

U. S. DEPARTMENT OF LABOR  
CHILDREN'S BUREAU

JULIA C. LATHROP, Chief

INDUSTRIAL INSTABILITY OF  
CHILD WORKERS

A STUDY OF  
EMPLOYMENT-CERTIFICATE RECORDS  
IN CONNECTICUT

By

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, December 1, 1919.*

SIR: I transmit herewith a report on Industrial Instability of Child Workers, a study of the records of employment certificates issued to children between 14 and 16 years of age in Connecticut.

The report was written and the tabulations were planned by Dr. Robert Morse Woodbury, director of statistical research of the Children's Bureau. The plan of securing and using these records as a basis of a report to show the frequent changes of position and the amount of unemployment among young children who have left school for work was an outgrowth of the study of the administration of child-labor laws in Connecticut carried on under the supervision of Mrs. Helen Sumner Woodbury.

Thanks are due to the Connecticut State Board of Education for generous cooperation in the work.

Respectfully submitted.

JULIA C. LATHROP, *Chief.*

Hon. W. B. WILSON,  
*Secretary of Labor.*

## FOREWORD.

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The following study, based upon employment certificate records in Connecticut, throws light upon important questions regarding child labor. The first question is how soon after passing the fourteenth birthdays do children actually begin to seek employment in a State where 14 is the minimum legal age for employment. The study shows how the proportion of children at work gradually increased from about 7 per cent in the month following the fourteenth birthday to nearly 32 per cent at 16 years of age.

Other questions relate to the way children become adjusted to industrial life. The length of time they stay in their first positions reflects the degree to which the first positions are satisfactory to the children and how well they satisfy their employers. Over half the children stayed six months or longer in their first positions. Girls tended to stay longer in their first positions than boys. As between industries, the textile group showed relatively long periods of employment. On the other hand, the proportion of children leaving their first positions soon after commencing work is an indication of unsatisfactory adjustment. A large proportion—over one-third—left their first positions within three months, and one-half of these within one month. Some children left position after position; a small group, characterized as “unsteady workers” and comprising about 2 per cent, held eight or more positions within less than 24 months of work history. In general the children gradually became adjusted to the discipline of work as their experience increased. This adjustment is shown, for example, in the decline in the monthly rate of becoming unemployed, from 9.1 cases per 100 children at work in the first month after commencing work to only 2.3 after 22 months’ experience.

The problem of the unemployed child—that is, the child neither at work nor in school—is a difficult one for the school administration to solve. The Connecticut law requires him to be in school unless he is at work. Without special schools to meet the special needs of working children, it is hard to fit the children who are out of work into the regular school classes, and almost impossible to enforce the school-attendance law so far as concerns them. With compulsory continuation schools for all working children these difficulties would disappear and the unemployed children could be given additional training along their chosen lines during the periods while they are out of work. The analysis shows that nearly half the children studied had one or more periods of unemployment lasting over a week, the periods lasting on an average two and one-half months, and covering one-tenth of the total work histories of all the children.

# INDUSTRIAL INSTABILITY OF CHILD WORKERS: A STUDY OF EMPLOYMENT-CERTIFICATE RECORDS IN CONNECTICUT.

## INTRODUCTION.

The granting of employment certificates and the consequent accumulation of records for children between the ages of 14 and 16 officially permitted to work opens up a new field for the investigation of child labor. Hitherto statistics of child labor have been dependent upon the census or upon necessarily limited studies made in particular localities and covering special phases of the subject. But, especially with the adoption by States of laws requiring a child to secure an employment certificate for each different position, it has now become possible to study the extent, character, and duration of employment and as many other phases of child labor as are covered by the information obtained in connection with issuing the certificate.

One of the first States to require a new certificate for each new position was Connecticut,<sup>1</sup> which at the same time (1911) placed the issuing of certificates for the entire State in the hands of the State board of education. This unusual centralization of authority has created in the office of the State board at Hartford a complete file of records covering every child who has taken out a certificate anywhere in the State since September 1, 1911.

Connecticut thus offered exceptional facilities for the study of child labor as reflected in its centralized records of the employment histories of children between 14 and 16 years of age. On this account it was chosen for a tentative study designed to throw light upon certain points, such as the numbers of positions held and the amount of unemployment, which are not easily obtained in the ordinary investigation because of the limited time covered.

Except for Rhode Island, Massachusetts, and New Jersey, Connecticut is the most densely populated State in the country. Favored by comparatively abundant water power and good shipping facilities, it is preeminently a manufacturing State. In 1909 it ranked twelfth among the States in value of manufactured products. Its industries are widely diversified; those employing the largest numbers of wage earners in 1910 manufactured foundry and machine

<sup>1</sup> This system was first adopted in Ohio and shortly afterwards in Wisconsin, but in neither of these States was the system of issuing certificates so highly centralized that complete records for the entire State can be found in any one place.

shop products, brass and bronze products, cotton goods, silk and silk goods, firearms and ammunition, woolen goods, cutlery and tools, corsets, and silverware.

Not all these industries offer to the same degree opportunities for child labor. But with such a variety of industries it would be expected that children seeking employment would be able to find places somewhere, and the diversified opportunities might be expected to favor, other things being equal, the relatively early beginning of work by children.

The Connecticut law requiring employment certificates went into effect on September 1, 1911.<sup>2</sup> It prohibits the employment of children under 14 in any mechanical, mercantile, or manufacturing establishment, and requires that children under 16 employed in such establishments shall be provided with certificates issued under the authority of the State board of education. By interpretation of the board of education, certificates are required for almost all occupations in which children are employed except agriculture and domestic service. Children working on their own account, as, for example, newsboys who sell independently, are also exempted. Nevertheless, even children seeking work in agriculture or domestic service sometimes get certificates, either because they are under the impression that they have to have them, or because employers require them to bring certificates to avoid difficulties; or because it is easier to arrange for leaving school if they first secure certificates of age and education from the educational authorities. A child who goes to work first in an occupation where he has to have a certificate and then changes to a position where certificates are not required often secures a certificate for the later position.

A general discussion of the employment-certificate system of Connecticut can be found in a publication of the Children's Bureau.<sup>3</sup> The facts necessary to an understanding of the material here presented are as follows:

Certificates are issued to children between the ages of 14 and 16 who produce the necessary evidence of age, have fulfilled certain educational and physical requirements, and have the promise of a position. Each child must prove satisfactorily that he is over 14 years of age, that he is "able to read with facility, to legibly write simple sentences, and to perform the operations of the fundamental rules of arithmetic with relation both to whole numbers and to fractions"; and he must "not appear to be physically unfit for employment."<sup>4</sup> Each child must also bring a signed statement from his

<sup>2</sup> Acts of 1911, ch. 119.

<sup>3</sup> Sumner, Helen L., and Hanks, Ethel E.: *Employment-Certificate System in Connecticut*. U. S. Children's Bureau Publication No. 12, Industrial Series No. 2, Part 1. Washington, 1915.

<sup>4</sup> Acts of 1911, ch. 119, sec. 2.



prospective employer proving that he has actually secured work. If the certificate is granted a copy is sent to the employer with a blank notice of commencement of employment, a blank notice of termination of employment, and a copy of the law dealing with the employment of children. The employer is required to fill out the notice of commencement of employment as soon as the child for whom the certificate is issued begins work. Thus there is a record not only of the issuing of the certificate but also of the actual commencement of work. In case a certificate is issued and no notice of commencement of work is received, inquiry is made of the employer by the issuing office, and the reason for the failure to send in the notice is ascertained. In some instances the child is found to have changed his mind about going to work. When the child leaves his position the employer is required to send in the termination notice unless the child has reached his sixteenth birthday before leaving the position.

A copy of each certificate is kept by the issuing officer, who is an agent of the State board of education, and is sent by him to the State board at Hartford. There the copy is filed alphabetically, and when the child secures another position the copy of his new certificate is clipped to that of his old one. Thus the information on file shows all the positions the child has had from the time he went to work until his sixteenth birthday; it gives the names of his employers, the duration of each position, the intervals between periods of employment, and other information, and shows whether or not he was still employed at 16.

The group studied includes all children who were born between September 1, 1897, and September 1, 1898, and who received employment certificates before they became 16 years of age. These children passed their fourteenth birthdays at various dates between September 1, 1911, when the new law went into effect, and September 1, 1912, and all of them, therefore, had completed their sixteenth year and the certificate record by September 1, 1914. As a result of this method of selection, the conclusions are not affected by the abnormal labor conditions due to the war but represent the normal flow of children into industry and their normal industrial histories up to the age of 16, under a system of regulation which sets up moderately strict requirements for leaving school to go to work.

Children who worked only during vacation were excluded from the study. During the latter part of the period covered, vacation certificates, obtained in the same way as the regular certificates, except that there was no educational requirement, were given for employment during the long summer vacation only. These vacation certificate records were not used. Records which showed that the child had secured a regular certificate but had worked only during

the summer vacation were also discarded. If, for example, the record began with a position secured in June, and terminated in September, and showed no other position until the following June, it was inferred that during the interval the child had returned to school. The study was thus confined to children who had definitely left school and entered the industrial world.

## EXTENT OF CHILD LABOR IN CONNECTICUT.

### NUMBER OF CHILDREN EMPLOYED.

The total number of children born in the year ended September 1, 1898, who received certificates in Connecticut between their fourteenth and sixteenth birthdays, as shown by the records, was 7,147. Since the completeness of the record is obviously dependent upon the effectiveness with which the law is enforced, this figure is probably a slight understatement of the number of children in the industries covered by the certificate requirement.

The bulletin of the Children's Bureau previously mentioned explains the methods of enforcing the Connecticut law. Besides measures employed to enforce the school-attendance law, which indirectly prevents the illegal employment of children, direct enforcement is sought by inspection of work establishments at intervals; and children under 14 found at work by the inspectors are sent back to school, while those between 14 and 16 who have no certificates are sent to the certificate office. In 1913-14, 134 children between 14 and 16 were found by the inspector to be working without employment certificates, 13 children under 14 were found at work, and 29 employers were prosecuted for employing children illegally.<sup>5</sup> The total number of children with certificates at work in the establishments inspected was 3,849. These statistics seem to indicate that the law was well administered and enforced and that violators were vigorously prosecuted. The figures relating to children who received certificates may, therefore, be regarded as a fairly complete statement for Connecticut of the normal amount of industrial employment, between their fourteenth and sixteenth birthdays, of a group of children who were born in a given year.<sup>6</sup> These figures do not, of course, represent the number of children between 14 and 16 years of age employed in Connecticut at any given date. This point is treated in connection with the discussion of the proportion of children employed.

<sup>5</sup> Report of the Board of Education of the State of Connecticut, pp. 37 and 45.

<sup>6</sup> For further discussion of the enforcement of the law and the margin of error in the figures see Appendix.

TABLE I.—Age at receiving first employment certificate, by sex: Children born in year ended Sept. 1, 1898.

Age at going to work.	Total children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All ages.....	7,147	100.0	4,000	100.0	3,147	100.0
14 years, but under 14 years 6 months.....	3,522	49.3	2,019	50.5	1,503	47.8
14 years, but under 14 years 3 months.....	2,476	34.6	1,385	34.6	1,091	34.7
14 years, but under 14 years 1 month.....	1,470	20.6	817	20.4	653	20.7
14 years 1 month, but under 14 years 2 months.....	571	8.0	323	8.1	248	7.9
14 years 2 months, but under 14 years 3 months.....	435	6.1	245	6.1	190	6.0
14 years 3 months, but under 14 years 6 months.....	1,046	14.6	634	15.9	412	13.1
14 years 3 months, but under 14 years 4 months.....	371	5.2	228	5.7	143	4.5
14 years 4 months, but under 14 years 5 months.....	340	4.8	207	5.2	133	4.2
14 years 5 months, but under 14 years 6 months.....	335	4.7	199	5.0	136	4.3
14 years 6 months, but under 15 years.....	1,721	24.1	935	23.4	786	25.0
14 years 6 months, but under 14 years 7 months.....	312	4.4	164	4.1	148	4.7
14 years 7 months, but under 14 years 8 months.....	310	4.3	174	4.4	136	4.3
14 years 8 months, but under 14 years 9 months.....	302	4.2	164	4.1	138	4.4
14 years 9 months, but under 14 years 10 months.....	287	4.0	155	3.9	132	4.2
14 years 10 months, but under 14 years 11 months.....	245	3.4	133	3.3	112	3.6
14 years 11 months, but under 15 years.....	265	3.7	145	3.6	120	3.8
15 years, but under 15 years 6 months.....	1,341	18.8	732	18.3	609	19.4
15 years, but under 15 years 1 month.....	306	4.3	151	3.8	155	4.9
15 years 1 month, but under 15 years 2 months.....	234	3.7	161	4.0	103	3.3
15 years 2 months, but under 15 years 3 months.....	210	2.9	112	2.8	98	3.1
15 years 3 months, but under 15 years 4 months.....	207	2.9	112	2.8	95	3.0
15 years 4 months, but under 15 years 5 months.....	183	2.6	98	2.5	85	2.7
15 years 5 months, but under 15 years 6 months.....	171	2.4	98	2.5	73	2.3
15 years 6 months, but under 16 years.....	563	7.9	314	7.9	249	7.9
15 years 6 months, but under 15 years 7 months.....	141	2.0	73	1.8	68	2.2
15 years 7 months, but under 15 years 8 months.....	124	1.7	77	1.9	47	1.5
15 years 8 months, but under 15 years 9 months.....	114	1.6	67	1.7	47	1.5
15 years 9 months, but under 15 years 10 months.....	81	1.1	44	1.1	37	1.2
15 years 10 months, but under 15 years 11 months.....	73	1.0	38	1.0	35	1.1
15 years 11 months, but under 16 years.....	30	.4	15	.4	15	.5

### Sex.

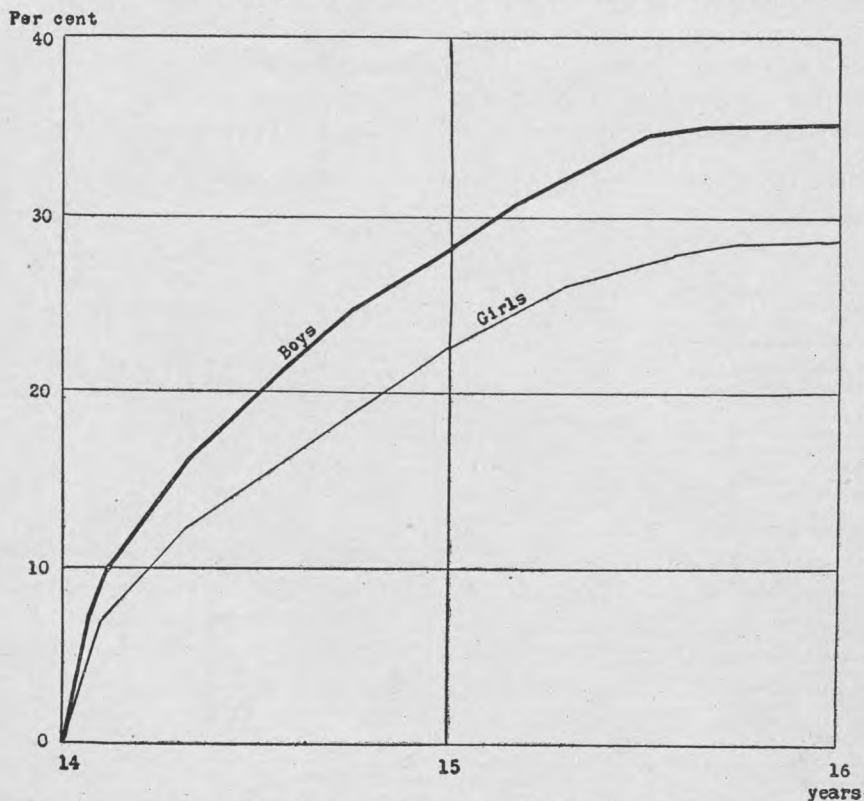
Table I shows that of the 7,147 children receiving certificates, 4,000 were boys and 3,147 were girls. Employment at these ages was therefore somewhat more common for boys than for girls. The excess of boys over girls appears at all ages but is relatively greatest in the age groups between 14 years and 14 years and 6 months.

### Age.

The ages at which children are first employed and the proportions of children entering employment at the different ages are also shown in Table I. Nearly half secured certificates within six months after passing the fourteenth birthday and half the remainder secured certificates before passing the fifteenth birthday. A considerable number of children evidently leave school to secure work at the earliest opportunity. This tendency is shown graphically in the rapid rise of the curves (Chart I) immediately after the fourteenth birthday; it is interesting to note that there is a very slight tendency for the curve to rise somewhat more rapidly than usual immediately after the fifteenth birthday as well. For the rest, the gradual upward slope of the curve indicates that attainment of a given age is not the

sole factor in the child's seeking work. A considerable proportion of children finish the grade which they are in at the time when they become 14. Unpublished figures furnished by the State board of education show that the number of regular certificates issued increases immediately after the close of the school year in June,<sup>7</sup> as also markedly in September, evidently due to the desire of children to avoid going back to school. During the fifteenth year there is a marked falling off in the number of children seeking work for the first time.

CHART 1. PERCENTAGE OF CHILDREN AT WORK AT SPECIFIED AGE.



#### PROPORTION OF CHILDREN AT WORK.

The group of children included in the study may be compared with the estimated number of children of the corresponding ages in the State. The average age of the group studied would have been 14½ years on September 1, 1912, and the ages of the children at that date would have varied between 14 and 15. It is estimated that on September 1, 1912, there were in Connecticut a total of 20,010 children

<sup>7</sup> The average number of regular certificates issued for three-year period, August, 1915, to July, 1918, were as follows: 827 (August), 1,162 (September), 871 (October), 803 (November), 632 (December), 748 (January), 662 (February), 799 (March), 794 (April), 854 (May), 2,327 (June), 1,687 (July).

of this age. The number of children living in the State who were born in the year September 1, 1897, to September 1, 1898—that is, the year of birth corresponding to age  $14\frac{1}{2}$  on September 1, 1912—would remain practically constant during the two years covered by the study, though migration and death would affect it slightly. The number of children who took out first certificates in each month of age may, therefore, safely be compared to this basic number to find the approximate proportion of children employed at the different ages. It is found, as shown in Table II, that the proportion increases from 7.3 per cent in the first month after passing the fourteenth birthday to 31.8 per cent in the last month before the sixteenth birthday. At each age the proportion for boys is somewhat higher than the proportion for girls—at 14 years of age 8.1 per cent as compared with 6.6 per cent, and at 16, 35 per cent as compared with 28.6 per cent.<sup>8</sup>

TABLE II.—*Estimated percentage of children in Connecticut occupied at each age, by sex.*<sup>1</sup>

Age.	Per cent of estimated number occupied.		
	Children.	Boys.	Girls.
14 years 1 month.....	7.3	8.1	6.6
14 years 2 months.....	10.2	11.3	9.0
14 years 3 months.....	12.3	13.6	10.9
14 years 4 months.....	14.1	15.8	12.3
14 years 5 months.....	15.7	17.8	13.6
14 years 6 months.....	17.3	19.6	14.9
14 years 7 months.....	18.7	21.1	16.3
14 years 8 months.....	20.1	22.7	17.6
14 years 9 months.....	21.5	24.2	18.8
14 years 10 months.....	22.8	25.5	20.1
14 years 11 months.....	23.9	26.6	21.1
15 years.....	25.1	27.9	22.2
15 years 1 month.....	26.4	29.2	23.6
15 years 2 months.....	27.6	30.6	24.5
15 years 3 months.....	28.4	31.5	25.3
15 years 4 months.....	29.2	32.4	26.0
15 years 5 months.....	30.0	33.2	26.7
15 years 6 months.....	30.7	34.1	27.3
15 years 7 months.....	31.2	34.5	27.8
15 years 8 months.....	31.4	34.8	28.1
15 years 9 months.....	31.7	35.0	28.3
15 years 10 months.....	31.7	35.0	28.4
15 years 11 months.....	31.8	35.0	28.6
16 years.....	31.8	35.0	28.6

<sup>1</sup> See Appendix, Table XII, p. 56.

A comparison with the proportion of children in Connecticut 14 and 15 years of age who were employed at the date of the census of 1910 may be made in the following way:

In 1910, 6,121 boys and 4,548 girls, or 10,689 children, 14 and 15 years of age were engaged in gainful occupations. Of this number, 1,468 were reported as newsboys, servants, or engaged in agricultural occupations, for which under the Connecticut law of 1911 employment certificates were not required. Assuming, therefore, that there

<sup>8</sup> See Appendix for method of computation. Adjustment has been made for the error arising from migration and other cases of pseudo-unemployment. Also see pp. 60-65 for general discussion of the margin of error.

were about 9,221 children in occupations for which certificates were required at the time of this study, approximately 24.5 per cent of the total of 37,680 children 14 and 15 years of age, April 15, 1910, were gainfully occupied in industrial pursuits. A comparable percentage can be derived from the figures of this study by taking the average proportion employed between the fourteenth and sixteenth birthdays. This gives approximately 24 per cent (average of 17.3 per cent and 30.7 per cent) gainfully employed in these occupations. Evidently the proportion gainfully occupied of this group was approximately the same as that shown by the census of 1910, since the difference, in view of the roughness of the estimate, can not be considered significant.

In this connection it should be mentioned that the figures indicate that little or no change in the amount of child employment occurred as a result of the changes in the law from that applicable at the date of the census in 1910. These changes introduced the system of certificate and promise of employment for each position for children between 14 and 16 years of age, increased the educational requirements, and in a few occupations raised the minimum age of employment to 16 and 18 years of age.<sup>9</sup>

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<sup>9</sup> Acts of 1911, ch. 119, sec. 2; ch. 123, sec. 1; ch. 123, sec. 2 as amended by acts of 1915, ch. 195; ch. 123, sec. 3.

## INDUSTRIAL HISTORY OF CHILDREN.

### EMPLOYMENT.

#### Industry of first position.

The distribution of the children according to the industry in which they were first employed is shown in Table III. Out of 7,147 children, 5,342, or 74.7 per cent, were first employed in manufacturing and mechanical industries; 1,233, or 17.3 per cent, were employed in trade; 147 in transportation; 67 in personal and domestic service; and 78 in other industries; in 280 cases the industry was not reported. Among the manufacturing and mechanical industries the metal industry ranked first, with 2,068 children employed; textile manufacture second, with 1,498; and the clothing industry third, with 616 children.

This distribution by industries probably corresponds roughly to the opportunities open to children in Connecticut. It would be of interest to show the exact processes at which the children were employed. The actual work done may be approximately of the same character in all the industries considered, that is, it may consist largely in running errands, rendering clerical assistance, or acting as more or less unskilled helpers; but the employment-certificate records do not give details as to the actual work done. Such details would be of especial value as showing whether the occupations were in general merely children's work, or whether they might eventually lead to permanent positions.

TABLE III.—*Industry of first employment, by sex: Number and per cent distribution of boys and girls; by industry of first employment.*

Industry of first employment.	Children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	7,147	100.0	4,000	100.0	3,147	100.0
Manufacturing and mechanical industries.	5,342	74.7	2,838	71.0	2,504	79.6
Metal.....	2,068	28.9	1,404	35.1	664	21.1
Textiles.....	1,498	21.0	663	16.6	835	26.5
Clothing.....	616	8.6	185	4.6	431	13.7
Food products.....	107	1.5	46	1.2	61	1.9
Wood products.....	177	2.5	45	1.1	132	4.2
Leather goods.....	70	1.0	48	1.2	22	0.7
Chemical products.....	62	0.9	24	0.6	38	1.2
Bone products.....	164	2.3	85	2.1	79	2.5
Clay products.....	42	0.6	29	0.7	13	0.4
Rubber goods.....	108	1.5	48	1.2	60	1.9
Electrical goods.....	237	3.3	117	2.9	120	3.8
Printing.....	92	1.3	72	1.8	20	0.6
Other.....	101	1.4	72	1.8	29	0.9
Trade.....	1,233	17.3	711	17.8	522	16.6
Transportation.....	147	2.1	143	3.6	4	0.1
Personal and domestic service.....	67	0.9	39	1.0	28	0.9
Other.....	78	1.1	66	1.7	12	0.4
Not reported.....	280	3.9	203	5.1	77	2.4



TABLE IV.—*Industry of first employment, by age at first employment: Number and per cent distribution of children of specified age at first employment, by industry of first employment certificate.*

Industry of first employment.	Children at first employment aged—											
	14-14½						14½-16					
	Total.		14-14½		14½-14½		14½-15		15-15½		15½-16	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	3,522	100.0	2,476	100.0	1,046	100.0	1,721	100.0	1,341	100.0	563	100.0
Manufacturing and mechanical industries.....	2,671	75.8	1,904	76.9	767	73.3	1,282	74.5	978	73.0	411	73.0
Metal.....	1,029	29.2	709	28.6	320	30.6	509	29.6	356	26.5	174	30.9
Textiles.....	744	21.1	547	22.1	197	18.8	361	21.0	282	21.0	111	19.7
Clothing.....	321	9.1	243	9.8	78	7.5	139	8.1	114	8.5	42	7.5
Food products.....	53	1.5	35	1.4	18	1.7	27	1.6	23	1.7	4	0.7
Wood products.....	94	2.7	72	2.9	22	2.1	31	1.8	38	2.8	14	2.5
Leather goods.....	46	1.3	35	1.4	11	1.1	17	1.0	5	0.4	2	0.4
Chemical products.....	20	0.6	13	0.5	7	0.7	14	0.8	21	1.6	7	1.2
Bone products.....	90	2.6	76	3.1	14	1.3	36	2.1	33	2.5	5	0.9
Clay products.....	22	0.6	14	0.6	8	0.8	7	0.4	8	0.6	5	0.9
Rubber goods.....	45	1.3	27	1.1	18	1.7	32	1.9	19	1.4	12	2.1
Electrical goods.....	128	3.6	94	3.8	34	3.3	50	2.9	42	3.1	17	3.0
Printing.....	43	1.2	24	1.0	19	1.8	24	1.4	17	1.3	8	1.4
Other.....	36	1.0	15	0.6	21	2.0	35	2.0	20	1.5	10	1.8
Trade.....	611	17.3	425	17.2	186	17.8	301	17.5	227	16.9	94	16.7
Transportation.....	76	2.2	55	2.2	21	2.0	32	1.9	27	2.0	12	2.1
Personal and domestic service.....	40	1.1	31	1.3	9	0.9	12	0.7	11	0.8	4	0.7
Other.....	29	0.8	13	0.3	16	1.5	24	1.4	18	1.3	7	1.2
Not reported.....	95	2.7	48	1.9	47	4.5	70	4.1	80	6.0	35	6.2

*Industry of first position, and sex.*—Table III shows that the type of first employment varies considerably with the sex of the child worker. The per cent of boys as well as the actual number found in the metal industries is much larger than that of girls, although the group of girls in these industries numbers 664. More girls than boys, in absolute figures as well as relatively, were employed in textile manufacture and in the clothing industries, the latter including corset manufacture, hat making, etc. Owing to the preponderance of girls in the textile and clothing industries especially, relatively more girls than boys were employed in the group of manufacturing and mechanical industries as a whole. On the other hand, relatively more boys were employed in trade, transportation, and in personal and domestic service; the number employed in the last-mentioned group is small, and probably includes but a small proportion of the children actually at work in personal and domestic service, since employment certificates are not required for housework.

*Industry of first employment, and age.*—The industries chosen by children entering employment at different ages are shown in Table IV. There is evidently very little difference in the choices of the

children or in the opportunities open to them at different ages. The slight differences which appear are probably without special significance.

### Duration of first position.

The length of time the child stays in one position is a subject of considerable interest. To avoid the difficulties of interpretation arising from the varying ages at which the children commenced work and the varying lengths of time between the commencement of work and the sixteenth birthdays, the duration of employment is shown only for children whose work histories lasted at least 21 months, and only for the first positions held by them. The duration of first position is shown in Table V.

It is interesting to note that nearly three-tenths of the children kept this first position longer than 21 months. The girls showed a greater tendency to remain in their first positions than the boys—33 per cent of the former, as compared with only 27 per cent of the latter, stayed with their first employers over a year and nine months.

The table also shows a strong tendency of an early change from the first position, whether due to the child's own fault or occurring because he has found better opportunity for employment. Over one-third of the children left their first positions within three months and over half had left by the ninth month of work. Again the averages are affected by the greater stability of girl workers. Only 12½ per cent of the girls left the first position within the first month, while the per cent of boys is 18. Four-tenths of the boys, as contrasted with three-tenths of the girls, left within three months. And over one-half of the boys had left before the end of the sixth month, while the percentage of girls who had left did not equal one-half until after slightly over nine months of work.

TABLE V.—Number and per cent distribution of children with work histories of 21 to 24 months, according to duration of first position.

Duration of first position.	All children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	2,476	100.0	1,385	100.0	1,091	100.0
Less than 3 months.....	852	34.4	530	38.3	322	29.5
Under 1 month.....	385	15.5	249	18.0	136	12.5
1 month but under 2.....	273	11.0	170	12.3	103	9.4
2 months but under 3.....	194	7.8	111	8.0	83	7.6
3 months but under 6.....	326	13.2	191	13.8	135	12.4
6 months but under 9.....	187	7.6	102	7.4	85	7.8
9 months but under 12.....	136	5.5	74	5.3	62	5.7
12 months but under 15.....	103	4.2	47	3.4	56	5.1
15 months but under 18.....	65	2.6	30	2.2	35	3.2
18 months but under 21.....	44	1.8	22	1.6	22	2.0
21 months and over.....	734	29.6	373	26.9	361	33.1
Not reported.....	29	1.2	16	1.2	13	1.2

*Duration of first position as affected by industry.*—The character of the industry in which the child is employed is likely to have some influence upon the duration of employment. The nature of the work may be such that not all the applicants who are given positions can satisfy the requirements; or perhaps the boys and girls who accept positions in certain industries do not like the work. Table VI shows that the metal, textile, and clothing industries and trade are the chief industries employing children in the group under consideration. According to this table, the textile industry seems to have the greatest success in keeping the children permanently. Forty-six per cent of the children whose first position was in textile industries were still in the same position one year and nine months later. This percentage is to be contrasted with 28 per cent in trade, 23 per cent in the metal industries, and 25 per cent in clothing manufacture. Further evidence showing the same tendency is the fact that only 22 per cent of the children employed in the textile industry on their first positions left within the first three months, as contrasted with 36 per cent in trade, 39 per cent in metal industries, and 39 per cent in clothing manufacture.

TABLE VI.—Number and per cent distribution of children with work histories of 21 to 24 months whose first employment was in specified industry, according to duration of first employment, and sex.

Duration of first employment and sex.	All children.		Children employed in—												All other.		Not reported.	
			Manufacturing and mechanical industries.										Trade.					
			Total.		Metal.		Textile.		Clothing.		All other.							
			Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.						
All children.....	2,476	100.0	1,904	100.0	709	100.0	547	100.0	243	100.0	405	100.0	425	100.0	99	100.0	48	100.0
Less than 3 months.....	852	34.4	634	33.3	274	38.6	118	21.6	94	38.7	148	36.5	153	36.0	55	55.6	10	20.8
Under 1 month.....	385	15.5	266	14.0	124	17.5	41	7.5	40	16.5	61	15.1	84	19.8	28	28.3	7	14.6
1 month but under 2.....	273	11.0	209	11.0	90	12.7	36	6.6	36	14.8	47	11.6	45	10.6	17	17.2	2	4.2
2 months but under 3.....	194	7.8	159	8.4	60	8.5	41	7.5	18	7.4	40	9.9	24	5.6	10	10.1	1	2.1
3 months but under 6.....	326	13.2	256	13.4	106	15.0	56	10.2	28	11.5	66	16.3	55	12.9	9	9.1	6	12.5
6 months but under 9.....	187	7.6	147	7.7	62	8.7	34	6.2	20	8.2	31	7.7	32	7.5	8	8.1	1	2.1
9 months but under 12.....	136	5.5	108	5.7	43	6.1	32	5.9	15	6.2	18	4.4	24	5.6	3	3.0	1	2.1
12 months but under 15.....	103	4.2	78	4.1	24	3.4	25	4.6	11	4.5	18	4.4	20	4.7	5	5.1	1	2.1
15 months but under 18.....	65	2.6	56	2.9	17	2.4	16	2.9	7	2.9	16	4.0	7	1.6	1	1.0	1	2.1
18 months but under 21.....	44	1.8	39	2.1	15	2.1	8	1.5	5	2.1	11	2.7	5	1.2	1	1.0	2	4.2
21 months and over.....	734	29.6	569	29.9	161	22.7	253	46.3	60	24.7	95	23.5	120	28.2	17	17.2	28	58.3
Not reported.....	29	1.2	17	.9	7	1.0	5	.9	3	1.2	2	.5	9	2.1	1	1.0	2	4.2
Boys.....	1,385	100.0	997	100.0	497	100.0	230	100.0	59	100.0	211	100.0	275	100.0	80	100.0	33	100.0
Less than 3 months.....	530	38.3	373	37.4	203	40.8	58	25.2	28	47.5	84	39.8	108	39.3	43	53.8	6	18.2
Under 1 month.....	249	18.0	162	16.2	95	19.1	22	9.6	12	20.3	33	15.6	62	22.5	21	26.3	4	12.1
1 month but under 2.....	170	12.3	125	12.5	69	13.9	16	7.0	11	18.6	29	13.7	31	11.3	13	16.3	1	3.0
2 months but under 3.....	111	8.0	86	8.6	39	7.8	20	8.7	5	8.5	22	10.4	15	5.5	9	11.3	1	3.0
3 months but under 6.....	191	13.8	140	14.0	78	15.7	24	10.4	5	8.5	33	15.6	40	14.5	6	7.5	5	15.2
6 months but under 9.....	102	7.4	79	7.9	42	8.5	14	6.1	8	13.6	15	7.1	15	5.5	8	10.0	1	3.0
9 months but under 12.....	74	5.3	53	5.3	32	6.4	11	4.8	1	1.7	9	4.3	17	6.2	3	3.8	1	3.0
12 months but under 15.....	47	3.4	35	3.5	16	3.2	11	4.8	1	1.7	7	3.3	8	2.9	4	5.0	1	3.0
15 months but under 18.....	30	2.2	24	2.4	11	2.2	5	2.2	1	1.7	7	3.3	4	1.5	1	1.3	1	3.0

18 months but under 21 .....	22	1.6	19	1.9	10	2.0	2	.9	1	1.7	6	2.8	3	1.1	-----	-----	-----	-----
21 months and over .....	373	26.9	265	26.6	101	20.3	103	44.8	11	18.6	50	23.7	75	27.3	14	17.5	19	57.6
Not reported .....	16	1.2	9	.9	4	.8	2	.9	3	5.1	-----	-----	5	1.8	1	1.3	1	3.0
Girls .....	1,091	100.0	907	100.0	212	100.0	317	100.0	184	100.0	194	100.0	150	100.0	19	100.0	15	100.0
Less than 3 months .....	322	29.5	261	28.8	71	33.5	60	18.9	66	35.9	64	33.0	45	30.0	12	63.2	4	26.7
Under 1 month .....	136	12.5	104	11.5	29	13.7	19	6.0	28	15.2	28	14.4	22	14.7	7	36.8	3	20.0
1 month but under 2 .....	103	9.4	84	9.3	21	9.9	20	6.3	25	13.6	18	9.3	14	9.3	4	21.1	1	6.7
2 months but under 3 .....	83	7.6	73	8.0	21	9.9	21	6.6	13	7.1	18	9.3	9	6.0	1	5.3	-----	-----
3 months but under 6 .....	135	12.4	116	12.8	28	13.2	32	10.1	23	12.5	33	17.0	15	10.0	3	15.8	1	6.7
6 months but under 9 .....	85	7.8	68	7.5	20	9.4	20	6.3	12	6.5	16	8.2	17	11.3	-----	-----	-----	-----
9 months but under 12 .....	62	5.7	55	6.1	11	5.2	21	6.6	14	7.6	9	4.6	7	4.7	-----	-----	-----	-----
12 months but under 15 .....	56	5.1	43	4.7	8	3.8	14	4.4	10	5.4	11	5.7	12	8.0	1	5.3	-----	-----
15 months but under 18 .....	35	3.2	32	3.5	6	2.8	11	3.5	6	3.3	9	4.6	3	2.0	-----	-----	-----	-----
18 months but under 21 .....	22	2.0	20	2.2	5	2.4	6	1.9	4	2.2	5	2.6	2	1.3	-----	-----	-----	-----
21 months and over .....	361	33.1	304	33.5	60	28.3	150	47.3	49	26.6	45	23.2	45	30.0	3	15.8	9	60.0
Not reported .....	13	1.2	8	.9	3	1.4	3	.9	-----	-----	2	1.0	4	2.7	-----	-----	1	6.7

**Total number of positions held.**

The total number of positions held by the 7,147 children was 14,826. Of these positions, 8,867 were held by 4,000 boys, and 5,959 by 3,147 girls. The boys had relatively more positions than the girls—on the average 2.2 each for the boys, as compared with 1.9 each for the girls—but it must be remembered that in general the boys commenced work at slightly earlier ages and therefore had somewhat longer periods of employment history than the girls.

**Number of positions per child.**

The number of positions held by any one child ranged from 1 to 15. One child had held 15 positions; and two, 13 positions each. In all, 21 children had each held 10 or more positions; 965 had each held 4 or more positions. Since none of the records covers a period of over two years, it is obvious that many of the children shift about considerably. In some cases this tendency to shift may indicate mental or physical defects, but in others it may indicate superior ability or energy, either or both of which will cause the child to advance rapidly. Since the records give no information as to wages or reason for leaving positions, it is impossible to tell how much of the shifting is desirable and how much undesirable.

TABLE VII.—*Boys and girls holding specified number of positions.*

Number of positions.	Children.	Boys.	Girls.
All.....	7,147	4,000	3,147
1.....	3,367	1,759	1,608
2.....	1,863	1,026	837
3.....	952	569	383
4.....	474	305	169
5.....	247	156	91
6.....	114	80	34
7.....	58	46	12
8.....	34	25	9
9.....	17	14	3
10.....	12	11	1
11.....	2	2	.....
12.....	4	4	.....
13.....	2	2	.....
14.....	.....	.....	.....
15.....	1	1	.....

Light can be thrown on the relative number of positions held by considering only the children who worked the longer periods. Table VIII gives the number of children who worked for from 21 to 24 months before their sixteenth birthdays. Of this group of children 33.8 per cent had only one position, 25.4 per cent had two positions, 17.7 per cent had three positions, and 23.1 per cent, or nearly one-fourth, had four or more positions.

TABLE VIII.—Number and per cent distribution of boys and girls holding specified number of positions: Children with work histories from 21 to 24 months.

Number of positions.	Children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All.....	2,476	100.0	1,385	100.0	1,091	100.0
1.....	836	33.8	432	31.2	404	37.0
2.....	629	25.4	338	24.4	291	26.7
3.....	439	17.7	242	17.5	197	18.1
4.....	249	10.1	154	11.1	95	8.7
5.....	160	6.5	99	7.1	61	5.6
6.....	69	2.8	45	3.2	24	2.2
7.....	39	1.6	30	2.2	9	.8
8.....	21	.8	14	1.0	7	.6
9.....	15	.6	13	.9	2	.2
10.....	12	.5	11	.8	1	.1
11.....						
12.....	4	.2	4	.3		
13.....	2	.1	2	.1		
14.....						
15.....	1	( <sup>1</sup> )	1	.1		
16.....						

<sup>1</sup> Less than one-tenth of 1 per cent.

### Steadiness of work.

In Table IX an attempt has been made to classify children on the basis of their steadiness or unsteadiness at work. For this purpose only the children who had work histories of from 21 to 24 months were taken. This procedure eliminates the difficulty which would arise in attempting to classify children who had worked only short periods, and, further, it insures that the group of unsteady workers shall include only children who repeatedly changed positions. Children who had but one position during their entire work histories of 21 to 24 months may be classed as steady workers; those who held eight or more positions during this period are designated as "unsteady"; while those who had either two or three positions and the group holding from four to seven positions are intermediate classes. This classification is based merely upon what happened to the children. Obviously, the reason for permanence in the first position or for changes of position may lie in part in the industrial situation and in the personal preferences of the children, as well as in any characteristic steadiness or unsteadiness at work. Indeed, it is only in the groups where the shifts of position are repeated that there is reason to think personal characteristics of the children, such as restlessness or inability to perform work satisfactorily, are the underlying reasons for the shifting from job to job.

The first group represents the extent to which children entering the industrial world secured suitable positions, such as were satisfactory to them, and in which they performed acceptable work. It includes children who had really good positions and did not care to change, as well as those who did not have such good jobs but could secure nothing better. It includes good workers who were in as

good positions as they could command as well as those who remained in the first position taken because they had no ambition to secure anything better. The group does not include the restless or the unsatisfactory workers, who would doubtless leave or be dismissed from their first positions before the end of 21 months.

Slightly over one-third of the children classified were in the group of steady workers. The higher percentage of the girls (37 per cent) than of the boys (31 per cent) who were in this group may be explained in part by the lack of ambition of the girls, owing to the fact that presumably they do not expect to remain in the industrial world, in part by the difference in general mental attitude characterizing the sexes at this period, and perhaps in part by the smaller variety of occupations open to girls than to boys.

In Class 2, 1,068 or over 43 per cent of the children were found. This group represents perhaps the more usual experience. Children enter the industrial world with no experience and often no assistance in choosing a job. Many of them get into work which they do not like or which is not suited to them. Some take positions which are only temporary. Some are alert and ambitious and soon better themselves either in wages or in character of work. The percentage of girls who were in this group, as well as in the first group, was higher than that of boys, though the difference between the sexes is much less marked in the second group.

Class 3, those who held from four to seven positions, included 517 or 20.9 per cent of the children. The percentage in this group was greater for the boys than for the girls in contrast to the preceding groups, 23.7 per cent for the boys as compared with 17.3 per cent of the girls having held from four to seven positions. The group probably includes some children who have not been so fortunate as those of class 2 in the positions secured, as well as some who have been dismissed by their employers on account of unsatisfactory work or for other reasons. The greater unsteadiness of the boy workers appears again in this group.

Fifty-five (2.2 per cent) of the children were found in the group classed as "unsteady," that is, children who held eight or more positions in the space of 21 to 24 months. The boys had a larger percentage of unsteady workers than the girls, 3.2 per cent as compared with 0.9 per cent. This group is largely made up of restless and unsatisfactory workers, including some who are doubtless mentally or physically below par. Most of the children in this class undoubtedly had some characteristic incapacity for steady work which showed itself in a constant shifting of employment.



TABLE IX.—*Number and per cent distribution of boys and girls by average duration of position: Children with work histories 21 to 24 months.*

Average duration of position.	Children.		Boys.		Girls.	
	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.
All classes.....	2,476	100.0	1,385	100.0	1,091	100.0
1 position only: 1 year or over.....	836	33.8	432	31.2	404	37.0
2 or 3 positions: 6 months but less than 1 year.....	1,068	43.1	580	41.9	488	44.7
4 to 7 positions: 3 months but less than 6.....	517	20.9	328	23.7	189	17.3
8 or more positions: Less than 3 months.....	55	2.2	45	3.2	10	.9

Further evidence that boys shift relatively more than girls is obtained by comparing for all the children employed the total number of positions terminated with the total number of months when they were actually at work. The rate of termination of positions as thus found can be used to compare the relative steadiness of work in the two sexes.<sup>10</sup>

The total number of positions terminated was 9,057—5,718 held by the boys and 3,339 held by the girls. The total number of months of work time, after all periods of unemployment are subtracted, was 99,120—54,630 months for the boys and 44,490 for the girls. In the entire group a position was terminated for every 10.9 months of work. For the boys a position was terminated on the average for every 9.6 months of actual work, while for the girls a position was terminated on the average for every 13.3 months of work. The boys show a decidedly greater tendency to shift than the girls.

### Interval between positions.

The interval between positions was defined as the period between the date of the termination notice of one position and the date of the beginning notice of the next. The records showed 7,679 intervals coming clearly under this definition. There were also on the records a number of terminated positions not followed by any other position before the sixteenth birthday. It is estimated that 595 of these were cases of true unemployment lasting until the record ceased with the sixteenth birthday.<sup>11</sup> This gives a total of 8,274 intervals.

In the provisions for the enforcement of the certificate requirements a certain leeway is allowed. A child is permitted to work one week on the parent's copy of his first certificate. Within a week, however, a new certificate must be secured for the new position. The parent's copy is clearly marked "Not good for employer longer than one week."

<sup>10</sup> This figure can not be used as an average duration of positions but is probably an understatement of it, since many even of the first positions held by the children had not terminated at the end of the work histories.

<sup>11</sup> For the reasons why an estimate is necessary, and for the basis of the estimate, see p. 27, and Appendix, pp. 41-53.

Thus the record may show an interval of one week or less between positions when perhaps there has been really no break at all in the continuity of the child's employment, or he has secured his second position within a few days after leaving the first. Intervals of less than one week, therefore, are not counted as cases of unemployment. There were 2,948 of these intervals. In addition, 148 cases were found in which a termination notice between two beginning notices was missing from the record and consequently the interval between positions was not reported.<sup>12</sup> These were classified, in lieu of satisfactory evidence to the contrary, as changes in positions without intervening unemployment—a procedure which seems the more justified since on the one hand in many if not in most of these cases the interval between positions was less than one week and on the other it gives a more conservative statement of the amount of unemployment. In these 3,096 cases there was practically no unemployment; the children either went from one position to another directly, or else were able to secure a second position very soon after leaving the first.

To find the proportion of cases where the termination of a position is followed by the acceptance of another position within a week's time, the number of cases in which there was no unemployment between positions should be compared with the total number of intervals. Of the total of 8,274 cases, in some 3,096, or 37.4 per cent, the children found other positions with intervals of less than a week. The percentages for boys and for girls were almost exactly the same, 37.2 and 37.9, respectively.

#### UNEMPLOYMENT.

Unemployment as used in the following discussion is defined as a period of one week or over between the date of a termination notice and that of the next beginning notice or the sixteenth birthday; and its duration is measured by the period between termination and beginning notices.

Of the total of 7,147 children, over half, 3,639, had no periods of unemployment. Of the remaining children, 2,035 had only one period, 895 had two, 341 had three, and 237 had four or more periods each. But these proportions are not of especial significance since many of the work histories were relatively short.

For the longer and therefore more significant work histories the proportions are given in Table X. Of the 2,476 children who went to work between the ages of 14 and 14½ years, 1,021, or 41.2 per cent, had not had any period of unemployment up to the time their work records ended. Relatively there were fewer boys in this group than girls; or, stating it in other words, a larger proportion of the boys

<sup>12</sup> No cases were found of the omission of a beginning notice between two termination notices.

than of the girls was unemployed at least once. Moreover, 121 of the boys, or 8.7 per cent, had four or more periods of unemployment each, as contrasted with 37, or 3.4 per cent, of the girls.

TABLE X.—Boys and girls with work histories of 21 to 24 months, having specified number of periods of unemployment.

Number of periods of unemployment.	Children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	2,476	100.0	1,385	100.0	1,091	100.0
None.....	1,021	41.2	519	37.5	502	46.0
1.....	692	27.9	381	27.5	311	28.5
2.....	422	17.0	250	18.1	172	15.8
3.....	183	7.4	114	8.2	69	6.3
4.....	90	3.7	64	4.6	26	2.4
5.....	34	1.4	26	1.9	8	.7
6.....	19	.8	18	1.3	1	.1
7.....	10	.4	9	.6	1	.1
8.....	1	.1	1	.1		
9.....	3	.1	2	.1	1	.1
10.....						
11.....						
12.....	1		1	.1		

### Pseudo-unemployment.

A difficulty with the interpretations of the figures for unemployment as defined above is that the cases of apparent unemployment which were still unterminated at the sixteenth birthday may or may not have been true unemployment. During the course of the investigation, it was found that on a few records notations had been made, such as "Returned to school," "Sent to reform school." But such entries were more or less accidental and confined to the few cases in which the issuing officer knew and recorded the report of a school-attendance officer on the case. For only a small proportion of the children who terminated their employment for these or similar reasons would such entries have been made. Most of the children who died, who left the State, or who went to work in some occupation that did not require a certificate, as well as most of those who returned to school, would appear on the records merely as having terminated employment and as "not employed" at their sixteenth birthdays. Since it was impossible to determine which children of those whose records indicated they were not employed at 16 were really unemployed and which had left the State, etc., no specific cases could be excluded; but the number of cases of pseudo-unemployment has been estimated by a method described in the appendix; and the figures given in the following pages for unemployment rates have been corrected to eliminate the error arising from the inclusion of these cases of pseudo-unemployment.<sup>13</sup>

<sup>13</sup> See Appendix, pp. 41-53. The uncorrected figures are also given in the Appendix.

The complete analysis of pseudo-unemployment referred to indicates that cases of pseudo-unemployment are somewhat more likely to occur toward the sixteenth birthday, and that they form an increasing percentage of the cases of apparent unemployment that occur as the children approach 16. A plausible explanation of this lies in the probability that there is greater difficulty in enforcing the certificate requirements as the children grow older and can more easily persuade employers that they have already passed 16 years of age. They have an advantage in doing this, since the restrictions on hours are removed for workers over 16 and they can therefore secure higher wages.

There are also a few cases of unemployment even among those which were terminated before the sixteenth birthday which are not true unemployment. But while it is possible to estimate the number of cases of pseudo-unemployment which resulted in the children's appearing as not employed at 16, there is no method of estimating the number of cases of unemployment terminated before the sixteenth birthday which were due to the same causes. In a few cases, for example, a child who had been at work for a short time might discover that he did not like work as well as school; if he returned to school but quit and went to work again before he was 16 the interval between the termination notice of one position and the beginning notice of the next would appear on the record in exactly the same form as a period of true unemployment of the same length. The number of such cases, however, is probably small, since children who worked only during vacations were excluded and children who lose school time fall behind in their grades and are not apt to return to school. The same effect on the record would occur if a child left the State for a time and then returned and took out a new certificate before his sixteenth birthday. No correction can be made for these cases. It is realized, therefore, that the definition of unemployment as given above results in the inclusion of a few periods during which children, though not at work according to the records, were not in the ordinary sense unemployed.

#### **Monthly rate of unemployment.**

The rate of unemployment, or the number of new cases of unemployment per 100 children at work at the beginning of the month, is shown in the following table for the different months of work history. The rates are found by dividing the number of cases of unemployment which occurred in a month by the number of children at work at the beginning of the month and whose work histories lasted through the month.

The monthly rate of becoming unemployed decreases from 9.1 per cent in the first month of work history to 5.9 in the fourth, 5.4 in the seventh, and 4.7 in the thirteenth—i.e., after 3, 6, and 12 months

of work respectively—and finally to 2.3 in the twenty-third month, or after 22 months of work history.

TABLE XI.—*Monthly rate of unemployment, by sex: Number of new cases of unemployment in specified month of work history per 100 children at work at beginning of month.*

Month of work history.	Cases of unemployment per 100 at work at beginning of month.		
	Children.	Boys.	Girls.
First.....	9.1	10.1	7.9
Second.....	7.7	8.8	6.2
Third.....	7.5	8.2	6.7
Fourth.....	5.9	6.4	5.2
Fifth.....	5.2	6.3	3.9
Sixth.....	5.0	5.9	4.0
Seventh.....	5.4	6.3	4.4
Eighth.....	5.3	6.3	4.2
Ninth.....	5.3	6.0	4.5
Tenth.....	4.8	5.8	3.6
Eleventh.....	4.6	5.4	3.6
Twelfth.....	4.2	4.7	3.5
Thirteenth.....	4.7	5.5	3.8
Fourteenth.....	4.7	5.3	3.9
Fifteenth.....	4.2	5.1	3.1
Sixteenth.....	4.2	4.8	3.5
Seventeenth.....	3.6	4.2	2.9
Eighteenth.....	3.3	3.8	2.8
Nineteenth.....	3.8	3.8	3.8
Twentieth.....	3.4	3.9	2.9
Twenty-first.....	2.9	3.7	2.0
Twenty-second.....	2.4	3.1	1.6
Twenty-third.....	2.3	2.4	2.0

The trend of these percentages is what one might expect from a priori considerations. It would be expected that children just beginning work would in many instances not find immediately positions which suited them or to which they were suited. With experience they would not only tend to gravitate to suitable positions, but would become more reconciled to the discipline to which they find themselves subjected in industry as well as in school. The longer they remain in industry the more they become accustomed to regular routine, and usually they gradually settle down to steady work. It should be remembered in this connection that these figures do not represent all changes of positions, but exclude all those in which a change was made with an interval of less than one week, and hence practically all cases in which children changed because of definite offers of better positions. They therefore include only cases in which the child either quit voluntarily without knowing what he was going to do next or was discharged because of inefficiency or because he was no longer needed—many positions are temporary or seasonal. The more experience children have the less likely they are to leave their positions of their own volition before securing new ones. From the employer's point of view, on the other hand, chil-

dren probably become more and more satisfactory in their work and more and more useful. Both these causes of unemployment, therefore—voluntary leaving of positions by children before they have secured others and dismissals on account of unsatisfactory work—tend to decrease as the length of work history increases.

*Monthly rate of unemployment, and sex.*—The monthly rate of becoming unemployed is higher at all periods of work history for boys than for girls. In the first month of work, 10.1 per cent of the boys became unemployed as contrasted with 7.9 per cent of the girls. After three months of experience, the rates have fallen, respectively, to 6.4 and 5.2, but the boys still show a greater tendency to be unemployed than the girls. In the thirteenth month, the rates are 5.5 and 3.8; in the twenty-third, they are 2.4 and 2, respectively.

This showing is similar to that already brought out, that the boys have a larger proportion of unsteady workers than the girls. These figures also show that the greater shifting in employment of the boys is due both to greater readiness to change positions and to more cases of unemployment.

The difference in the mental attitude to their work and in the psychology of the two sexes may account for this difference in rate. It may also be suggested that the boys' occupations are frequently quite different from the occupations of men, and that their work often does not lead to anything better. Again, some positions may involve too heavy work, or in some the employers may expect too much of them. All these would be causes of discontent and restlessness. The boys have, too, a much greater variety of work open to them. The girls' occupations, on the other hand, do not differ so much from those of older girls, and they would be, therefore, less likely to be restless and dissatisfied with their work.

*Monthly rate of unemployment, and age at commencing work.*—An analysis by age at going to work shows that the monthly rate of unemployment is somewhat higher in corresponding months of work history for children who began work when 14 but less than 15 years of age than for children who began work when 15 but less than 16 years of age. The number of cases of unemployment per 100 children employed at the beginning of the month, originating in each month of work history up to the tenth, is shown in Table XII. Comparing these rates month by month, 9.4 per cent of the children who started work between the fourteenth and fifteenth birthdays became unemployed within a month after they had commenced work as contrasted with 8.3 per cent of the children who began work between the fifteenth and sixteenth birthdays. In the tenth month of work history the percentages were 5 for the younger group as contrasted with 3.1 for the group commencing work at the later age. The difference is due probably in part to the fact that the children who

began work at the later age are somewhat more mature and are therefore less likely to change positions before securing new ones and, at the same time, are better able to satisfy their employers.

TABLE XII.—*Monthly rate of unemployment, by age at going to work: Number of new cases of unemployment in specified month of work history per 100 children at work at beginning of month, separately for children aged 14 but under 15, and children aged 15 but under 16 at first commencing work.*

Month of work history.	Cases of unemployment per 100 at work at beginning of month.		Month of work history.	Cases of unemployment per 100 at work at beginning of month.	
	Children beginning work aged 14 but under 15.	Children beginning work aged 15 but under 16.		Children beginning work aged 14 but under 15.	Children beginning work aged 15 but under 16.
First.....	9.4	8.3	Sixth.....	5.5	3.2
Second.....	8.1	6.4	Seventh.....	5.7	4.0
Third.....	8.0	6.4	Eighth.....	5.7	3.7
Fourth.....	5.9	5.6	Ninth.....	5.5	4.1
Fifth.....	5.5	4.2	Tenth.....	5.0	3.1

A comparison of the difference between the rates for the two age groups and the rates for the different periods of work history shows clearly that length of industrial experience is a factor as well as age in the rate of unemployment. In both age groups the rate of unemployment decreases rapidly as the length of work history, that is, as the children's experience, increases. In the early months of work history, for all children under 16, industrial experience appears to be a more important factor than age at beginning work, since the monthly rate of unemployment shows a much greater variation with the different lengths of work history than with the different ages.

It scarcely needs to be emphasized that the initial monthly rate of becoming unemployed of 9.1 per 100 children is very high. A better idea of the amount of unemployment which this represents may be gained by expressing it in terms of the percentage of children constantly unemployed. If, in a group of children, 9.1 per cent of those at work became unemployed in each month of work history, the number of children unemployed would gradually increase until the number of cases of unemployment ending in a month equaled the number of new cases that began. According to the duration of periods of unemployment found for the group studied, a rate of 9.1 per cent would mean, after the initial period of an increasing proportion of children unemployed, a constant percentage of unemployment of 19, or nearly one-fifth of the children constantly unemployed. Similarly the rate of unemployment of 2.3 prevailing just before the sixteenth birthday would mean a constant percentage unemployed of approximately 5.6, or about one-twentieth of the children.<sup>14</sup>

<sup>14</sup> See Appendix, pp. 56-57.

**Duration of unemployment.**

The duration of unemployment is shown in Table XIII. A full explanation of the method of computation is given in the appendix. It is found that 44.3 per cent of the periods of unemployment last less than a month, an additional 19.1 per cent less than two months, and an additional 9 per cent less than three months, making a total of 72.4 per cent of all periods lasting less than three months. The approximate average duration of unemployment is found to be slightly over two months and a half. The median duration falls between one and two months.

*Duration of unemployment, and sex.*—An analysis of the duration of periods of unemployment by sex shows that the average period of unemployment is very slightly shorter for boys than for girls. Forty-five per cent of the periods of unemployment for boys were ended within the first month as compared with 43 per cent for girls. The average duration of unemployment for boys was 2 months and 18 days and for girls 2 months and 21 days. These differences are not, however, of particular significance. They might be due to a greater tendency of girls to stay at home and help with the household or to the fact that boys have a greater variety of possible employments.

TABLE XIII.—Duration of unemployment, by sex.

Duration of unemployment.	Per cent distribution of cases of unemployment.		
	All children.	Boys.	Girls.
All durations.....	100.0	100.0	100.0
Less than 1 month.....	44.3	45.0	43.1
1 month but less than 2.....	19.1	18.9	19.4
2 months but less than 3.....	9.0	9.1	9.0
3 months but less than 4.....	6.3	6.3	6.5
4 months but less than 5.....	4.2	4.3	4.1
5 months but less than 6.....	3.9	3.5	4.3
6 months but less than 7.....	2.6	2.6	2.6
7 months but less than 8.....	2.3	2.2	2.3
8 months but less than 9.....	1.4	1.5	1.3
9 months but less than 10.....	1.5	1.4	1.6
10 months but less than 11.....	1.8	1.8	1.7
11 months but less than 12.....	.8	.6	1.3
12 months but less than 13.....	1.1	.9	1.4
13 months but less than 14.....	.3	.3	.1
14 months but less than 15.....	.3	.5	.2
15 months but less than 16.....	.1	.1	.2
16 months but less than 17.....	.5	.5	.6
17 months but less than 18.....	.2	.2	.3
18 months but less than 19.....	.1	.2	.....
19 months but less than 20.....	.....	.....	.....
20 months but less than 21.....	.....	.....	.....
21 months but less than 22.....	.....	.....	.....

*Duration of unemployment in different parts of work history.*—The relative duration of unemployment in the earlier and later parts of work history can be contrasted in cases of children who commenced



work between the fourteenth and fifteenth birthdays. Cases of unemployment of children in the group considered which began after passing the fifteenth birthday could be followed only until the sixteenth birthday, when the record ceases. To make the comparison, therefore, with the cases of unemployment which commenced prior to the fifteenth birthday, the relative distributions of the cases which terminated within 10 months are shown in Table XIV. Since causes tending to lengthen the duration of unemployment would tend to increase the percentages terminated with three, four, etc., months' duration as compared with those terminated in one or two months, the close correspondence of the percentages indicates that there is no appreciable difference in the duration of unemployment in the earlier and later parts of work history among these children.

TABLE XIV.—*Relative duration of unemployment of children aged 14 but under 15 at first employment, in early and late parts of work history.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months among children aged 14 but under 15 at first employment.	
	Unemployment commenced in first 10 months of work history.	Unemployment commenced in thirteenth to twenty-second months of work history.
All durations less than 10 months.....	100.0	100.0
Less than 1 month.....	47.8	46.7
1 month but less than 2.....	20.4	19.9
2 months but less than 3.....	9.4	11.0
3 months but less than 4.....	6.6	6.9
4 months but less than 5.....	4.5	3.4
5 months but less than 6.....	3.8	4.9
6 months but less than 7.....	2.6	3.0
7 months but less than 8.....	2.3	.4
8 months but less than 9.....	1.3	3.7
9 months but less than 10.....	1.4	.....

*Duration of unemployment, and age at commencing work.*—The average duration of unemployment for children who commenced work between the fourteenth and fifteenth birthdays can be compared with the average for those who commenced work between the fifteenth and sixteenth birthdays. Making the comparison again for the periods of less than 10 months' duration, the percentages in Table XV are found. The comparison indicates that the periods of unemployment are relatively somewhat shorter for the children who began work under 15 years of age.

A partial explanation may be that in a somewhat larger proportion of cases unemployment among the younger children is due to mere

restlessness; if in these cases the unemployment was of comparatively short duration it might tend to increase the proportion of cases which terminated within one or two months. A second explanation may lie in the fact that children who begin work at the age of 15 but less than 16 may include a larger number who would have gone to work at the age of 14 but for inability to fulfill the educational requirements for employment certificates, which in Connecticut require the completion of the seventh grade or the passing of an examination to show their educational qualifications. If the children who commenced work at later ages include a larger proportion of backward children, the periods of unemployment might include a larger proportion of cases where the incapacity of the child would make it difficult for him to secure another position.

TABLE XV.—*Relative duration of unemployment in first 10 months of work history, children aged 14 but under 15, and children aged 15 but under 16 at first employment.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months	
	Children aged 14 but under 15 at first employment.	Children aged 15 but under 16 at first employment.
All durations less than 10 months.....	100.0	100.0
Less than 1 month.....	47.8	40.5
1 month but less than 2.....	20.4	21.3
2 months but less than 3.....	9.4	10.4
3 months but less than 4.....	6.6	8.3
4 months but less than 5.....	4.5	6.4
5 months but less than 6.....	3.8	5.2
6 months but less than 7.....	2.6	4.4
7 months but less than 8.....	2.3	3.4
8 months but less than 9.....	1.3	.....
9 months but less than 10.....	1.4	.....

### Percentage of work histories spent in unemployment.

It is possible to estimate the percentage of the total work histories of these children which was spent in unemployment. The total number of months lived by the children after their first employment and before their sixteenth birthdays was 117,804; 9,606 months were spent in unemployment which ended before the sixteenth birthday. To this number should be added the number of months of true unemployment which had not terminated at the sixteenth birthday. This is estimated as 2,359,<sup>15</sup> which, added to the figure just given, makes a total of 11,965 months. This means that 10.2 per cent of the total work histories of these children was spent in unemployment.

<sup>15</sup> Derived from Appendix, Table VII, p. 49.

### Significance of unemployment among children.

The significance of unemployment among children between 14 and 16 years of age is quite different from the significance of unemployment among adult workers, both in its attendant evils and its causes. Probably with children, as with adults, many cases of unemployment are due to causes over which the workers have no control. There are also cases in both groups in which the personal characteristics of the individual bring about his discharge. But the main significance of the figures presented on the unemployment of children lies in what they show of the gradual adjustment of child workers to industrial life; the rate of new cases of unemployment gradually decreases month by month, as the children become more used to the requirements and discipline of industry. Unemployment among heads of families means, for the most part, cessation of the family income; unemployment among children does not usually have such an implication. The amounts received by children are usually not of vital importance in meeting the needs of the family.

The evils attending long-continued unemployment among children lie in the greater danger they run of establishing bad habits, and in the utter waste of time which should be used to increase in some way the child's preparation for adult life. Children not at work and not in school are neither earning anything to justify their withdrawal from school, nor are they getting any training either from school or from industry. They may be half-heartedly searching for work, or they may be merely idle, and acquiring a distaste for work as well as school. Childhood is regarded by the State as a period of training; periods of unemployment, when the child is neither at work nor at school, represent so much of this training time wasted.

According to the Connecticut law a child between 14 and 16 years of age is required to attend school if not actually at work on an employment certificate.<sup>16</sup> No adequate provision, however, is made by the school authorities—and the situation is similar in practically every State—for taking care of such cases. From the point of view of the educational authorities it is an administrative problem of considerable difficulty to determine what time should be allowed a child to hunt for a job, and how long unemployment may last before the child is required to report at school. Furthermore, it is difficult to keep track of these unemployed children and troublesome to have them in the regular classes in school. From the viewpoint of the best interests of the children, such education to be profitable should be especially adapted to their needs. But special classes for unem-

<sup>16</sup> General Statutes, revision 1902, sec. 2116; Acts of 1903, ch. 29, as amended by Acts of 1905, ch. 36. Children of these ages lawfully employed at home and those whose parents are unable to provide suitable clothing, or whose physical or mental condition unfits them for school attendance, are, however, exempted.

ployed children are very difficult to furnish in an ordinary school system. Only a continuation school which the child is obliged to attend a certain number of hours a week when employed can meet his needs for educational facilities when unemployed. With such a system the problems both of administrative control and of educational training are greatly simplified, since the child attends the same school when unemployed or when employed.

## SUMMARY AND CONCLUSIONS.

Employment certificates are issued in Connecticut to children between the ages of 14 and 16 at work in industrial occupations. The group whose fourteenth birthdays occurred between September 1, 1911, and September 1, 1912, was followed in the employment-certificate records from the fourteenth to the sixteenth birthdays. Seven thousand one hundred and forty-seven children out of an estimated population of 20,010 of this age were granted employment certificates. The proportion employed increased from 7.3 per cent in the month following the fourteenth birthday to 31.8 per cent on the sixteenth birthday. Nearly half the children who became employed between the ages of 14 and 16 were at work before 14½ years of age and half the remainder were at work before passing the fifteenth birthday. The percentage of boys employed before the sixteenth birthday was somewhat higher than that of girls, 35 per cent of the boys as contrasted with 28.6 per cent of the girls. On an average, for the two years of age considered, about 24 per cent were gainfully employed in industrial occupations.

Of the 7,147 children, 5,342, or 74.7 per cent, began work in manufacturing and mechanical industries; 28.9 per cent began work in metal industries, 21 per cent in textile industries, and 8.6 per cent in the manufacture of clothing. The first employment of 1,233, or 17.3 per cent, of the children was in trade; the first employment in the remaining cases was in various other industries.

Nearly 30 per cent of the children who commenced work between 14 years of age and 14 years and 3 months remained in the first position for more than a year and nine months, or practically until they were 16 years of age. On the other hand, over one-third left the position of first employment before the end of three months of work, and nearly one-sixth left within the first month. A somewhat smaller proportion of boys remained in their first position for a year and nine months than of girls, and a larger proportion of boys than of girls left the first position within three months. The children employed in the textile industries showed the longest periods of first employment and the lowest percentages of changes in the early months.

Measured by the number of positions in relation to the length of work history, the boys showed a somewhat larger proportion of unsteady workers than the girls, and a somewhat greater tendency to shift from one position to another. Children quitting work began new jobs immediately or in less than a week in approximately 37 per cent of the cases.

In the remaining cases a period of unemployment intervened. The monthly rate of unemployment, or the number of new cases of unemployment in the month of work history per 100 children employed at the beginning of the month, decreased from 9.1 in the first month to 2.3 in the twenty-third month. The boys showed a somewhat higher rate of unemployment than the girls, 10.1 as contrasted with 7.9 in the first month, 5.9 as compared with 4 in the sixth, and 2.4 as compared with 2 in the twenty-third month.

The average duration of cases of unemployment, defined as lasting one week or more, was approximately two months and a half, 44.3 per cent of all cases terminated within a month, and an additional 19.1 per cent before the end of the second month, with percentages rapidly decreasing after the second month.

Although unemployment among children is not so serious a problem from the point of view of family income as unemployment of the breadwinner, it has serious aspects in relation to the enforcement of the compulsory school law, and, what is of more importance, in regard to the formation of children's industrial habits.

The amount of information available on the records obviously limits the scope of any study based upon them. In Connecticut other items might be added without unduly burdening the certificate, notably the grade completed and the type of work or the occupation in which the child is to be employed. The grade completed is entered on the information card, but these cards are kept by the agents and are not filed in the office of the State board of education as the certificates are. If the child has a promise of employment, the employer must know the general character of the work he is to do, and could easily state this on the promise. This information would be especially valuable, if not essential, in case physical examinations for particular occupations were required; to determine that the work the child is to do will not be detrimental to his health, the examining physician must have some information in regard to the proposed occupation.

Other items which can not easily be placed on the certificate form itself would be of great interest for the purpose of a closer study of the conditions of child labor. The reason for leaving school and for leaving each position, the wages promised and received, the hours of work, time of work, exact duties and other points—all such items would afford much valuable material for study. These items are frequently placed on a separate information card; in some States information in regard to all the different positions held by a child is placed on a single card. If these cards, or copies of them, could be filed in some central place the material would be made easily accessible.

From the point of view of a statistical study of child labor based on certificate records, the most important single feature of administrative organization is the centralizing of records in a single office. Without this centralization such a study as this would have been impracticable if not impossible. This feature of the Connecticut organization makes possible the utilization of valuable record material. It would be a great gain if the data being collected in other States, now in many cases recorded and filed in many local offices, could be brought together in a central office which would keep and tabulate the information secured from the records for the entire State.





## APPENDIX.

### METHOD OF PROCEDURE.

Since the use of the material available for this report presents several complicated problems, an explanation of the procedure and method of computation is given in the appendix.

*Duration of unemployment.*—The first of these problems concerns the duration of unemployment. The method may be stated more clearly by considering first the procedure applicable to a group of cases of unemployment, all of which could be followed until they ended. Suppose, for example, of 1,000 cases of unemployment, 443 terminate in the first month, 191 in the second, 90 in the third, 63 in the fourth, 42 in the fifth, and so on until all have terminated before the nineteenth month; then the series represents a percentage distribution of the cases by duration of unemployment.

In the material available for this study, however, it is not possible to follow all cases of unemployment until they terminate. After the sixteenth birthday the record ceases and the exact duration of cases unterminated at that time can not be ascertained. But without knowing how long such cases lasted, the percentages terminated with the different durations can be ascertained by dividing the inquiry into a series of partial inquiries. In the illustration given above it would be possible to state the percentage of cases of unemployment that terminated in the first month without knowing the percentage which terminated in any other month. The first partial inquiry, then, is into the proportion of cases which end within a month. This is found by following the records for one month after each case of unemployment and taking the percentage of cases of unemployment which terminated within that month. In case the period of unemployment commenced within less than a month of the sixteenth birthday, it has to be omitted, since it can not in all cases be followed to the end of the month to determine whether or not the period of unemployment terminated within the month.<sup>1</sup> The second inquiry is into the percentage of cases which end with a duration of one month but less than two. This is found by following for two months all cases of unemployment which began two months or more before the sixteenth birthday, and taking the

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<sup>1</sup> In practice, owing to the fact that in tabulation time was measured from the beginning rather than from the end of the work history, periods of unemployment in each work history which commenced in the part of a month immediately preceding the sixteenth birthday, and also in the month immediately preceding this fractional month, were omitted from consideration. A similar procedure was followed in each of the other partial inquiries.

proportion of cases which terminated with a duration of one but less than two months. The percentage for each possible duration is calculated in a similar way, by taking the percentage of the cases of unemployment that could be followed for the length of time required for the case to terminate with the given duration which actually terminated with this duration.

The percentages thus calculated from cases actually terminated before the sixteenth birthday, and the numbers on which they are based, are shown in Table I.

TABLE I.—Percentage of cases of unemployment terminated with specified duration.

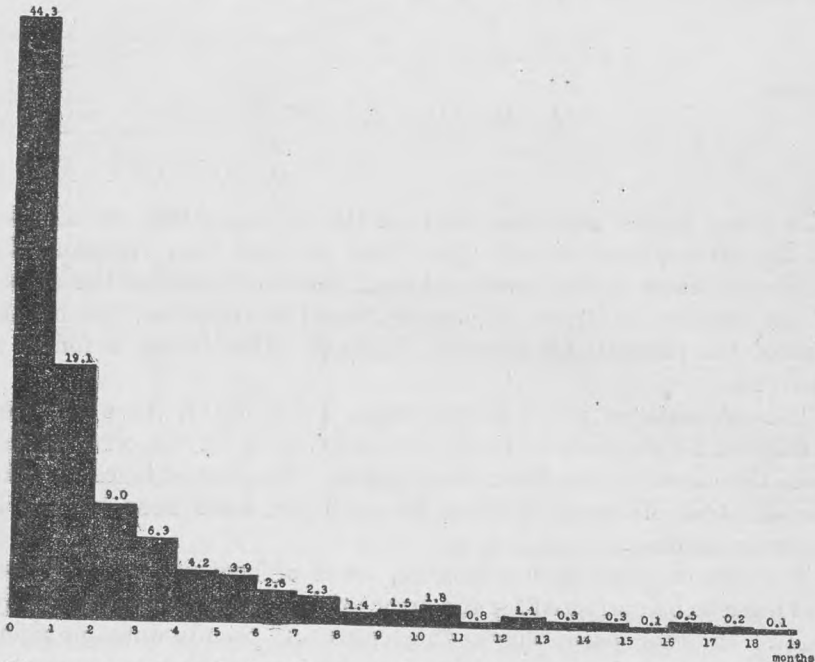
Duration of unemployment.	Cases of unemployment.			
	Which could have terminated with specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	5,683	2,197	38.7	44.3
1 month but less than 2.....	5,469	913	16.7	19.1
2 months but less than 3.....	5,227	414	7.9	9.0
3 months but less than 4.....	4,945	272	5.5	6.3
4 months but less than 5.....	4,662	174	3.7	4.2
5 months but less than 6.....	4,387	147	3.4	3.9
6 months but less than 7.....	4,107	95	2.3	2.6
7 months but less than 8.....	3,827	75	2.0	2.3
8 months but less than 9.....	3,524	43	1.2	1.4
9 months but less than 10.....	3,195	40	1.3	1.5
10 months but less than 11.....	2,868	45	1.6	1.8
11 months but less than 12.....	2,580	19	.7	.8
12 months but less than 13.....	2,279	22	1.0	1.1
13 months but less than 14.....	1,990	5	.3	.3
14 months but less than 15.....	1,737	6	.3	.3
15 months but less than 16.....	1,467	2	.1	.1
16 months but less than 17.....	1,210	5	.4	.5
17 months but less than 18.....	964	2	.2	.2
18 months but less than 19.....	731	1	.1	.1
19 months but less than 20.....	519			
20 months but less than 21.....	331			
21 months but less than 22.....	142			
Sum of the percentages.....			87.4	100.0

It will be observed that the percentages do not add to 100 as they would if a fixed number of cases of unemployment could be followed until they all terminated. If all the cases of unemployment in the group under consideration were true unemployment, the percentages would add to 100, since on this assumption the method of computation explained would secure a correct percentage terminated for each duration.<sup>2</sup> But the number of cases of unemployment which

<sup>2</sup> Except for the possibility that the percentages may be different in different parts of the work history. The percentages for the longer durations are based on cases of unemployment which originated relatively early in the longer work histories, while the percentages for the shorter durations are based on practically all cases of unemployment. If, then, the percentages for the shorter durations are smaller for cases originating shortly before the sixteenth birthday than for those originating some time before, they will tend to reduce the average percentages for the shorter durations without affecting those for the longer durations. The evidence discussed later indicates that the percentages for the shorter durations are somewhat smaller—that is, the average duration of unemployment is longer—for children who commenced work when 15 but under 16 than for those who commenced work when 14 but under 15 years of age. The amount of error arising from this cause is relatively negligible, since the group who commenced work when 15 but under 16 years of age includes but one quarter of the children with only one-eighth of the time employed.

appear in column 1 of the table include a certain proportion of cases where the child left the State, returned to school, went into an industry where employment certificates were not required, or died—these cases of pseudo-unemployment would never terminate so far as the record is concerned. In these contingencies the employer of the children sends in their termination notices in the usual way, and no further information concerning them is filed before their sixteenth birthdays. So far as the record shows there is no difference between this case and one in which a child is really unemployed for a time prior to his sixteenth birthday. All these cases of pseudo-unemployment

CHART II.—PERCENTAGE OF CASES OF UNEMPLOYMENT TERMINATED WITH SPECIFIED DURATION.



will appear as periods of unemployment unterminated at the sixteenth birthday.

The percentages in Table I are found by dividing the number of periods of unemployment of specified durations which actually terminated before the sixteenth birthday by the total number of cases which commenced at such time that they could have ended before the sixteenth birthday with the specified durations. Since the numerators of these fractions contain no cases of pseudo-unemployment but only those which have actually terminated, while the denominators contain all cases of apparent as well as true unemployment, all the percentages found will be reduced below the true percentages, and hence will not add to 100.

Expressing the number of periods of true unemployment by  $U$ , the number terminated in less than one month by  $T_0$ , the number terminated in one but less than two months by  $T_1$ , etc., and the percentages with specified duration by  $P$  with subscripts corresponding to those for  $T$ , then,

$$\frac{T_0}{U} = P_0$$

$$\text{and } P_0 + P_1 + P_2 + \dots = 100.$$

If the number of periods of unemployment including pseudo-unemployment is expressed by  $V$ , and the percentages found by dividing by  $V$  instead of by  $U$  are expressed by  $Q$  instead of  $P$ , and the factor,  $a$ , for pseudo-unemployment is defined as  $V = \bar{U} \cdot a$ , then

$$\frac{T_0}{V} = Q_0; \frac{T_0}{U \cdot a} = Q_0, \text{ or } \frac{T_0}{U} = Q_0 \cdot a = P_0.$$

Hence,

$$(Q_0 + Q_1 + Q_2 + \dots) a = 100$$

$$a = \frac{100}{Q_0 + Q_1 + Q_2 + \dots}$$

In other words, assuming that all the denominators are affected by the same proportionate error,<sup>3</sup> that is, that they represent the number of cases of real unemployment times a factor,  $a$ , the extent of the error—the factor,  $a$ —can be found by dividing 100 by the sum of the percentages given in Table I. This factor is found to be 1.144.

The percentages given in the text, Table XIII, have all been multiplied by the factor,  $a$ , or 1.144, to correct for the error arising from the cases of pseudo-unemployment. The percentages showing the duration of unemployment for each sex have been treated in a similar manner.

The figures showing the monthly rates of becoming unemployed also have to be corrected for the error arising from pseudo-unemployment. In this case, since the cases of pseudo-unemployment erroneously included appear in the numerators of the rate fractions—the number of new cases of unemployment divided by the number of children at work—the rates found have to be divided by 1.144 to give the corrected rates.

The only difficulty with this procedure is the error involved in taking an average percentage of pseudo-unemployment rather than a special correction for the different sexes, ages, and parts of work history. But it has the advantage of simplicity and of being derived from a relatively large base; the effect of the error resulting from this procedure on the conclusions reached will be discussed later. The distribution of the cases of pseudo-unemployment is also analyzed below.

<sup>3</sup> For the error involved in this assumption, see pp. 52-53.

Tables II and III give the basic figures for the duration of unemployment for boys and girls, respectively, together with the original and the adjusted percentages.

TABLE II.—Percentage of cases of unemployment of boys terminated with specified duration.

Duration of unemployment.	Periods of unemployment of boys.			
	Total that could have ended in the specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	3,595	1,417	39.4	45.0
1 month but less than 2.....	3,467	577	16.6	18.9
2 months but less than 3.....	3,306	265	8.0	9.1
3 months but less than 4.....	3,136	171	5.5	6.3
4 months but less than 5.....	2,963	112	3.8	4.3
5 months but less than 6.....	2,808	88	3.1	3.5
6 months but less than 7.....	2,626	61	2.3	2.6
7 months but less than 8.....	2,451	47	1.9	2.2
8 months but less than 9.....	2,248	29	1.3	1.5
9 months but less than 10.....	2,044	24	1.2	1.4
10 months but less than 11.....	1,834	30	1.6	1.8
11 months but less than 12.....	1,649	9	.5	.6
12 months but less than 13.....	1,463	12	.8	.9
13 months but less than 14.....	1,280	4	.3	.3
14 months but less than 15.....	1,124	5	.4	.5
15 months but less than 16.....	950	1	.1	.1
16 months but less than 17.....	774	3	.4	.5
17 months but less than 18.....	609	1	.2	.2
18 months but less than 19.....	453	1	.2	.2
19 months but less than 20.....	332			
20 months but less than 21.....	211			
21 months but less than 22.....	84			
Sum of percentages.....			87.6	100.0

TABLE III.—Percentage of cases of unemployment of girls terminated with specified duration.

Duration of unemployment.	Periods of unemployment of girls.			
	Total that could have ended in the specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	2,088	780	37.4	43.1
1 month but less than 2.....	2,002	336	16.8	19.4
2 months but less than 3.....	1,921	149	7.8	9.0
3 months but less than 4.....	1,809	101	5.6	6.5
4 months but less than 5.....	1,699	62	3.6	4.1
5 months but less than 6.....	1,579	59	3.7	4.3
6 months but less than 7.....	1,481	34	2.3	2.6
7 months but less than 8.....	1,376	28	2.0	2.3
8 months but less than 9.....	1,276	14	1.1	1.3
9 months but less than 10.....	1,151	16	1.4	1.6
10 months but less than 11.....	1,034	15	1.5	1.7
11 months but less than 12.....	931	10	1.1	1.3
12 months but less than 13.....	816	10	1.2	1.4
13 months but less than 14.....	710	1	.1	.1
14 months but less than 15.....	613	1	.2	.2
15 months but less than 16.....	517	1	.2	.2
16 months but less than 17.....	436	2	.5	.6
17 months but less than 18.....	355	1	.3	.3
18 months but less than 19.....	278			
19 months but less than 20.....	187			
20 months but less than 21.....	120			
21 months but less than 22.....	58			
Sum of percentages.....			86.8	100.0

In Tables IV and V the basic figures for the duration of unemployment are given for cases of unemployment originating in the first 10 months of work history of children aged 14 but under 15, and for children aged 15 but under 16 years at beginning work, together with figures for the duration of cases of unemployment originating in the thirteenth to the twenty-second months of work history for children aged 14 but under 15 years at beginning work.

In making these comparisons to show the effect of the age at beginning work and experience on the duration of unemployment, the difficulty arises whether the percentage not terminated after 10 months of work history represents cases of pseudo-unemployment merely, or cases of true unemployment lasting for relatively long periods. For purposes of comparative duration, however, it is sufficient to examine the cases which terminated at less than 10 months, since causes tending to lengthen the duration of unemployment would affect these durations, tending to decrease the proportion terminated in less than 1 and 2 months as compared with the proportion terminated in the third, fourth, and later months.

TABLE IV.—Percentage of cases of unemployment terminated with specified duration: Cases originating in first 10 months of work history of children of specified age at commencing work.

Duration of unemployment and termination.	Cases of unemployment originating in first 10 months of work history.					
	Of children aged 14 but under 15 at commencing work.			Of children aged 15 but under 16 at commencing work.		
	Which might have terminated with specified duration.	Terminated.		Which might have terminated with specified duration <sup>1</sup>	Terminated.	
		Number.	Per cent.		Number.	Per cent.
Less than 1 month.....	3,345	1,366	40.8	666	219	32.9
1 month but less than 2.....	3,345	581	17.4	585	101	17.3
2 months but less than 3.....	3,345	268	8.0	509	43	8.5
3 months but less than 4.....	3,345	186	5.6	448	30	6.7
4 months but less than 5.....	3,345	127	3.8	362	19	5.2
5 months but less than 6.....	3,345	108	3.2	287	12	4.2
6 months but less than 7.....	3,345	75	2.2	221	8	3.6
7 months but less than 8.....	3,345	66	2.0	149	4	2.8
8 months but less than 9.....	3,345	36	1.1	88	.....	.....
9 months but less than 10.....	3,345	39	1.2	32	.....	.....
Not terminated at 10 months.....	3,345	493	14.7	.....	.....	<sup>2</sup> 18.8

<sup>1</sup> Includes for each duration only cases of unemployment commenced early enough so that they might have terminated with that duration before the sixteenth birthday.

<sup>2</sup> The difference between 100 per cent and the sum of the other per cents given in the column.

TABLE V.—Percentage of cases of unemployment terminated with specific duration: Cases originating thirteenth to twenty-second months of work history, children aged 14 but less than 15 at beginning work.

Duration of unemployment.	Cases of unemployment originating in thirteenth to twenty-second months of work history.		
	Which might have terminated with specified duration.	Terminated.	
		Number.	Per cent.
Less than 1 month.....	1,238	421	34.0
1 month but less than 2.....	1,125	163	14.5
2 months but less than 3.....	991	79	8.0
3 months but less than 4.....	818	41	5.0
4 months but less than 5.....	673	17	2.5
5 months but less than 6.....	549	20	3.6
6 months but less than 7.....	416	9	2.2
7 months but less than 8.....	300	1	.3
8 months but less than 9.....	188	5	2.7
9 months but less than 10.....	77		
Not terminated at 10 months.....			<sup>1</sup> 27.2

<sup>1</sup> The difference between 100 per cent and the sum of the other per cents given in the column.

In Table VI the percentage distributions for cases of unemployment terminated in 10 months are given. Practically no difference appears between the percentages for cases of unemployment commenced in the first 10 months and in the thirteenth to the twenty-second months of work histories of children who were 14 but under 15 years of age at commencing work. For this group, which comprises about three-fourths of the entire number of children, it may be inferred, then, that the duration of unemployment is practically the same in the later as in the earlier parts of work history, but that there is a considerable increase in the number of cases of pseudo-unemployment in the later part of the work history.

In the other comparison a slight difference in the duration of unemployment appears. A somewhat smaller proportion of cases of unemployment end in one month, a larger proportion in subsequent months, among the children who were 15 but under 16 years of age at beginning work, than among children who were 14 but under 15 years of age at beginning work.

TABLE VI.—*Relative duration of unemployment by age at which unemployment commenced and age at beginning work.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months.		
	Children aged 14 but under 15 at beginning work.		Children aged 15 but under 16 at beginning work; unemployment commenced in first 10 months of work history.
	Unemployment commenced in first 10 months of work history.	Unemployment commenced thirteenth to twenty-second month of work history.	
All durations less than 10 months.....	100.0	100.0	100.0
Less than 1 month.....	47.8	46.7	40.5
1 month but less than 2.....	20.4	19.9	21.3
2 months but less than 3.....	9.4	11.0	10.4
3 months but less than 4.....	6.6	6.9	8.3
4 months but less than 5.....	4.5	3.4	6.4
5 months but less than 6.....	3.8	4.9	5.2
6 months but less than 7.....	2.6	3.0	4.4
7 months but less than 8.....	2.3	.4	3.4
8 months but less than 9.....	1.3	3.7	.....
9 months but less than 10.....	1.4	.....	.....

*Number of cases of pseudo-unemployment.*—The second problem is to determine the number of cases of pseudo-unemployment. This can be found in two ways. The simplest is to consider the total number of cases of unemployment, 5,961, as 114.4 per cent of the true number; this computation gives 750 cases of pseudo-unemployment. Thus of the 1,378 children who appear to have left their positions and not secured others before their sixteenth birthdays, only about half were really unemployed. For the other half, if the records were complete, they would show migration, death, return to school, and other reasons why the employment history terminated.

Another method of approach is to calculate the number of children who would be unemployed on their sixteenth birthdays according to the durations of unemployment actually found in terminated cases, assuming the same monthly rates of unemployment as actually prevailed. This method has an advantage in that it permits of forming an idea as to the probable distribution by month of origin of the cases of pseudo-unemployment.

This method is used in Table VII. Column 2 of that table gives the number of cases of unemployment originating in the different months of work history preceding the sixteenth birthday. By computing the percentage of cases of unemployment which would still be unterminated after the corresponding periods of time—if the same duration of periods prevails as for cases which have terminated within the record period and for which, therefore, the exact duration is known—and by applying these percentages to the number of cases of unemployment originating in each month, the number of



cases of actual unemployment at 16 can be found. The difference between these numbers and the numbers reported "not at work" at 16 are the cases of pseudo-unemployment. In other words, the procedure gives an estimate of the number of cases out of those originating in each month which, if all were cases of true unemployment, would be still unterminated.

The problem of computing the number of cases of true unemployment by this second method offers some difficulty. The percentage of cases not terminated obviously depends directly upon the length of time that the cases of unemployment have to run before the sixteenth birthday. If a given number of cases commenced at exactly one month before the sixteenth birthday, on the average 44.3 per cent would have terminated and 55.7 per cent would be still unterminated at the end of the record. Similarly, if the cases commenced at exactly two months before the sixteenth birthday, 63.4 per cent would have terminated, or 36.6 per cent would be unterminated. The percentages for these durations of complete months can be derived from the adjusted figures of Table I.

TABLE VII.—*Estimated cases of pseudo-unemployment, by month of origin.*

Month of work history before fringe month preceding sixteenth birthday.	Cases of unemployment commencing in specified month.	Percentage not terminated at 16.	Estimated cases of real unemployment unterminated at 16.	Cases not at work at 16.	Estimated cases of pseudo-unemployment.	Factor of correction <i>a</i> .
Fringe month.....	77	82.2	63	72	9	1.13
First month preceding.....	201	57.8	116	163	47	1.31
Second month preceding.....	214	37.8	81	145	64	1.43
Third month preceding.....	242	27.6	67	134	67	1.38
Fourth month preceding.....	282	21.3	60	136	76	1.37
Fifth month preceding.....	283	17.0	48	113	65	1.30
Sixth month preceding.....	275	13.2	36	72	36	1.15
Seventh month preceding.....	280	10.5	29	52	23	1.09
Eighth month preceding.....	280	8.2	23	62	39	1.16
Ninth month preceding.....	303	6.9	21	65	44	1.17
Tenth month preceding.....	329	5.4	18	57	39	1.14
Eleventh month preceding.....	327	3.5	11	45	34	1.12
Twelfth month preceding.....	288	2.7	8	35	27	1.10
Thirteenth month preceding.....	301	1.6	5	33	28	1.10
Fourteenth month preceding.....	289	1.3	4	35	31	1.12
Fifteenth month preceding.....	253	.9	2	28	26	1.12
Sixteenth month preceding.....	270	.8	2	33	31	1.13
Seventeenth month preceding.....	257	.3	1	20	19	1.08
Eighteenth month preceding.....	246	.1	.....	24	24	1.11
Nineteenth month preceding.....	233	.....	.....	17	17	1.08
Twentieth month preceding.....	212	.....	.....	15	15	1.08
Twenty-first month preceding.....	188	.....	.....	12	12	1.07
Twenty-second month preceding.....	189	.....	.....	6	6	1.03
Twenty-third month preceding.....	142	.....	.....	4	4	1.03
Total.....	.....	.....	595	.....	783	.....

But in the groups under consideration, the exact time to the sixteenth birthday is not given for each period of unemployment. Cases of unemployment are classified by the month of work history, measured from the date of (first) employment, in which they began. In stating those months with reference to the time interval before

the sixteenth birthday, there is in each work history group, therefore, a "fringe" or fractional month just prior to the sixteenth birthday, and the other months can be classed only according to the number of months preceding the fringe. For example, cases of unemployment commencing in the first month of work histories of four but less than five months in length are classed as occurring in the fourth month before the fringe month just preceding the end of the record; cases of unemployment that occur in the fifth month (from the beginning) of these work histories are in the fringe month.

Cases of unemployment in a given month of work history may be assumed to occur uniformly throughout the month. The possible duration before the sixteenth birthday of unemployment originating in a given month varies with its position in the month of origin and with its position in relation to the fringe. The possible duration before the sixteenth birthday of cases commencing on the first day of a given month of work history is nearly one month greater than those commencing on the last day. The possible duration before the sixteenth birthday of cases commencing on the last day of a given month of work history is nearly one month greater if there is nearly a full month of fringe than if there is practically no fringe. Cases of unemployment, for example, commencing in the first month of work histories of four but less than five months in length have possible durations before the end of the record at the sixteenth birthday of from three to less than five months—three if the unemployment starts at the end of the month in a work history lasting just four months, and nearly five if the unemployment starts at the beginning of the month in a work history lasting nearly five months. On the average, cases of unemployment commencing in the fourth month before the fringe month, as in the example given, have four months possible duration before the sixteenth birthday.

The percentage of cases of unemployment commencing in a given month of work history which were not terminated at the sixteenth birthday is practically equal to the percentage not terminated after the average number of months' duration, except for the fringe months and those immediately preceding the fringe months. Thus, if 21.3 per cent of cases of unemployment are still unterminated four months after they commenced, approximately the same percentage of cases commencing in the fourth month of work history preceding the fringe month are still unterminated at the sixteenth birthday, since the average possible duration before the sixteenth birthday of those cases is exactly four months.

For the fringe months and the two months preceding the fringe a different procedure has been used. If  $Y$  = the percentage terminated after time  $X$ , then the values of  $Y$  can be calculated from Table I showing the duration of unemployment: for  $X = 0$ ,  $y = 0$ ;

for  $x=1$ ,  $y=44.3$ ; for  $x=2$ ,  $y=(44.3+19.1)=63.4$ ; for  $x=3$ ,  $y=72.4$ ; for  $x=4$ ,  $y=78.7$ , etc. Using the first five values, a parabola can be passed through these points as follows:  $y=63.86x-23.68x^2+4.44x^3-0.32x^4$ .

The percentage terminated for the fringe month is

$$2 \int_0^1 (1-x) y dx = 17.8$$

The percentage terminated for cases commencing in the month preceding the fringe month is

$$\int_0^1 xy dx + \int_1^2 (2-x) y dx = 42.2$$

Similarly for the second month preceding the fringe month

$$\int_1^2 (x-1) y dx + \int_2^3 (3-x) y dx = 62.2$$

The corresponding percentages for cases not terminated are 82.2, 57.8, and 37.8, respectively.

Applying these percentages to the number of cases of unemployment actually begun in the corresponding months of work history, the figures in the third column are obtained for the cases of real unemployment at 16. Subtracting these from the number recorded as actually unterminated, given in column 4, the figures in the fifth column are secured showing the number and distribution by month of origin of the cases of pseudo-unemployment. The total, 783, is slightly larger than that given by the first method. This figure has been used in preference to the figure secured by the other method, because using it tends to understate the number of cases of true unemployment.

It will be noted that in making the foregoing calculation of cases of pseudo-unemployment the cases of unemployment commencing in each month are treated as if they were all true unemployment. In algebraic symbols, using  $S$  to represent the number of cases of pseudo-unemployment,  $B$  the number of children not at work at 16 according to record,  $P$  the percentage of cases of true unemployment terminated before 16, and  $p = \frac{P}{100}$ , then  $S = B - \frac{V}{a} (1-p)$ . In making the estimate, however, the number of cases of pseudo-unemployment is calculated from the formula  $S' = B - V (1-p)$ . It can easily be shown that  $S' = Sp$ ; for all except the last five or six months there is very little difference between  $S$  and  $S'$ , since  $P$ , or the percentage terminated before 16, rapidly approaches 100 per cent as the number of months increases.

The reason for using the value  $Sp$  instead of  $S$  is because the character of the cases of pseudo-unemployment apparently changes in the months immediately before the sixteenth birthday. If children securing new positions just before the sixteenth birthday go to work without applying for certificates, representing to the employers that they are already 16, they would appear on the record as "not at work" at 16. These cases would differ from other cases of pseudo-unemployment in that they are real unemployment for a part of the time, whereas, in case of children who died or left the State, the entire period is one of pseudo-unemployment. Or, considering the two classes in the light of the effect of prolonging the certificate requirement until 18 years of age, the cause of the former would disappear and the children would then secure their certificates, while the latter, no matter how high the age limit were raised, would never appear again on the record. Using the value  $Sp$ , it includes as pseudo-unemployment all who took new positions before the sixteenth birthday without certificates, together with a percentage equal to that of true unemployment terminated before the sixteenth birthday of cases originating in the month in question, of the cases of the ordinary pseudo-unemployment; it excludes a small proportion of cases of ordinary pseudo-unemployment; the value  $S$  would include in addition to these three groups an estimate of cases of failure to take out certificates after the sixteenth birthday, corresponding to the failures before the sixteenth birthday—which is obviously absurd.

That there is such a change in the character of cases of pseudo-unemployment is clear from the figures for the value of the factor,  $a$ , given in Table VII, last column, derived from the formula

$$a = \frac{V}{V - (B - V(1 - p))}$$

It appears that for months preceding the fifth before the fringe month preceding the sixteenth birthday, the factor expressing the ratio of total cases of unemployment to true cases is fairly constant, but that it increases very rapidly in the months just before the sixteenth birthday. The cause suggested is doubtless the explanation of this increase.

*Error in duration of unemployment.*—The extent of the error involved in calculating the percentages of cases of unemployment which terminated with the different durations, on the assumption that each denominator had the same percentage of cases of pseudo-unemployment, can be tested by means of these figures. The numbers of cases of pseudo-unemployment included in the various denominators are given in Table VIII. The corrected percentages of cases of unemployment terminated with the different durations found by dividing the cases terminated by the numbers of cases of

true unemployment are presented in Table IX. The difference between this series and that already given is inconsiderable. No attempt has therefore been made to correct the durations of unemployment for the error arising from differences in the proportions of cases of pseudo-unemployment in the different parts of work history.

TABLE VIII.—*Estimated number of cases of true unemployment and factor for correction for each specified period.*

Time.	Cases of unemployment up to specified time.			Factor of correction, <i>a</i> .
	Total.	Pseudo-unemployment.	True unemployment.	
Sixteenth birthday.....	5,961	783	5,178	1.151
End of specified month preceding fringe month:				
First month.....	5,884	774	5,110	1.151
Second month.....	5,683	727	4,956	1.147
Third month.....	5,469	663	4,806	1.138
Fourth month.....	5,227	596	4,631	1.129
Fifth month.....	4,945	520	4,425	1.117
Sixth month.....	4,662	455	4,207	1.108
Seventh month.....	4,387	419	3,968	1.106
Eighth month.....	4,107	396	3,711	1.107
Ninth month.....	3,827	357	3,470	1.103
Tenth month.....	3,524	313	3,211	1.097
Eleventh month.....	3,195	274	2,921	1.094
Twelfth month.....	2,868	240	2,628	1.091
Thirteenth month.....	2,580	213	2,367	1.090
Fourteenth month.....	2,279	185	2,094	1.088
Fifteenth month.....	1,990	154	1,836	1.084
Sixteenth month.....	1,737	128	1,609	1.080
Seventeenth month.....	1,467	97	1,370	1.071
Eighteenth month.....	1,210	78	1,132	1.069
Nineteenth month.....	964	54	910	1.059
Twentieth month.....	731	37	694	1.053
Twenty-first month.....	519	22	497	1.044
Twenty-second month.....	331	10	321	1.031
Twenty-third month.....	142	4	138	1.029

TABLE IX.—*Percentage of cases of unemployment terminated with specified duration, corrected by eliminating cases of pseudo-unemployment.*

Duration of unemployment.	True cases of unemployment.		
	That could have terminated with specified duration.	Terminated with specified duration.	
		Number.	Per cent.
Under 1 month.....	4,956	2,197	44.3
1 month but under 2.....	4,806	913	19.0
2 months but under 3.....	4,631	414	8.9
3 months but under 4.....	4,425	272	6.1
4 months but under 5.....	4,207	174	4.1
5 months but under 6.....	3,968	147	3.7
6 months but under 7.....	3,711	95	2.6
7 months but under 8.....	3,470	75	2.2
8 months but under 9.....	3,211	43	1.3
9 months but under 10.....	2,921	40	1.4
10 months but under 11.....	2,628	45	1.7
11 months but under 12.....	2,367	19	0.8
12 months but under 13.....	2,094	22	1.1
13 months but under 14.....	1,836	5	0.3
14 months but under 15.....	1,609	6	0.4
15 months but under 16.....	1,370	2	0.1
16 months but under 17.....	1,132	5	0.4
17 months but under 18.....	910	2	0.2
18 months but under 19.....	694	1	0.1
Sum of per cents.....			98.7

In Table X the incidence of cases of pseudo-unemployment in relation to the number of children at risk has been calculated for different months of work history. The rate gradually increases from 0.3 per cent in the first month of work history to an average of 1 in the last five months. Of course, however, as emphasized in the text, in the early months cases of pseudo-unemployment due to change of work to an occupation for which a certificate is not required, or to temporary removal from the State, may be included with the cases of unemployment if the child returned before his sixteenth birthday to work requiring a certificate in Connecticut.

The relative incidence for boys and girls is shown in Table XI. The number of cases of pseudo-unemployment per 100 at risk appears to be slightly less for the girls than for the boys. This result is not at variance, as it might at first appear to be, with the fact that of the cases of unemployment that occur among girls a relatively greater proportion are pseudo-unemployment than among boys, since, because the rates of becoming unemployed are much lower among the girls, the cases of pseudo-unemployment form a larger proportion of them.

TABLE X.—*Monthly incidence of cases of pseudo-unemployment per 100 children at risk.*

Age.	Children at risk. <sup>1</sup>	New cases of pseudo-unemployment.	
		Number.	Per cent.
14 years but under 14 years 1 month.....	1,470	4	0.3
14 years 1 month but under 14 years 2 months.....	2,037	6	.3
14 years 2 months but under 14 years 3 months.....	2,466	12	.5
14 years 3 months but under 14 years 4 months.....	2,825	15	.5
14 years 4 months but under 14 years 5 months.....	3,150	17	.5
14 years 5 months but under 14 years 6 months.....	3,468	24	.7
14 years 6 months but under 14 years 7 months.....	3,756	19	.5
14 years 7 months but under 14 years 8 months.....	4,047	31	.8
14 years 8 months but under 14 years 9 months.....	4,318	26	.6
14 years 9 months but under 14 years 10 months.....	4,579	31	.7
14 years 10 months but under 14 years 11 months.....	4,793	28	.6
14 years 11 months but under 15 years.....	5,030	27	.5
15 years but under 15 years 1 month.....	5,309	34	.6
15 years 1 month but under 15 years 2 months.....	5,539	39	.7
15 years 2 months but under 15 years 3 months.....	5,710	44	.8
15 years 3 months but under 15 years 4 months.....	5,873	39	.7
15 years 4 months but under 15 years 5 months.....	6,017	23	.4
15 years 5 months but under 15 years 6 months.....	6,165	36	.6
15 years 6 months but under 15 years 7 months.....	6,270	65	1.0
15 years 7 months but under 15 years 8 months.....	6,329	76	1.2
15 years 8 months but under 15 years 9 months.....	6,367	67	1.1
15 years 9 months but under 15 years 10 months.....	6,381	64	1.0
15 years 10 months but under 15 years 11 months.....	6,390	47	( <sup>2</sup> )
15 years 11 months but under 16 years.....	6,373	9	( <sup>2</sup> )

<sup>1</sup> Found by subtracting from the children who had gone to work in the age period specified or in some preceding age period the number of cases of pseudo-unemployment which had occurred previous to the age period specified.

<sup>2</sup> Not a complete month.

TABLE XI.—Relative monthly incidence of cases of pseudo-unemployment, by sex.

Age.	Boys at risk.	New cases of pseudo-un- employment.		Girls at risk.	New cases of pseudo-un- employment.	
		Num- ber.	Per cent.		Num- ber.	Per cent.
14 years but under 14 years 1 month.....	817	4	0.5	653		
14 years 1 month but under 14 years 2 months.....	1,136	3	.3	901	3	0.3
14 years 2 months but under 14 years 3 months.....	1,378	7	.5	1,088	5	.5
14 years 3 months but under 14 years 4 months.....	1,599	11	.7	1,226	4	.3
14 years 4 months but under 14 years 5 months.....	1,795	11	.6	1,355	6	.4
14 years 5 months but under 14 years 6 months.....	1,983	16	.8	1,485	8	.5
14 years 6 months but under 14 years 7 months.....	2,131	11	.5	1,625	8	.5
14 years 7 months but under 14 years 8 months.....	2,294	17	.7	1,753	14	.8
14 years 8 months but under 14 years 9 months.....	2,441	16	.7	1,877	10	.5
14 years 9 months but under 14 years 10 months.....	2,580	21	.8	1,999	10	.5
14 years 10 months but under 14 years 11 months.....	2,692	18	.7	2,101	10	.5
14 years 11 months but under 14 years 12 months.....	2,819	15	.5	2,211	12	.5
14 years 12 months but under 14 years 13 months.....	2,955	20	.7	2,354	14	.6
14 years 13 months but under 14 years 14 months.....	3,096	19	.6	2,443	20	.8
14 years 14 months but under 14 years 15 months.....	3,189	26	.8	2,521	18	.7
14 years 15 months but under 14 years 16 months.....	3,275	19	.6	2,598	20	.8
14 years 16 months but under 14 years 17 months.....	3,354	12	.4	2,663	11	.4
14 years 17 months but under 14 years 18 months.....	3,440	16	.5	2,725	19	.7
14 years 18 months but under 14 years 19 months.....	3,497	48	1.4	2,774	17	.6
14 years 19 months but under 14 years 20 months.....	3,526	47	1.3	2,804	29	1.0
14 years 20 months but under 14 years 21 months.....	3,546	44	1.2	2,822	24	.9
14 years 21 months but under 14 years 22 months.....	3,546	39	1.1	2,835	25	.9
14 years 22 months but under 14 years 23 months.....	3,545	33	(1)	2,845	14	(1)
14 years 23 months but under 14 years 24 months.....	3,527	6	(1)	2,846	3	(1)

<sup>1</sup> Not a complete month.

It is impossible to estimate the number of cases of pseudo-unemployment due to each possible cause. At an average mortality rate of 3 per 1,000 per year there would have been about 29 deaths among the children at work. But no other cause can be so accurately measured. There were, however, 54 cases of unemployment not terminated at 16 which had lasted more than 19 months—all presumably pseudo-unemployment. The corresponding schedules were examined; no reason was given in 45 instances; in 5 instances the child had returned to school, including one to a trade school, and one to the State school; in 2 instances the child worked at home; in 1 he went to work on a farm; and in 1 he was ill. These cases illustrate the types of reasons but do not furnish any basis for estimates as to the relative frequency of each type.

*Estimates of children occupied at each age.*—Using the estimates of the number of cases of pseudo-unemployment, the number and the proportions of children occupied at each age, including those temporarily out of work, can be estimated. For each age the number of cases of pseudo-unemployment which occurred before that age is deducted from the number of children granted certificates before the given age. The results are shown in Table XII, the percentages of which are given in Table II of the text.

TABLE XII.—Estimated percentage of children occupied at each age, by sex.

Age.	Children occupied at specified age. <sup>1</sup>		Boys occupied.		Girls occupied.	
	Number.	Per cent of estimated children.	Number.	Per cent of estimated number of boys.	Number.	Per cent of estimated number of girls.
14 years 1 month.....	1,468	7.3	815	8.1	653	6.6
14 years 2 months.....	2,034	10.2	1,135	11.3	899	9.0
14 years 3 months.....	2,460	12.3	1,374	13.6	1,086	10.9
14 years 4 months.....	2,817	14.1	1,593	15.8	1,224	12.3
14 years 5 months.....	3,142	15.7	1,790	17.8	1,352	13.6
14 years 6 months.....	3,456	17.3	1,975	19.6	1,481	14.9
14 years 7 months.....	3,746	18.7	2,125	21.1	1,621	16.3
14 years 8 months.....	4,032	20.1	2,286	22.7	1,746	17.6
14 years 9 months.....	4,305	21.5	2,433	24.2	1,872	18.8
14 years 10 months.....	4,564	22.8	2,570	25.5	1,994	20.1
14 years 11 months.....	4,779	23.9	2,683	26.6	2,096	21.1
15 years.....	5,017	25.1	2,812	27.9	2,205	22.2
15 years 1 month.....	5,292	26.4	2,945	29.2	2,347	23.6
15 years 2 months.....	5,519	27.6	3,086	30.6	2,433	24.5
15 years 3 months.....	5,688	28.4	3,176	31.5	2,512	25.3
15 years 4 months.....	5,853	29.2	3,265	32.4	2,588	26.0
15 years 5 months.....	6,006	30.0	3,348	33.2	2,658	26.7
15 years 6 months.....	6,147	30.7	3,432	34.1	2,715	27.3
15 years 7 months.....	6,238	31.2	3,473	34.5	2,765	27.8
15 years 8 months.....	6,291	31.4	3,502	34.8	2,789	28.1
15 years 9 months.....	6,334	31.7	3,524	35.0	2,810	28.3
15 years 10 months.....	6,349	31.7	3,527	35.0	2,822	28.4
15 years 11 months.....	6,366	31.8	3,528	35.0	2,838	28.6
16 years.....	6,364	31.8	3,521	35.0	2,843	28.6

<sup>1</sup> Based on estimated population aged 14 but under 15, Sept. 1, 1912, of 20,010, 10,073 boys and 9,937 girls. Estimate is based on an arithmetical increase of population in the age group 10-14 for 1900 to 1910, the same proportion of this group is assumed to be of age 14, Sept. 1, 1912, as at this date of the census of 1910, and the ratio of the sexes true for the census date is also assumed to be correct for Sept. 1, 1912.

*Percentage of children constantly unemployed.*—Assuming a constant rate of unemployment, it is possible to compute from the table giving the duration of unemployment the percentage of children who will be constantly unemployed. If a given number of cases of unemployment begin at the beginning of a given month of work history, by the end of the month 44.3 per cent will have terminated, or 55.7 per cent will still be unterminated. If the cases of unemployment begin not at the beginning but uniformly throughout the month, the percentage terminated at the end of the month is equal to the expression

$$\int_0^1 y dx, \text{ where } y \text{ is the function given on page 51.}$$



TABLE XIII.—*Estimated number of children constantly unemployed among a group of children of whom 100 became unemployed each month.*

Mouth of work history.	Estimated percentage of cases of unemployment not terminated at end of specified month of work history.	Estimated number unemployed at end of specified period among group of children of whom 100 became unemployed in each month of work history.
First.....	74.9	74.9
Second.....	44.8	119.7
Third.....	31.6	151.3
Fourth.....	24.5	175.8
Fifth.....	19.2	195.0
Sixth.....	15.1	210.1
Seventh.....	11.9	222.0
Eighth.....	9.4	231.4
Ninth.....	7.6	239.0
Tenth.....	6.2	245.2
Eleventh.....	4.5	249.7
Twelfth.....	3.1	252.8
Thirteenth.....	2.2	255.0
Fourteenth.....	1.5	256.5
Fifteenth.....	1.1	257.6
Sixteenth.....	.9	258.5
Seventeenth.....	.6	259.1
Eighteenth.....	.2	259.3
Nineteenth.....	.1	259.4

In Table XIII are given the percentages of cases still unterminated at the end of specified months of work history, the first three months being derived from the formula; for the remaining months the figures give the average of the percentages of cases which would be unterminated if all cases commenced on the first day and if they all commenced on the last day of the month of work history in question.

The next column in the table represents the number of cases still unemployed at the end of the specified month of work history among a group of children of whom 100 became unemployed each month. After 19 months 259 children are constantly unemployed, for 100 new cases of unemployment commence and 100 cases terminate each month. If the number of children actually employed is then after 19 months assumed to be 1,000—which would give a rate of 10 new cases of unemployment per 100 children *at work* at the beginning of the month—there would be, including the 259 constantly out of work, 1,259 children in the group, and the percentage of the entire group constantly unemployed would be 20.6. A rate of 10 per cent becoming unemployed each month would result, if continued, in one-fifth of the children being constantly unemployed. If the rate were 2, assuming 100 new cases of unemployment each month, the number of children employed in the group would be 5,000, the entire group would be 5,259, and the percentage constantly unemployed would be 4.9. The percentages given in the text have been computed in a similar manner.

*Monthly rates of unemployment.*—In Tables XIV, XV, and XVI are presented the basic figures for monthly rates of unemployment, together with unadjusted and adjusted percentages. The rates are formed by dividing the number of new cases of unemployment originating in each month of work history by the number of children employed at the beginning of the month. These percentages are then reduced by dividing by 1.144 to correct for the cases of pseudo-unemployment included among the cases of unemployment, as explained above.

The number of children employed at the beginning of each month of work history is given by direct tabulation for the first, second, third, fourth, seventh, thirteenth, and nineteenth months. For the first month only the children are included among those "at risk" whose work histories lasted at least one full month, and only the cases of unemployment that occurred among these children were included in the numerator of the rate fraction. Similarly for the other months the denominators include only the children whose work histories lasted through the month in question, and the numerators include only those cases of unemployment which occurred in the month in question among these children.

The number of children at work at the beginning of the fifth and sixth months have been found by taking those employed at the beginning of the fourth month whose work histories lasted through five and six months of work history respectively; a slight correction is made for the slightly greater number of new cases of unemployment that begin than that end in the fifth and sixth months, in such a way that the numbers obtained form an even series with the number reported as at work at the beginning of the seventh month. A similar procedure is followed between the seventh and thirteenth, and the thirteenth and nineteenth months. For months after the nineteenth, the number of children employed at the beginning of the nineteenth month whose work histories lasted through the month in question is taken as the denominator of children "at risk" for the month. After the nineteenth month of work history the number of children at work at the beginning of the successive months would be approximately constant.

TABLE XIV.—*Monthly rate of unemployment: Number of new cases of unemployment per 100 children employed at beginning of each month of work history. Actual and adjusted rates.*

Month of work history.	Children employed at beginning of month. <sup>1</sup>	Cases of unemployment.		
		Number.	Per 100 children employed.	Adjusted rates. <sup>2</sup>
First.....	7,117	740	10.4	9.1
Second.....	6,351	556	8.8	7.7
Third.....	6,052	522	8.6	7.5
Fourth.....	5,770	387	6.7	5.9
Fifth.....	5,641	337	6.0	5.2
Sixth.....	5,497	316	5.7	5.0
Seventh.....	5,332	330	6.2	5.4
Eighth.....	5,176	317	6.1	5.3
Ninth.....	4,991	306	6.1	5.3
Tenth.....	4,811	265	5.5	4.8
Eleventh.....	4,592	242	5.3	4.6
Twelfth.....	4,329	208	4.8	4.2
Thirteenth.....	4,098	221	5.4	4.7
Fourteenth.....	3,905	211	5.4	4.7
Fifteenth.....	3,648	175	4.8	4.2
Sixteenth.....	3,398	163	4.8	4.2
Seventeenth.....	3,134	130	4.1	3.6
Eighteenth.....	2,867	110	3.8	3.3
Nineteenth.....	2,577	112	4.3	3.8
Twentieth.....	2,314	91	3.9	3.4
Twenty-first.....	2,004	67	3.3	2.9
Twenty-second.....	1,672	47	2.8	2.4
Twenty-third.....	1,204	31	2.6	2.3

<sup>1</sup> Figures for first, second, third, fourth, seventh, thirteenth, and nineteenth found by direct tabulation. Figures for intermediate months are derived from those employed at the beginning of the last month shown, with a correction, except after the nineteenth month, for the reduction in number employed due to the slight excess of new cases of unemployment commenced over old cases terminated, as indicated by the figures for the next month that is tabulated.

<sup>2</sup> Figures found by dividing rates in preceding column by 1.144, to correct for cases of pseudo-unemployment.

TABLE XV.—*Monthly rate of unemployment by sex: Number of new cases of unemployment per 100 children employed at beginning of each month of work history. Actual and adjusted rates.*

Month of work history.	Boys employed at beginning of month.	Cases of unemployment of boys.			Girls employed at beginning of month.	Cases of unemployment of girls.		
		Number.	Per 100 boys employed.	Adjusted rates.		Number.	Per 100 girls employed.	Adjusted rates.
First.....	3,985	457	11.5	10.1	3,132	283	9.0	7.9
Second.....	3,519	354	10.1	8.8	2,832	202	7.1	6.2
Third.....	3,335	313	9.4	8.2	2,717	209	7.7	6.7
Fourth.....	3,170	232	7.3	6.4	2,600	155	6.0	5.2
Fifth.....	3,095	223	7.2	6.3	2,546	114	4.5	3.9
Sixth.....	3,025	202	6.7	5.9	2,472	114	4.6	4.0
Seventh.....	2,933	210	7.2	6.3	2,399	120	5.0	4.4
Eighth.....	2,847	206	7.2	6.3	2,329	111	4.8	4.2
Ninth.....	2,750	191	6.9	6.0	2,241	115	5.1	4.5
Tenth.....	2,649	176	6.6	5.8	2,162	89	4.1	3.6
Eleventh.....	2,518	156	6.2	5.4	2,074	86	4.1	3.6
Twelfth.....	2,394	130	5.4	4.7	1,935	78	4.0	3.5
Thirteenth.....	2,269	142	6.3	5.5	1,829	79	4.3	3.8
Fourteenth.....	2,163	133	6.1	5.3	1,742	78	4.5	3.9
Fifteenth.....	2,022	117	5.8	5.1	1,626	58	3.6	3.1
Sixteenth.....	1,889	103	5.5	4.8	1,509	60	4.0	3.5
Seventeenth.....	1,738	84	4.8	4.2	1,396	46	3.3	2.9
Eighteenth.....	1,601	70	4.4	3.8	1,266	40	3.2	2.8
Nineteenth.....	1,433	63	4.4	3.8	1,144	49	4.3	3.8
Twentieth.....	1,277	57	4.5	3.9	1,037	34	3.3	2.9
Twenty-first.....	1,086	46	4.2	3.7	918	21	2.3	2.0
Twenty-second.....	907	33	3.6	3.1	765	14	1.8	1.6
Twenty-third.....	647	18	2.8	2.4	557	13	2.3	2.0

TABLE XVI.—*Monthly rate of unemployment by age at commencing work: Number of new cases of unemployment per 100 children at work at the beginning of each of the first 10 months of work history for children aged 14 but under 15 and for children aged 15 but under 16 at first employment.*

Month of work history.	Children aged 14 but under 15 at first employment.				Children aged 15 but under 16 at first employment.			
	Em- ployed at begin- ning of month.	Cases of unemployment.			Em- ployed at begin- ning of month.	Cases of unemployment.		
		Number.	Per 100 children em- ployed.	Adjusted rates.		Number.	Per 100 children em- ployed.	Adjusted. rates.
First.....	5,243	562	10.7	9.4	1,874	178	9.5	8.3
Second.....	4,711	436	9.3	8.1	1,640	120	7.3	6.4
Third.....	4,527	410	9.1	8.0	1,525	112	7.3	6.4
Fourth.....	4,387	298	6.8	5.9	1,383	89	6.4	5.6
Fifth.....	4,372	276	6.3	5.5	1,269	61	4.8	4.2
Sixth.....	4,356	274	6.3	5.5	1,141	42	3.7	3.2
Seventh.....	4,340	284	6.5	5.7	992	46	4.6	4.0
Eighth.....	4,336	282	6.5	5.7	839	35	4.2	3.7
Ninth.....	4,332	275	6.3	5.5	655	31	4.7	4.1
Tenth.....	4,328	248	5.7	5.0	478	17	3.6	3.1

*Margin of error.*—With material of this character it is desirable to discuss in detail the sources of error and the validity of the conclusions.

The primary sources of error, as in other statistics based upon administrative records, lie in the enforcement of the law and the administrative procedure adopted to carry the law into effect. The enforcement of the law is in the hands of the State board of education. The administration of the child-labor law is carried on in close connection with the enforcement of the compulsory school law. Children under 16 are required to be in school, unless they are at work. Children in the public schools are known to the educational authorities, and it is comparatively easy to check up absences of children and to determine whether they are illegally at work.

The enforcement of the employment-certificate requirement is relatively difficult, however, with children who have never been in the public schools of Connecticut, namely, those children who are in the parochial schools and those who move into the State of Connecticut from other States. The parochial schools can not be required, under present laws, to report to the State board of education when children subject to the compulsory-education law leave school to go to work or fail to report. The school census which is taken every year affords the school authorities almost the only opportunity to find children from parochial schools or from outside the State who are not in school but illegally at work or neither in school nor at work.

Besides this school census reliance is had upon an inspection service. Industrial establishments are inspected at irregular intervals and children at work without certificates are sent to the certificate office or are sent back to school. The inspection is more frequent

and thorough in the larger cities and in the larger establishments. As explained in the text, employers are prosecuted for illegal employment of children.

The requirement that unemployed children be returned to school is not very satisfactorily enforced. The schools have no suitable provision for such children nor is the administrative machinery adapted to enforce this requirement. Not only are there delays in notifying the agents of the board when a child has left a position without having secured a new one but the local agents have not been required to make definite reports to show the reasons why the children are not at work and not in school. If children between 14 and 16 years of age, both employed and unemployed, were required to attend continuation schools this difficulty would be removed.

1. Number of children employed: The accuracy of the figures relating to the number of children employed depends upon the enforcement and observation of the law. The true number of children employed in occupations covered by the law is probably understated. The understatement is probably proportionately largest of children who moved into the State or who had left the parochial schools to enter employment, but since the enforcement by means of public-school records, school censuses, and inspection of industrial establishments is fairly good, it is doubtful whether many children worked without having at least one certificated position. Duplication of records for the same children is avoided by having a certificate-filing system for the State, and by filing alphabetically.

2. Sex: There is no evidence that failure to secure certificates would occur more frequently among boys than among girls.

3. Age: The distribution by age is probably substantially accurate. Errors arising from failure to take out any certificate, and errors from failure to certify the first one or two positions obtained, would probably affect the different ages equally and hence not bias the age distribution of children employed. A possible exception is in the cases of children who move into the State after they have become 14; they form a relatively older group, may have had certificates in other States, or they may fail to get certificates at all, since in other cases the enforcement authorities must rely upon an annual school census or upon the inspection system, unless the employers insist upon the children being provided with employment certificates.

4. Proportion of children employed at each age: One source of error is in the estimate of children of a corresponding age in the State. The age statistics of the censuses of 1900 and 1910, which are used as a basis of the estimate, show fluctuations due to errors of reporting. The estimate was made on the assumption that the same proportion of the estimated population in Connecticut aged 10 to 14 years, inclusive, was aged 14, but under 15, on September 1, 1912,

as at the date of the census of 1910, and the population 10 to 14 years was estimated on the assumption that the annual increase after 1910 was equal to the average annual increase of the same age group between the censuses of 1900 and 1910. The proportions of children employed at each age are found by dividing the number of children who secured employment certificates previously to the given age by the number of children born during the same year, the estimate for which has just been explained. The numbers of children at work have been corrected for cases of pseudo-unemployment occurring previously.

The estimates are conservative, since an understatement of the number of children employed and the failure of children to certify their first positions would tend to decrease the proportion occupied at the different ages. Another source of error is the probable tendency among children nearing the age of 16, taking new positions, to fail to take out certificates as required. In such cases the children can more easily persuade employers that they are already 16 and do not, therefore, require certificates.

5. Industry of first employment: A failure of children to take out certificates, due to uneven enforcement of the law, might affect the distribution by industries if particular industries or particular localities with particular industries in them were especially affected by the omission of certificates. But as the law is enforced uniformly throughout the State by agents of the State board of education, who use the same methods and follow the same instructions, even though the enforcement may not be so thorough in agricultural districts and the smaller towns as in the cities where the agents have their headquarters, this source of error is reduced to a minimum.

6. Duration of first employment: This duration is measured from the date of the beginning notice to the date of the termination notice, or to the sixteenth birthday. Errors in dating, such as occur when an employer delays in sending in a commencement notice and then gives the date of filling out the notice instead of the date when the child actually began work, would affect the first date. The second date is subject to the same kind of error; delays in sending in termination notices accompanied by the use of the date of filling out the notice instead of the date when the child actually terminated the employment would tend to offset similar delays in beginning notices, and, indeed, would probably more than offset them; for beginning notices can be checked with the child's application for a certificate, while if a termination notice is delayed or entirely omitted, there is no immediate way of checking it up unless the child takes another position. Among the 7,679 changes to new positions there were 148 in each of which a termination notice between two beginning notices was omitted. If no new position had been found before the sixteenth

birthday, such a case of omission of a termination notice would have been counted as one of employment until the sixteenth birthday in the position for which the termination notice had not been received. Such omissions of termination notice occurring some time before the child becomes 16 would be likely to be checked up by his applying for another certificate. Relatively few cases, therefore, would be found among those still employed after 21 months of work. The relative position of the industries in duration of first employment would not be affected by such omissions; indeed, it should be noted that the industry in which the largest proportion of children remained longer than 21 months is also the one in which the smallest proportion left their first positions in the first 2 or 3 months of work. All cases of omission of a termination notice, however, would tend to lengthen somewhat the average duration of employment.

In case of death, removal from the State, or return to school, the employment would usually be terminated earlier than it would normally have been. These cases would have an effect opposite to that of the omissions of termination notices.

7. Number of positions: The total number of positions held by all children at work in Connecticut is understated to an extent determined by the number of children who failed to secure any certificate and the number of positions for which children who had at least one employment certificate failed to secure certificates.

The distribution of children with work histories of 21 to 24 months by number of positions is affected by failure to certify positions in the direction of classifying children as having fewer positions than they actually had.

8. Shifting: The classification of children with work histories of 21 to 24 months by type of worker is somewhat rough, since no account is taken of the amount of employment; the children are classified merely by the number of positions in relation to the length of the work history. This procedure classified in the more steadily working groups a few children who belong in the classes of the less steady workers, either because of their long periods of unemployment, or because they had more positions than they secured certificates for; the result gives a conservative figure for the number of shifting children.

9. Changes of position without intervening unemployment: The procedure of classifying a case where a termination notice was omitted between beginning notices as a change of position without intervening unemployment results in a slight overstatement of the number of changes of positions without unemployment intervening. This classification was adopted in order to understate rather than to overstate the number of cases of unemployment.

10. Pseudo-unemployment: The method of estimating the number of cases of pseudo-unemployment has been given in the appendix. The estimate has been used, first, to arrive at a fairly close statement of the average duration of unemployment; secondly, to correct the monthly unemployment occurring in the different months of work history; and, finally, as a basis for estimating the number of children in the State employed at each age. For the first two purposes, the weighted average of cases of unemployment which were pseudo-unemployment has been used and gives probably a fairly satisfactory correction. For the third correction the number of cases of pseudo-unemployment has been estimated by subtracting from the children not at work at 16 the number of children estimated to have been really unemployed at 16, assuming that the average durations of unemployment for the entire group applied to the actual number of cases of unemployment which commenced in the different months of work history.

11. Unemployment: By definition, an interval of one week or more between a termination notice and the next beginning notice, or the sixteenth birthday, is counted as a case of unemployment. Since the child is allowed to work one week on the parent's copy of his first certificate before taking out a new one, and since, when sent in, the date entered on the beginning notice may be the date of filling it out rather than the date on which the child began work, it was deemed advisable to omit all cases where the interval between positions was less than one week. Delays in sending in beginning notices, together with errors in dating, would tend to lengthen, and similar delays in sending in termination notices with errors in dating would tend to lessen, the durations of unemployment; such errors, as stated above, are more apt to occur and are less easy to check in the termination than in the beginning notices. The correction for cases of pseudo-unemployment has already been described.

12. Rate of unemployment: To form the monthly rates of unemployment the number of new cases of unemployment originating in a given month is divided by the number of children at work at the beginning of the same month, and the resulting quotient corrected to allow for the number of cases of pseudo-unemployment included in the number of cases of unemployment. In making the correction for the text the same factor was applied throughout. The analysis of the proportion of cases of unemployment which were pseudo-unemployment shows that the proportion is relatively greater toward the later than at the earlier parts of the work histories, hence the decline in the monthly rates of becoming unemployed is slightly understated in the text. The rate of unemployment for the last months, on the other hand, may be slightly overestimated.



13. Duration of unemployment: Most of the sources of error in the duration of unemployment have already been discussed. Delays in sending in termination notices with substitution of date of filling out for date of actual termination of work would tend to shorten, and similar errors in dates of beginning notices tend to lengthen, the duration of periods of unemployment; but, as has been stated, the total result of all such delays would probably be to shorten the periods. On the other hand, the provisional period of work on the parent's copy of the first certificate may work the other way for beginning notices. The duration of a period of unemployment lasting over one week is counted as the full time between the date of the termination and of the beginning notice, and therefore, if the beginning notice is not dated back to the day on which the child went to work on his parent's copy, there may be an error up to one week in the actual and average duration of the period of unemployment.

In this connection it should be remembered that it can not always be inferred that an interval between positions is unemployment in the ordinary sense. There is, however, no method for estimating the error from this source; it would probably affect the longer periods more than the shorter ones.

The difference in average duration of periods of unemployment of boys and girls is not large, and probably not of very great significance, similarly in regard to the difference shown for the earlier and later parts of the work histories.

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**GENERAL TABLES.**

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TABLE 1.—Industry of first employment by age at first employment: Number and per cent distribution of boys and girls of specified age at first employment, by industry of first employment.

Industry of first employment.	BOYS.											
	Total.		14-14½		14½-14¾		14¾-15		15-15½		15½-16	
	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.
All industries.....	4,000	100.0	1,385	100.0	634	100.0	935	100.0	732	100.0	314	100.0
Manufacturing and mechanical industries.....	2,838	71.0	997	72.0	444	70.0	672	71.9	502	68.6	223	71.0
Metal.....	1,404	35.1	497	35.9	229	36.1	327	35.0	231	31.6	120	38.2
Textiles.....	663	16.6	230	16.6	93	14.7	162	17.3	124	16.9	54	17.2
Clothing.....	185	4.6	59	4.3	27	4.3	48	5.1	40	5.5	11	3.5
Food products.....	46	1.2	15	1.1	10	1.6	12	1.3	7	1.0	2	0.6
Wood products.....	45	1.1	17	1.2	6	0.9	7	0.7	13	1.8	2	0.6
Leather goods.....	48	1.2	22	1.6	9	1.4	12	1.3	3	0.4	2	0.6
Chemical products.....	24	0.6	7	0.5	2	0.3	6	0.6	7	1.0	2	0.6
Bone products.....	85	2.1	48	3.5	7	1.1	15	1.6	13	1.8	2	0.6
Clay products.....	29	0.7	10	0.7	5	0.8	5	0.5	9	1.2	2	0.6
Rubber goods.....	48	1.2	13	0.9	7	1.1	13	1.4	6	0.8	3	1.0
Electrical goods.....	117	2.9	46	3.3	19	3.0	25	2.7	21	2.9	6	1.9
Printing.....	72	1.8	20	1.4	16	2.5	18	1.9	14	1.9	4	1.3
Other.....	72	1.8	13	0.9	14	2.2	22	2.4	14	1.9	9	2.9
Trade.....	711	17.8	275	19.9	114	18.0	157	16.8	121	16.5	44	14.0
Transportation.....	143	3.6	55	4.0	21	3.3	29	3.1	26	3.6	12	3.8
Personal and domestic service.....	39	1.0	17	1.2	5	0.8	9	1.0	6	0.8	2	0.6
Other.....	66	1.7	8	0.6	16	2.5	19	2.0	16	2.2	7	2.2
Not reported.....	203	5.1	33	2.4	34	5.4	49	5.2	61	8.3	26	8.3

Industry of first employment.	GIRLS.											
	Total.		14-14½		14½-14¾		14¾-15		15-15½		15½-16	
	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.
All industries.....	3,147	100.0	1,091	100.0	412	100.0	786	100.0	609	100.0	249	100.0
Manufacturing and mechanical industries.....	2,504	79.6	907	83.1	323	78.4	610	77.6	476	78.2	188	75.5
Metal.....	664	21.1	212	19.4	91	22.1	182	23.2	125	20.5	54	21.7
Textiles.....	835	26.5	317	29.1	104	25.2	199	25.3	158	25.9	57	22.9
Clothing.....	431	13.7	184	16.9	51	12.4	91	11.6	74	12.2	31	12.4
Food products.....	61	1.9	20	1.8	8	1.9	15	1.9	16	2.6	2	0.8
Wood products.....	132	4.2	55	5.0	16	3.9	24	3.1	25	4.1	12	4.8
Leather goods.....	22	0.7	13	1.2	2	0.5	5	0.6	2	0.3	.....	.....
Chemical products.....	38	1.2	6	0.5	5	1.2	8	1.0	14	2.3	5	2.0
Bone products.....	79	2.5	28	2.6	7	1.7	21	2.7	20	3.3	3	1.2
Clay products.....	13	0.4	4	0.4	3	0.7	2	0.3	2	0.3	2	0.8
Rubber goods.....	60	1.9	14	1.3	11	2.7	19	2.4	10	1.6	6	2.4
Electrical goods.....	120	3.8	48	4.4	15	3.6	25	3.2	21	3.4	11	4.4
Printing.....	20	0.6	4	0.4	3	0.7	6	0.8	3	0.5	4	1.6
Other.....	29	0.9	2	0.2	7	1.7	13	1.7	6	1.0	1	0.4
Trade.....	522	16.6	150	13.7	72	17.5	144	18.3	106	17.4	50	20.1
Transportation.....	4	0.1	.....	.....	.....	.....	3	0.4	1	0.2	.....	.....
Personal and domestic service.....	28	0.9	14	1.3	4	1.0	3	0.4	5	0.8	2	0.8
Other.....	12	0.4	5	0.5	.....	.....	5	0.6	2	0.3	.....	.....
Not reported.....	77	2.4	15	1.4	13	3.2	21	2.7	19	3.1	9	3.6

TABLE 2.—Children having specified number of positions, by length of work history, and sex.

Length of work history.	Total.	Children having specified number of positions.														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
All durations.....	7,147	3,367	1,863	952	474	247	114	58	34	17	12	2	4	2	.....	1
23 to 24 months.....	1,470	471	364	283	162	101	34	21	14	9	7	.....	3	1	.....	1
22 months but less than 23.....	571	209	153	89	41	35	17	13	4	5	3	.....	1	.....	.....	.....
21 months but less than 22.....	435	156	112	67	46	24	18	5	3	1	2	.....	.....	1	.....	.....
20 months but less than 21.....	371	142	105	54	41	10	12	4	3	.....	.....	.....	.....	.....	.....	.....
19 months but less than 20.....	340	134	87	58	26	16	10	5	4	.....	.....	.....	.....	.....	.....	.....
18 months but less than 19.....	335	137	91	58	31	10	4	3	.....	1	.....	.....	.....	.....	.....	.....
17 months but less than 18.....	312	135	98	41	24	10	1	1	2	.....	.....	.....	.....	.....	.....	.....
16 months but less than 17.....	310	133	95	43	18	10	7	3	.....	.....	.....	1	.....	.....	.....	.....
15 months but less than 16.....	302	129	85	52	17	13	4	1	1	.....	.....	.....	.....	.....	.....	.....
14 months but less than 15.....	287	150	85	32	13	5	1	.....	.....	.....	.....	1	.....	.....	.....	.....
13 months but less than 14.....	245	119	75	31	16	1	.....	1	1	1	.....	.....	.....	.....	.....	.....
12 months but less than 13.....	265	142	74	34	9	2	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
11 months but less than 12.....	306	161	100	31	13	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10 months but less than 11.....	264	156	75	20	6	4	.....	1	2	.....	.....	.....	.....	.....	.....	.....
9 months but less than 10.....	210	128	53	20	4	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
8 months but less than 9.....	207	135	53	16	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7 months but less than 8.....	183	130	45	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6 months but less than 7.....	171	119	40	9	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5 months but less than 6.....	141	113	27	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4 months but less than 5.....	124	102	17	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3 months but less than 4.....	114	104	9	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2 months but less than 3.....	81	64	15	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 month but less than 2.....	73	69	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Less than 1 month.....	30	29	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

## BOYS.

All durations.....	4,000	1,759	1,026	569	305	156	80	46	25	14	11	2	4	2	.....	1
23 to 24 months.....	817	251	192	152	99	60	23	14	9	7	6	.....	3	1	.....	1
22 months but less than 23.....	323	102	80	53	27	24	12	12	3	5	3	.....	1	.....	.....	.....
21 months but less than 22.....	245	79	66	37	28	15	10	4	2	1	2	.....	.....	1	.....	.....
20 months but less than 21.....	228	81	58	37	32	5	10	3	.....	.....	.....	.....	.....	.....	.....	.....
19 months but less than 20.....	207	77	53	39	13	9	8	4	4	.....	.....	.....	.....	.....	.....	.....
18 months but less than 19.....	199	69	53	38	23	9	4	3	.....	.....	.....	.....	.....	.....	.....	.....
17 months but less than 18.....	164	68	44	28	13	8	1	1	.....	.....	.....	.....	.....	.....	.....	.....
16 months but less than 17.....	174	71	46	29	13	6	5	3	.....	.....	.....	1	.....	.....	.....	.....

15 months but less than 16	164	53	48	39	12	9	2		1										
14 months but less than 15	155	80	46	16	9	2	1												
13 months but less than 14	133	64	40	17	9														
12 months but less than 13	145	69	46	19	7	1	3		1	1									
11 months but less than 12	151	73	47	20	10	1													
10 months but less than 11	161	87	53	12	3	3			1	2									
9 months but less than 10	112	66	29	10	4	2	1												
8 months but less than 9	112	67	31	12		2													
7 months but less than 8	98	73	18	5															
6 months but less than 7	98	68	27	3															
5 months but less than 6	73	52	21																
4 months but less than 5	77	60	13	3	1														
3 months but less than 4	67	63	4																
2 months but less than 3	44	37	7																
1 month but less than 2	38	34	4																
Less than 1 month	15	15																	

GIRLS.

All durations	3,147	1,608	837	383	169	91	34	12	9	3	1								
23 to 24 months	653	220	172	131	63	41	11	7	5	2	1								
22 months but less than 23	248	107	73	36	14	11	5	1	1										
21 months but less than 22	190	77	46	30	18	9	8	1	1										
20 months but less than 21	143	61	47	17	9	5	2	1	1										
19 months but less than 20	133	57	34	19	13	7	2	1											
18 months but less than 19	136	68	38	20	8	1													
17 months but less than 18	148	67	54	13	11	2			1										
16 months but less than 17	136	62	49	14	5	4	2												
15 months but less than 16	138	76	37	13	5	4	2	1											
14 months but less than 15	132	70	39	16	4	3													
13 months but less than 14	112	55	35	14	7	1													
12 months but less than 13	120	73	28	15	2	1	1												
11 months but less than 12	155	88	53	11	3														
10 months but less than 11	103	69	22	8	3	1													
9 months but less than 10	98	62	24	10		1	1												
8 months but less than 9	95	68	22	4	1														
7 months but less than 8	85	57	27	1															
6 months but less than 7	73	51	13	6	3														
5 months but less than 6	68	61	6	1															
4 months but less than 5	47	42	4	1															
3 months but less than 4	47	41	5	1															
2 months but less than 3	37	27	8	2															
1 month but less than 2	35	35																	
Less than 1 month	15	14	1																

TABLE 3.—Boys and girls in whose work histories specified number of termination notices were missing, by length of work history.<sup>1</sup>

Length of work history.	Children with specified number of missing termination notices.								
	Total.			Boys.			Girls.		
	Total.	1	2	Total.	1	2	Total.	1	2
All children.....	145	142	3	85	83	2	60	59	1
23 to 24 months.....	33	32	1	20	19	1	13	13	.....
22 months but less than 23.....	12	11	1	4	4	.....	8	7	1
21 months but less than 22.....	8	8	.....	4	4	.....	4	4	.....
20 months but less than 21.....	11	11	.....	8	8	.....	3	3	.....
19 months but less than 20.....	11	10	1	5	4	1	6	6	.....
18 months but less than 19.....	7	7	.....	4	4	.....	3	3	.....
17 months but less than 18.....	3	3	.....	2	2	.....	1	1	.....
16 months but less than 17.....	10	10	.....	7	7	.....	3	3	.....
15 months but less than 16.....	9	9	.....	9	9	.....	.....	.....	.....
14 months but less than 15.....	7	7	.....	6	6	.....	1	1	.....
13 months but less than 14.....	4	4	.....	2	2	.....	2	2	.....
12 months but less than 13.....	5	5	.....	2	2	.....	3	3	.....
11 months but less than 12.....	10	10	.....	4	4	.....	6	6	.....
10 months but less than 11.....	2	2	.....	2	2	.....	.....	.....	.....
9 months but less than 10.....	3	3	.....	1	1	.....	2	2	.....
8 months but less than 9.....	2	2	.....	1	1	.....	1	1	.....
7 months but less than 8.....	1	1	.....	1	1	.....	.....	.....	.....
6 months but less than 7.....	.....	1	.....	.....	.....	.....	.....	.....	.....
5 months but less than 6.....	1	1	.....	.....	.....	.....	1	1	.....
4 months but less than 5.....	1	1	.....	1	1	.....	.....	.....	.....
3 months but less than 4.....	3	3	.....	1	1	.....	2	2	.....
2 months but less than 3.....	2	2	.....	1	1	.....	1	1	.....
1 month but less than 2.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Less than 1 month.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> No cases of missing beginning notices were found.



TABLE 4.—Cases of unemployment originating in specified month of work history, by length of work history and sex of child.

Length of work history and sex.	Cases of unemployment originating in specified month of work history.																								
	Total.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	Twenty-first.	Twenty-second.	Twenty-third.	Twenty-fourth.
All children.....	5,961	741	556	524	389	339	319	333	319	310	267	246	214	226	212	178	166	133	110	114	94	72	50	33	16
23 to 24 months.....	1,679	142	117	106	93	84	89	80	82	69	62	80	59	77	76	60	59	60	44	53	59	45	36	31	(16)
22 months but less than 23.....	675	72	43	45	33	33	39	35	36	37	35	20	27	35	31	21	25	14	18	32	16	15	11	(2)	
21 months but less than 22.....	492	39	38	42	25	21	23	28	25	31	21	19	19	21	28	18	24	18	24	11	7	7	(3)		
20 months but less than 21.....	361	36	32	24	21	12	19	21	22	27	26	18	18	8	14	16	8	9	9	7	9	(5)			
19 months but less than 20.....	360	42	32	28	26	17	18	17	23	21	14	15	16	16	13	14	18	12	6	9	12	(3)			
18 months but less than 19.....	305	43	32	32	10	19	16	19	12	16	19	12	6	13	18	13	9	5	9	(2)					
17 months but less than 18.....	263	36	29	16	19	17	14	14	14	10	10	15	10	16	8	14	9	12	(...)						
16 months but less than 17.....	260	31	30	26	19	19	15	15	15	13	13	13	8	10	7	9	11	(3)	(3)						
15 months but less than 16.....	267	28	29	23	13	24	18	19	20	16	15	11	17	11	10	10	(3)								
14 months but less than 15.....	177	33	16	23	9	9	8	7	10	12	9	11	12	9	6	(3)									
13 months but less than 14.....	188	25	15	25	19	15	8	17	14	15	12	8	9	5	(1)										
12 months but less than 13.....	163	35	23	20	11	6	4	12	9	8	12	11	7	(5)											
11 months but less than 12.....	166	32	25	19	15	10	8	13	8	13	8	9	9	(6)											
10 months but less than 11.....	140	31	17	16	13	10	12	10	7	11	9	(4)													
9 months but less than 10.....	117	25	18	16	13	13	6	10	7	7	(2)														
8 months but less than 9.....	95	23	12	17	8	2	6	10	13	(4)															
7 months but less than 8.....	70	15	12	15	10	8	5	3	(2)																
6 months but less than 7.....	73	15	12	12	14	12	5	(3)																	
5 months but less than 6.....	44	13	7	6	9	6	(3)																		
4 months but less than 5.....	28	6	7	6	7	(2)																			
3 months but less than 4.....	16	5	4	5	(2)																				
2 months but less than 3.....	17	9	6	(2)																					
1 month but less than 2.....	4	4	(...)																						
Less than 1 month.....	1	(1)																							

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TABLE 4.—Cases of unemployment originating in specified month of work history, by length of work history and sex of child—Continued.

Length of work history and sex	Cases of unemployment originating in specified month of work history.																								
	Total.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	Twenty-first.	Twenty-second.	Twenty-third.	Twenty-fourth.
Boys.....	3,771	457	354	315	234	224	205	212	208	195	178	159	133	146	134	119	105	85	70	64	60	49	34	20	11
23 to 24 months.....	1,040	84	73	72	59	54	55	55	54	43	34	48	34	54	44	41	32	37	25	26	33	30	24	18	(11)
22 months but less than 23.....	462	54	27	22	24	23	28	22	25	25	24	15	17	26	20	14	20	8	14	18	15	10	9	(2)	.....
21 months but less than 22.....	317	22	21	29	15	15	17	16	12	20	14	13	14	12	19	13	15	16	15	8	4	6	(1)	.....	.....
20 months but less than 21.....	240	19	25	18	14	8	13	15	18	18	20	12	11	4	10	6	5	4	7	5	5	(3)	.....	.....	.....
19 months but less than 20.....	250	24	24	19	19	11	15	9	16	14	10	12	13	11	10	9	12	19	4	4	6	(3)	.....	.....	.....
18 months but less than 19.....	218	30	25	20	6	16	10	15	7	11	16	10	4	8	12	10	8	4	5	(1)	.....	.....	.....	.....	.....
17 months but less than 18.....	162	20	17	8	10	12	8	11	7	7	7	8	7	10	6	12	6	(...)	.....	.....	.....	.....	.....	.....	.....
16 months but less than 17.....	149	17	16	13	11	14	11	7	12	7	7	8	6	4	4	6	5	(1)	.....	.....	.....	.....	.....	.....	.....
15 months but less than 16.....	165	18	20	11	6	15	12	12	16	10	10	6	11	6	4	6	(2)	.....	.....	.....	.....	.....	.....	.....	.....
14 months but less than 15.....	99	23	10	12	3	4	3	3	6	6	7	6	5	5	4	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....
13 months but less than 14.....	104	13	7	12	11	8	4	12	7	8	10	5	4	2	(1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12 months but less than 13.....	102	26	15	10	6	3	3	7	6	6	7	5	4	(4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11 months but less than 12.....	97	18	16	12	5	7	5	7	4	6	6	8	(3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10 months but less than 11.....	92	20	12	11	10	7	7	7	4	7	4	(3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9 months but less than 10.....	65	19	10	9	5	6	2	4	5	3	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8 months but less than 9.....	63	17	9	9	6	2	4	5	7	(4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7 months but less than 8.....	35	6	5	7	4	5	3	3	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6 months but less than 7.....	38	7	6	7	7	7	2	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5 months but less than 6.....	34	9	4	5	7	6	(3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4 months but less than 5.....	19	5	7	2	4	(1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3 months but less than 4.....	12	3	2	5	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2 months but less than 3.....	8	3	3	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 month but less than 2.....	.....	(...)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Less than 1 month.....	.....	(...)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Girls.....	2,190	284	202	209	155	115	114	121	111	115	89	87	81	80	78	59	61	48	40	50	34	23	16	13	5
23 to 24 months.....	639	58	44	34	34	30	34	25	28	26	28	32	25	23	32	19	27	23	19	27	26	15	12	13	(5)
22 months but less than 23.....	213	18	16	23	9	10	11	13	11	12	11	5	10	9	11	7	5	6	4	14	1	5	2	(1)	....
21 months but less than 22.....	175	17	17	13	10	6	6	12	13	11	7	6	5	9	9	5	9	2	9	3	3	3	1	(2)	....
20 months but less than 21.....	121	17	7	6	7	4	6	6	4	9	6	6	7	4	4	10	3	5	2	2	4	(2)	....	....	....
19 months but less than 20.....	110	18	8	9	7	6	3	8	7	7	4	3	3	5	3	5	6	3	2	3	(..)	....	....	....	....
18 months but less than 19.....	87	13	7	12	4	3	6	4	5	5	3	2	2	5	6	3	1	1	4	(1)	....	....	....	....	....
17 months but less than 18.....	101	16	12	8	9	5	6	3	7	3	3	7	3	6	2	2	3	6	(..)	....	....	....	....	....	....
16 months but less than 17.....	111	14	14	13	8	5	7	8	3	6	6	5	2	6	3	3	6	(2)	....	....	....	....	....	....	....
15 months but less than 16.....	102	10	9	12	7	9	6	7	4	6	5	5	6	5	6	4	(1)	....	....	....	....	....	....	....	....
14 months but less than 15.....	78	10	6	11	6	5	5	4	4	6	2	5	7	4	2	....	....	....	....	....	....	....	....	....	....
13 months but less than 14.....	84	12	8	13	8	7	4	5	7	7	2	3	5	3	(..)	....	....	....	....	....	....	....	....	....	....
12 months but less than 13.....	61	9	8	10	5	3	1	5	3	2	5	6	3	(1)	....	....	....	....	....	....	....	....	....	....	....
11 months but less than 12.....	69	14	9	7	10	3	3	6	4	7	2	1	(3)	....	....	....	....	....	....	....	....	....	....	....	....
10 months but less than 11.....	48	11	5	5	3	3	5	3	3	4	5	(1)	....	....	....	....	....	....	....	....	....	....	....	....	....
9 months but less than 10.....	52	6	8	7	8	7	4	6	2	4	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....
8 months but less than 9.....	32	6	3	8	2	....	2	5	6	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7 months but less than 8.....	35	9	7	8	6	3	2	....	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
6 months but less than 7.....	35	8	6	5	7	5	3	(1)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
5 months but less than 6.....	10	4	3	1	2	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4 months but less than 5.....	9	1	....	4	3	(1)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3 months but less than 4.....	4	2	....	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2 months but less than 3.....	9	6	3	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1 month but less than 2.....	4	4	(..)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Less than 1 month.....	1	(1)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

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TABLE 5.—Children with specified number of cases of unemployment, by length of work history, and sex.

Length of work history.	Children with specified number of cases of unemployment.													
	Total.	None.	1	2	3	4	5	6	7	8	9	10	11	12
All durations.....	7,147	3,636	2,042	891	343	139	53	26	12	1	3			1
23 months but less than 24.....	1,470	599	425	241	116	52	20	10	5		1			1
22 months but less than 23.....	571	237	158	91	39	28	9	3	5	1				
21 months but less than 22.....	435	185	109	90	28	10	5	6			2			
20 months but less than 21.....	371	167	115	48	25	9	4	2	1					
19 months but less than 20.....	340	150	93	50	29	13	3	1	1					
18 months but less than 19.....	335	157	99	44	27	4	3	1						
17 months but less than 18.....	312	135	116	47	8	2	3	1						
16 months but less than 17.....	310	147	100	40	15	5	3							
15 months but less than 16.....	302	141	90	46	16	8	1							
14 months but less than 15.....	287	163	86	27	9	1		1						
13 months but less than 14.....	245	120	79	36	6	2	1							
12 months but less than 13.....	265	154	71	30	8	2		1						
11 months but less than 12.....	306	175	103	21	7									
10 months but less than 11.....	264	158	80	20	4	2								
9 months but less than 10.....	210	124	63	17	5		1							
8 months but less than 9.....	207	126	69	11		1								
7 months but less than 8.....	183	122	52	9										
6 months but less than 7.....	171	112	46	12	1									
5 months but less than 6.....	141	103	32	6										
4 months but less than 5.....	124	99	22	3										
3 months but less than 4.....	114	99	14	1										
2 months but less than 3.....	81	65	15	1										
1 month but less than 2.....	73	69	4											
Less than 1 month.....	30	29	1											

BOYS.

All durations.....	4,000	1,899	1,159	538	224	104	38	24	11	1	2			1
23 months but less than 24.....	817	313	232	135	68	37	17	10	4					1
22 months but less than 23.....	323	115	86	57	28	23	5	3	5	1				
21 months but less than 22.....	245	91	63	58	18	4	4	5			2			
20 months but less than 21.....	228	95	75	29	16	9	2	1	1					
19 months but less than 20.....	207	81	61	29	21	10	3	1						
18 months but less than 19.....	199	80	58	33	22	3	2	1						
17 months but less than 18.....	164	65	56	32	6	2	2	1						
16 months but less than 17.....	174	85	50	25	9	3	2							

15 months but less than 16.....	164	69	49	28	12	6													
14 months but less than 15.....	155	87	48	13	5	1			1										
13 months but less than 14.....	133	65	43	19	3	2			1										
12 months but less than 13.....	145	76	45	16	7	1													
11 months but less than 12.....	151	76	59	10	6														
10 months but less than 11.....	161	92	52	13	2	2													
9 months but less than 10.....	112	63	37	10	1			1											
8 months but less than 9.....	112	62	39	10		1													
7 months but less than 8.....	98	69	23	6															
6 months but less than 7.....	98	67	24	7															
5 months but less than 6.....	73	42	28	3															
4 months but less than 5.....	77	61	13	3															
3 months but less than 4.....	67	56	10	1															
2 months but less than 3.....	44	36	8																
1 month but less than 2.....	38	38																	
Less than 1 month.....	15	15																	

GIRLS.

All durations.....	3,147	1,737	883	354	119	35	15	2	1		1								
23 months but less than 24.....	653	286	193	106	48	15	3		1		1								
22 months but less than 23.....	248	122	72	34	11	5	4												
21 months but less than 22.....	190	94	46	32	10	6	1	1											
20 months but less than 21.....	143	72	40	19	9		2	1											
19 months but less than 20.....	133	69	32	21	8	3													
18 months but less than 19.....	136	77	41	11	5	1	1												
17 months but less than 18.....	148	70	60	15	2		1												
16 months but less than 17.....	136	62	50	15	6	2	1												
15 months but less than 16.....	138	72	41	18	4	2	1												
14 months but less than 15.....	132	76	38	14	4														
13 months but less than 14.....	112	55	36	17	3		1												
12 months but less than 13.....	120	78	26	14	1	1													
11 months but less than 12.....	155	99	44	11	1														
10 months but less than 11.....	103	66	28	7	2														
9 months but less than 10.....	98	61	26	7	4														
8 months but less than 9.....	95	64	30	1															
7 months but less than 8.....	85	53	29	3															
6 months but less than 7.....	73	45	22	5	1														
5 months but less than 6.....	68	61	4	3															
4 months but less than 5.....	47	38	9																
3 months but less than 4.....	47	43	4																
2 months but less than 3.....	37	29	7	1															
1 month but less than 2.....	35	31	4																
Less than 1 month.....	15	14	1																

TABLE 6.—Children employed at beginning of specified month of work history, according to length of work history, and sex.

Length of work history.	Children employed at beginning of specified month of work history.						
	First.	Second.	Third.	Fourth.	Seventh.	Thirteenth.	Nineteenth.
All durations.....	7,147	6,420	6,122	5,873	5,472	4,317	2,841
23 to 24 months.....	1,470	1,332	1,285	1,262	1,228	1,240	1,204
22 months but less than 23.....	571	502	485	462	459	467	468
21 months but less than 22.....	435	400	384	364	360	354	332
20 months but less than 21.....	371	335	327	319	314	300	310
19 months but less than 20.....	340	303	288	280	274	275	263
18 months but less than 19.....	335	295	281	267	270	281	(264)
17 months but less than 18.....	312	284	262	261	255	257	.....
16 months but less than 17.....	310	278	262	260	258	254	.....
15 months but less than 16.....	302	269	258	249	253	240	.....
14 months but less than 15.....	287	257	253	240	243	247	.....
13 months but less than 14.....	245	221	218	204	198	183	.....
12 months but less than 13.....	265	235	224	219	228	(219)	.....
11 months but less than 12.....	306	272	266	261	260	.....	.....
10 months but less than 11.....	264	232	230	220	218	.....	.....
9 months but less than 10.....	210	189	182	179	177	.....	.....
8 months but less than 9.....	207	187	180	173	184	.....	.....
7 months but less than 8.....	183	171	164	158	153	.....	.....
6 months but less than 7.....	171	158	153	150	(140)	.....	.....
5 months but less than 6.....	141	132	131	128	.....	.....	.....
4 months but less than 5.....	124	118	112	114	.....	.....	.....
3 months but less than 4.....	114	108	107	(103)	.....	.....	.....
2 months but less than 3.....	81	73	(70)	.....	.....	.....	.....
1 month but less than 2.....	73	(69)	.....	.....	.....	.....	.....
Less than 1 month.....	(30)	.....	.....	.....	.....	.....	.....

## BOYS.

All durations.....	4,000	3,557	3,374	3,228	3,014	2,387	1,582
23 to 24 months.....	817	733	707	686	667	673	647
22 months but less than 23.....	323	275	268	257	254	260	260
21 months but less than 22.....	245	224	216	196	192	195	179
20 months but less than 21.....	228	211	199	191	188	178	191
19 months but less than 20.....	207	183	173	166	163	165	156
18 months but less than 19.....	199	172	159	153	159	163	(149)
17 months but less than 18.....	164	148	135	134	131	130	.....
16 months but less than 17.....	174	156	152	152	146	145	.....
15 months but less than 16.....	164	142	134	132	135	126	.....
14 months but less than 15.....	155	134	132	126	132	135	.....
13 months but less than 14.....	133	121	118	111	106	99	.....
12 months but less than 13.....	145	124	117	116	124	(118)	.....
11 months but less than 12.....	151	130	125	122	123	.....	.....
10 months but less than 11.....	161	140	138	133	131	.....	.....
9 months but less than 10.....	112	97	93	94	100	.....	.....
8 months but less than 9.....	112	99	93	89	97	.....	.....
7 months but less than 8.....	98	94	91	89	85	.....	.....
6 months but less than 7.....	98	91	90	88	(81)	.....	.....
5 months but less than 6.....	73	68	66	64	.....	.....	.....
4 months but less than 5.....	77	72	66	71	.....	.....	.....
3 months but less than 4.....	67	64	63	(58)	.....	.....	.....
2 months but less than 3.....	44	41	(39)	.....	.....	.....	.....
1 month but less than 2.....	38	(38)	.....	.....	.....	.....	.....
Less than 1 month.....	(15)	.....	.....	.....	.....	.....	.....

## GIRLS.

All durations.....	3,147	2,863	2,748	2,645	2,458	1,930	1,259
23 to 24 months.....	653	599	578	576	561	567	557
22 months but less than 23.....	248	227	217	205	205	207	208
21 months but less than 22.....	190	176	168	168	168	159	153
20 months but less than 21.....	143	124	128	128	126	122	119
19 months but less than 20.....	133	120	115	114	111	110	107
18 months but less than 19.....	136	123	122	114	111	118	(115)
17 months but less than 18.....	148	136	127	127	124	127	.....
16 months but less than 17.....	136	122	110	108	112	109	.....
15 months but less than 16.....	138	127	124	117	118	114	.....
14 months but less than 15.....	132	123	121	114	111	112	.....
13 months but less than 14.....	112	100	100	93	92	84	.....
12 months but less than 13.....	120	111	107	103	104	(101)	.....
11 months but less than 12.....	155	142	141	139	137	.....	.....
10 months but less than 11.....	103	92	92	87	87	.....	.....
9 months but less than 10.....	98	92	89	85	77	.....	.....
8 months but less than 9.....	95	88	87	84	87	.....	.....
7 months but less than 8.....	85	77	73	69	68	.....	.....
6 months but less than 7.....	73	67	63	62	(59)	.....	.....
5 months but less than 6.....	68	64	65	64	.....	.....	.....

TABLE 6.—Children employed at beginning of specified month of work history, according to length of work history, and sex—Continued.

GIRLS—Continued.

Length of work history.	Children employed at beginning of specified month of work history.						
	First.	Second.	Third.	Fourth.	Seventh.	Thirteenth.	Nineteenth.
4 months but less than 5.....	47	46	46	43	.....	.....	.....
3 months but less than 4.....	47	44	44	(45)	.....	.....	.....
2 months but less than 3.....	37	32	(31)	.....	.....	.....	.....
1 month but less than 2.....	35	(31)	.....	.....	.....	.....	.....
Less than 1 month.....	(15)	.....	.....	.....	.....	.....	.....

TABLE 7.—Number of cases of unemployment in specified month of work history per 100 children employed at beginning of the month, by length of work history, and sex.

Length of work history.	Number of cases of unemployment in specified month of work history per 100 children employed at beginning of the month. <sup>1</sup>						
	First.	Second.	Third.	Fourth.	Seventh.	Thirteenth.	Nineteenth.
All children: Average.....	10.4	8.8	8.6	6.7	6.2	5.4	4.3
23 to 24 months.....	9.7	8.8	8.2	7.4	6.5	6.2	4.4
22 months but less than 23.....	12.6	8.6	9.3	7.1	7.6	7.5	6.8
21 months but less than 22.....	9.0	9.5	10.9	6.9	7.8	5.9	3.3
20 months but less than 21.....	9.7	9.6	7.3	6.6	6.7	2.7	2.3
19 months but less than 20.....	12.4	10.6	9.7	9.3	6.2	5.8	3.4
18 months but less than 19.....	12.8	10.8	11.4	3.7	7.0	4.6	.....
17 months but less than 18.....	11.5	10.2	6.1	7.3	5.5	6.2	.....
16 months but less than 17.....	10.0	10.8	9.9	7.3	5.8	3.9	.....
15 months but less than 16.....	9.3	10.8	8.9	5.2	7.5	4.6	.....
14 months but less than 15.....	11.5	6.2	9.1	3.7	2.9	3.6	.....
13 months but less than 14.....	10.2	6.8	11.5	9.3	8.6	2.7	.....
12 months but less than 13.....	13.2	9.8	8.9	5.0	5.3	.....	.....
11 months but less than 12.....	10.5	9.2	7.1	5.7	5.0	.....	.....
10 months but less than 11.....	11.7	7.3	7.0	5.9	4.6	.....	.....
9 months but less than 10.....	11.9	9.5	8.8	7.3	5.6	.....	.....
8 months but less than 9.....	11.1	6.4	9.4	4.6	5.4	.....	.....
7 months but less than 8.....	8.2	7.0	9.1	6.3	2.0	.....	.....
6 months but less than 7.....	8.8	7.6	7.8	9.3	.....	.....	.....
5 months but less than 6.....	9.2	5.3	4.6	7.0	.....	.....	.....
4 months but less than 5.....	4.8	5.9	5.4	6.1	.....	.....	.....
3 months but less than 4.....	4.4	3.7	4.7	.....	.....	.....	.....
Boys: Average.....	11.5	10.1	9.4	7.3	7.2	6.3	4.4
23 to 24 months.....	10.3	10.0	10.2	8.6	8.2	8.0	4.0
22 months but less than 23.....	16.7	9.8	8.2	9.3	8.7	10.0	6.9
21 months but less than 22.....	9.0	9.4	13.4	7.7	8.3	6.2	4.5
20 months but less than 21.....	8.3	11.8	9.0	7.3	8.0	2.2	2.6
19 months but less than 20.....	11.6	13.1	11.0	11.4	5.5	6.7	3.8
18 months but less than 19.....	15.1	14.5	12.6	3.9	9.4	4.9	.....
17 months but less than 18.....	12.2	11.5	5.9	7.5	8.4	7.7	.....
16 months but less than 17.....	9.8	10.3	8.6	7.2	4.8	2.8	.....
15 months but less than 16.....	11.0	14.1	8.2	4.6	8.9	4.8	.....
14 months but less than 15.....	14.8	7.5	9.1	2.4	2.3	3.7	.....
13 months but less than 14.....	9.8	5.8	10.2	9.9	11.3	.....	.....
12 months but less than 13.....	17.9	12.1	8.5	5.2	5.6	.....	.....
11 months but less than 12.....	11.9	12.3	9.6	4.1	5.7	.....	.....
10 months but less than 11.....	12.4	8.6	8.0	7.5	5.3	.....	.....
9 months but less than 10.....	17.0	.....	.....	.....	4.0	.....	.....
8 months but less than 9.....	15.2	.....	.....	.....	.....	.....	.....
Girls: Average.....	9.0	7.1	7.7	6.0	5.0	4.3	4.3
23 to 24 months.....	8.9	7.3	5.9	5.9	4.5	4.1	4.8
22 months but less than 23.....	7.3	7.0	10.6	4.4	6.3	4.3	6.7
21 months but less than 22.....	8.9	9.7	7.7	6.0	7.1	5.7	2.0
20 months but less than 21.....	11.9	5.6	4.7	5.5	4.8	3.3	1.7
19 months but less than 20.....	13.5	6.7	7.8	6.1	7.2	4.5	2.8
18 months but less than 19.....	9.6	5.7	9.8	3.5	3.6	4.2	.....
17 months but less than 18.....	10.8	8.8	6.3	7.1	2.4	4.7	.....
16 months but less than 17.....	10.3	11.5	11.8	7.4	7.1	5.5	.....
15 months but less than 16.....	7.2	7.1	9.7	6.0	5.9	4.4	.....
14 months but less than 15.....	7.6	4.9	9.1	5.3	3.6	3.6	.....
13 months but less than 14.....	10.7	8.0	13.0	.....	.....	.....	.....
12 months but less than 13.....	7.5	7.2	9.3	4.9	4.8	.....	.....
11 months but less than 12.....	9.0	6.3	5.0	7.2	4.4	.....	.....
10 months but less than 11.....	10.7	.....	.....	.....	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100, or for "fringe" months.

TABLE 8.—Cases of unemployment originating in specified months of work history, according to whether terminated or not terminated at the sixteenth birthday, and duration of unemployment, for work histories from 21 to 24 months.

WORK HISTORIES OF 23 TO 24 MONTHS.

Termination and duration of unemployment.	Cases of unemployment originating in specified month of work history.																								
	Total.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	Twenty-first.	Twenty-second.	Twenty-third.	Twenty-fourth.
All children .....	1,679	142	117	106	93	84	89	80	82	69	62	80	59	77	76	60	59	60	44	53	59	45	36	31	16
Cases terminated before sixteenth birthday .....	1,370	138	114	100	88	77	76	75	72	62	55	69	51	67	61	45	41	50	32	34	29	17	13	6	(..)
Less than 1 month .....	682	56	51	40	42	40	43	34	36	32	30	37	23	31	34	21	22	25	15	17	21	14	12	(6)	(..)
1 month, but less than 2 .....	296	23	20	27	15	14	13	20	12	17	10	16	17	18	13	6	11	11	11	14	2	(1)	(1)	(..)	(..)
2 months, but less than 3 .....	120	14	11	6	11	4	7	6	9	5	2	5	4	8	7	4	2	6	3	2	3	(1)	(..)	(..)	(..)
3 months, but less than 4 .....	62	5	4	6	4	2	1	6	6	3	7	1	2	4	2	4	1	3	1	(..)	(..)	(..)	(..)	(..)	(..)
4 months, but less than 5 .....	39	8	3	1	4	4	1	2	3	..	1	3	1	3	1	2	2	2	3	(..)	(..)	(..)	(..)	(..)	(..)
5 months, but less than 6 .....	49	8	5	6	3	2	1	2	2	1	1	2	2	1	1	7	2	3	(2)	(1)	(..)	(..)	(..)	(..)	(..)
6 months, but less than 7 .....	30	2	2	3	3	5	4	..	2	2	..	1	4	3	1	1	2	2	3	(..)	(..)	(..)	(..)	(..)	(..)
7 months, but less than 8 .....	22	4	7	1	1	3	1	3	..	1	..	1	..	2	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
8 months, but less than 9 .....	14	4	1	1	1	..	2	1	..	..	..	1	2	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
9 months, but less than 10 .....	13	3	4	3	..	1	..	..	..	..	2	..	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
10 months, but less than 11 .....	14	1	5	1	1	..	..	2	1	1	..	2	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
11 months, but less than 12 .....	8	2	..	2	..	..	2	..	..	1	1	..	..	(1)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
12 months, but less than 13 .....	11	2	1	2	..	1	1	1	..	..	..	(1)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
13 months, but less than 14 .....	1	1	..	..	..	..	..	..	..	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
14 months, but less than 15 .....	3	2	..	..	..	..	..	..	..	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
15 months, but less than 16 .....	1	1	..	..	..	..	..	..	..	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
16 months, but less than 17 .....	3	1	..	1	..	1	..	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
17 months, but less than 18 .....	1	1	..	..	..	..	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
18 months, but less than 19 .....	..	..	..	..	..	(..)	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
19 months, but less than 20 .....	1	..	..	(1)	(..)	(..)	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
20 months, but less than 21 .....	..	..	..	(..)	(..)	(..)	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
21 months, but less than 22 .....	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
22 months, but less than 23 .....	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	..	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)
23 to 24 months .....	309	4	3	6	7	7	13	5	10	7	7	11	8	10	15	15	18	10	12	19	30	28	23	25	16
Cases not terminated at sixteenth birthday .....	309	4	3	6	7	7	13	5	10	7	7	11	8	10	15	15	18	10	12	19	30	28	23	25	16

INDUSTRIAL INSTABILITY OF CHILD WORKERS.

WORK HISTORIES OF 22 MONTHS BUT LESS THAN 23.

All children .....	675	72	43	45	33	33	39	35	36	37	35	20	27	35	31	21	25	14	18	32	16	15	11	2	...
Cases terminated before sixteenth birthday .....	557	69	39	42	30	32	36	32	31	30	34	16	24	28	24	19	20	12	11	11	7	7	3	(3)	(..)
Less than 1 month .....	268	32	11	13	15	18	17	15	19	13	14	12	16	13	8	12	8	5	6	7	6	5	(3)	(..)	(..)



1 month, but less than 2	111	6	9	11	9	8	9	8	5	4	9	1	4	5	7	3	4	3	1	2	1	(2)	(..)	(..)
2 months, but less than 3	48	5	2	4	1	2	5	3	3	3	4	2	3	3	2	3	3	2	2	2	(..)	(..)	(..)	
3 months, but less than 4	37	6	6	3	2	1	2	1	1	3	2	1	1	1	2	1	4	2	1	1	(..)	(..)	(..)	
4 months, but less than 5	20	1	2	2	1	1	1	3	2	1	1	1	2	1	2	1	2	1	(1)	(..)	(..)	(..)	(..)	
5 months, but less than 6	13	4	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	
6 months, but less than 7	11	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
7 months, but less than 8	16	1	1	6	1	1	1	1	1	3	1	2	1	1	2	(1)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
8 months, but less than 9	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(1)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
9 months, but less than 10	4	3	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
10 months, but less than 11	7	1	4	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
11 months, but less than 12	5	3	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
12 months, but less than 13	6	3	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
13 months, but less than 14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
14 months, but less than 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
15 months, but less than 16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
16 months, but less than 17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
17 months, but less than 18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
18 months, but less than 19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
19 months, but less than 20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
20 months, but less than 21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
21 months, but less than 22	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
22 months, but less than 23	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	
Cases not terminated at sixteenth birthday	118	3	4	3	3	1	3	3	5	7	1	4	3	7	7	2	5	2	7	21	9	8	8	2

WORK HISTORIES OF 21 MONTHS, BUT LESS THAN 22.

All children	492	39	38	42	25	21	23	28	25	31	21	19	19	21	28	18	24	18	24	11	7	7	3	...
Cases terminated before sixteenth birthday	400	37	36	39	22	20	19	23	24	28	18	18	15	16	23	12	15	10	15	8	1	1	1	...
Less than 1 month	198	15	16	16	13	12	10	15	10	11	7	9	9	6	11	7	8	5	10	6	1	(..)	(..)	...
1 month, but less than 2	70	7	4	3	1	3	3	6	4	8	5	4	2	1	6	4	4	1	3	1	(..)	(..)	(1)	...
2 months, but less than 3	44	4	4	3	1	2	2	1	5	5	2	1	2	5	2	2	2	2	2	(1)	(..)	(..)	(..)	...
3 months, but less than 4	32	5	2	6	1	1	2	2	2	2	1	2	1	2	1	1	1	1	(2)	(..)	(..)	(..)	(..)	...
4 months, but less than 5	16	2	1	3	1	1	1	1	1	1	2	1	1	1	2	2	(1)	(..)	(..)	(..)	(..)	(..)	(..)	...
5 months, but less than 6	10	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	(1)	(..)	(..)	(..)	(..)	(..)	(..)	...
6 months, but less than 7	9	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
7 months, but less than 8	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
8 months, but less than 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
9 months, but less than 10	6	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
10 months, but less than 11	6	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
11 months, but less than 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
12 months, but less than 13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
13 months, but less than 14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
14 months, but less than 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
15 months, but less than 16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
16 months, but less than 17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
17 months, but less than 18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
18 months, but less than 19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
19 months, but less than 20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
20 months, but less than 21	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
21 months, but less than 22	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	(..)	...
Cases not terminated at sixteenth birthday	92	2	2	3	3	1	4	5	1	3	3	1	4	5	5	6	9	8	9	3	6	7	2	...

TABLE 9.—Average percentage of periods of unemployment with specified duration, by length of work history and sex of child.

Duration of unemployment and sex.	Periods of unem- ployment.		Per cent terminated with specified duration among periods of unemployment originating in work histories of—																										
	Total that could have terminated with speci- fied duration.	Termi- nated with specified duration.																											
			Number.	Per cent.	23 to 24 months.	22 but under 23 months.	21 but under 22 months.	20 but under 21 months.	19 but under 20 months.	18 but under 19 months.	17 but under 18 months.	16 but under 17 months.	15 but under 16 months.	14 but under 15 months.	13 but under 14 months.	12 but under 13 months.	11 but under 12 months.	10 but under 11 months.	9 but under 10 months.	8 but under 9 months.	7 but under 8 months.	6 but under 7 months.	5 but under 6 months.	4 but under 5 months.	3 but under 4 months.	2 but under 3 months.			
ALL CHILDREN.																													
Less than 1 month.....	5,683	2,197	38.7	41.4	40.0	40.9	40.6	42.5	37.4	34.7	37.0	39.8	34.5	30.8	31.8	35.8	29.1	34.2	32.1	26.2	35.4	37.1	31.6	33.3	44.4				
1 month but less than 2.....	5,469	913	16.7	18.5	16.8	14.7	16.8	12.0	15.9	14.0	19.4	15.6	13.8	14.5	20.7	11.2	20.7	19.8	17.6	18.3	22.6	15.4	15.4						
2 months but less than 3.....	5,227	414	7.9	7.7	7.6	9.3	8.2	8.5	6.1	8.8	6.5	7.3	9.5	8.5	7.0	9.2	7.3	8.8	6.5	11.5	2.6	10.0							
3 months but less than 4.....	4,945	272	5.5	4.2	6.2	6.8	5.9	4.2	4.5	5.5	6.4	6.5	6.6	7.8	6.7	6.6	10.1	7.1	5.0	7.1									
4 months but less than 5.....	4,662	174	3.7	2.7	3.3	3.6	3.5	4.7	6.0	4.4	4.2	3.4	4.7	4.3	4.5	6.4	3.4	5.6	7.7		6.7								
5 months but less than 6.....	4,387	147	3.4	3.3	2.3	2.5	3.0	5.6	2.5	2.6	2.0	3.2	9.6	4.0	4.0	4.0	5.2	3.4	5.7										
6 months but less than 7.....	4,107	95	2.3	2.2	2.0	2.4	2.1	1.1	1.1	2.8	1.1	2.3	4.8	.9	6.3	3.3	4.7	2.3	4.3										
7 months but less than 8.....	3,827	75	2.0	1.7	3.1	1.1	1.1	1.2	1.4	1.8	1.7	2.6	3.1	.9	6.3	2.6	4.2												
8 months but less than 9.....	3,524	43	1.2	1.2	1.4	.3	2.3	2.3	1.0	.6	1.9	1.5	1.1	3.6	1.3														
9 months but less than 10.....	3,195	40	1.3	1.1	.9	1.9	.8	2.2	2.7	.7	1.4	.9		1.7															
10 months but less than 11.....	2,868	45	1.6	1.3	1.6	2.0	1.9	.5	2.3	4.6	1.6			2.5															
11 months but less than 12.....	2,580	19	.7	.7	1.2	.4	1.6		1.3			1.3																	
12 months but less than 13.....	2,279	22	1.0	1.0	1.6	.4		1.2	.7	2.0	1.1																		
13 months but less than 14.....	1,990	5	.3	.1	.3			.7	.9	1.2																			
14 months but less than 15.....	1,737	6	.3	.4		.5			1.9																				
15 months but less than 16.....	1,467	2	.1	.1			.9																						
16 months but less than 17.....	1,210	5	.4	.5		2.2												2.2											
17 months but less than 18.....	964	2	.2	.2																									
18 months but less than 19.....	731	1	.1		.5																								
19 months but less than 20.....	519	0			.6																								
20 months but less than 21.....	331	0																											
21 months but less than 22.....	142	0																											
BOYS.																													
Less than 1 month.....	3,595	1,417	39.4	41.9	40.8	39.0	39.7	42.7	39.6	33.3	44.1	43.3	39.8	28.7	34.0	31.4	24.7	43.3	38.5	26.7	32.4	32.0	35.7	20.0	33.3				
1 month but less than 2.....	3,467	577	16.6	17.5	17.9	14.7	18.9	13.1	14.9	13.3	16.1	15.7	14.8	15.5	19.1	11.3	24.4	18.2	14.9	25.9	25.9	16.7	16.7						
2 months but less than 3.....	3,306	265	8.0	8.2	7.7	10.1	8.2	7.5	6.5	8.7	3.8	6.1	10.8	7.6	7.3	13.5	6.8	9.8	2.3	13.6									
3 months but less than 4.....	3,136	171	5.5	3.8	6.9	5.7	6.5	5.6	4.2	5.3	7.8	8.1	2.6	8.5	6.6	8.6	9.0	4.1	4.9										



TABLE 10.—Percentage of cases of unemployment of each duration, by month of work history in which the unemployment began.

Duration of unemployment and sex.	Number of cases of unemployment terminated with specified duration per 100 cases of unemployment originating in specified month of work history.																					
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	Twenty-first.	Twenty-second.
ALL CHILDREN.																						
Less than 1 month.....	38.6	37.1	33.3	40.0	42.9	41.5	43.1	43.1	40.5	42.6	45.9	41.8	31.9	35.6	36.4	34.2	35.6	34.7	30.1	34.1	31.7	33.3
1 month but less than 2.....	16.4	18.7	20.4	15.6	17.6	17.0	18.9	14.8	16.7	15.7	14.9	18.2	16.9	16.4	10.9	13.3	16.8	16.8	17.7	8.0	4.4	.....
2 months but less than 3.....	9.1	8.9	8.1	6.2	7.4	8.7	7.8	7.9	8.4	6.4	4.2	8.3	11.2	9.0	5.6	6.7	10.9	5.8	4.7	5.1	.....	.....
3 months but less than 4.....	6.0	6.4	8.5	5.5	2.9	4.4	6.1	5.3	6.7	4.9	3.9	4.3	5.9	3.9	6.2	6.0	6.5	3.2	.....	.....	.....	.....
4 months but less than 5.....	4.3	4.2	2.9	3.5	4.4	3.2	5.3	5.5	2.8	4.2	3.1	3.3	2.4	4.9	1.7	.....	.....	.....	.....	.....	.....	.....
5 months but less than 6.....	4.5	4.1	4.8	2.1	2.8	2.6	2.6	3.5	1.7	2.0	2.2	2.1	2.6	2.0	7.1	3.6	5.0	.....	.....	.....	.....	.....
6 months but less than 7.....	3.1	2.6	1.6	3.5	4.0	3.3	3.9	2.0	1.8	.5	1.2	.7	2.8	.7	2.5	.....	.....	.....	.....	.....	.....	.....
7 months but less than 8.....	1.7	3.1	3.7	1.7	2.2	1.9	1.2	.4	2.3	1.1	2.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8 months but less than 9.....	1.8	.4	2.0	2.4	.8	.8	.4	.5	.5	.6	.7	1.0	3.6	1.3	.....	.....	.....	.....	.....	.....	.....	.....
9 months but less than 10.....	1.3	2.8	2.1	1.5	1.2	.4	.....	.....	.5	1.4	.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10 months but less than 11.....	1.4	4.4	1.6	1.2	1.4	.5	1.0	.5	.6	.....	2.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11 months but less than 12.....	1.5	.3	1.2	.4	.....	1.0	.....	.....	.6	.7	1.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12 months but less than 13.....	2.0	.5	.9	.....	1.1	.5	.6	.7	.9	1.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13 months but less than 14.....	2.1	.8	.....	.....	.....	.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14 months but less than 15.....	.7	.3	.4	.....	.....	.....	.....	1.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15 months but less than 16.....	.2	.....	.....	.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16 months but less than 17.....	.3	.4	.9	.....	.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17 months but less than 18.....	.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18 months but less than 19.....	.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19 months but less than 20.....	.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20 months but less than 21.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21 months but less than 22.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BOYS.																						
Less than 1 month.....	38.1	38.2	33.8	42.1	41.5	43.5	44.0	48.7	40.4	41.9	48.6	40.5	32.9	35.7	39.6	37.8	37.2	30.8	29.8	32.7	27.5	25.0
1 month but less than 2.....	16.5	16.6	24.2	16.3	16.7	15.7	16.3	13.9	18.8	16.9	14.7	22.1	12.6	18.4	9.5	13.0	14.9	14.8	17.3	10.4	6.7	.....
2 months but less than 3.....	8.6	9.4	7.3	7.0	7.3	8.8	9.1	7.4	8.6	6.9	3.6	9.4	10.9	7.4	4.3	8.3	13.8	7.4	4.5	6.1	.....	.....
3 months but less than 4.....	6.3	6.2	7.8	4.8	3.9	3.1	6.3	3.8	7.1	4.7	3.0	3.8	7.2	4.3	7.2	8.3	3.3	2.6	.....	.....	.....	.....
4 months but less than 5.....	4.6	5.4	3.5	2.5	5.1	2.7	6.5	5.0	1.9	3.5	3.2	.....	2.6	5.8	1.4	.....	2.2	.....	.....	.....	.....	.....
5 months but less than 6.....	4.2	4.3	4.0	2.5	3.7	1.1	2.3	2.9	.6	2.3	1.7	2.2	3.7	3.2	5.9	3.8	2.7	.....	.....	.....	.....	.....
6 months but less than 7.....	3.3	1.9	1.5	3.2	5.5	2.8	.6	2.4	1.4	.8	1.8	.....	4.2	1.2	.....	3.1	.....	.....	.....	.....	.....	.....
7 months but less than 8.....	2.0	3.9	3.1	.5	2.8	1.2	.6	.7	2.9	1.7	2.0	.....	1.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
8 months but less than 9.....	2.3	.....	1.6	2.8	1.2	.6	.....	.7	.8	1.0	1.1	1.5	3.8	.....	.....	.....	.....	.....	.....	.....	.....	.....



TABLE 11.—Cases of unemployment originating in specified month before end of work history.

Month preceding fringe month before the end of work history.	Cases of unemployment.		
	Total.	Boys.	Girls.
Total.....	5,961	3,771	2,190
Fringe month.....	77	55	22
First preceding.....	201	121	80
Second preceding.....	214	128	86
Third preceding.....	242	161	81
Fourth preceding.....	282	170	112
Fifth preceding.....	283	173	110
Sixth preceding.....	275	155	120
Seventh preceding.....	280	182	98
Eighth preceding.....	280	175	105
Ninth preceding.....	303	203	100
Tenth preceding.....	329	204	125
Eleventh preceding.....	327	210	117
Twelfth preceding.....	288	185	103
Thirteenth preceding.....	301	186	115
Fourteenth preceding.....	289	183	106
Fifteenth preceding.....	253	156	97
Sixteenth preceding.....	270	174	96
Seventeenth preceding.....	257	176	81
Eighteenth preceding.....	246	165	81
Nineteenth preceding.....	233	156	77
Twentieth preceding.....	212	121	91
Twenty-first preceding.....	188	121	67
Twenty-second preceding.....	189	127	62
Twenty-third preceding.....	142	84	58

TABLE 12.—Cases of unemployment not terminated at sixteenth birthday, by work-history month of origin.

Month of origin.	Cases of unemployment not terminated at 16.		
	Total.	Boys.	Girls.
Total.....	1,378	851	527
Fringe month.....	72	51	21
First preceding.....	163	103	60
Second preceding.....	145	87	58
Third preceding.....	134	88	46
Fourth preceding.....	136	83	53
Fifth preceding.....	113	77	36
Sixth preceding.....	72	37	35
Seventh preceding.....	52	31	21
Eighth preceding.....	62	33	29
Ninth preceding.....	65	40	25
Tenth preceding.....	57	30	27
Eleventh preceding.....	45	27	18
Twelfth preceding.....	35	20	15
Thirteenth preceding.....	33	21	12
Fourteenth preceding.....	35	24	11
Fifteenth preceding.....	28	17	11
Sixteenth preceding.....	33	18	15
Seventeenth preceding.....	20	12	8
Eighteenth preceding.....	24	16	8
Nineteenth preceding.....	17	11	6
Twentieth preceding.....	15	11	4
Twenty-first preceding.....	12	7	5
Twenty-second preceding.....	6	3	3
Twenty-third preceding.....	4	4	.....