Appendix I: A New Constructed Education Attainment Variable

Wave 3 NEW Constructed Education Variable (newcompled3b) for Main Respondents

A question from an NSFH user alerted us to the fact that the constructed variable for education completed by respondent for Wave 3 (compled3) appeared to under reported the education attained by the respondent. The user had compared the constructed variable from time 2 (mucompled) and time 3 (compled3), and found that for a number of cases the level of education completed at Wave 3 was less than the level of education completed at Wave 2. Further examination of the Wave 3 data located additional questionable values of the compled3 variable. For example, there are cases where the respondent reported the completion of a new degree which is not coded in compled3.

We identified three categories of cases that needed to have a new value computed for compled3 (there are 4,600 cases in the Wave 3 respondent file). First, in cases where there is no Wave 2 interview, and the level of education coded in compled3 was less that the level of education coded in compled (the Wave 1 variable for level of education completed by the respondent) the case was flagged (77 cases met this criteria). Second, any case where the value of mucompled did not equal missing or 99, and the level of education coded in compled3 was less that the level education coded in mucompled (the Wave 2 variable for level of education completed by the respondent) the case was flagged (1,553 cased met these criteria). Third, there were cases at Wave 3 were the respondent reported receiving a new degree, but the new degree did not appear to be captured in compled3 (29 cased met this criteria).

For each of the 1,659 cases described above, a new variable (newcompled3) was computed to create a more accurate picture of the level of education completed by the respondent at the time of Wave 3. For any case not described above (2,941 cases) the value of newcompled3 was set to the value of compled3. Finally, a new flag variable (neweduc3_flg) was created to provide users with a quick way to identify whether the value of newcompled3 was computed separately or used the original value of compled3. Below is a detailed description of the methods used to set the value of newcompled3 for each category of problematic cases.

A. When merging all three waves of data, there are 258 cases that did not have a completed respondent interview for Wave 2. For these cases, the test was to compare the reported level of education completed at Wave 1 (compled)

with the value for Wave 3 (compled3), and to pull any case where the Wave 3 level was less than the Wave 1 value (compled3 lt compled). 77 cases met these criteria.

1. If no new degree was reported by R (RN26 ne 1) at Wave 3 then newcompled3 was set to equal compled.
2. If R reported the completion of one new degree at Wave 3 (RN26 eq 1 and RN31T01 eq 2), then the value of newcompled3 was set in the following way. If RN27T01 equaled 99, then newcompled3 was set to equal compled. If RN27T01 did not equal 99, then the value of newcompled3 was set to the value of RN27T01. The values for RN27T01 were re-coded in the following way. Don't know (-1) and Other (-6) were re-coded to 99. Associate degree (1) was re-coded to 14. Bachelor's degree (2) was re-coded to 16. Master's degree (3) was re-coded to 18. Doctorate's degree (4) was re-coded to 20.
3. If R reported the completion of two degrees since Wave 2 (RN26 eq 1 and RN31T01 eq 1) the following coding rules were used to establish the value of newcompled3. If the respondent reported Other/Don't know for both degrees (RN27T01 and RN27T02), then newcompled3 was set to 99. If the respondent specified a particular degree for RN27T01 or RN27T02 (an Associate, Bachelor, Master, or Doctorate degree), and reported Other/Don't know for the other degree, then newcompled3 was set to equal the degree specified by the respondent (Assoc., Bachelor, Master, or Doctorate). Finally, if R reported the completion of two new degrees, and specified the type of degree received for each, then newcompled3 was set to highest level degree completed by the respondent. For example, if the respondent reported the completion of both their Master and Doctorate, then newcompled3 was coded as Doctorate.
4. No one in this group reported the completion of a third degree since Wave 2 (there were 1 case where RN31T01 eq 1, and RN31T02 eq 2 for this case).

B. When data was collected for all three waves, and the value of compled3 was less than the value of mucomped the following newcompled3 was constructed using the following rules (1,553 cases fell in this category).

1. If no new degree was reported by R (RN26 ne 1) then newcompled3 was set to equal mucomped.
2. If R reported that the completion of one new degree at Wave 3 (RN26 eq 1 and RN31T01 eq 2), the following coding was made. If RN27T01 equaled 99, then newcompled3 was set to equal mucomped. If the value of RN27T01 did not equal 99, then the value of newcompled3 was set to the value of the degree coded in RN27T01. The values for RN27T01 were re-coded in the following way. Don't know (-1) and Other (-6) were re-coded to 99. Associate degree (1) was re-coded to 14. Bachelor's degree (2) was re-coded to 16. Master's degree (3) was re-coded to 18. Doctorate's degree (4) was re-coded to 20.
3. If R reported the completion of two degrees since Wave 2 (RN26 eq 1 and RN31T01 eq 1) the following coding rules were used to establish the value of newcompled3. If the respondent reported Other/Don't know for

both degrees (RN27T01 and RN27T02), then newcompled3 was set to equal mucompled.

4. If the respondent specified a particular degree for RN27T01 or RN27T02 (an Associate, Bachelor, Master, or Doctorate degree), and reported Other/Don't know for the other degree, then newcompled3 was set to equal the degree specified by the respondent (Assoc., Bachelor, Master, or Doctorate). Finally, if R reported the completion of two new degrees, and specified the type of degree received for each, then newcompled3 was set to highest level degree completed by the respondent. For example, if the respondent reported the completion of both their Master and Doctorate, then newcompled3 was coded as Doctorate. No one in this group reported the completion of a third degree since Wave 2 (there were 9 cases where RN31T01 eq 1, and for all nine RN31T02 eq 2).

C. Finally, the last category of questionable coding for compled3 involves cases where the respondent reported receiving a new degree (RN26 eq 1 and/or RN31T01 eq 1 and/or RN31T02 eq 1), but the value of compled3 was less than the value of the new degree reported by the respondent (when the value of the new degree did not equal 99). There are 29 cases that fell into this category.

1. For cases where respondent reported one new degree (RN26 eq 1 and RN31T01 eq 2), the value of newcompled3 was set to equal RN27T01.
2. For cases where the respondent reported receiving two new degrees (RN26 eq 1 and RN31T01 eq 1 and RN31T02 eq 2), the first step was to determine which degree indicated the highest level of education attained (RN27T01 or RN27T02). In all cases, the second degree was higher, so newcompled3 was set to equal RN27T02).
3. Finally, if the respondent reported receiving three new degrees (RN26 eq 1 and RN31T01 eq 1 and RN31T02 eq 1) the same determination had to be made (which degree included the highest level of education attained). One case fell into this category, and the second degree (RN27T02) had the highest degree attained, so newcompled3 was set to equal RN27T02.

Valid Codes for newcompled3

0	no formal education
1	first grade
2	second grade
3	third grade
4	fourth grade
5	fifth grade
6	sixth grade
7	seventh grade
8	eighth grade
9	ninth grade
10	tenth grade
11	eleventh grade
12	high school graduate

```
        13      some col, no degree
        14      associate degree
        16      bachelor's degree
        18      master's degree
        20      doctorate
        99      missing


Valid code for neweduc3_flg:

        0       Original value of compled3
        1       New level of education completed was computed
```