

# Mollie Orshansky: Author of the Poverty Thresholds



Courtesy of the Social Security Administration Archives

**Editor's Note:** Views expressed in this article are those of the author, and should not be construed as representing the policy of the U.S. Department of Health and Human Services. This article is condensed from an unpublished draft paper with references. That paper is based on extensive research involving published articles and documents, unpublished documents, and conversations with Mollie Orshansky.

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Mollie Orshansky was born on January 9, 1915, in the Bronx in New York City. She was the daughter of Ukrainian-Jewish immigrants who spoke limited English. Although her father worked hard at a number of jobs, Orshansky and her sisters grew up poor—in her words, the family could “barely ... make ends meet.” The girls slept two to a bed and wore hand-me-down clothing. Orshansky remembered going with her mother to stand in relief lines for surplus food. As she was to say later, “If I write about the poor, I don't need a good imagination—I have a good memory.”

Orshansky was both the first high-school graduate and first college graduate in her family. She graduated from Hunter College High School in Manhattan (then a school for gifted young women) in 1931. Because she received two scholarships from the college, she was able to attend Hunter College (at that time a women's college). She graduated from Hunter in 1935 with an AB in mathematics and statistics. She was a statistician by training and profession, although she has sometimes been referred to as an economist.

A daughter from a poor family graduating from college during the Great Depression, Orshansky did not have the luxury of attending graduate school before she started working. Instead, she found a job as a statistical clerk in the New York Department of Health's Bureau of Nursing, where she worked on infant mortality and other subjects for a year.

In 1936, the U.S. Children's Bureau (then part of the U.S. Department of Labor) offered Orshansky a job as a junior statistical clerk. She accepted the job, moving from New York to Washington, DC. Her first job assignment involved logarithmic equations for 600 infants who had been in a study. In July 1939, the bureau promoted her to research clerk, a job in which she stayed until January 1942, working on biometric studies of child health, growth, and nutrition.

It was while she was working at the U.S. Children's Bureau that Orshansky began taking graduate courses. At various times between 1936–1937 and 1960, she took courses in economics and statistics at the U.S. Department of Agriculture Graduate School and American University. From January 1942 to March 1943, Orshansky took a job

### How **Mollie Orshansky** Developed the Poverty Thresholds

When Orshansky developed her poverty thresholds, she made use of information she had worked with at the U.S. Department of Agriculture (USDA). She based her thresholds on the economy food plan, which was the cheapest of four food plans (hypothetical food budgets providing nutritious diets at different cost levels) developed by USDA.

From a finding of USDA's 1955 Household Food Consumption Survey (the latest such survey available during the early 1960s), she knew families of three or more persons had spent approximately one-third of their after-tax money income on food in 1955. The way in which she used this survey finding was by considering a hypothetical average family that was spending one-third of its income on food and by assuming the family had to cut back on its expenditures sharply. She assumed expenditures for food and non-food would be cut back at the same rate so the family would continue to spend a third of its income for food.

When the food expenditures of the hypothetical family reached the cost of the economy food plan, she assumed the amount the family would spend on non-food items would also be minimal, but adequate. (Her procedure did not assume specific dollar amounts for any budget category besides food.) Following this logic, she calculated poverty thresholds for families of various sizes by taking the dollar costs of the economy food plan for families of those sizes and multiplying the costs by a factor of three—the “multiplier.” (She followed somewhat different procedures to develop thresholds for two-person and one-person units.)

She differentiated her thresholds not only by family size, but by farm/nonfarm status, by the gender of the family head, by the number of family members who were children, and (for one- and two-person units only) by aged/non-aged status. The result was a detailed matrix of 124 poverty thresholds, later reduced to 48.

To avoid confusion, the preceding explanation has been phrased in terms of the economy food plan. However, Orshansky actually developed and discussed two sets of poverty thresholds, one derived from the economy food plan and one derived from the somewhat less stringent low-cost food plan. (The latter set was the one she preferred.) It was the lower of the two sets of poverty thresholds—the set derived from the economy food plan—that the Office of Economic Opportunity adopted as a working definition of poverty in May 1965. One probable reason for the adoption of the lower set of thresholds was that the lower set yielded approximately the same number of persons in poverty as the Council of Economic Advisers' \$3,000/\$1,500 poverty line.

as a statistician for the New York City Department of Health, working on a survey of the incidence and therapy of pneumonia.

Talking about her government career, Orshansky once commented, “I basically always worked with women, except when I was in the war agencies [the National War Labor Board during World War II and the Wage Stabilization Board during the Korean War].” During World War II, in particular, large numbers of men left civilian jobs to serve in the military. As a result, a number of female workers were able to get jobs that would not have been open to them under ‘normal’ circumstances. Describing the situation for female federal workers, Dorothy Rice, a colleague of Orshansky's, later said, “Any female that had anything on the ball really did very well during the war. All the men went to the war and we had to carry on.”

In March 1943, Orshansky secured a job at the U.S. National War Labor Board as chief of the Program Statistics Division of the Research and Statistics Branch. She planned and executed the collection and analysis of data required for the board's decisions on wage adjustments and the effects of the board's stabilization activities. She stayed in this job until September 1945, when the operations of the board were being terminated.

From September 1945 to March 1951, Orshansky worked as a family economist at the Bureau of Human Nutrition and Home Economics of the U.S. Department of Agriculture (USDA). She conducted research in family consumption and levels of living, carrying out a variety of assignments. She was in charge of preparing data on the estimated value of household furnishings and equipment on farms for the department's balance sheets of agriculture for 1947–1950.

In 1948, Orshansky and a colleague were responsible for responding to letters from members of the public asking how they could make ends meet on their existing income in the face of the severe (by U.S. standards) post–World War II inflation. Orshansky and her colleague would send the letter writers pamphlets about preparing a family budget and planning low-cost and moderate-cost meals using USDA's food plans—hypothetical food budgets providing nutritious diets at different cost levels. (This shows Orshansky was working with USDA's food plans at least 15 years before she was to use them to develop her poverty thresholds.)

About 1949, Orshansky carried out an assignment to update a standard budget (an estimate of necessary living costs) for a single working woman in New York. In June 1950, she presented a paper titled “Equivalent Levels of Living: Farm and City” at the annual meeting of the Conference on Research in Income and Wealth (CRIW). Her paper and the other papers presented at the meeting (including one by Milton Friedman) were published in volume 15 of CRIW's annual (and still continuing) series, *Studies in Income and Wealth*.

In March 1951, during the Korean War, Orshansky secured a job at the U.S. Wage Stabilization Board as the director of the Program Statistics Division of the Office of Economic Analysis. She planned and directed the board's statistical program until August 1953, when the operations of the board were being terminated due to the end of the war.

In 1952, while Orshansky was working at the U.S. Wage Stabilization Board, she was elected a member of the Econometric Society (an international society for the advancement of economic theory in its relation to statistics and mathematics). Of the 73 candidates for election to membership in 1952, Orshansky was the only woman.

From August 1953 to February 1958, Orshansky worked as a food economist for USDA in a successor office to the Bureau of Human Nutrition and Home Economics, where she had worked before. She planned and directed the collection and analysis of data on food consumption and expenditures of American households.

In 1956 and 1957, Orshansky was the senior coauthor of two reports on family food expenditures and food consumption based on a food consumption survey of rural families in the North Central [Midwest] region. She was one of a number of people who gave technical assistance in the preparation of a series of reports on USDA's 1955 Household Food Consumption Survey, and she wrote a major section of a summary report on the same survey. This 1955 Household Food Consumption Survey was the source from which Orshansky would calculate the "multiplier" she later used to develop her poverty thresholds.

In February 1958, Orshansky went to work for the Social Security Administration (SSA) in an office that later became the Office of Research and Statistics (ORS). ORS seems to have been one of a small number of federal offices that provided significant work opportunities for women professionals at this time; during Orshansky's first decade there, both the director and the deputy director were women. Orshansky had several titles at SSA, but can best be described as a social science research analyst.

Orshansky performed a number of assignments during her early years at SSA. Her first was to prepare an article on standard budgets (family budgets) and practices in setting fee scales in 21 large cities. She also prepared several annual updates of an analysis of the income sources of "young survivors" (widows under age 65, particularly those with minor children). She prepared a medical care standard for the Budget for an Elderly Couple, of which the Bureau of Labor Statistics (BLS) was preparing an interim revision. She also prepared data for 16 charts on financial resources of the aged for the Chart Book for the 1961 White House Conference on Aging.

While Orshansky's development of the poverty thresholds was a major milestone in both social policy history and statistical history, it grew out of ordinary work activities—an "answer for the record" for a congressional hearing and an in-house research project. During a 1960 congressional hearing, a senator asked HEW Secretary Arthur Flemming if he had figures on how much it costs a retired couple to live. Flemming said HEW would provide an answer for the record, and Orshansky was the civil servant who prepared an unattributed submission for the record. She mentioned the Budget for an Elderly Couple, which BLS was then revising, and a similar budget prepared by a group in New York. In addition, she provided two rough measures of income inadequacy for an elderly couple that she developed by applying multipliers derived from USDA's 1955 Household Food Consumption Survey to the cost of USDA's low-cost food plan (at that time, the cheapest of USDA's three food plans)—almost exactly as she was to do several years later in her 1963 and 1965 poverty articles.

In early 1963, Orshansky was assigned to do an in-house research project on poverty as it affects children. At that time (the year before the War on Poverty was declared), there was no generally accepted measure of poverty, so to carry out this research project, Orshansky developed one (see "How Mollie Orshansky Developed the Poverty Thresholds" on the previous page for her methodology). In July 1963, she published results of her research project in a *Social Security Bulletin* article, "Children of the Poor," in which she also described the initial version of her poverty thresholds.

### **Orshansky told several interesting stories about events during the development of her thresholds:**

► As noted in the sidebar, "How Mollie Orshansky Developed the Poverty Thresholds," Orshansky based her thresholds on USDA's economy food plan. She had been working with the USDA food plans at least as early as 1948, and so was familiar with them. In the context of developing poverty thresholds for families, she became concerned about the economy food plan not allowing for purchases of food away from home, either at work or school. For the purpose of developing poverty thresholds, she wanted to modify the cost of the food plan by adding \$0.15 a day per person to it to allow for the husband in a family to buy coffee at work or for children to buy snacks. However, her supervisor would not allow her to do so.

► One major source for Orshansky's July 1963 article was a special tabulation of Current Population Survey (CPS) data that the Social Security Administration (SSA) purchased from the U.S. Census Bureau for \$2,500. The results showed the median annual income of nonfarm, female-headed families with children was \$2,340. Orshansky was horrified when she realized half of these families lived for a year on less than SSA paid for one statistical tabulation. She later commented, "I determined I was going to get my \$2,500 worth."

► In the CPS, thousands of sample cases represent millions of families and persons in the general population. Published U.S. Census Bureau reports based on survey data always show figures that relate to the national totals of families and unrelated individuals. However, when Orshansky got the results of her \$2,500 tabulation of CPS data, they gave her only the unweighted counts of sample households in various poverty and nonpoverty categories; SSA's payment to the bureau had not been enough to pay for computing weighted national totals for her, so she had to do the work herself, "by hand," to calculate weighted national totals from the unweighted sample count. She also calculated the poverty gap "by hand" for her January 1965 article. She didn't even use a calculator.

In January 1964—only six months after the publication of Orshansky's obscure article—President Lyndon Johnson declared a war on poverty. In a chapter on the problem of poverty in its 1964 annual report, the president's Council of Economic Advisers (CEA) put forward its own rough measure of poverty: \$3,000 for families of all sizes and \$1,500 for unrelated individuals. The CEA's \$3,000 figure was not derived in any way from Orshansky's work; however, the CEA report did cite two dollar figures from Orshansky's July 1963 article (without giving her name as the author) to show that the CEA's \$3,000 figure was a reasonable level for a poverty line.

When Orshansky saw the January 1964 CEA report (including the reference to her dollar figures), she was disturbed by the CEA's failure to vary its \$3,000 family poverty line by family size, as this resulted in understating the number of children in poverty relative to aged persons. The CEA figure "led to the odd result that an elderly couple

## STATISTICIANS IN HISTORY



Mollie Orshansky (third from left) at the first Conference on Women in the War on Poverty on May 8, 1967. With her are Mary Keyserling, Josephine Weiner, and Hyman Bookbinder. Near the end of her speech, Orshansky said, "...our statistics, imperfect though they may be, show us where problems are even if they cannot always reveal exact dimensions...[C]alculations ... relating to poverty ... exist only to help make them disappear, and so if we can think bold solutions and dream the big dream, we can wipe out the scourge of poverty before we all agree on how to measure it."

with \$2,900 income ... would be considered poor, but a family with a husband, wife, and four little children with \$3,100 income would not be." In addition, the president's declaration of a war on poverty evidently led SSA to give a higher priority to Orshansky's poverty work. As a result, Orshansky's supervisors asked her to do an analysis extending her families-with-children poverty thresholds to the whole population. She completed this analysis in late 1964 and it was published in the *Social Security Bulletin* in January 1965 as "Counting the Poor: Another Look at the Poverty Profile."

The publication of Orshansky's January 1965 article came when the Office of Economic Opportunity (OEO)—the lead agency for the War on Poverty—was being set up. OEO officials were enthusiastic about Orshansky's poverty thresholds, considering them to be an advance over the CEA's \$3,000-for-all-family-sizes figure. OEO research chief Joseph Kershaw commented, "Mollie Orshansky says that when you have more people in the family, you need more money. Isn't that sensible?" In May 1965, OEO adopted Orshansky's thresholds as a working definition of poverty for statistical, planning, and budget purposes, and, in August 1969, her thresholds were made the federal government's official statistical definition of poverty.

When she developed the poverty thresholds, Orshansky was "an obscure civil servant" who worked "[d]own a dimly lit hall, among stacks of computer printouts [at] a paper-covered desk ..." However, after her thresholds were adopted as the federal government's poverty line, she became much more well known. Because of frequent citations of her work in academic articles and books, someone once referred to her as "the ubiquitous footnote." Besides presenting papers at a number of professional meetings and publishing a number of articles, she testified and/or provided written documents to congressional committees on 10 occasions between December 1967 and 1990.

On five occasions between 1968 and 1980, Orshansky participated in federal interagency committees that reviewed the poverty thresholds. The 1968–1969 committee made two modest revisions in the thresholds, and it was the thresholds with these revisions that were made the official federal statistical definition of poverty. In 1981, several minor changes recommended by the 1979–1980 committee were made.

Following up on a 1973 subcommittee's recommendation for a new income survey vehicle, the HEW Technical Working Group on income data and models proposed that a new survey be developed to provide better information on the income and related characteristics of the population and on participation in government programs.

Orshansky was a member of this group. The technical working group reviewed and contributed to the plan for what became the Income Survey Development Program—the research and development phase for the Survey of Income and Program Participation.

In 1982, Orshansky retired from SSA after a government career that lasted for more than 40 years. She died on December 18, 2006, in New York City.

Orshansky received a number of honors for her achievements. She received a Commissioner's Citation from the Social Security Administration in 1965 for her creative research and analytical work and the Distinguished Service Award (the department's highest recognition of civilian employees) from HEW in 1976 for her "leadership in creating the first nationally accepted measures of income adequacy and applying them diligently and skillfully to public policy." In 1974, she was elected a Fellow of the ASA for her leadership in the development of statistics for the measurement of poverty. After her retirement, she received a national award from the Children's Defense Fund in 1989 and an Award for Distinguished Contribution from the American Political Science Association in 1993.

Orshansky's achievements also were recognized in a very different setting. She may be the only statistician to have been discussed on a major television show. One subplot of "The Indians in the Lobby," an episode of "The West Wing" originally broadcast in November 2001, involved the adoption of a new poverty measure, and one character alluded to how Orshansky developed the current poverty measure. While the discussion of issues relating to a new poverty measure sounded plausible, the episode grossly mischaracterized the rationale for Orshansky's methodology for developing the poverty thresholds.

Of the contributions to American public policy that Orshansky made during her career, the greatest by far was her development of the poverty thresholds. The poverty line has become a major feature of the architecture of American social policy. Although the measure may have its shortcomings, the poverty line gives us a means of identifying and analyzing the makeup of the groups in our society with the least resources. Orshansky's thoughtful analyses of the poverty population began a tradition, and there are now numerous researchers and advocates who conduct such analyses and draw policy implications from them. Even though there may not be consensus on answers, the question "How does it affect the poor?" has become a test for proposed policies and programs. And a simplified version of the poverty line is used to determine eligibility not only for certain federal programs, but for a number of state, local, and private programs, as well. ■