

Trajectories of productivity loss over a 20-year period: an analysis of the National Longitudinal Survey of Youth ¹

by Elyssa Besen, PhD,² Glenn Pransky, MD

1 Supplementary material

2 Correspondence to: Elyssa Besen, Center for Disability Research, Liberty Mutual Research Institute for Safety, 71 Frankland Road, Hopkinton, MA 01748, USA. [E-mail: Elyssa.Besen@LibertyMutual.com]

Overview of the National Longitudinal Survey of Youth

The National Longitudinal Survey of Youth (NLSY79) is sponsored by the U.S. Bureau of Labor Statistics (BLS) and is administered by the Ohio State University Center for Human Resource Research. The NLSY79 sample is nationally representative of youth living the US that were age 14-21 years as of December 31, 1978. NLSY79 respondents reside in each of the 50 States and the District of Columbia, U.S. territories, and other countries. The initial sample included 12,686 participants. This sample includes three independent probability samples: a cross-sectional sample (6,111) representing civilian, non-institutionalized individuals; a military sample (1,280) who were serving in the military as of September 30, 1978; and a supplemental sample (5,295) which oversampled civilian Hispanic/Latino, black and economically disadvantaged individuals.

In 2010, 9,964 respondents of the original 12,686 remained eligible for participation in the interviews. In 1985, a large portion of the military sample was deemed ineligible, leaving 201 of the original 1,280 participants as eligible to participate. In 1991, a large portion of the supplemental sample was deemed ineligible, leaving 3,652 of the original 5,295 participants as

eligible to participate. As of 2010, 573 participants were deceased. None of the participants who were deemed ineligible to participate by 2010 were included in the sample used in this paper. For more information, please visit <https://www.nlsinfo.org/content/cohorts/nlsy79/intro-to-the-sample>

Restructuring the Data

In the current study, we restructured the NLSY79 data so that participants would enter our sample at age 25 and be similar ages at each of the 12 waves in our sample. For the first wave in our sample, we utilized data from the appropriate interview year at which participants should have been 25, based on their age in 1979. Participant's interview year at age 25 ranged from 1982 (for those who were 22 in 1979) to 1990 (for those who were 14 in 1979). Data were collected annually until 1994, so the first five waves in our sample represent the ages at which participants should have been 25 to 29, respectively. Beginning in 1996, the data were collected every other year, so data for waves 6 through 12 were used for 2-year age groups. For wave 6, ages ranged from 31-32, for wave 7, ages ranged from 33-34, for wave 8, ages ranged from 35-36, and so on. For the relatively older participants in 1979 who had annual data after age 29, we used data from the interview year at which they should have reached the target age range for each of our sample's waves and disregarded the second year of data for which they would have been in the specified age range. Table 1 displays the appropriate year of data used for each wave in our sample based on the participant's age in 1979; however, as is the case with any longitudinal data, sometimes interview dates did not take place exactly one or two years after a previous interview, which resulted in about a third of participants in each wave being slightly younger or older (usually less than one year) than the target age for the interview. Supplemental Table 1 displays the actual age ranges for each of the waves in our sample.

Supplemental Table 1. Age distribution at time of interview for each wave

[illegible]

Productivity Loss Measure

Three questions were used to create the productivity loss measure. The three questions were: 1. “Would your health keep you from working on a job for pay now”; 2. “Are you/Would you be limited in the kind of work you (could) do on a job for pay because of your health”; and 3. “Are you/Would you be limited in the amount of work you (could) do because of your health.” These questions were asked in the order as listed here. Prior to 2000, the first question was asked of all respondents who said they were not working in the week prior to the interview, regardless of whether or not they were employed. If participants were either not asked this question because they were working in the week prior to the interview or they responded no, they were then asked the additional two questions 2 and 3. If participants responded yes to question 1, they were not asked the additional questions. After 2000, question 1 was asked of all respondents who said they were not working in the week prior to the interview but who reported being employed at the time of the interview. As in the interviews prior to 2000, if participants were either not asked this question because they were working in the week prior to the interview or they responded no, they were then asked questions 2 and 3. If participants responded yes to question 1, they were not asked the additional questions. Based on this, all respondents either pre- or post-2000 would have been asked at least one of the productivity loss questions regardless of whether or not they were asked question 1. Prior to 2000, approximately three times as many people responded yes to question 1 than after 2000. However, when considering the combination of the three questions, the proportion of respondents reporting some type of productivity loss was consistent with the pre-2000 responses. If we were to restrict our pre-2000 sample for question 1 to only those participants who were employed at the time of the interview in order to match the way

question 1 was asked post-2000, we would bias our sample and exclude a large number of participants who responded yes to question 1 but who were not employed at the time of the interview. Because participants answered yes to question 1, they would not have been asked questions 2 or 3 and, therefore, restricting those responses to question 1 would create many additional missing responses for the years prior to 2000. For this reason, we are not able to take this approach. Instead, after 2000, we are assuming that respondents who were not working in the week prior to the interview, who said health would keep them from working on a job for pay now (question 1), but were not employed would have responded yes to one of the subsequent work limitations questions 2 and 3. We examined the frequency across years of respondents reporting productivity loss (the combination of all three questions) and it showed a steady linear increase with age. We did not observe any changes in the pattern starting after 2000. For this reason, we feel that we are capturing the same information in the combined productivity loss question both before and after 2000.