

Derived Variables Used in the NHES Adult Training and Education Survey (ATES) First Look report (NCES 2018-103rev)

This note provides descriptions and SAS code for five derived variables from the National Household Education Surveys Program (NHES) 2016 Adult Training and Education Survey (ATES). The five variables are intended to represent whether the respondent has a certification, license, or postsecondary certificate, and whether the respondent is underemployed or unemployed. The variables were used for tabulations in *Adult Training and Education: Results from the National Household Education Surveys Program of 2016* (Cronen, McQuiggan, and Isenberg 2017) and parts of the descriptions are drawn from that report.

Note that only one of these variables is included as a derived variable in the NHES 2016 ATES data file, described in *National Household Education Surveys Program of 2016: Data File User's Manual* (McPhee et al. 2017), the variable for underemployed, UNDEREMP. The other four variables are not included in the NHES 2016 ATES data file. However, the UNDEREMP variable in the NHES 2016 ATES data file does not correspond exactly to how underemployed was defined for tabulations in Cronen, McQuiggan, and Isenberg (2017). Here we present a description and SAS code for underemployed as it was used in Cronen, McQuiggan, and Isenberg (2017). Differences between the two definitions are noted below.

The NHES 2016 ATES asks respondents if they have a work credential (i.e., certification or license), then collects follow-up information on respondents' three most important work credentials. The certification variable is defined such that if any of the three work credentials with follow-up information is a certification, the person is considered to have a certification. The license variable is similarly defined. Therefore, a sample person could have both a certification and a license, if they have multiple work credentials. In addition, the sample person could have more than one certification or license.

A sample person was considered to not have a certification or license if they reported they did not have one (in CNMAIN), or if one or more reported work credentials were deemed invalid, based on the CNINVALID1, CNINVALID2, and CNINVALID 3 (hereafter, CNINVALID1/2/3) variables. Researchers may wish to treat the CNINVALID variables differently in their analyses. Please see Cronen, McQuiggan, and Isenberg (2017) pages 29-30 for further discussion about invalid work credentials.

Certification (CERTN): This variable is derived from CNMAIN, CNINVALID1/2/3, and CNPROV1/2/3. If a sample person reported in CNPROV1/2/3 that the credential was not required by a government agency, or that the sample person did not know whether the credential was required by a government agency, it was considered a certification.

The values for CERTN are as follows:

- 1 = Yes
- 2 = No

The SAS code for CERTN is as follows:

```
IF (CNMAIN = 1 AND (CNPROV1 IN (2,3) OR CNPROV2 IN (2,3) OR CNPROV3 IN (2,3))
    AND (CNINVALID1 != 1 AND CNINVALID2 != 1 AND CNINVALID3 != 1)) THEN
    CERTN=1;
ELSE CERTN=2;
```

License (LICENSE): This variable is derived from CNMAIN, CNINVALID1/2/3, and CNPROV1/2/3. If a respondent reported in CNPROV1/2/3 that the credential was required by a government agency, it was considered a license.

The values for LICENSE are as follows:

1 = Yes
2 = No

The SAS code for LICENSE is as follows:

```
IF (CNMAIN = 1 AND (CNPROV1 = 1 OR CNPROV2 = 1 OR CNPROV3 = 1) AND
    (CNINVALID1 != 1 AND CNINVALID2 != 1 AND CNINVALID3 != 1)) THEN
    LICENSE = 1;
ELSE LICENSE = 2;
```

Postsecondary certificate (PSCERT): PSCERT indicates whether a sample person has earned a subbaccalaureate certificate from a postsecondary educational institution. To have earned such a certificate, the sample member has to have indicated that they earned a certificate from some type of postsecondary educational institution, that it involved 40 or more hours of instruction, and that enrollment in the certificate program did not require being enrolled in or having completed a postsecondary degree program. This variable is derived from the questionnaire variables CERTPROG, LASTPSCER, LCHOURS, and LCENROLL.

The values for PSCERT are as follows:

1 = Yes
2 = No

The SAS code for PSCERT is as follows:

```
IF (CERTPROG = 1 AND LASTPSCER = 1 AND LCHOURS IN (1,2,3,4) AND LCENROLL
    IN (3,4)) THEN PSCERT = 1;
ELSE PSCERT = 2;
```

Underemployed (UNDEREMP): UNDEREMP indicates whether a sample person is underemployed, based on nonpreferred part-time or temporary work status. A sample person is underemployed if (1) they were employed last week in a part-time job and not in a full-time job and would have preferred their part-time job to be a full-time job, or (2) they were employed last week in a temporary job and would have preferred a permanent job. UNDEREMP is derived from EEMAIN, EEFTJOB, EEPREFFT, and EEPERM.

The values for UNDEREMP are as follows:

1 = Yes
2 = No
-1 = Not employed

The SAS code for UNDEREMP is as follows:¹

```
IF EEMAIN = 2 THEN UNDEREMP = -1;  
ELSE IF (EEMAIN = 1 AND ((EEFTJOB = 2 AND EEPREFFT = 1) OR EEPERM = 1)) THEN  
    UNDEREMP = 1;  
ELSE UNDEREMP = 2;
```

Unemployed (UNEMP): UNEMP indicates whether a sample person is unemployed, employed, or not in the labor force. A sample person is considered employed if they were working last week. A sample person is considered unemployed if they were not employed last week and if they were looking for work in the last four weeks. A sample person is considered not in the labor force if they were not employed last week and had not looked for work in the last four weeks. UNEMP is derived from EEMAIN and EEL4WKS.

The values for UNEMP are as follows:

1 = Unemployed
2 = Employed
-1 = Not in labor force

The SAS code for UNEMP is as follows:

```
IF EEMAIN = 2 AND EEL4WKS = 2 THEN UNEMP = -1;  
ELSE IF EEMAIN = 2 AND EEL4WKS = 1 THEN UNEMP = 1;  
ELSE IF EEMAIN = 1 THEN UNEMP = 2;
```

¹ The 2016 ATES derived variable UNDEREMP defines underemployed differently than how it was defined in Cronen, McQuiggan, and Isenberg (2017). In McPhee et al. (2017) the SAS code for the UNDEREMP variable is the following:

```
IF EEPREFFT = 1 OR EEPERM = 1 THEN UNDEREMP = 1;  
ELSE UNDEREMP = 2;
```

This McPhee et al. UNDEREMP variable is not limited to those who were employed last week (EEMAIN=1). (The EEPREFFT variable applies to a job held last week, while the EEPERM variable refers to the current or last job and does not specify when the job was held.) In addition, this McPhee et al. UNDEREMP variable includes those working full-time jobs in the underemployed, if they also had a part-time job that they would prefer to have as their full-time job. The UNDEREMP variable in this memo specifies that those who would prefer a full-time job are not already working a full-time job (EEFTJOB=2 AND EEPREFFT=1). Finally, this McPhee et al. UNDEREMP variable does not include a separate value for those not employed; they would be considered not underemployed.

References

- Cronen, S., McQuiggan, M., and Isenberg, E. (2017). *Adult Training and Education: Results from the National Household Education Surveys Program of 2016* (NCES 2017-103). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- McPhee, C., Jackson, M., Bielick, S., Masterton, M., Battle, D., McQuiggan, M., Payri, M., Cox, C., and Medway, R. (2017). *National Household Education Surveys Program of 2016: Data File User's Manual* (NCES 2017-100). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.