16 or more	0	0	0	0	0	0
Number too small to be tested by χ^2				χ^2	= 0.51	
				P	$\approx$ 0.50	

This might be expected since those in their second or later pregnancies already had children for whom to sew.

Certain problems concerning clothing were encountered during pregnancy by the women in the study as shown by Table XVIII. The most frequently mentioned problems were increased perspiration, inadequacy of room for expansion in maternity garments and the need for wearing maternity garments through two or more seasons. There is a significant difference between the two groups of women in regard to these problems. It is difficult to say what the reasons might be for women in first pregnancies to have more perspiration and expansion problems than women in second or later pregnancies. However, the fact that women in second or later pregnancies begin wearing maternity clothes earlier than those in first pregnancies probably accounts for more women in second or later pregnancies having to wear maternity garments two or more seasons.

Twenty-nine per cent of the women in their first pregnancy and 30 per cent in their second or later pregnancy mentioned slight swelling of the feet. However, only one of the women in her first pregnancy mentioned the swelling to be great enough to require

TABLE XVIII

Problems Encountered During Pregnancy Expressed
in Per Cent of Women *

	Number of Women	Perspiration %	Expansion Problems %	Worn 2 or More Seasons %
First Pregnancy	41	22	24	44
Second or later pregnancy	47	19	23	55
Total	88	20	24	50
$\chi^2 = 5.02$				
$P \approx 0.05$				

* The per cents do not equal 100 because some women had more than one problem.

her to wear a larger size of shoe. Only six per cent of the women in their second or later pregnancies had feet swollen to the extent that they had to wear a larger size shoe.

Moomaw (30) found in her study that women followed the doctors' advice when it was given. In this study this was also found generally to be so. Doctors recommended that certain articles of clothing should not be worn during pregnancy. The most frequently mentioned articles were round garters, tight girdles, tight clothing, very high heeled shoes and knee hose. Three per cent of the women in the entire study frequently wore high heels against doctors' orders and in only one instance were round garters worn against doctors' orders. Certain articles doctors frequently recommended that should be worn were maternity girdles, correctly fitted brassieres, loose garments and low heeled shoes with adequate support. Other items mentioned by a few of the women as being recommended by their doctors were elastic hose, knee hose, old girdles and arch supports. It is interesting to note that knee hose were among the articles doctors advised against wearing and also among the articles doctors recommended wearing. In only two cases

did women refuse to follow their doctors' recommendations. One did not wear elastic hose, though advised by her doctor to do so; another did not wear a maternity girdle as recommended by her doctor.

Chapter III

THE WARDROBE CONTENT OF PREGNANT WOMEN

The women in this study wore garments from their regular wardrobes until the fourth and fifth months of pregnancy. The garments included in their wardrobes were coats, short coats and jackets, suits, dresses, skirts, blouses, jumpers, slacks, shorts, evening dresses and bathing suits. During the period when the women were too large for their regular garments and not quite large enough for maternity garments some clever innovations were used to extend the use of their regular wardrobes. One woman continued to wear her regular skirts but left the side zipper open and attached tape at the waistband for a tie. With a long sweater, overblouse or jacket the open placket was not exposed, and she did not appear obviously pregnant. Other women took advantage of the chemise dresses and other loose fitting dress styles to conceal their pregnancies.

Even after they began wearing maternity clothing some women were able to utilize garments from their regular wardrobes. Coats and jackets were the non-maternity outer garments that were used throughout the pregnancy period. Other outer garments were blouses

and sweaters which the women wore under wide necked, sleeveless maternity tops for a jumper effect. One woman cut a hole in the front of a regular skirt and continued to wear it as a maternity skirt.

Also undergarments were frequently used from the regular wardrobes. Some women did not buy any maternity undergarments, instead they wore what they had on hand. The garments that were particularly satisfactory were the ones that were old and stretched. The women reported that the garments with elastic in the waist, mainly panties, girdles, pajamas and nightgowns soon became stretched when used for maternity wear and could not be worn after pregnancy. One woman mentioned wearing her regular panties backward. The extra fullness was thus in front where needed, and the stretching of the garment was considerably reduced so that she was able to wear the same panties after pregnancy. She reported that the panties worn in this manner were very comfortable.

Outer Garments

More outer garments were borrowed (32 per cent) than were acquired by any other means. Thirty-one per cent of all garments were on hand, 22 per cent were purchased and 15 per cent home sewn. Kleh's study shows that 47 per cent of the maternity garments were purchased, 20 per cent borrowed, 11 per cent on hand and 22 per cent home sewn.

Wool was the most popular fiber for coats, short coats, jackets and maternity suits (Table XIX). Rayon, acetate and other fibers were second in popularity for coats and suits, but cotton was the favored fiber for short coats and jackets. The remaining garments were constructed chiefly of cotton with rayon and acetate as second preference. Kleh also found that cotton and rayon were preferred fibers for outer wear. She mentioned that at the time of her thesis, 1954, synthetics exclusive of rayon and acetate were not frequently used. It is interesting to note that four years later, although synthetic fibers are very popular in other items, they are still not frequently used in maternity wear. This may be attributed to the fact that some women perspire more freely during pregnancy (Table XVIII, Chapter II)

TABLE XIX

Source, Fiber Content and Type of Care of Outer Garments in Maternity
Wardrobes of Women in Study Expressed in Per Cent of Outer Garments

	Number of Gar- ments	Source				Fiber Content				Type of Care	
		Pur- chased	On Hand	Bor- rowed	Home Sewn	Wool	Cotton	Rayon and Acetate	Other*	Wash- able	Dry Clean
		%	%	%	%	%	%	%	%	%	%
Coats	130	4	96	0	0	69	7	12	12	3	97
Short coats and jackets	90	6	89	3	2	61	20	5	14	12	88
Maternity suits	67	25	19	54	2	34	23	25	18	24	76
Maternity two-piece dresses	197	30	22	33	15	1	68	20	11	69	31
Maternity one-piece dresses	54	20	30	48	2	6	59	31	4	61	39
Maternity tops	478	18	19	38	25	2	84	9	5	85	15

TABLE XIX (Continued)

	Number of Gar- ments	Source				Fiber Content				Type of Care					
		Pur- chased	On Hand	Bor- rowed	Home Sewn	Wool	Cotton	Rayon and Acetate	Other*	Wash- able	Dry Clean				
		%	%	%	%	%	%	%	%	%	%				
Cut-out maternity skirts	212	27	27	27	19	5	66	21	8	72	28				
Drop-panel maternity skirts	54	15	28	35	22	6	61	24	9	72	28				
Maternity slacks	73	41	12	43	4	10	85	5	0	89	11				
Maternity shorts	90	33	16	43	8	0	100	0	0	100	0				
		χ^2	=	228.16			χ^2	=	709.19			χ^2	=	378.0	
		P	≈	0.01			P	≈	0.01			P	≈	0.01	

* Includes fur, leather, nylon, dacron, orlon, dynel, silk, linen and blends of any synthetic fiber with any other synthetic fiber or fibers or natural fiber or fibers.

and feel that cotton is more absorbent and comfortable than nylon and other synthetics at this particular time.

Since the largest number of coats, short coats, jackets and maternity suits were wool the majority of them were dry cleaned. The larger percentage of the remaining garments was washable as shown by Table XIX.

Prices for purchased outer garments ranged from \$1.00 for a maternity jacket and a cut-out skirt to \$35.00 for a maternity suit. Table XX indicates that of the 331 purchased outer garments 43 per cent cost \$5.99 and under, the remainder were \$6.00 and over. Home sewn garments ranged from \$0.10 for a maternity jacket and a cut-out skirt to \$11.00 for a two-piece maternity dress. Eighty-two per cent of the 211 home-sewn garments cost \$2.99 or less and 18 per cent were \$3.00 and over as demonstrated by Table XXI.

The average maternity wardrobe is composed of one coat, one short coat or jacket, one maternity suit, 2 two-piece dresses, five maternity tops, two cut-out skirts, one drop-panel skirt, 1 one-piece dress, one pair of slacks or pedal pushers and one pair of shorts. Since so few coats (four per cent), short coats and jackets (six per cent) were purchased it will be assumed

TABLE XX

Cost of Purchased Outer Garments in Maternity Wardrobes of Women
in Study Expressed in Per Cent of Garments

	Number of Garments	\$2.99 and Under %	\$3.00 to 3.99 %	\$4.00 to 5.99 %	\$6.00 to 7.99 %	\$8.00 to 9.99 %	\$10.00 to 13.99 %	\$14.00 to 19.99 %	\$20.00 and Over %
Coats	5	0	0	0	0	20	40	20	20
Short coats and jackets	5	0	20	20	0	0	40	0	20
Maternity suits	17	0	0	0	0	0	41	35	24
Two-piece maternity dresses	60	2	5	3	17	28	28	15	2
One-piece maternity dresses	11	9	9	0	0	27	19	18	18

TABLE XX (Continued)

	Number of Garments	\$2.99 and Under %	\$3.00 to 3.99 %	\$4.00 to 5.99 %	\$6.00 to 7.99 %	\$8.00 to 9.99 %	\$10.00 to 13.99 %	\$14.00 to 19.99 %	\$20.00 and Over %
Maternity tops	87	17	30	41	6	4	2	0	0
Cut-out maternity skirts	58	7	19	46	28	0	0	0	0
Drop-panel maternity skirts	8	12	25	25	13	25	0	0	0
Maternity slacks	30	17	23	40	7	7	6	0	0
Maternity shorts	30	37	30	33	0	0	0	0	0

TABLE XXI

Cost of Home-sewn Outer Garments in Maternity Wardrobes of Women
in Study Expressed in Per Cent of Garments

	Number of Garments	\$0.99 and Under %	\$1.00 to 1.99 %	\$2.00 to 2.99 %	\$3.00 to 3.99 %	\$4.00 to 4.99 %	\$5.00 to 5.99 %	\$6.00 to 6.99 %	\$7.00 to 7.99 %	\$8.00 and Over %
Coats	0	0	0	0	0	0	0	0	0	0
Short coats and jackets	2	0	0	50	50	0	0	0	0	0
Maternity suits	1	0	0	0	0	0	100	0	0	0
Two-piece maternity dresses	28	4	21	21	14	7	18	4	4	7
One-piece maternity dresses	1	0	0	100	0	0	0	0	0	0

TABLE XXI (Continued)

	Number of Garments	\$0.99 and Under %	\$1.00 to 1.99 %	\$2.00 to 2.99 %	\$3.00 to 3.99 %	\$4.00 to 4.99 %	\$5.00 to 5.99 %	\$6.00 to 6.99 %	\$7.00 to 7.99 %	\$8.00 and Over %
Maternity tops	117	24	27	37	8	2	2	0	0	0
Cut-out maternity skirts	40	30	38	22	8	2	0	0	0	0
Drop-panel maternity skirts	12	17	33	33	0	17	0	0	0	0
Maternity slacks	3	33	67	0	0	0	0	0	0	0
Maternity shorts	7	28	29	29	14	0	0	0	0	0

that the average woman does not buy a coat or jacket for her maternity wardrobe. In that event, if she purchased all the other outer garments in the maternity wardrobe at the median prices shown in Table XXII the total cost of the wardrobe would be \$92.84. If a coat and a jacket were purchased for the maternity wardrobe at the average price of \$13.98 and \$12.75, respectively, the cost of the median wardrobe would increase to \$119.57. Kleh found the median wardrobe to consist of 3 one-piece dresses, 2 two-piece suits, two separate skirts and two separate jackets. Based on the assumption that this entire wardrobe was accumulated by purchase the cost would be \$81.00.

Special means for expansion were found in maternity suits, two-piece dresses, one-piece dresses, slacks and shorts. Table XXIII shows that the preferred method for expanding suits and two-piece dresses seemed to be the cut-out in the skirt. For shorts and slacks the drop panel was most popular with the elasticized panel favored second. One-piece dresses all expanded by other methods, of which the loose fitting waistline was the most popular. Sixty-eight per cent of the dresses were

TABLE XXII

Range and Average in Number and Cost of Outer Garments
in the Maternity Wardrobes of 88 Women in Study

	Number			Purchased			Home-sewn		
	Number of Garments	Range	Average Number per Person	Number of Garments	Range	Average Cost per Garment	Number of Garments	Range	Average Cost per Garment
Coats	130	0-4	1.48	5	\$8.95- 20.00	\$13.98	0	\$0.00	\$0.00
Short coats and jackets	90	0-5	1.0	5	3.77- 30.00	12.75	2	2.50- 3.00	2.75
Maternity suits	67	0-4	0.7	17	10.00- 35.00	17.27	1	--	8.95
Two-piece maternity dresses	197	0-7	2.2	60	2.98- 30.00	9.95	28	0.25 11.00	3.74
One-piece maternity dresses	54	0-7	0.6	11	2.00- 29.95	12.35	1	--	6.00

TABLE XXII (Continued)

	Number			Purchased			Home-sewn		
	Number of Garments	Range	Average Number per Person	Number of Garments	Range	Average Cost per Garment	Number of Garments	Range	Average Cost per Garment
Maternity tops	478	0-13	5.4	87	\$1.00- 12.00	\$4.42	117	\$0.10- 5.59	\$1.76
Cut-out maternity skirts	212	0-7	2.4	58	1.00- 7.95	3.97	40	0.10- 3.50	1.51
Drop-panel maternity skirts	54	0-5	0.6	8	2.98- 8.00	5.46	12	0.85- 4.50	2.10
Maternity slacks	73	0-3	0.8	30	2.95- 10.95	5.18	3	0.50- 1.75	1.33
Maternity shorts	90	0-6	1.0	30	2.00- 5.95	3.48	7	0.50- 3.00	1.50

TABLE XXIII

Methods of Expansion for Maternity Suits, Maternity
Two-piece Dresses, Maternity Shorts and Maternity
Slacks Expressed in Per Cent of Garments

	Number of Garments	Elasticized Front Panel %	Cut-out %	Drop-panel %	Other * %
Maternity suits	67	3	87	10	0
Two-piece maternity dresses	197	3	87	10	0
One-piece maternity dresses	54	0	0	0	100
Maternity slacks	73	19	6	75	0
Maternity shorts	90	17	9	74	0
$\chi^2 = 247.16$ $P \approx 0.01$					

* Drawstrings, elastic inserts, loose cut and wrap around with button, snap, tie or hook closing.

loose, 30 per cent had elastic or drawstrings at the waist, and two per cent were wrap-around.

Attitudes of women toward their maternity clothes incorporate the frequency of wear, comfort, adequacy of expansion, ease of care, quality of construction and husbands' opinions (Table XXIV). With the exception of short coats, jackets and maternity suits, the outer garments were worn frequently. Of all garments in the wardrobe the one-piece dresses seemed to be the least comfortable while maternity slacks appeared to be the most comfortable. One-piece dresses also had the least adequate room for expansion. The garments that appeared to have the most adequate expansion were slacks, shorts, maternity tops, two-piece dresses and coats. Shorts were rated by the women to be the easiest garments to care for and one-piece dresses the most difficult. The highest quality of construction was found in maternity suits, the lowest in maternity slacks. Although there were no significant differences in the husbands' opinions of the various garments they seemed to be less favorably impressed with the one-piece dresses than with any other item. They had favorable opinions of only 46 per cent of the one-piece dresses.

TABLE XXIV

Attitudes of Women in Study Toward Outer Garments in Maternity
Wardrobes Expressed in Per Cent of Garments

	Number of Garments	Frequency of Wear		Comfort		Expansion	
		Frequently	Occa- sionally	Comfort- able	Fairly or Not Comfort- able	Ade- quate	Inade- quate
		%	%	%	%	%	%
Coats	130	68	32	94	6	96	4
Short coats and jackets	90	39	61	89	11	83	17
Maternity suits	67	45	55	76	24	87	13
Two-piece maternity dresses	197	70	30	86	14	95	5
One-piece maternity dresses	54	50	50	52	48	69	31

TABLE XXIV (Continued)

	Number of Garments	Frequency of Wear		Comfort		Expansion	
		Frequently	Occa- sionally	Comfort- able	Fairly or Not Comfort- able	Ade- quate	Inade- quate
		%	%	%	%	%	%
Maternity tops	478	78	22	93	7	96	4
Cut-out maternity skirts	212	83	17	79	21	88	12
Drop-panel maternity skirts	54	83	17	67	33	76	24
Maternity slacks	73	77	23	86	14	99	1
Maternity shorts	90	79	21	80	20	98	2
		$\chi^2 = 81.20$		$\chi^2 = 47.07$		$\chi^2 = 14.44$	
		$P \approx 0.01$		$P \approx 0.01$		$P \approx 0.01$	

TABLE XXIV (Continued)

	Number of Garments	Ease of Care		Construction		Husbands' Opinion	
		Easy	Moderately Easy or Difficult	Good	Fair	Favor- able	Unfavor- able or Indif- ferent
		%	%	%	%	%	%
Coats	130	76	24	95	5	78	22
Short coats and jackets	90	76	24	94	6	77	23
Maternity suits	67	73	27	88	12	73	27
Two-piece maternity dresses	197	85	15	96	4	82	18
One-piece maternity dresses	54	72	28	85	15	46	54

TABLE XXIV (Continued)

	Number of Garments	Ease of Care		Construction		Husbands' Opinion	
		Easy	Moderately Easy or Difficult	Good	Fair	Favor- able	Unfavor- able or Indif- ferent
		%	%	%	%	%	%
Maternity tops	478	88	12	84	16	78	22
Cut-out maternity skirts	212	83	17	79	21	76	24
Drop-panel maternity skirts	54	80	20	81	19	72	28
Maternity slacks	73	92	8	73	27	75	25
Maternity shorts	90	99	1	78	22	77	23
		$\chi^2 =$	41.61	$\chi^2 =$	115.07	$\chi^2 =$	1.94
		P $\approx$	0.01	P $\approx$	0.01	P $\approx$	0.70

For various reasons some women stopped wearing certain maternity garments before the termination of pregnancy. The length of time the outer garments were worn and the reasons for discontinuing wear are shown in Table XXV. Of all outer garments (exclusive of coats, short coats and jackets), which were not worn later than the sixth, seventh or eighth month of pregnancy, the largest per cent were one-piece dresses. For the total wardrobe a change in seasons seemed to be the most important reason for discontinuing wear of various garments before the end of pregnancy. However, problems of fit were the most important reasons for discontinuing wear of one-piece dresses, two-piece dresses and drop-panel skirts before the pregnancy ended.

From all indications one-piece dresses are the least satisfactory maternity garments. They seem to be the least comfortable, have the least adequate room for expansion, are the most difficult to care for and are the least favorable in the opinion of the husbands. The remaining garments seemed to be just about equally satisfactory.

TABLE XXV

Length of Time Outer Garments Worn and Reasons for Discontinuing
Wear Expressed in Per Cent of Garments

	Number of Garments	Length of Time Worn			Reasons for Discontinuing Wear		
		Through 6th Month	Through 7th or 8th Month	Through Preg- nancy	Seasonal Change	Problems of Fit	Other
		%	%	%	%	%	%
Coats	130	15	10	75	24	1	0
Short coats and jackets	90	19	21	60	27	13	0
Maternity suits	67	7	11	82	12	6	0
Two-piece maternity dresses	197	2	3	95	2	3	0
One-piece maternity dresses	54	33	20	47	2	37	14

TABLE XXV (Continued)

	Number of Garments	Length of Time Worn			Reasons for Discontinuing Wear		
		Through 6th Month	Through 7th or 8th Month	Through Preg- nancy	Seasonal Change	Problems of Fit	Other
		%	%	%	%	%	%
Maternity tops	478	1	3	96	3	1	0
Cut-out maternity skirts	212	5	1	94	3	3	0
Drop-panel maternity skirts	54	17	7	76	8	16	0
Maternity slacks	73	4	4	92	7	1	0
Maternity shorts	90	8	4	88	11	1	0
		$\chi^2 = 104.53$			$\chi^2 = 67.50$		
		$P \approx 0.01$			$P \approx 0.01$		

The women in the study expressed various complaints about outer garments and maternity patterns.

The most frequent complaints follow.

1. The hole in cut-out skirts is too high and binds
2. Patterns do not run true to size
3. Selection of patterns is limited
4. Maternity jackets have too much fullness in front thereby making the wearer appear larger than she actually is
5. Patterns should come in half sizes and sizes for the short and/or small girl
6. Wide neck jackets are so wide that straps of undergarments show
7. More fashionable maternity patterns are needed
8. One-piece dresses make the wearer appear larger than she really is
9. Drop-panel skirts are baggy
10. Skirts do not have seams that can be let out
11. Skirts are too small at bottom to allow adequate room for walking
12. Ties on cut-out skirts are not long enough to tie in last months of pregnancy
13. Maternity clothes are too high priced, especially sportswear
14. Ready-made garments proportioned to the tall and short girl are unavailable
15. Jackets are barely long enough to cover the cut-out in the skirt

16. Jackets that button down the front gape open when the wearer is seated
17. Jackets that button down the front do not have any method of fastening near the hem and frequently blow open.

The only significant differences in regard to outer garments observed between women experiencing their first pregnancies and those experiencing second or later pregnancies occurred in (1) the adequacy of room for expansion, (2) the ease of care and (3) the comfort of maternity tops. Table XXVI seems to indicate that women in their second or later pregnancies had learned something about maternity clothing from their previous pregnancies. The women in their second or later pregnancies had more tops that expanded adequately, more that were easy to care for and more that were comfortable.

In only two instances did women in the study remodel or adapt maternity garments for wear after pregnancy. A maternity top and a drop-panel skirt were converted to regular garments. Possibly there was so little renovation of maternity clothing because such a large number of garments were borrowed, and since the majority of skirts, suits and two-piece dresses were of the

TABLE XXVI

Differences Between Women in First Pregnancies Compared to Those in Second or Later Pregnancies in Regard to Certain Features of Maternity Tops Expressed in Per Cent of Women

	Number of Women	Adequate Expansion			Easy to Care For			Comfortable		
		Number of Tops			Number of Tops			Number of Tops		
		0-3	4-6	7 or more	0-2	3-5	6 or more	0-3	4-5	6 or more
		%	%	%	%	%	%	%	%	%
First pregnancy	41	17	63	20	15	61	24	24	44	32
Second or later pregnancy	47	23	36	41	19	34	47	23	17	60
Total	88	20	49	31	17	47	36	24	29	47
		$\chi^2 = 7.28$			$\chi^2 = 6.93$			$\chi^2 = 7.66$		
		$P \approx 0.025$			$P \approx 0.025$			$P \approx 0.025$		

cut-out type which does not lend itself to renovation. Also, a desire to return to more fitted garments was expressed by several of the women.

Undergarments

The undergarments which the women in the study most frequently had on hand were regular panties, regular slips, half slips, regular brassieres, nursing brassieres, nightgowns, pajamas, robes, regular girdles and regular garter belts. Table XXVII also shows that the most frequently purchased items were maternity panties, larger-size panties, maternity slips, maternity brassieres, large-size brassieres, maternity girdles and maternity garter belts. Borrowing or receiving as gifts were other ways in which undergarments were acquired. The items that most often were borrowed or gifts were maternity panties, maternity slips, maternity brassieres, large-size brassieres, nursing brassieres, nightgowns, robes, maternity girdles and maternity garter belts.

Nylon seemed to be the most popular fiber for regular panties, large-size panties, regular slips, maternity slips, half slips and nightgowns. The women

TABLE XXVII

Source, Fiber Content and Cost of Undergarments in Maternity
Wardrobes of Women in Study Expressed in Per Cent of Garments

	Number of Garments	Source			Fiber Content		
		Purchased	On Hand	Borrowed or Gift	Nylon	Cotton	Rayon and Other*
		%	%	%	%	%	%
Regular panties	402	5	95	0	69	8	23
Maternity panties	196	68	19	13	37	37	26
Large-size panties	90	71	29	0	46	15	39
Regular slips	242	0	100	0	87	7	6
Maternity slips	92	36	31	33	52	35	13
Half slips	95	12	88	0	70	23	7
Regular brassieres	225	8	92	0	4	96	0
Maternity brassieres	68	69	22	9	0	100	0
Large size brassieres	74	70	26	4	0	100	0
Nursing brassieres	112	44	48	8	0	100	0
Nightgowns	331	8	89	3	57	35	8
Pajamas	151	0	100	0	17	83	0
Robes	187	6	90	4	23	65	12
Regular girdles	32	16	84	0	31	9	60
Maternity girdles	23	56	35	9	0	0	100
Regular garter belts	19	5	95	0	0	0	100
Maternity garter belts	57	47	39	14	0	0	100
		$\chi^2 = 261.95$			$\chi^2 = 843.42$		
		$P \approx 0.01$			$P \approx 0.01$		

* Combination of any: rayon, acetate, nylon, cotton and elastic in any proportion.

TABLE XXVII (Continued)

	Number of Garments Purchased	\$0.99 and Under %	\$1.00 to 1.99 %	\$2.00 to 2.99 %	\$3.00 to 3.99 %	\$4.00 to 4.99 %	\$5.00 to 5.99 %	\$6.00 and Over %
Regular panties	19	100	0	0	0	0	0	0
Maternity panties	134	31	61	8	0	0	0	0
Large-size panties	64	69	25	6	0	0	0	0
Regular slips	0	0	0	0	0	0	0	0
Maternity slips	33	0	15	33	43	0	9	0
Half slips	11	0	37	27	9	27	0	0
Regular brassieres	18	6	61	28	5	0	0	0
Maternity brassieres	47	0	8	30	62	0	0	0
Large-size brassieres	52	0	17	63	12	6	2	0
Nursing brassieres	49	0	4	45	49	2	0	0
Nightgowns	26	0	0	15	50	31	4	0
Pajamas	0	0	0	0	0	0	0	0
Robes	11	0	0	0	0	0	45	55
Regular girdles	5	0	0	40	40	0	20	0
Maternity girdles	13	0	0	0	8	8	46	38
Regular garter belts	1	0	100	0	0	0	0	0
Maternity garter belts	27	0	48	37	11	4	0	0
$\chi^2 = 295.02$ $P \approx 0.01$								

appeared to prefer cotton for all types of brassieres, pajamas and robes. Maternity panties were equally divided between nylon and cotton. Rayon and acetate did not seem to be favored for any particular garment. The majority of regular girdles were listed as being composed of other fibers which are a combination of any of the following in any proportion: rayon, acetate, nylon, cotton and elastic. Some women listed their regular girdles as being constructed of all nylon or all cotton. The investigator feels that these women did not fully understand the question and listed the garment under the fiber which was predominant in the fabric. However, all maternity girdles and garter belts and regular garter belts were listed as being constructed of other fibers.

The cost of the undergarments in the maternity wardrobe ranged from \$0.25 for a pair of regular panties to \$12.98 for a robe. Of the 510 undergarments purchased for maternity wear 52 per cent cost \$1.99 or less and 48 per cent were \$2.00 or more.

The median wardrobe of undergarments consisted of five pairs of regular panties, two pairs of maternity panties, one pair of large-size panties, three regular slips, one maternity slip, one half slip, two regular

brassieres, one maternity brassiere, one large-size brassiere, one nursing brassiere, four nightgowns, two pairs of pajamas, two robes and one maternity garter belt. Basing the average lingerie wardrobe in this study on the median prices found on Table XXVIII and assuming that all undergarments, except regular panties, regular slips, regular brassieres, pajamas and robes, were acquired by purchase, the average cost of this lingerie wardrobe would be \$34.02. This cost added to the cost of the median outer-garment wardrobe, exclusive of coats, short coats and jackets, totals \$126.86.

Attitudes of the women toward their undergarments, which embraced adequacy of expansion, comfort and quality of construction are found on Table XXIX. The most satisfactory garments in regard to expansion were the large-size regular panties of which 100 per cent expanded adequately. The least satisfactory garments were regular panties, of which 67 per cent had adequate expansion, pajamas, of which 70 per cent had adequate expansion and regular brassieres, of which 71 per cent expanded adequately. In view of the fact that the items mentioned as being the least satisfactory in regard to expansion are not maternity garments, one would not

TABLE XXVIII

Range and Average in Number and Cost of Undergarments
in the Maternity Wardrobes of 88 Women in Study

	Number of Garments	Range	Average Number per Person	Number of Garments Purchased	Range	Average Cost per Garment
Regular panties	402	0-12	4.6	19	\$0.25-0.98	\$0.58
Maternity panties	196	0- 7	2.2	134	0.39-2.39	1.18
Large-size panties	90	0- 6	1.0	64	0.25-2.00	0.77
Regular slips	242	0-10	2.8	0	0-0	0.00
Maternity slips	92	0- 5	1.0	33	1.50-5.95	3.34
Half slips	95	0- 4	1.1	11	1.98-4.95	3.24
Regular brassieres	225	0-14	2.6	18	0.50-3.50	1.80
Maternity brassieres	68	0- 6	0.77	47	1.00-3.98	3.12
Large-size brassieres	74	0- 5	0.84	52	1.00-5.95	2.52
Nursing brassieres	112	0- 6	1.3	49	1.50-4.50	2.93
Nightgowns	331	0-12	3.8	26	2.00-5.98	3.41
Pajamas	151	0- 7	1.7	0	0-0	0.00
Robes	187	0- 5	2.1	11	5.00-12.95	7.74
Regular girdles	32	0- 3	0.4	5	1.98-5.95	3.19
Maternity girdles	23	0- 2	0.3	13	3.50-8.00	5.86
Regular garter belts	19	0- 3	0.2	1	1.98	1.98
Maternity garter belts	57	0- 3	0.6	27	1.00-4.00	2.10

TABLE XXIX

Attitudes of Women in Study Toward Undergarments in Maternity
Wardrobe Expressed in Per Cent of Garments

	Number of Garments	Expansion		Comfort		Quality of Construction	
		Ade- quate	Inade- quate	Comfort- able	Not Com- fortable	Good	Fair or Poor
		%	%	%	%	%	%
Regular panties	402	67	33	66	34	75	25
Maternity panties	196	92	8	83	17	88	12
Large-size panties	90	100	0	69	31	76	24
Regular slips	242	74	26	66	34	90	10
Maternity slips	92	97	3	74	26	77	23
Half slips	95	81	19	67	33	96	4
Regular brassieres	225	71	29	68	32	91	9
Maternity brassieres	68	88	12	78	22	97	3
Large-size brassieres	74	78	22	77	23	86	14
Nursing brassieres	112	98	2	98	2	100	0
Nightgowns	331	97	3	97	3	93	7
Pajamas	151	70	30	73	27	91	9
Robes	187	98	2	99	1	100	0
Regular girdles	32	62	38	66	34	94	6
Maternity girdles	23	100	0	87	13	100	0
Regular garter belts	19	58	42	53	47	100	0
Maternity garter belts	57	96	4	72	28	100	0
		$\chi^2 =$	45.35	$\chi^2 =$	124.71	$\chi^2 =$	112.42
		P $\approx$	0.01	P $\approx$	0.01	P $\approx$	0.01

expect them to provide adequate room for the pregnant figure.

The women reported that maternity girdles and robes were the most comfortable undergarments in the maternity wardrobe and regular panties and slips the least comfortable.

One hundred per cent of the robes, maternity girdles and garter belts and regular garter belts were considered by the women to be well constructed (Table XXIX). The most poorly constructed garments were regular panties, of which 75 per cent were well constructed and large-size panties, of which 76 per cent were well constructed. Some of the regular panties might not be expected to hold up well since the average price for those purchased was \$0.58, and some cost as little as \$0.25. Although the average cost of large-size panties was \$0.77, some were as low as \$0.25, so some of these might not be expected to hold up well either.

It is interesting to note that 50 per cent of the women in the study either planned to nurse their babies or had nursed them, while the remaining 50 per cent did not nurse them or did not plan to nurse them. For the

women who planned to nurse their babies or had nursed them, 49 per cent were in their first pregnancies and 51 per cent in their second or later pregnancies. Those women in their second or later pregnancies who had nursing brassieres on hand sometimes wore them during pregnancy and reported them to be very comfortable. Usually the women in their first pregnancies who had borrowed or purchased nursing brassieres did not wear them during pregnancy, although occasionally some did wear them as maternity brassieres.

The women in their second or later pregnancies had significantly more cotton maternity panties than did the women in their first pregnancies (Table XXX). They also purchased more expensive panties (Table XXXI). This would seem to indicate that the women who had been pregnant previously found cotton maternity panties to be the most satisfactory. Even though they were more expensive, the women evidently considered them worth the extra cost.

The women in their first pregnancies had significantly more regular pajamas which expanded adequately, were comfortable, and were well constructed than did women in their second pregnancies

TABLE XXX

Quantity of Cotton Maternity Panties
Owned by Women in Study Expressed in
Per Cent of Women

	Number of Women	0-1 Panties %	2 or More Panties %
First pregnancy	41	85	15
Second or later pregnancy	47	66	34
Total	88	75	25
$\chi^2 = 3.91$			
$P \approx 0.05$			

TABLE XXXI

Cost of Purchased Maternity Panties Expressed
in Per Cent of Panties

	Number of Panties	\$0.59-0.99 %	\$1.00-1.99 %	\$2.00 or More %
First pregnancy	69	51	42	7
Second or later pregnancy	65	11	82	7
Total	134	31	61	8
$\chi^2 = 24.37$ $P \approx 0.01$				

(Table XXXII). This may be due to the fact that women in second pregnancies tend to carry their babies lower because of sagging abdominal walls, thereby making pajamas more uncomfortable for them than for women in first pregnancies (26). Aside from the differences which have been mentioned, there were no other differences between those women in their first pregnancies and those in their second or later pregnancies which the investigator has found to be significant.

Complaints about maternity undergarments were expressed a number of times. Those most frequently emphasized follow in descending order:

1. Maternity slips ride up in front
2. Maternity panties are too expensive for the amount of service they give
3. Cotton maternity slips are too bulky underneath outer garments
4. Elastic in maternity panties does not expand adequately
5. Elastic in maternity panties is irritating
6. There should be maternity slips available on the market with white tops and black skirts
7. Maternity garter belts are uncomfortable
8. Maternity brassieres do not give enough support
9. Maternity slips are too full across the bust

TABLE XXXII

The Quantity of Adequate, Comfortable and Well-constructed
Regular Pajamas in the Maternity Wardrobes of Women
in Study Expressed in Per Cent of Women

	Number of Women	Adequate Expansion		Comfortable		Well-constructed	
		0-2	3 or More	0-2	3 or More	0-2	3 or More
		Pajamas %	Pajamas %	Pajamas %	Pajamas %	Pajamas %	Pajamas %
First pregnancy	41	63	37	63	37	58	42
Second or later pregnancy	47	87	13	85	15	79	21
Total	88	76	24	75	25	69	31
		$\chi^2 = 6.27$		$\chi^2 = 6.10$		$\chi^2 = 4.31$	
		$P \approx 0.01$		$P \approx 0.01$		$P \approx 0.05$	

10. Maternity slips do not expand adequately
11. Maternity slips are too expensive
12. Maternity slips show beneath skirts when wearer is seated.

Shoes

Shoes worn by the women during pregnancy were usually ones already on hand; however, Table XXXIII shows that some were purchased. The most frequently purchased shoes were ones with medium heels.

The attitudes of the women towards their shoes include the comfort and the frequency of wear. According to Table XXXIV the most comfortable shoes were bedroom slippers and flat heeled shoes such as rubber soled canvas shoes, loafers, sandals, ballet shoes and "shell" shoes. The least comfortable seemed to be high heels. Correspondingly, the flat heeled shoes were worn most often and high heeled shoes the least often. This seems to indicate that the women followed their doctors' advice in wearing low and flat heeled shoes for the most part and refrained from wearing high heels during pregnancy except on special occasions. But it would seem that the women misunderstood the doctors' orders

TABLE XXXIII

Source of Shoes in the Maternity Wardrobes
of Women in Study Expressed in
Per Cent of Shoes

	Number of Shoes	Purchased %	On Hand %
High heels	292	4	96
Medium heels	147	22	78
Low heels	55	15	85
Flat heels	206	13	87
Wedges	45	13	87
Bedroom shoes	133	16	84
$\chi^2 = 4.35$ $P \approx 0.10$			

TABLE XXXIV

Attitudes of the Women in Study Toward Shoes in Maternity

Wardrobes Expressed in Per Cent of Shoes

	Number of Shoes	Comfort		Frequency of Wear		
		Comfortable	Fairly or Not Comfortable	Frequently	Occasionally	Not Worn
		%	%	%	%	%
High heels	292	52	48	17	69	14
Medium heels	147	85	15	45	55	0
Low heels	55	78	22	76	24	0
Flat heels	206	94	6	94	6	0
Wedges	45	78	22	64	36	0
Bedroom shoes	133	97	3	87	13	0
		$\chi^2 = 124.48$		$\chi^2 = 326.84$		
		$P \approx 0.01$		$P \approx 0.01$		

since, of the shoes listed, only loafers had any support, and adequate support is a requisite for shoes for maternity wear.

Of the shoes which were purchased during pregnancy, 54 per cent cost \$5.99 or under as shown by Table XXXV. The remaining 46 per cent were purchased for \$6.00 and more.

TABLE XXXV

Cost of Purchased Shoes in Maternity
Wardrobes of Women in Study Expressed
in Per Cent of Shoes

	Total Number of Shoes Purchased	\$5.99 and Under %	\$6.00 to 10.99 %	\$11.00 and Over %
High heels	11	36	46	18
Medium heels	32	25	38	37
Low heels	8	38	37	25
Flat heels	27	63	33	4
Wedges	6	67	17	16
Bedroom shoes	21	100	0	0
$\chi^2 = 26.42$				
$P \approx 0.01$				

Chapter IV

MATERNITY CLOTHING DESIGNED BY THE INVESTIGATOR

Five maternity outer garments were designed for a particular women who participated in the study. Since the model ordinarily wore a size 10 in non-maternity dresses, a size 10 standard dress form was secured and padded to represent a woman in the ninth month of pregnancy. The waistline on the dress form was increased 10 inches beyond the model's normal waistline and the bustline three inches, since in the maternity-wear industry eight to 12 inches are allowed for expansion through the waist, and three or four inches are allowed through the bust. All the garments were draped in an inexpensive quality muslin. The fit of the neckline, shoulders, sleeves and hem was checked on the model, and if alterations were needed they were made at this stage of construction. Then the garment was transferred from muslin onto paper. From the paper pattern the final garment was cut. Since the garments were designed for a particular person, her preferences in regard to color and fabric were followed. She specifically asked that as much fullness as possible

be eliminated from both the front and the back of the tops unless they were a blouson style.

It was possible to incorporate into the garments some of the suggestions which had been made by other women in the study. For example, the holes in the cut-out skirts were made wider and slightly lower than on a ready-made, cut-out skirt. A kick pleat was constructed at the back of the skirts for ease in walking, the pleat being so designed that a thread could be pulled and the size of the skirt would be slightly increased (Figure 9). All the garments were made with one inch or wider seams. Garments that were sleeveless or had wide necklines were fitted to the model to assure that straps and undergarments would not show. As much fullness as possible was eliminated from the front and the back of all garments which were not blouson styles in compliance with the wishes of the model.

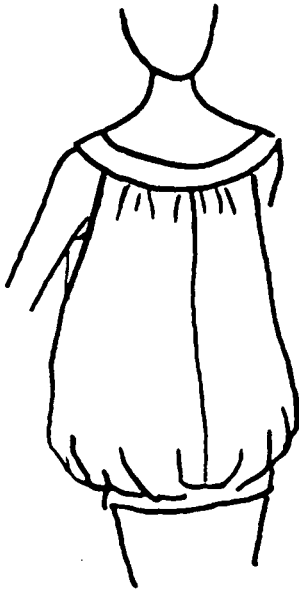
The garments were designed and first fittings were made on the model while she was in the third month of pregnancy. They were completed in the fifth month of the model's pregnancy, and she began to wear them in the sixth month.

Style A, the garment shown in Sketch 1, Figures 1 and 2, was constructed of orange printed broadcloth. The original design had a placket on the side and a band around the bottom, the bloused top obscuring the band. A lining of white batiste, attached at the neck and sewn to the band, held the band in place around the hips. The band could be made larger with a button adjustment. After wearing it this way for a short time the model removed the band and encased elastic around the bottom. There was no change in the appearance of the garment, but the model felt that it was more comfortable with the elastic. Because the top was cut on the bias it required approximately three yards of fabric and cost about \$3.00 to construct.

The white sailor top, Style B, was constructed of poplin for the approximate cost of \$3.00 including the red broadcloth tie (Sketch 1, Figures 3 and 4). The sleeveless top, designed with a sailor collar piped in red, a straight back and a straight front, was made to be put on over the head. The room for expansion was provided by an inverted pleat at both side seams.

Style C, a buttoned-front maternity top with white pique Puritan collar and set-in sleeves, was constructed

SKETCH 1
Styles A and B



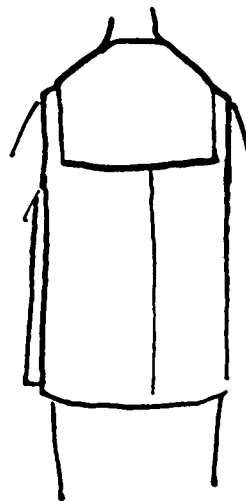
Front A
Figure 1



Back A
Figure 2



Front B
Figure 3



Back B
Figure 4

of drip dry, black and white printed Indian Head cotton fabric. Sketch 2 (Figures 5, 6, 7, 8 and 9) shows that the only expansion room available was provided by the loose, bias cut. The cost of this top was about \$5.00. With it was worn a black drip dry, cotton skirt with a cut-out in front. A kick pleat in back provided room for walking ease. The fabric for this item cost approximately \$1.50.

A dressier garment was constructed of green printed polished cotton and matching printed voile, Sketches 2 and 3 (Figures 7, 8, 9, 10 and 11). Ordinarily a soft, filmy fabric is not used for maternity wear, but in this case it was used quite successfully when lined with the companion print in the heavier, stiffer fabric. This two-piece dress, Style D, Sketch 3 (Figures 12 and 13), was made with a straight neckline and set-in sleeves. Expansion room was provided by the blouson effect just above the model's knees. To hold the blouson top at the proper length, a sleeveless lining was devised of matching polished cotton. It was sewn to the neckline and fell three or four inches shorter than the voile top. The voile was attached to this lining at the bottom with snaps so that the two pieces could be separated for

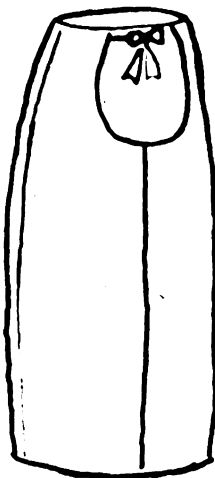
SKETCH 2
Style C



Front C
Figure 5



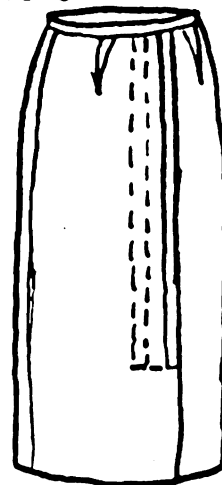
Back C
Figure 6



Front
Figure 7



Back
Figure 8

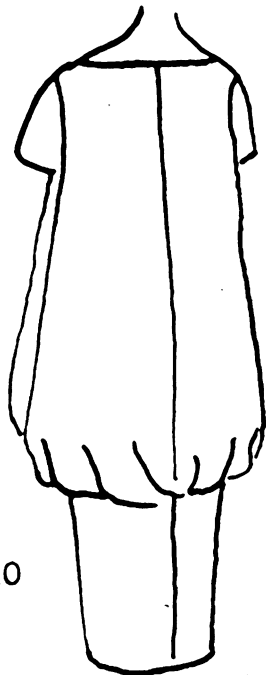


Inside back *
Figure 9

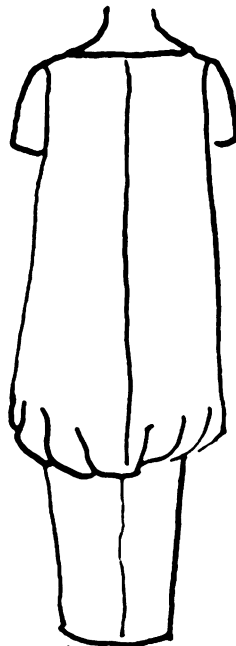
Skirt for Styles C and D

* Broken lines indicate threads which may be pulled to enlarge skirt.

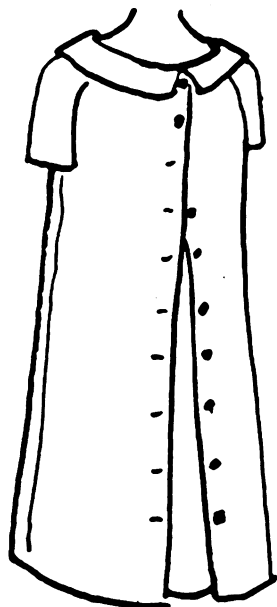
SKETCH 3
Styles D and E



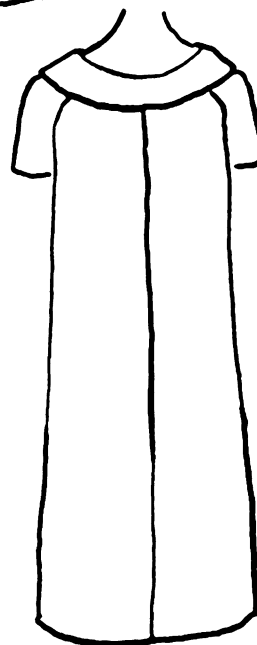
Front D
Figure 10



Back D
Figure 11



Front E
Figure 12



Front E
Figure 13

easier washing and ironing. For ease in donning the garment over the head, a placket was inserted at the bottom. The skirt was made of polished cotton on the identical pattern of the skirt in Style C. The entire dress cost approximately \$8.00. (In the pictures made three weeks before the baby's birth it will be noted that the sleeves had been removed. The model took them out and finished the raw edges to make a sleeveless dress.)

The only one-piece dress constructed, Style E, was designed in a coat style. Made of polished cotton it cost approximately \$6.00. It was designed with a wide, round neckline with collar, raglan sleeves and a button down front which in the early months of pregnancy could be buttoned shut. As the figure expanded the dress was unbuttoned displaying an insert of solid broadcloth. A placket in the front where the insert was attached to the garment enabled the wearer to put it on and take it off over her head. The buttons on the front merely closed or opened the dress over the panel. (Fabric samples in Appendix.)

During the sixth month of pregnancy the model displayed the clothes before a group of women who

evaluated them. The group was composed of a professor of textiles and clothing, two clothing specialists and three pregnant women who had participated in the study. Two of the pregnant women were in their first pregnancies and one was in her third pregnancy. The results of this evaluation are shown on Table XXXVI.

Style C was rated highest by both the professional women and by expectant mothers for suitability of fabric, style, color and method of expansion in maternity wear, ease in putting on and taking off and ease of care. It was the most conventional design of all and probably what most of the women were used to seeing and wearing. The least acceptable to the professional women was Style D and to the expectant mothers Style E. The ease in putting on and taking off in later months of pregnancy and amount of expansion room in Style D were questioned by the professional women. The expectant mothers felt that Style E might be difficult to get into and out of, and that it might not have enough expansion in the later months.

The women who evaluated the garments were asked what price they would be willing to pay for each

TABLE XXXVI

Evaluation by Professional Women and Expectant Mothers
of Garments Designed by Investigator

	Style A		Style B		Style C	
	Pro- fessional Women	Expect- ant Mothers	Pro- fessional Women	Expect- ant Mothers	Pro- fessional Women	Expect- ant Mothers
1. Suitability of:						
a. Design to fabric	G	G	G	G	G	G
b. Style for maternity wear	G	G	F+	G	G	G
c. Color to design	G	G-	G	G	G	G
d. Method of expansion	G-	G	G	G-	G-	G-
2. Ease in putting on and taking off	F+	G	F+	G-	G	G
3. Ease of care	G	G-	F	F+	G-	G
Total	45	46	41	44	46	47

TABLE XXXVI (Continued)

	Style D		Style E	
	Pro- fessional Women	Expect- and Mothers	Pro- fessional Women	Expect- and Mothers
1. Suitability of:				
a. Design to fabric	G	G	G	G-
b. Style for maternity wear	G-	G-	G	G-
c. Color to design	G	G	G	G-
d. Method of expansion	G-	G-	G-	F+
2. Ease in putting on and taking off	F-	F+	F	F+
3. Ease of care	F-	F+	G	G
Total	38	42	44	41
G = Good F = Fair P = Poor G+ = 9 G = 8 G- = 7 F+ = 6 F = 5 F- = 4 P+ = 3 P = 2 P- = 1				

garment if it were on a commercial market and they were in a position to buy. The prices ranged from \$2.98 to \$7.95 for Style A; from \$2.00 to \$10.00 for Style B; from \$8.00 to \$15.00 for Style C; from \$10.00 to \$35.00 for Style D and from \$5.00 to \$25.00 for Style E.

The colors and fabrics in which the garments were made were generally acceptable to the evaluating group. However, if the garments were available on the market, some would have preferred them in different colors. This is understandable since certain colors are not becoming to all persons. Some of the women doubted the practicality of making a maternity garment in all white. It was pointed out that any small children in the family would easily soil it.

Suggestions and recommendations also were given for improving the garments. Some felt that the elastic in Style A might be binding and room for expansion might be inadequate in the last months of pregnancy. It was felt by two persons that Style B was too straight in the back and would look unbalanced in the later months. Plate 2 shows that this garment did appear unbalanced in the last month because of the straight back. Style C, according to two persons, needed to be longer. One

PLATE 1

Style A



Sixth month of pregnancy



Three weeks before baby's birth

PLATE 2

Style B



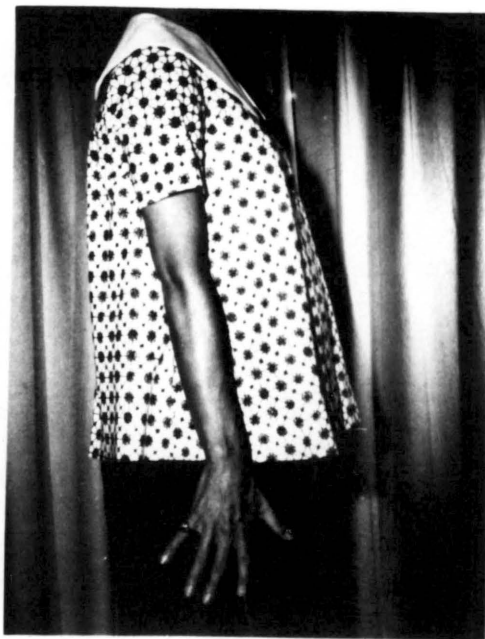
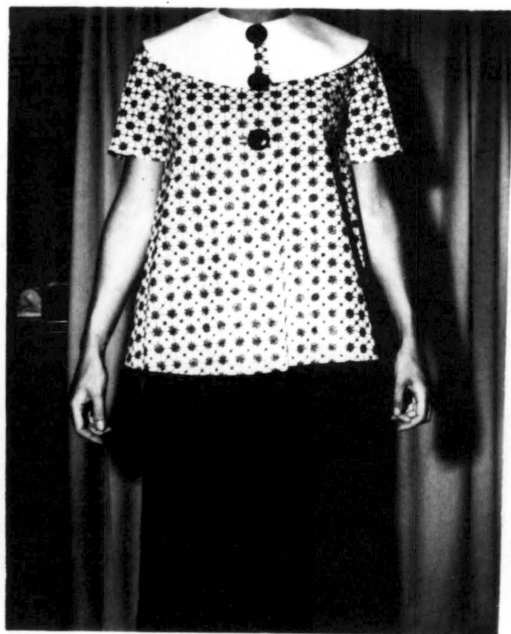
Sixth month of pregnancy



Three weeks before baby's birth

PLATE 3

Style C



Sixth month of pregnancy



Three weeks before baby's birth

PLATE 4

Style D



Sixth month of pregnancy



Three weeks before baby's birth

PLATE 5

Style E



Sixth month of pregnancy



Three weeks before baby's birth

suggested flaring the back and adding pockets to the front. One individual thought that occasions for wearing Style D were very limited; another, that it would be difficult to put on and take off in the last months of pregnancy. Three persons felt that Style E should open farther down the front or all the way down instead of just the length of a six inch placket.

The model wore the garments throughout her pregnancy and made a final evaluation just after the baby's birth. She felt that Style D was the most satisfactory garment since it proved to have more than adequate room for expansion, was very comfortable and was easily put on and taken off throughout pregnancy. She also thought that it more nearly concealed her pregnancy than any of the other garments did. This garment also demonstrated a great degree of wrinkle resistance. Styles B, C and E were very satisfactory also except that the skirt fabric in Style C wrinkled badly. Style A was adequate, but the model felt that it made her appear larger in the last month than any of the other garments did. She also reported that the elastic did not, at any time, bind. All garments were

considered easy to care for by the model. Style A was especially easy to care for since it did not need to be ironed after drying in a clothes dryer.

Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this investigation was to study the clothing needs of pregnant women and the ways in which these needs were met. The types and number of outer garments, undergarments and shoes were determined. Also the sources and cost of these garments were ascertained.

The outer garments and undergarments were evaluated according to the likes and dislikes of the women for selected styles of garments, the comfort in relation to the garment, ease of care, adaptability of garment to physical changes in the body and the usability of the garment after pregnancy.

Through information gained by the study, one or more outer garments were designed incorporating features found suitable for clothing for pregnant women.

The data were collected by the survey method in the city of Blacksburg, Virginia, during April, May and June of 1958. The 88 women who participated were either experiencing a first, second or later pregnancy or had been pregnant in the 12 months preceding the survey. Based on the analysis of these data five outer garments

were designed and constructed by the investigator for a pregnant woman. The model wore the garments throughout her pregnancy, after which she evaluated them. A group of professional women and expectant mothers also evaluated the garments.

From the data provided by the survey the following conclusions were reached.

The pregnant woman of today is an active woman, frequently holding a job in addition to keeping house and participating in social, community and church activities. If the pregnancy is her first one she tends to be younger and to have a smaller income than a woman in her second or later pregnancy. The average woman begins wearing maternity clothing in the fourth month of pregnancy. The health of pregnant women is generally good before, during and after pregnancy.

Garments from the regular wardrobe are utilized when and for as long as possible. Coats, short coats and jackets are the items from the regular wardrobe most frequently worn throughout pregnancy. The average maternity wardrobe consists of:

1 coat

1 short coat or jacket

- 2 two-piece dresses
- 5 maternity tops
- 2 cut-out skirts
- 1 drop-panel skirt
- 1 one-piece dress
- 1 pair of slacks or pedal pushers
- 1 pair of shorts.

If all garments were purchased except the coat and short coat or jacket, the total cost of the wardrobe would be about \$92.84. With the exception of jackets and the two types of coats, the largest per cent of clothing is borrowed. Cotton is the preferred fiber for all outer garments except wraps, for which wool is preferred. There is little use of man-made fibers in maternity outer wear. Most of the clothing is washable. About one fourth of the women had problems in regard to adequacy of expansion for maternity clothing.

The cut-out type of expansion device is the preferred one for suits, two-piece dresses and skirts. Drop panels are the most popular for shorts and slacks. Elasticized panels are occasionally used in shorts or slacks but seldom in dresses, suits and skirts. The

women who are familiar with this type like it very much.

The one-piece dress seems to be the least satisfactory outer garment in the maternity wardrobe. It was reported to be the least comfortable and to have the least adequate room for expansion. Also, the husbands thought less favorably of it than of the other outer garments. The remaining outer garments were about equally satisfactory.

Women in second or later pregnancies seemed to have profited by their earlier pregnancies. Women in second or later pregnancies have more tops (1) with adequate room for expansion, (2) that are easy to care for, (3) that are comfortable.

Maternity garments are not adapted for wear after pregnancy.

Most women do not purchase a completely new lingerie wardrobe for maternity wear. They utilize undergarments from the regular wardrobe and either borrow or use maternity garments from previous pregnancies. The garments they do purchase are maternity panties, slips, brassieres, girdles and garter belts. Some women purchased large-size panties

and large-size brassieres. If only these items were bought new the cost would have been approximately \$34.00.

The average lingerie wardrobe consists of:

- 5 pairs of regular panties
- 2 pairs of maternity panties
- 1 pair of large-size panties
- 3 regular slips
- 1 maternity slip
- 1 half slip
- 2 regular brassieres
- 1 maternity brassiere
- 1 large-size brassiere
- 1 nursing brassiere
- 4 nightgowns
- 2 pairs of pajamas
- 2 robes
- 1 maternity garter belt.

Cotton was the favored fiber for all types of brassieres, pajamas and robes. The remainder of the garments, except maternity panties, regular and maternity girdles and regular and maternity garter belts, was constructed chiefly of nylon. Equal numbers of

maternity panties were cotton and nylon. Girdles and garter belts were of other fibers.

The non-maternity undergarments worn during pregnancy, exclusive of gowns and robes, were the least satisfactory.

The women in second and later pregnancies seemed to have learned something from previous pregnancies in regard to certain undergarments. They had more cotton maternity panties and more expensive maternity panties than did women in first pregnancies.

Most of the complaints about undergarments concerned maternity slips.

The shoes worn during pregnancy, though they had flat heels, were not, for the most part, ones with adequate support. The majority of shoes worn were already on hand.

Of the garments designed by the investigator, Style C was the most acceptable to the professional women and expectant mothers in regard to suitability of fabric, style, color and method of expansion to maternity wear, ease of putting on and taking off and ease of care. The model preferred Style D. The least

acceptable garment to the professional women was Style D and to the expectant mothers Style E.

Recommendations

As a result of the findings of this study the following recommendations are made:

1. That better styles of maternity slips with more satisfactory expansion features be made available at lower prices
2. That simple adjustments be made by manufacturers to improve outer garments, for example:
 - a. ties on cut-out skirts be made longer or possibly replaced with elastic
 - b. means be provided for closing button-front maternity tops at hem
 - c. excessive fullness be eliminated from maternity tops
 - d. the hole in cut-out skirts be made slightly lower
 - e. wide-neck tops be designed so that underwear straps are concealed
 - f. seams in skirts be made wide enough to allow for alterations

3. That pattern sizing be improved to provide a better fit for the pregnant figure
4. That the sizing in maternity ready-to-wear be improved, making available maternity fashions scaled to the tall, medium and short girl
5. That consideration be given to the education of the pregnant woman concerning the correct types of shoes to wear during pregnancy
6. That a larger study be conducted to gain a clearer picture of the problems of clothing for pregnancy.

Chapter VI

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APPENDIX

1. Name _____

2. Address _____

3. Age range _____

Under 21 21-25 26-30 31-35 over 35

4. Number of children in family ? _____

Ages _____

5. If pregnant, when is baby due ? _____

6. Approximate income _____

\$2000- 3000	\$3000- 4000	\$4000- 5000	\$5000- 6000	Over \$6000
-----------------	-----------------	-----------------	-----------------	----------------

7. Education of wife _____

Last year
completed

Home Economics
Number of Years
High School College

College
Major

8. Education of husband _____

Years of school completed _____

9. Occupation of wife _____

	Before marriage	After marriage	Now
--	--------------------	-------------------	-----

No. years

Type of work

a. Were you employed during pregnancy ? _____

b. How long did you work after becoming
pregnant ? _____

c. What did you do ? _____

10. Occupation of husband _____

11. Your health

	Before pregnancy	During pregnancy	After pregnancy
Good			
Fair			
Poor			

12. Do you sew ? _____

Number of garments made in past year _____

Garments made _____

13. Is your storage space for clothing adequate ? _____
inadequate ? _____

14. Do you do all of the family laundry ? _____
part of the family laundry ? _____
none of the family laundry ? _____

15. Do you own a washing machine or have access to
one ? _____

Do you own a clothes dryer or have access to
one ? _____

16. Types of entertainment and activities during pregnancy

	0-1 time per month	1-2 times per month	2-3 times per month	3-4 times per month	5 or more times per month
Church					
Church organizations					
P T A					

	0-1 time per month	1-2 times per month	2-3 times per month	3-4 times per month	5 or more times per month
Movies					
Dances					
Picnics					
Swimming					
Home entertaining					
Concerts					
Clubs					
Bridge clubs					
Other					

17. Changes in activities during pregnancy

Physical _____

Social _____

18. At what month did you begin to wear maternity clothes ? _____

19. Where did you buy your maternity clothing ?

Department stores

Specialty shops

Mail order houses

Other _____

20. Did you or do you plan to nurse your baby ? _____

21. Did you or do you plan to remodel any maternity clothing after the baby comes ? _____

22. Did you encounter any of the following problems during pregnancy in relation to clothing ?

Perspiration

Expansion

Seasonal change

Hems of jackets

Hems of skirts

Swelling of feet

Complexion

23. List any items your doctor told you specifically NOT to wear (round garters)

1. _____

2. _____

3. _____

24. List articles worn against doctor's orders

1. _____

2. _____

3. _____

25. List any items your doctor recommended that you wear

Did you wear
them ?

1. _____

2. _____

3. _____

4. _____

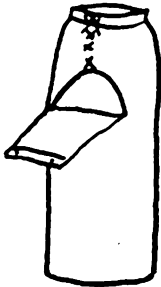
5. _____

Outer Garments	Coats (full-length)		Short coats and jackets		Suits (two-piece)		Maternity tops and blouses		Skirts		Skirts (cut-out) *		Skirts (elasticized) *		Skirts (drop- panel) *		Dresses (one-piece)		Petal pushers and slacks		Shorts		Play suits		Bathing suits		Evening dresses	
1. Maternity garment																												
2. Garment from regular wardrobe																												
a. Worn all through pregnancy																												
b. Stopped wearing on what month ?																												
c. Why ?																												
3. Style																												
4. Color																												
5. Print																												

Outer Garments	Coats (full-length)													
	Short coats and jackets													
	Suits (two-piece)													
	Maternity tops and blouses													
	Skirts													
	Skirts (cut-out) *													
	Skirts (elasticized) *													
	Skirts (drop-panel) *													
	Dresses (one-piece)													
	Pedal pushers and slacks													
	Shorts													
	Play suits													
	Bathing suits													
	Evening dresses													
6. Solid														
7. Purchased														
8. On hand														
9. Borrowed or gift														
10. Made it yourself														
11. Cost if purchased or sewn at home														
12. Worn a. Frequently b. Occasionally c. Not at all d. Why ?														

Outer Garments	Coats (full-length)		Short coats and jackets		Suits (two-piece)		Maternity tops and blouses		Skirts		Skirts (cut-out) *		Skirts (elasticized) *		Skirts (drop- panel) *		Dresses (one-piece)		Petal pushers and slacks		Shorts		Play suits		Bathing suits		Evening dresses	
17. Fairly comfortable																												
18. Not comfortable																												
19. Well constructed																												
20. Fairly well constructed																												
21. Poorly constructed																												
22. Washable																												
23. Dry clean, only																												
24. Trim (braid, edging, etc.)																												
a. Satisfactory																												
b. Unsatisfactory																												

Outer Garments	Coats (full-length)		Short coats and jackets		Suits (two-piece)		Maternity tops and blouses		Skirts		Skirts (cut-out) *		Skirts (elasticized) *		Skirts (drop- panel) *		Dresses (one-piece)		Pedal pushers and slacks		Shorts		Play suits		Bathing suits		Evening dresses	
25. Room for expansion	a. Adequate																											
	b. Inadequate																											
26. Means for letting out	a. Zippers																											
	b. Hooks and eyes																											
	c. Snaps																											
	d. Pleats																											
	e. Gathers																											
	f. Loops and ties																											
	g. Not applicable																											

Outer Garments	Coats (full-length)	Short coats and jackets	Suits (two-piece)	Maternity tops and blouses	Skirts	Skirts (cut-out) *	Skirts (elasticized) *	Skirts (drop- panel) *	Dresses (one-piece)	Pedal pushers and slacks	Shorts	Play suits	Bathing suits	Evening dresses
27. Devices for letting out (snaps, etc.)														
	a. Adequate													
b. Inadequate														
Criticisms of any outer garments in wardrobe Suggested improvements for outer garments * (Sketches)  Drop-panel  Cut-out  Elasticized panel														

Undergarments	Panties	Slips	Bras	Nursing bras	Corsets	Girdles	Garter belts	Pajamas	Nightgowns	Housecoats and robes
1. Maternity										
2. Regular										
3. Regular (large-size)										
4. Purchased										
5. Cost										
6. Borrowed										
7. On hand										
8. Number in wardrobe										
9. Fabric										
a. Knit										
b. Woven										

Undergarments	Panties	Slips	Bras	Nursing bras	Corsets	Girdles	Garter belts	Pajamas	Nightgowns	Housecoats and robes
10. Easy to care for										
11. Fairly easy to care for										
12. Difficult to care for										
13. Comfortable										
a. Very										
b. Fairly										
c. Not at all										
14. Well constructed										
15. Fairly well constructed										
16. Poorly constructed										
17. Room for expansion										
a. Adequate										
b. Inadequate										

Undergarments	Panties	Slips	Bras	Nursing bras	Corsets	Girdles	Garter belts	Pajamas	Nightgowns	Housecoats and robes
18. Means for expanding										
a. Elastic										
b. Pleats										
c. Shirring										
d. Snaps										
e. Ties and loops										
f. Buttons										
g. Hooks and eyes										
19. Expansion devices										
a. Adequate										
b. Inadequate										
Criticisms of any undergarments in wardrobe Suggested improvements for any undergarment in wardrobe										

Shoes	High heels		Medium heels		Low heels		Flats		Wedges		Bedroom shoes	
1. On hand												
2. Purchased												
Cost												
3. Number												
4. Regular size												
5. Larger size												
6. Comfortable												
a. Very												
b. Fairly												
c. Not at all												
7. Worn												
a. Frequently												
b. Occasionally												
c. Not at all												

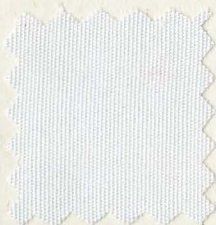
Hosiery	Hose	Socks	Bare legs
Worn			
a. Usually			
b. Part of time			
c. Seldom			
d. Not at all			

FABRIC SWATCHES OF GARMENTS
DESIGNED BY INVESTIGATOR

Style A
top



Style B
top



Style B
tie



Style C
top



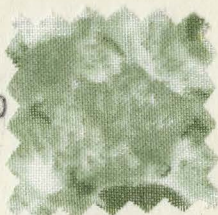
Style C
collar



Style C
skirt



Style D
top



Style D
lining
and skirt



Style E
dress



Style E
panel



Defining Probability

When calculating the probability that the association between the qualities or the instances of the degrees of qualities of two or more factors may or may not be due to chance alone, the method of X^2 or the sum of relative differences is used. In doing this it is necessary to compare the actual frequencies of the degrees of the factors with the distribution expected to be found if the factors were independent and unrelated.

After the observed values are inserted in a table, the first step is to find the expected value for each cell. In the example these values (e) represent the number of women in each of the two age classes for the two pregnancy groups, which one should expect to find in the absence of any actual association between the age of women and the number of the pregnancy.

For example the actual number of women 25 years and under in their first pregnancies in the sample of 88 was 31. If there were no association between age and the number of the pregnancy, one should expect to find $\frac{45 \times 41}{88}$ or 21 women 25 years or under who were experiencing first pregnancies. The "expected" values are found for each cell by multiplying together the

totals of the row and column in which the cell lies and dividing the product by the total number of instances.

When the "expected" values have been calculated for each cell, the next step is to find the difference (d in table) between the actual (obs) value and expected values (e). For each particular difference (d) is then squared (d^2 in table) and the square is divided by each particular expected value (d^2 divided by e). These quotients are called the relative difference (rd). The sum of the relative differences is called X^2 .

The probability that X^2 in the sample table (18.28 for a 2 x 2 table) could be due to chance alone is less than .01. This means that there is one chance in one hundred that the association could be due to chance alone. For X^2 to be significant the probability must be approximately equal to ($\approx$) or less than ($<$) .05.

Age of Women in Study

	25 Years and Under		Over 25 Years		Total Number Women
First pregnancy	obs	31	obs	10	41
	e	21	e	20	
	d	10	d	10	
	d ²	100	d ²	100	
	rd	4.76	rd	5.00	
Second or later pregnancy	obs	14	obs	33	47
	e	24	e	23	
	d	10	d	10	
	d ²	100	d ²	100	
	rd	4.17	rd	4.35	
Total		45		43	88

ABSTRACT

The types, number, sources and cost of outer garments, undergarments and shoes in the wardrobes of pregnant women were ascertained. The clothing was evaluated according to the likes and dislikes of the women for selected styles of garments, comfort in relation to the garment, ease of care, adaptability of garments to physical changes of the body and the usability of the garments after pregnancy.

Five maternity outer garments were designed incorporating features found suitable for clothing for pregnant women.

From the results of the study it appears that the pregnant woman today is an active person, frequently holding a job in addition to keeping house and participating in social, community and church activities. A women experiencing her first pregnancy tends to be younger and to have a smaller income than a woman in a second or later pregnancy. The average expectant mother begins wearing maternity garments in the fourth month of pregnancy.

The cut-out and drop-panel types of expansion are the preferred means for expanding maternity garments. The one-piece dresses seem to be the least satisfactory style of all maternity outer garments.

If all maternity outer garments were purchased new, the cost of the average wardrobe is about \$93.00. Most outer garments are made of cotton with the exception of wraps, which are generally wool. Little use is made of man-made fibers for outer wear. The average cost of a wardrobe of maternity undergarments, if purchased new, would be about \$34.00. Cotton and nylon are the preferred fibers for these garments.

Shoes worn during pregnancy are generally of the flat heeled type which the women have on hand.

Women in second and later pregnancies tend to make wiser selections in certain types of garments than women in first pregnancies.