2005 NATIONAL SURVEY ON DRUG USE AND HEALTH

Person-Level Sampling Weight Calibration

Prepared for the 2005 Methodological Resource Book

RTI Project No. 0209009.174.002
Contract No. 283-2004-00022
Phase I, Deliverable 39

Authors:

Patrick Chen
Lanting Dai
Harper Gordek
Jeff Laufenberg
Neeraja Sathe
Matthew Westlake

Project Director: Thomas G. Virag

Prepared for:

Substance Abuse and Mental Health Services Administration
Rockville, Maryland 20857

Prepared by:

RTI International
Research Triangle Park, North Carolina 27709

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Preface

This report contains a brief review of the sampling weight calibration methodology used for the 2005 National Survey on Drug Use and Health (NSDUH), which was known as the National Household Survey on Drug Abuse (NHSDA) prior to 2002. This report also lists detailed documentation on the implementation steps and evaluation results from the weight calibration application. The constrained exponential modeling method used in the surveys prior to 1999 (referred to in this report as the generalized exponential model [GEM]) was modified in order to provide more flexibility in dealing internally with the extreme weights and for setting bounds directly on the weight adjustment factors so they can become suitable for nonresponse and poststratification adjustments. The highlights of the new method are summarized below.

- The inherent two-phase nature of the NSDUH design (viewing the large screener sample as the first phase and the actual questionnaire sample as the second phase) allows for the additional step of poststratifying the selected persons to estimated controls from the large first-phase sample of persons. This additional step results in stable controls for the later step of nonresponse adjustment at the respondent-person level. These two steps had been combined as one step in surveys prior to 1999, but they have been kept separate from 1999 onward.

- Another poststratification step was added at the respondent-household level in the first phase of the screening interview. This step reduced coverage bias resulting from the first-phase sampling and produced controls for use in poststratification at the selected-person level, respondent person-pair level, and respondent-household level in the second phase of the drug use interview. This step again takes advantage of the inherent two-phase design of the study.

- The built-in control on extreme weights in GEM was supplemented by a separate step of extreme value adjustment after the final poststratification whenever the extreme weight percentage in the initial unadjusted weights was considered to be too large. This was accomplished by using GEM so that the sample demographic distribution was preserved. This method represents an improvement over the trimming method implemented before the nonresponse adjustment in surveys prior to 1999 and the extreme value adjustment before the nonresponse adjustment used for the 1999 NHSDA. For the 2005 NSDUH, this final extreme value adjustment was judged to be unnecessary.

The GEM calibration method provides a unified approach to handling problems of extreme weights, nonresponse, and poststratification, and it uses current state-of-the-art technology. The implementation of GEM under a tight project schedule was a challenge, but it was met successfully by the diligence and perseverance of the members of the weighting team consisting of Patrick Chen, Lanting Dai, Harper Gordek, Jeff Laufenberg, Neeraja Sathe, and Matthew Westlake.

This report consists of several chapters describing the implementation and evaluation of GEM and of appendices comprised mainly of tables. In the interest of reducing the size of the report, detailed domain-specific evaluation results are presented in the supplement to this report,

which is available upon request. This work was completed for the Substance Abuse and Mental Health Services Administration (SAMHSA), Office of Applied Studies (OAS), by RTI International,[1] North Carolina, under Contract No. 283-2004-00022. The authors are grateful to Art Hughes of SAMHSA for his useful comments and suggestions.

Ralph Folsom, Senior Advisor
Research Triangle Park, NC

[1]RTI International is a trade name of Research Triangle Institute.

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List of Terms and Abbreviations

C Center parameter.

CAI Computer-assisted interviewing.

DU Dwelling unit.

ev Extreme weight adjustment. See Section 4.1 for more detail.

FI Field interviewer.

GEM Generalized exponential model. See Chapter 2 for more detail.

half-step This refers to halving the increment in the Newton-Raphson iterative process for fitting GEM.

IQR Interquartile range.

L Lower parameter.

MPMN Multivariate predictive mean neighbor.

nr Nonresponse adjustment.

Outwinsor Signifies the percentages of weights trimmed after extreme weight adjustment via winsorization.

PMN Predictive mean neighborhood.

ps Poststratification adjustment.

res.sdu.nr Respondent screener dwelling unit nonresponse adjustment step. See Section 5.1.2 for more detail.

res.sdu.ps Respondent screener dwelling unit poststratification adjustment step. See Section 5.1.3 for more detail.

res.sdu.ev Respondent screener dwelling unit extreme weight adjustment step. See Section 5.1.4 for more detail.

sel.per.ps Selected person poststratification adjustment step. See Section 5.2.2 for more detail.

res.per.nr Respondent person nonresponse adjustment step. See Section 5.2.3 for more detail.

res.per.ps Respondent person poststratification adjustment step. See Section 5.2.4 for more detail.

res.per.ev Respondent person extreme weight adjustment step. See Section 5.2.5 for more detail.

SAE Small area estimate.

Sandwich SE Sandwich standard error. See Section 6.5 for more detail.

SDU Screener dwelling unit.

SE Standard error.

SES Socioeconomic status indicator. See Exhibit 3.1 for more detail.

SS State sampling.

U Upper parameter.

UPMN Univariate predictive mean neighbor.

UWE Unequal weighting effect. It refers to the contribution in the design effect due to unequal selection probability and is defined as $1+[(n-1)/n]*CV^2$ where CV = coefficient of variation of weights, and *n* is the sample size.

VESTR Variance estimation stratum.

VEREP Variance estimation replicates.

Winsorization A method of extreme weight adjustment that replaces extreme weights with the critical values used for defining low and high extreme weights.

1. Introduction

The target population for the 2005 National Survey on Drug Use and Health (NSDUH) was the civilian, noninstitutionalized population aged 12 years or older residing within the United States and the District of Columbia. The 2005 NSDUH is the first survey in a coordinated 5-year sample design. Although there is no planned overlap with the 1999-2004 samples, a coordinated design for 2005 through 2009 facilitated 50 percent overlap in second-stage units (area segments) within each successive 2-year period from 2005 through 2009. This design was intended to increase the precision of estimates in year-to-year trend analyses, using the expected positive correlation resulting from the overlapping sample between successive NSDUH years.

The 2005 design provides for estimates by State in all 50 States plus the District of Columbia. States may therefore be viewed as the first level of stratification as well as a reporting variable. Eight States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas), referred to as the "large" States, had a sample designed to yield 3,600 respondents per State, while the remaining 43 "small" States (which include the District of Columbia) had a sample designed to yield 900 respondents per State. In these 43 States, adequate data were available to support reliable State estimates based on small area estimation (SAE) methodology. For the 2005 NSDUH, which followed the 2005 design plan, the total realized sample size was 68,308 persons (corresponding to 47,893 responding dwelling units [DUs] selected at the second phase out of 134,046 DUs screened at the first phase), with a low of 840 for Louisiana to a high of 978 for Connecticut among small States, and a low of 3,562 for Texas to a high of 3,699 for California among large States.

In the 2005 NSDUH design, States served as the primary strata; within each State, State sampling (SS) regions were formed and served as the secondary strata. Based on a composite size measure, States were geographically partitioned into roughly equal-sized regions according to population. The smaller States were partitioned into 12 SS regions, whereas the eight large States were divided into 48 SS regions. Therefore, the partitioning of the United States resulted in the formation of a total of 900 SS regions.

Unlike the 1999 through 2001 NHSDAs and the 2002 through 2004 NSDUHs, the first stage of selection for the 2005 through 2009 NSDUHs was census tracts selected from SS regions. This stage was included to contain sample segments within a single census tract to the extent possible. In prior years, segments that crossed census tract boundaries made merging to external data sources difficult.

The first stage of selection began with the construction of an area sample frame that contained one record for each census tract in the United States. If necessary, census tracts were aggregated within SS regions until each tract had, at a minimum, 150 DUs in urban areas and 100 DUs in rural areas. There were 48 census tracts per SS region selected with probabilities proportionate to a composite size measure and with minimum replacement (Chromy, 1979).

Because census tracts generally exceed the minimum DU requirement, one smaller geographic region was selected within each sampled census tract. For this second stage of sampling, each selected census tract was partitioned into compact clusters[2] of DUs by aggregating adjacent census blocks. Consistent with the terminology used in previous NSDUHs, these geographic clusters of blocks are referred to as "segments." A sample DU in NSDUH refers to either a housing unit or a group-quarters listing unit, such as a dormitory room or a shelter bed. Similar to census tracts, segments were formed to contain a minimum of 150 DUs in urban areas and 100 DUs in rural areas. This minimum DU requirement will support the overlapping sample design and any special supplemental samples or field tests that SAMHSA may wish to conduct.

One segment was selected within each sampled census tract with probability proportionate to size. The 48 selected segments then were randomly assigned to a survey year and quarter of data collection.

After sample segments for the 2005 NSDUH were selected, specially trained field household listers visited the areas and obtained complete and accurate lists of all eligible DUs within the sample segment boundaries. These lists served as the frames for the third stage of sample selection. Using a random start point and interval-based (systematic) selection, the actual listing units were selected from the segment frame.

After DU selections were made, an interviewer visited each selected DU to obtain a roster of all persons residing in the DU. Using the roster information obtained from an eligible member of the selected DU, zero, one, or two persons were selected for the survey. Sampling rates were preset by age group and State. Roster information was entered directly into the electronic screening instrument, which automatically implemented this fourth stage of selection based on the State and age group sampling parameters.

As in previous years of the survey,[3] the sample weighting of the 2005 NSDUH posed challenges because of the sheer magnitude of the number of State-specific predictors for use in nonresponse (nr) and poststratification (ps) adjustments. With the 51-State survey, using a single model for each of the adjustments was not practical; however, treating each State separately was not desirable because individual State sample sizes were not large enough to support reliable estimation of a number of parameters. Therefore, the 51 States were grouped into nine model groups corresponding to the nine U.S. Bureau of the Census divisions. This helped to keep a substantial number of predictor variables in each model and reduced the computing time that would be associated with fitting a larger model.

As with each survey after 1999, an important feature of the 2005 NSDUH sample weighting was to capitalize on the inherent two-phase nature of the NSDUH design (although the design was primarily viewed as multistage) by adding a step to poststratify the household weights in the first phase of the screening interview (see Exhibit 1.1). This reduced coverage bias resulting from the first phase of sampling and produced estimated controls for use in

[2] Although the entire cluster is compact, the final sample of DUs represents a noncompact cluster. Noncompact clusters (selection from a list) differ from compact clusters in that not all units within the cluster are included in the sample. Although compact cluster designs are less costly and more stable, a noncompact cluster design was used because it provides for greater heterogeneity of dwellings within the sample. Also, social interaction (contagion) among neighboring dwellings is sometimes introduced with compact clusters (Kish, 1965).

[3] The survey was known as the National Household Surveys on Drug Abuse (NHSDA) prior to 2002.

poststratification of person-pair weights and household weights in the second phase of the drug use interview. No other suitable source was available for obtaining these controls for poststratification. Note also that screener DU weights were poststratified to population counts by adjusting the DU's weighted contribution of person counts to various demographic domains. The second important feature was to add a step to poststratify selected persons (including respondents and nonrespondents) to estimated controls from the large first-phase sample of persons for various predictor variables at the segment, DU, and person levels. This gave stable controls for the step involving the nonresponse adjustment of respondent weights. Incorporating this important feature would not have been possible without screener data on the sociodemographics of members of the selected households.

As in previous NSDUHs, a modification of the earlier methodology of scaled constrained exponential modeling (Folsom & Witt, 1994) was used in order to meet the new demands on weighting mentioned above (i.e., the two-phase design and large number of available predictors). The modified methodology, called the generalized exponential model (GEM) (Folsom & Singh, 2000), has several features:

- Like constrained exponential modeling, GEM can utilize a large number of predictor variables, such as those obtained from the first-phase screener sample for the 50 States plus the District of Columbia, and some of their interactions.
- GEM allows unit-specific bounds for the weights initially identified as extreme, which provide tight controls on the extreme weights. This built-in control is often adequate, in that the frequency of extreme weights, after the nonresponse and poststratification adjustments, is not usually high. However, if this is not the case, GEM can be used for a separate extreme weight adjustment after poststratification. This extra adjustment, which uses tighter bounds, will preserve the demographic population controls used in the poststratification step.
- GEM provides a unified approach to nonresponse, poststratification, and extreme weight adjustments. The differences are only in terms of the bounds and control totals that are used.
- GEM can be implemented efficiently using software developed at RTI.
- GEM is a generalization of the commonly used raking-ratio method in which a distance function is minimized such that (1) the initial weights are perturbed only a little and lie within certain bounds, and (2) control totals are met. It is also a generalization of Deville and Särndal's (1992) logit method in that the bounds on weights are not required to be uniform. Moreover, the lower bound can be set to one, which is desirable for the nonresponse adjustment. Like the above methods, fitting GEM requires iterations (such as Newton-Raphson).

The report is organized as follows. In Chapter 2, GEM is reviewed, and a heuristic description is provided of how GEM provides a unified approach to all three procedures adjustments for nonresponse, poststratification, and extreme weight adjustment. In Chapter 3, potential predictor variables for use with nonresponse, poststratification, and extreme weight are discussed, and the strategy for dealing with many predictors via modeling groups of States is reviewed. In Chapter

4, practical steps for implementing GEM for the 2005 NSDUH are presented, and in Chapter 5, details of the weight calibrations, including all weight components corresponding to Phases I and II, are given. Chapter 6 presents the evaluation measures of calibrated weights and a sensitivity analysis of point estimates and standard errors (adjusted for calibration) of selected drug prevalence estimates. The sensitivity analysis compares the estimates and standard errors from final models to those of the baseline models (which consist of only main effects). Nine appendices also are included. Appendix A presents some technical details about GEM, Appendix B documents the creation and source of the poststratification control totals, and Appendix C contains information on the imputation methodology. Appendix D summarizes the GEM modeling, and the remaining five appendices contain various tables.

Exhibit 1.1 Sampling Weight Calibration Steps

Phase I Dwelling Unit Level

DU-Level Design Weights
(See Section 5.1.1)

DU-Level Nonresponse Adjustment
(See Section 5.1.2)

DU-Level Poststratification Adjustment
(See Section 5.1.3)

DU-Level Extreme Weight Adjustment
(See Section 5.1.4)

Phase II Person Level

Person-Level Design Weight
(See Section 5.2.1)

Selected Person-Level Poststratification Adjustment
(See Section 5.2.2)

Respondent Person-Level Nonresponse Adjustment
(See Section 5.2.3)

Respondent Person-Level Poststratification Adjustment
(See Section 5.2.4)

Respondent Person-Level Extreme Weight Adjustment
(See Section 5.2.5)

2. Generalized Exponential Model for Weight Calibration

In survey practice, design weights are typically adjusted in three steps via the following methods: (1) weighting class adjustments for nonresponse, (2) raking-ratio adjustments for poststratification, and (3) winsorization for extreme weights. The bias introduced by winsorization is alleviated to some extent through poststratification. The nonresponse adjustment is a correction for bias that is introduced when estimates are based only on responding units; poststratification is an adjustment for coverage (typically undercoverage) bias, as well as for variance reduction (which is possibly due to correlation between the study and control, usually demographic, variables). If weights are not treated for extreme weight adjustment, the resulting estimates, although unbiased, will tend to have low precision.

There are limitations in the existing methods of weight adjustment for nonresponse, poststratification, and extreme weight. For the nonresponse step, there are general raking-type methods, such as the scaled constrained exponential model developed by Folsom and Witt (1994), where the lower and upper bounds can be suitably chosen by using a separate scaling factor. The factor is set as the inverse of the overall response propensity. It would be beneficial to have a model for the nonresponse adjustment factor that incorporates the desired lower and upper bounds on the factor as part of the model. Note that the lower bound on the nonresponse adjustment factor should be 1 because it is interpreted as the inverse of the probability of response for a particular unit. For the poststratification step, the general calibration methods of Deville and Särndal (1992), such as the logit method, allow for built-in lower (L) and upper (U) bounds (for poststratification, typically $L<1<U$). However, it would be useful to have nonuniform bounds (L_k, U_k) depending on the unit k, such that the final adjusted weights, w_k, could be controlled within certain limits. An important application of this feature would be weight adjustments to allow the user to have some control over the final adjustment of weights initially identified as extreme weights. It would be advantageous to adjust for bias introduced in the extreme weight adjustment step (such as when extreme weights are treated via winsorization) so that the sample distribution for various demographic characteristics is preserved.

A modification of the earlier method of the scaled constrained exponential model of Folsom and Witt (1994), termed the generalized exponential model (GEM) and proposed by Folsom and Singh (2000), provides a unified approach to the three weight adjustments for nonresponse, poststratification, and extreme weight, and it has the valuable features mentioned above. The functional form of the GEM adjustment factor is given in Appendix A. It generalizes the logit model of Deville and Särndal (1992), typically used for poststratification, such that the bounds (L, U) may depend on k. Thus, it provides a built-in control on extreme weights, during both nonresponse adjustments and poststratification. In addition, the bounds are internal to the model and can be set to chosen values (e.g., $L_k = 1$ in the nonresponse step). If the frequency of extreme weights is low after the final poststratification, a separate extreme weight adjustment step may not be necessary.

Note that in view of the nonresponse adjustment factor being defined as the inverse of response propensity, GEM requires it to be greater than 1. However, the built-in extreme weight control feature of GEM essentially defines adjustment factors with regard to the critical value under winsorization. Therefore, although the adjustment factor with regard to the cutoff point is always greater than 1, with regard to the original weight, it can be less than 1.

In fitting GEM to a particular problem, choosing a large number of predictor variables along with tight bounds will have an impact on the resulting unequal weighting effect (UWE) and the percentage of extreme weights. In practice, this leads to somewhat subjective evaluations of trade-offs between the target set of bounds for a given set of factor effects, the target UWE, and the target proportions of extreme weights. The percentage of "outwinsors" (a term coined to signify the extent of residual weights after extreme weight adjustment via winsorization) is probably a more realistic benchmark in determining the robustness of estimates in the presence of extreme weights. Chapter 4 provides details about the GEM process and some practical guidelines about fitting such a model. In particular, an adaptive method based on realized minimum and maximum bounds after setting loose initial bounds is recommended for choosing bounds more objectively.

A large increase in the number of predictor variables in GEM typically would result in a higher unequal weighting effect, indicating a possible loss in precision. By looking at the change in variance calculated for a model run with the minimal number of predictor variables versus the final model we reached during the weighting process, a more precise measure of loss (or gain) in precision can be obtained for variance of selected study variables. The results are presented in Chapter 6.

3. Predictor Variables in GEM for the 2005 NSDUH

For the 2005 National Survey on Drug Use and Health (NSDUH), the initial set of predictor variables was identical to the set used for the 2004 NSDUH. Exhibit 3.1 shows the definitions and levels of these predictor variables. Typical predictors used for the screener dwelling unit (DU) nonresponse adjustment were State, Quarter, Group-Quarters Indicator, Population Density, Percentage Hispanic in Segment, Percentage Black in Segment, Percentage Owner-Occupied DUs in Segment, and Segment-Combined Median Rent and Housing Value, which is also called the Socioeconomic Status (SES) indicator. The SES indicator was a composite measure based on (standardized) median rent, median housing value, and the percentage of dwellings that are owner-occupied. Typical predictors for the person-level nonresponse adjustments were, in addition to those stated above, Age, Gender, Race, Hispanicity, and Relation to Householder (i.e., the head of the household). For poststratification, predictors typically used were State, Age, Race, Gender, Hispanicity, and Quarter. In all cases, the model consisted of main effects and some interactions of these predictors. For a separate extreme weight adjustment with the generalized exponential model (GEM) after poststratification, the predictors were the same as those used in the poststratification (ps) adjustment.

Generally, it is desirable to include, whenever possible, poststratification predictors (correlated with the outcome variable) as part of nonresponse predictors (correlated with the response variable) because of the potential variance reduction; this works to offset the variance inflation, which is due to the random controls used in the nonresponse (nr) adjustment. In general, this is not possible because demographic information (often used for poststratification) is not available for nonrespondents. However, with a two-phase design, such as NSDUH's, there is no such problem because the screener data contain the necessary information. There is, of course, the cost in time and effort required to edit and impute the screener-based predictors in advance of this nonresponse adjustment. Many times, the need to edit, impute, or both edit and impute nonresponse predictors for the full sample, which consists of respondents and nonrespondents, is eliminated because the poststratification and nonresponse adjustments are combined into a single poststratification step. However, the processes leading to nonresponse and coverage errors are likely to be different enough to benefit from separate modeling. The nonresponse-adjustment models also can benefit from bias reduction when segment-level variables, such as the percentage of owner-occupied DUs, are included in the model. Population totals for these segment-level variables have not been developed for use as poststratification controls.

Exhibit 3.1 Definition of Levels for Variables

Age (years)
1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+ [1,4]
Gender
1: Male, 2: Female[1]
Group Quarters Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]
Hispanicity
1: Hispanic, 2: Non-Hispanic[1]
Percent of Owner-Occupied Dwelling Units in Segment (% Owner)
1: 50% - 100%,[1] 2: 10% - 50%, 3: <10%
Percent of Segments That Are Black (% Black)
1: 50% - 100%, 2: 10% - 50%, 3: <10%[1]
Percent of Segments That Are Hispanic (% Hispanic)
1: 50% - 100%, 2: 10% - 50%, 3: <10%[1]
Population Density
1: MSA 1,000,000 or more, 2: MSA less than 1,000,000, 3: Non-MSA urban, 4: Non-MSA rural[1]
Quarter
1: Quarter 1, 2: Quarter 2, 3: Quarter 3, 4: Quarter 4[1]
Race (3 level)
1: White,[1] 2: Black, 3: Other
Race (5 level)
1: White,[1] 2: Black, 3: American Indian/Alaska Native, 4: Asian, 5: Two or More Races
Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Non-Relative
Segment-Combined Median Rent and Housing Value (Rent/Housing)[2]
1: First Quintile, 2: Second Quintile, 3: Third Quintile, 4: Fourth Quintile, 5: Fifth Quintile[1]
States[3]
Model Group 1: 1: Connecticut, 2: Maine, 3: New Hampshire, 4: Rhode Island, 5: Vermont, 6: Massachusetts[1]
Model Group 2: 1: New Jersey,[1] 2: New York, 3: Pennsylvania
Model Group 3: 1: Illinois, 2: Indiana,[1] 3: Michigan, 4: Wisconsin, 5: Ohio
Model Group 4: 1: Iowa, 2: Kansas, 3: Minnesota, 4: Missouri,[1] 5: Nebraska, 6: South Dakota, 7: North Dakota
Model Group 5: 1: Delaware, 2: District of Columbia, 3: Georgia,[1] 4: Maryland, 5: North Carolina, 6: South Carolina, 7: Virginia, 8: West Virginia, 9: Florida
Model Group 6: 1: Alabama, 2: Kentucky, 3: Mississippi, 4: Tennessee[1]
Model Group 7: 1: Arkansas,[1] 2: Louisiana, 3: Oklahoma, 4: Texas
Model Group 8: 1: Colorado, 2: Idaho, 3: Montana, 4: Nevada, 5: New Mexico, 6: Utah, 7: Wyoming, 8: Arizona[1]
Model Group 9: 1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

MSA = metropolitan statistical area.
[1] The reference level for this variable. This is the level against which effects of other factor levels are measured.
[2] Segment-Combined Median Rent and Housing Value (also known as the Socioeconomic Status [SES] indicator) is a composite measure based on rent, housing value, and percent owner occupied.
[3] The States assigned to a particular model are based on census divisions.
[4] 50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment, for which 65+ was used as the reference level.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Heuristically, the suitable number of State-specific controls should depend on the size of the realized sample in each State; because of this, the nature of the problem of too many controls in nonresponse- and poststratification-adjustment models is State specific. Therefore, for the 2005 NSDUH, the strategy proposed by Singh, Penne, and Gordek (1999) was followed and is discussed in the following paragraphs. Also using Singh et al. (1999), some general guidelines were used to choose an initial set of State-specific controls, and the initial set was modified iteratively as problems in maintaining them arose. The process began with the baseline model of one-factor effects and then proceeded with the addition of second- and third-order effects; collapsing was performed as necessary, depending on the individual State sample sizes. To obtain more precise State-level estimates, every effort was made to include as many important State-specific covariates as possible in models for nonresponse and poststratification weight adjustments. These covariates typically were defined by sociodemographic domains. However, keeping a multitude of State-specific covariates, especially higher order interactions, was not possible because individual State sample sizes were not large enough to support stable estimation of an adequate number of model parameters. Therefore, a hierarchical order was used for including covariates in the model; the order started with covariates at the national level, followed by covariates at the census-division level within the Nation, then covariates at the combined-State level within the census division, and finally, whenever possible, covariates at the State level within the combined States.

When adding certain covariates to the model resulted in parameters that could not be estimated or were unstable, the hierarchy strategy mentioned above was used to combine States within a census division so that covariates at the combined level could be included. However, this problem typically arose with State-specific higher order interactions, and States were collapsed only when combining levels of covariates within a State was not a reasonable alternative. This was thought to be beneficial in obtaining more reliable State-level estimates using small area estimation (SAE) techniques. The eight large States were not combined with other, smaller States, to the extent possible, in order to get direct State-level estimates without relying on SAE.

As an objective check for the suitability of the number of factors, once a satisfactory convergent model was obtained (see Section 6.5 for details), the relative efficiency of a more complex model (with many effects) versus a simpler model (with fewer effects) was measured. In addition to the relative efficiency, the increase in the unequal weighting effect (UWE) was checked.

For the 2005 NSDUH data, as for the previous years' data, it became apparent that the number of controls could be very high (in excess of 1,000). This many controls would be computationally prohibitive because the implementation of GEM involves iterative steps, and a matrix (whose dimension corresponds to the number of controls) must be inverted in each of these iterations. A solution would be to use separate models within groups of States rather than a single overall model. It can be shown that, if effects (two-factor or higher order) are always collapsed within a group of States, then fitting an overall model of GEM is equivalent to fitting separate models for each group. In this way, the computational problems associated with too many controls could be reduced. Therefore, in the 2005 NSDUH, as in the 1999 through 2004 surveys, nine model groups corresponding to the nine census divisions were used.

4. Practical Aspects of Implementing GEM for the NSDUH

As explained in Chapter 2, the generalized exponential model (GEM) can be used for nonresponse (nr) adjustment, poststratification (ps), and extreme weight adjustment (see Exhibit 4.1 for a schematic presentation of the steps). These steps were implemented using the GEM macro developed at RTI. A detailed discussion can be found in Chen, Penne, and Singh (2000).

4.1 Definition of Extreme Weights of Sampling Weights

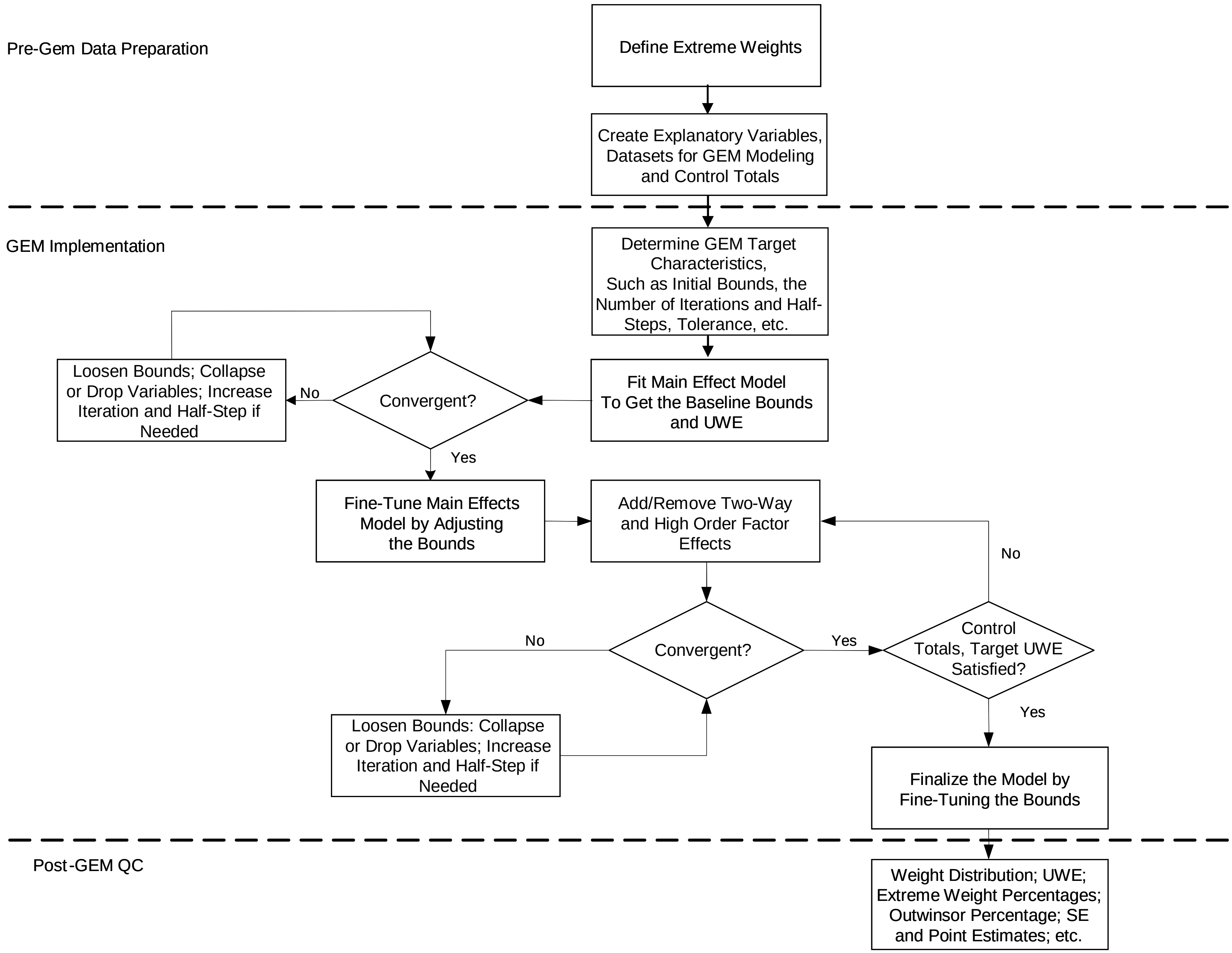
An important aspect of GEM is the built-in provision of extreme weight adjustment. Sampling weights for the survey generally were classified as extreme (high or low) if they fell outside the commonly used interval defined by the median ±3 × interquartile range (IQR) for some prespecified domains; these domains were usually defined by design strata, taking into account deep stratification. For example, the dwelling unit (DU)-level weight for the 2005 National Survey on Drug Use and Health (NSDUH) used the State sampling (SS) region as the domain. The person-level weight adjustments used a hierarchy of four domains: (1) SS region × Age group, (2) State × Age group, (3) SS region, and (4) State. A minimum of 30 observations was required for defining the boundaries, or critical values, for extreme weights. If this minimum was not met at the lower level, the next level up in the hierarchy was used.

Although the SS region × Age group domain corresponded to a deep stratum, it could be unsuitable for defining extreme weights because of insufficient sample sizes. So, collapsing SS regions within a State gave rise to such domains as State × Age group. Even at this level, sample sizes could be insufficient, so SS regions and, later, States themselves could be used as domains to define extreme weights. The critical values for low and high extreme weights are denoted by $b_{k\,(l)}$ and $b_{k\,(u)}$, respectively. The critical points for extreme weights within GEM modeling were defined as the median ±2.5 × IQR, which was conservative when compared with the commonly used standard of the median ±3 × IQR. This is because, in order to better prevent the adjusted weights from crossing the standard boundary, in addition to those at or beyond the boundary, weights near but below it (which have the most potential to become extreme) were treated as extreme by GEM as well.

4.2 Definition of Lower and Upper Bounds for Weight Adjustment Factors

For implementing extreme weight control via GEM, the variable m_k was defined as $b_{k(u)}/w_k$ for high extreme weights, and $b_{k(l)}/w_k$ for low extreme weights, where w_k represents the sampling weight before adjustment, and $b_{k(u)}$, $b_{k(l)}$ denote the critical values for the extreme weights. (Note that under this definition, nonextreme weights has a value of 1 for m_k; for high extreme weights, the more extreme the weight is, the smaller m_k will be; conversely for low extreme weights, the more extreme the weight is, the bigger m_k will be.) The upper and lower bounds for the adjustment factors were defined, respectively, as the product of m_k and the upper and lower boundary parameters specified in the modeling of GEM.

Exhibit 4.1 Generalized Exponential Model Steps



GEM = generalized exponential model; SE = standard error; UWE = unequal weighting effect.

GEM allows inputs of three different upper (U) and lower (L) boundary parameters (L_1 and U_1, L_2 and U_2, L_3 and U_3, respectively) for high, non-, and low extreme weights. By applying a small upper boundary parameter for high extreme weights and a large lower boundary parameter for low extreme weights, the extreme weights could be controlled in the modeling.

GEM also requires specification of centers (C), such that L < C < U. For nonresponse adjustment, it was constructive to require all adjustments to be greater than 1 because the adjustments represented the inverse of response propensities. The value of C in this case was chosen as the inverse of the overall response propensity. For poststratification, Cs were set to 1 so the adjusted weights would not be too far away from the original design weights. Here, Ls were chosen to be less than 1 and Us greater than 1 because the control totals could be larger or smaller than the estimated totals based on the design weights. The extreme weight adjustment is analogous to the poststratification adjustment (see Appendix A) in that it is a repeated poststratification with tighter bounds for extreme weights identified after the poststratification step. Section 4.7 gives guidelines for the choice of L, C, and U parameters.

4.3 Definition of Control Totals

GEM modeling for nonresponse adjustment, poststratification, and extreme weight adjustment involved estimation of parameters of the adjustment factor model, such that specified control totals were satisfied. There were two types of control totals. For nonresponse adjustment, the control totals were from the full sample (i.e., respondents and nonrespondents), while for poststratification, control totals were obtained from external sources, such as the Census Bureau or a large first-phase screener sample. Specifically, for the 2005 NSDUH, the control totals for various domains for the selected person-level poststratification adjustment (sel.per.ps, see Section 5.2.2) were obtained from the first-phase sample containing roster information, and the control totals for the respondent person-level poststratification (res.per.ps, see Section 5.2.4) were obtained from the Census Bureau's Postcensal Population Estimates for various demographic domains. Controls used for extreme weight adjustment were the same as those for poststratification because they were based on the poststratified weight. (See Appendix B for more information.)

4.4 Efficient Computation Using Grouped Data

Because adjustment factors remained the same for units (DUs or persons) having common values for all explanatory variables used in the model, the size of the sample data was reduced by grouping units having common values of these variables. Additionally, within the groupings, the units with extreme weights were further grouped such that, in addition to the common values of the explanatory variables, they also had common values of m_k. This significantly saved computation time, especially because the original sample size was large. Modeling GEM with grouped data was implemented by treating each group as a single record, with the associated weight defined as the sum of the individual weights in the group. Note that when using GEM with grouped data, the unequal weighting effect (UWE) and *t*-test statistics normally produced in the output would be misleading because the weights in grouped data are sums of the weights for the individual units within each group. Also, the definition of variance estimation stratum (VESTR) and replicates (VEREP) required for variance calculation would not be correct. To avoid these misleading results from using the grouped data, the final model was rerun with the full (ungrouped) data.

4.5 Steps in GEM Fitting

Exhibit 4.1 depicts the GEM steps. After specifying the GEM parameters, such as the initial U and L bounds, the number of the Newton-Raphson iterations and half-steps, and the type of weight adjustment (nonresponse adjustment, poststratification, or extreme weight adjustment), a forward selection method for modeling was used. A model with only main effects and loose bounds was first fit to obtain a set of realized baseline U and L bounds for extreme and nonextreme weights and to calculate a baseline UWE. Next, using the realized bounds, as many higher order interactions as possible were added to the model to help reduce bias, without unduly increasing the UWE and the extreme weight percentages. Convergence problems were addressed by loosening Ls and Us and collapsing or dropping variables. In GEM, *t* tests and *p* values for significance of various effects could be computed for a previously converged model, which would be helpful in deciding about the collapsing of effects when convergence problems arose with realized bounds.

For this application, "collapsing" implies combining the "levels" of variables with other levels explicitly present in the model, while "dropping" implies combining with the reference levels, which are not explicitly represented in the model. Collapsing or dropping lower order interactions had a direct impact on the inclusion of the number of higher order interactions. For the 2005 NSDUH, when adding higher order terms, all previously selected explanatory variables were retained in the model. Possible reasons for nonconvergence included explanatory variables corresponding to domains with small sample sizes, or domains with large discrepancies between estimated totals based on the initial weights and the target control totals. The variables causing problems with convergence were identified by the high magnitude of the estimated model parameters. Once the explanatory variables were finalized, finer adjustments of Us and Ls could optimize the model by reducing UWE and the extreme weight percentages.

4.6 Quality Control Checks

The distributions of the weights before and after each adjustment were compared to uncover any unusual impact of the weight adjustment on the initial weights. In addition to the weight distributions, the ratios of the maximum weight to the mean weight and the UWEs were compared across various domains both before and after each adjustment. The percentages of extreme weights were checked after each adjustment to see how effective the modeling was in controlling extreme weights. Coverage bias analysis based on the slippage rates also was conducted to check the impact of poststratification on various noncontrolled domains (i.e., those factors that were dropped or collapsed in the model). To check for overfitting after the final weight adjustment, point estimates for the main drug use variables and standard errors (SEs) were computed using a sandwich variance formula (see Section 6.5) and were compared with estimates and SEs for the baseline (or main effects) model.

4.7 Practical Guidelines in Using GEM

1. Collapsing checks for domains with small sample sizes. The number of observations in various domains defined by levels of the factor effects was examined. If the domain sample size was 0 and the control total corresponding to this domain also was 0, the factor generally was dropped. This automatically collapsed the factor level with the reference level; however, if the control total was not 0, the factor could not be dropped because collapsing the domains together for the sample also would collapse the population domains together. The result would be that control totals could not be met for the reference levels involved. In these cases, the factor level corresponding to a 0 domain sample size should be collapsed with another level for which we are willing to compromise on satisfying the control total.

In general, domains with small sample sizes may cause problems during GEM modeling and prevent the model from converging. For the 2005 NSDUH, if the model did not converge because a domain sample size was small, the corresponding factor effect was collapsed with another effect based on substantive considerations. For example, if State was involved, then it was better, in general, to collapse within States; collapsing of geographically adjacent States was done only when there was no other reasonable alternative (see Section 4.8 for more details). The necessity of collapsing was checked at each stage of model enlargement in the forward selection of factors. If variables were collapsed at a previous stage, the corresponding factor levels were also collapsed using the hierarchy principle at succeeding stages involving higher order factor effects.

2. **Singularity checks**. As in the case of collapsing checks, singularity checks (i.e., checks for linear dependence of columns of realized values of the predictors) were performed for the baseline model; additionally, they were performed at each stage of model enlargement because singularities depended on what other predictors were in the model. (Note that, although all variables were linearly independent of each other, it was possible for the columns of their realized values to have been linearly dependent.) For nonresponse adjustment, any variable that was a linear combination of other variables was either dropped from the model or collapsed with other variables. In order to decide whether to drop or to collapse, a singularity check was performed for both respondents only and the full sample. If both samples showed the same set of variables causing singularity, then these singularity variables could be dropped; if not, collapsing needed to be performed. For poststratification adjustment, any variable that was a linear combination of other variables had to be collapsed with other variables because the variables corresponding to poststratification controls typically were linearly independent.

3. Finding the initial factor set. After the collapsing and singularity checks, the remaining factor effects at a given stage of model enlargement formed the initial factor set.

4. Baseline model. Starting with the model consisting of all one-factor effects from the initial factor set, a convergent version was found (after any required collapsing) under no restrictions on the bounds. The model was optimized by trying to reduce the UWE and tighten the bounds. If necessary (to obtain convergence), factors corresponding to large parameter estimates were collapsed. As an option, *p* values could have been used to determine which factors to collapse.

5. Baseline plus two-factor effects. All two-factor interactions from the initial factor set were added to the baseline model. A convergent version under no bound restrictions then was found, and the model was optimized using criteria described in Guideline 4 above. The non-State two-factor effects were added first, and then, in a separate step, the State two-factor effects were added.

6. Baseline with two and higher order factor effects. Starting with the optimized model from Guideline 5, the higher order factor effects were added—first the non-State three-factor effects, then, in a separate step, the State three-factor effects. Again, criteria from Guideline 4 were followed to obtain an optimal model.

7. Optimizing a model with respect to the target model characteristics. These are summarized in the following points:

- For each step of model enlargement, the UWE for the initial weights was computed. It was allowed to increase up to 20 percent, or the maximum allowable UWE (generally under six), whichever was lower.

- The following guidelines, based on empirical considerations, were used for setting the bounds. In the case of poststratification and separate extreme weight adjustments, the center was set as $C_1 = C_2 = C_3 = 1$. Instead of tightening the bounds to as close to 1 as possible, as was done for surveys prior to 2002, we used an adaptive approach to choose the bounds starting from the 2003 NSDUH; that is, starting with loose bounds of (0.1, 10), we performed GEM iteratively 4 times, each with the realized bounds from the previous iteration. The final bounds for nonextreme weights were desired to be around (0.3, 5). The iterations based on the adaptive approach generally met this desired criterion. If this was not the case, then collapsing of some model variables was allowed to meet this criterion. Finally, the bounds U_1 and L_3 were further tightened to as close to 1 as possible to better control high and low extreme weights, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$.

- In the case of nonresponse, the center Cs were set equal to the common value of the overall inverse response propensity, and all the three lower bounds (L_1, L_2, and L_3) were set to 1. Next, starting with the loose bounds of (1, 10), the bounds were chosen iteratively as mentioned above using the realized bounds from the previous GEM iteration. The bounds U_1 and L_3 were further tightened to as close to C as possible, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$.

- Targets for the maximum acceptable percentages of extreme weights and outwinsors within GEM for nonresponse and poststratification were as follows: 3 percent for the unweighted extreme weights, 15 percent for weighted extreme weights, and 5 percent for outwinsors. These percentages are liberal and serve as guidelines only. In practice, reducing them by half is preferable. If these guidelines were not met after all stages of calibration, a separate GEM for adjustment of extreme weights was implemented after poststratification.

8. Evaluation measures. After each stage of model enlargement, various characteristics were examined for large values. These included the UWE, the ratio of the maximum to the mean for adjusted weight, the percentage of extreme weights and outwinsors, the distance between the total sample weighted count and the target population count (i.e., slippage rates for different domains), and other characteristics, such as weight summary statistics. In addition, the distributions of adjustment factors were checked for highly asymmetric tails. With the set of realized bounds for the final model, the baseline model was rerun, and then point estimates and SEs for selected outcome variables for the two models were compared. Generally, the two estimates were likely to be close, but not the SEs. The SEs for the final model were expected to be smaller but, at times, could be larger. Larger SEs were identified and examined because they could be an indication of instability of the model parameter estimates due to possible overfitting or insufficient sample sizes. In such situations, the final model was revised to get a more parsimonious model.

4.8 Variable Collapsing Guide

As discussed in Section 4.5, convergence problems in GEM were solved by either loosening bounds or collapsing model variables. Grouping proposed levels into a smaller number of categories could be done in several ways, but care was taken so that they remained meaningful. When constructing the model and attempting to obtain convergence, maintenance of logical groupings was a top priority. Below are some general guidelines that were followed when collapsing variables.

- *Ordinal Variables*. Most of the proposed explanatory variables were ordinal. Thus, collapsing was done in a meaningful way in the sense of the order. For example, the combined rental/house quintile had five levels (i.e., 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, and 5^{th} quintile) with the 5^{th} quintile set for the reference. If the 4^{th} quintile needed to be collapsed, it would be collapsed with either the 3^{rd} or 5^{th} quintile.

- *Age Groups*. Age group had five levels: 12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older (50 or older was further broken down into 50 to 64 and 65 or older for the Person-Level Poststratification Adjustment and the Person-Level Extreme Weight Adjustment in order to increase the accuracy of estimates for these age groups). For the main effects, the age covariate with five or six levels was easy to incorporate in the model. For the interactions, every effort was made to maintain the age group, and, therefore, collapsing was performed within age groups first. Collapsing across age groups occurred only if the age groups could not be maintained separately.

- *Large and Adjacent States*. In the main effects, fitting State separately in the model was not a problem. For the State-specific interactions, collapsing was done within State first, collapsing with other adjacent States only if needed. For the eight States with large sample sizes (CA, FL, IL, MI, NY, OH, PA, TX), every effort was made to preserve all factor levels within States so that direct estimates could be made for the large States.

- *Race*. In the main effects and State-specific two-factor interactions, Race had five levels (white, black, American Indian/Alaska Native, Asian, and two or more races) while in non-State-specific two- and three-factor effects, Race had three levels (white, black, and other). If maintaining all five levels was difficult in the main effects or State × Race interactions, the following guidelines were followed: (1) collapse American Indian/Alaska Native and Asian if either of them caused a convergence problem; (2) collapse black with two or more races if black caused a convergence problem; (3) collapse two or more races with American Indian/Alaska Native or Asian, whichever had a smaller sample size, if two or more races caused a convergence problem; and (4) collapse American Indian/Alaska Native, Asian, and two or more races, or collapse all nonwhite Race groups if necessary. In the State × Race interactions, collapsing Race should be done within State. If the three-level Race could not be maintained, the levels were collapsed to white and nonwhite.

5. Weight Calibration at Phase I Dwelling Unit and Phase II Person Levels

The 2005 National Survey on Drug Use and Health (NSDUH) was based on probability sampling so that valid inferences could be made from survey findings to the target population. Probability sampling refers to sampling in which every unit on the frame is given a known, nonzero probability of inclusion in the survey. This is required for unbiased estimation of the population total. The assumption of nonzero inclusion probability for every pair of units in the frame also is required for unbiased variance estimation. The basic sampling plan involved four stages of selection across two phases of design (see Exhibit 5.1). The first phase of the design was the dwelling unit (DU) level, and the second phase was the person level. The four stages of selection were as follows: within Phase I, (1) the selection of census tracts within the State sampling (SS) region; (2) the selection of segments within each sampled census tract; (3) the selection of DUs within these subareas; and within Phase II, (4) the selection of eligible individuals within DUs (Table 5.1). Specific details of the sample design and sample selection procedures can be found in the 2005 NSDUH sample design report (Morton, Chromy, Hunter, & Martin, 2006).

As part of the postsurvey data-processing activities, analysis weights were calculated for the 2005 NSDUH respondents that reflected the selection probabilities from various stages of the sample design. These sample weights were adjusted at both the DU level (screening sample) and person level (drug questionnaire sample) to account for bias due to extreme weights, nonresponse, and coverage.

The final Phase I DU-level and Phase II person-level sample weights for the 2005 NSDUH sample are products of several factors (see Exhibit 5.1), each representing either a probability of selection at some particular stage or some form of extreme weight, nonresponse, or poststratification adjustment. In the following sections, these components are described in greater detail. In summary, the first ten factors are defined for all screener-complete DUs and reflect the fully adjusted DU-level weight. The latter five components reflect the person-level selection within each screened DU, as well as any additional adjustments for person-level extreme weight, nonresponse, and poststratification error. Note that the unconditional, final person-level weights for the 2005 NSDUH sample are the product of all 15 weight components, as illustrated in Exhibit 5.1.

In the 2005 NSDUH, as in the 2000 through 2004 surveys, the order of the extreme weight adjustment step at both the DU and person level was different from the order used in the 1999 National Household Survey on Drug Abuse (NHSDA) computer-assisted interviewing (CAI). In the 1999 NHSDA CAI, the extreme weight adjustment step was introduced before nonresponse and poststratification, which was analogous to the traditional trimming step before nonresponse and poststratification. In the 1999 NHSDA, the initially identified extreme weights were held fixed at their winsorized values, and the nonextreme weights were adjusted so that the original sample distribution of the weights for various domains was preserved. As a better alternative for the surveys after 1999, the generalized exponential model (GEM) first was allowed to control the extreme weights during the nonresponse and poststratification steps, and

Exhibit 5.1 Summary of 2005 NSDUH Sample Weight Components

Phase I Dwelling Unit Level

Design Weight Components	
#1	Inverse Probability of Selecting Census Tract
#2	Inverse Probability of Selecting Segment
#3	Quarter Segment Weight Adjustment
#4	Subsegmentation Inflation Adjustment
#5	Inverse Probability of Selecting Dwelling Unit
#6	Inverse Probability of Added/Subsampled Dwelling Unit
#7	Dwelling Unit Release Adjustment

Weight Adjustment Components	
#8	Dwelling Unit Nonresponse Adjustment ***(res.sdu.nr)****
#9	Dwelling Unit Poststratification Adjustment ***(res.sdu.ps)****
#10	Dwelling Unit Extreme Weight Adjustment ***(res.sdu.ev)****

Phase II Person Level

Design Weight Components	
#11	Inverse Probability of Selecting a Person Within a Dwelling Unit

Weight Adjustment Components	
#12	Selected Person-Level Poststratification Adjustment to Screener Data Controls ***(sel.per.ps)****
#13	Person-Level Nonresponse Adjustment ***(res.per.nr)****
#14	Person-Level Poststratification Adjustment ***(res.per.ps)****
#15	Person-Level Extreme Weight Adjustment ***(res.per.ev)****

* These adjustments use the generalized exponential model (GEM), which also involves pre- and postprocessing in addition to running the GEM macro. See Exhibit 4.1. For computational feasibility, all weight adjustments were done using the nine model groups based on U.S. census divisions defined in Exhibit 5.2.

Exhibit 5.2 U.S. Census Divisions/Model Groups

Model Group	Census Division
1	**New England (6 States)**
	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
2	**Middle Atlantic (3 States)**
	New Jersey, New York, Pennsylvania
3	**East North Central (5 States)**
	Illinois, Indiana, Michigan, Ohio, Wisconsin
4	**West North Central (7 States)**
	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
5	**South Atlantic (8 States and the District of Columbia)**
	Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
6	**East South Central (4 States)**
	Alabama, Kentucky, Mississippi, Tennessee
7	**West South Central (4 States)**
	Arkansas, Louisiana, Oklahoma, Texas
8	**Mountain (8 States)**
	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
9	**Pacific (5 States)**
	Alaska, California, Hawaii, Oregon, Washington

Table 5.1 Sample Size, by Model Group for Each Stage of Sampling

Model Group	Eligible DU	Completed DU	Eligible Persons	Selected Persons	Completed Persons
1	12,518	11,375	23,702	6,651	5,480
2	20,299	17,435	37,158	10,343	8,231
3	27,328	24,529	51,851	15,857	12,710
4	12,894	12,177	24,933	7,685	6,444
5	25,581	23,273	48,369	13,508	10,959
6	7,563	7,052	14,525	4,411	3,660
7	11,994	11,366	24,062	7,492	6,199
8	14,413	13,621	28,648	8,738	7,314
9	14,322	13,227	29,806	9,120	7,311
Total	146,912	134,055	283,054	83,805	68,308

DU = dwelling unit.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

then a separate extreme weight adjustment step was performed after poststratification, if necessary. This step would be like a repeated poststratification, except that the extreme weights identified after poststratification would have tighter bounds, thus preserving the sample distributions in various domains (equivalent to satisfying the poststratification controls). It so happened that the extreme weight adjustment step was necessary neither at the DU level nor at the person level for 2005 NSDUH.

5.1 Phase I Household-Level Weight Components

5.1.1 Weight Components #1 to #7: Selection of a Dwelling Unit

The first seven components in the Phase I sample weights reflect the probability of selecting the DUs. These components were derived from (1) the probability of selecting the census tract within each State SS region, (2) the probability of selecting the segment within each census tract, (3) a quarter segment weight adjustment, (4) a subsegmentation inflation factor, (5) the probability of selecting a DU from within each counted and listed sampled segment, (6) the probability of inclusion of added DUs, and (7) DU percent release adjustment.

Segments were selected with probabilities representing a full year's sample; therefore, Weight Component #3 was set to 1 in the 12-month analysis, and to 2 for the 6-month analysis (because only half of the segments were used in the analysis). Also, when the field staff, who were responsible for counting and listing, traveled to a specified segment, occasionally they may have found the number of potential DUs to be much greater than what the sample frame (constructed from 1990 U.S. census data adjusted for 1995 Claritas projections) indicated. This happened either because of errors in the frame or, more commonly, because of rapid growth in a particular geographic area. When this occurred, the original segment was partitioned and a subsegment was randomly selected. Weight Component #4 (i.e., subsegmentation inflation factor) is an adjustment that accounts for this selection process.

As noted in the 2005 and earlier sample design reports, a lengthy process of determining the optimal DU sample was used during the design of the survey. Weight Component #5 is a result of this process and is equal to the inverse of the DU sample size divided by the total number of DUs counted and listed within a selected segment.

Furthermore, the list of DUs, which includes housing units and group quarters, was constructed by the counting and listing staff during the summer and fall of 2004. Because the listing was done a short time before the 2005 screening and interviewing activities began, no major discrepancies were expected. However, such factors as new construction, demolition, and inaccurate listing were present in some cases. More commonly, DUs may have been "hidden" and, therefore, overlooked by the counter and lister. For all DUs to be given a chance of being selected, the NSDUH has a procedure for locating and adding missed DUs. The current procedure requires field interviewers (FIs) to look both on the property of selected DUs and between each DU and the next listed DU (half-open interval rule). Starting from the 2000 survey, the rule was modified such that the half-open interval would be closed on each map page. Therefore, if the selected DU was the last on a page, the "next listed DU" would be the first one listed on the same page. If the number of added DUs linked to any particular DU did not exceed 6, or if the number for the entire segment was less than or equal to 10, the FI was instructed to consider these DUs as part of his or her assignment. However, if either of these limits was exceeded, the FI would contact RTI for subsampling to be considered. Weight Component #6 accounts for any subsampling that occurred due to added DUs.

To account for corrections, modifications, or both that occurred during the process of design optimization, an additional sample was included throughout all four quarters. Weight Component #7 is the adjustment for the percentage of the DU sample released to FIs in these quarters.

For more detailed information on Weight Components #1 through #7, refer to the 2005 NSDUH sample design report (Morton et al., 2006).

5.1.2 Weight Component #8: Dwelling Unit–Level Nonresponse Adjustment

After DUs were selected, an FI was sent to the DU to screen the residence. Failure to obtain the screening interview from eligible DUs represented the first type of nonresponse encountered in the survey. To account for this nonresponse, as in previous surveys, the (unconditional) sample weights up to this point (equal to the product of Weight Components #1 through #7) were adjusted using a multiplicative adjustment factor derived from modeling response propensity via GEM.

5.1.3 Weight Component #9: Dwelling Unit–Level Poststratification Adjustment

The screener data provided a large sample with information on some demographic variables for the households; therefore, as in two-phase sampling, the screener dwelling unit (SDU) weights first were adjusted for nonresponse and poststratification. Later, estimates for household variables (which were based on screener data) were used as control totals for weight adjustments at the second phase and for person pair–level weights. This was useful because, unlike census controls that were available for individual persons, no controls were available for person pairs. Note that for SDU poststratification, census controls still could be used because each SDU's contribution was computed as the number of persons in the SDU who had certain demographic characteristics multiplied by the SDU weight. It follows that, although explanatory variables used for modeling the weight adjustment were counts instead of binary (0/1), as is often the case, person-level census controls still could be used. For example, Age Group had five categories (12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older); in SDU poststratification, category 12 to 17 was the number of the persons in this age category within a DU, and so on. The intercept was the total number of persons in the DU, which varied by SDU because SDU size was not constant. Note that when defining interaction control variables for count variables, the corresponding count variables were not simply multiplied, as was done for the binary case; instead, the counts for the category defined by the interaction term (say, Age × gender) were used instead.

Additionally, the screening process only required the reporting of age for each person rostered; as a result, some fields of demographic information (e.g., race, Hispanic origin, gender, and two or more races) were missing. Missing data for race and Hispanic origin were imputed using the predictive mean neighborhood (PMN) methodology (see Appendix C). The probability of observing race (white, black, American Indian/Alaska Native, Asian, and two or more races) was modeled using PROC MULTILOG in SUDAAN®, and the probability of observing Hispanic origin was modeled using PROC LOGISTIC in SAS. Those probabilities were used in computing predictive means and delta neighborhoods. The "hot deck" method then was used to randomly pick a donor from the neighborhood to impute a missing value for each case. Missing data for gender were imputed using an unweighted hot-deck methodology (see Appendix C). The data file was sorted by auxiliary variables that were considered relevant to the variable being imputed. The sort order of these auxiliary variables was chosen to reflect the degree of importance of the auxiliary variables in relation to the variable being imputed. Exhibit 5.3 displays the order in which demographic variables were imputed, along with explanatory variables used in the model, or in hot-deck sorting.

Exhibit 5.3 Imputed Demographic Variables and Corresponding Explanatory or Auxiliary Sort Variables

Imputed Variable	Methodology	Explanatory or Auxiliary Sort Variables
Race	Multivariate predictive mean neighborhood (MPMN)	Census region, household type (white, black, Hispanic), percent of segments that are black, percent of segments that are Hispanic, percent of owner-occupied DUs in segment, segment-combined median rent and housing value, age group
Hispanic Origin	Univariate predictive mean neighborhood (UPMN)	Census region, imputed race, household type (white, black, Hispanic), percent of segments that are black, percent of segments that are Hispanic, percent of owner-occupied DUs in segment, segment-combined median rent and housing value, age group
Gender	Hot deck	Census division, imputation-revised Hispanic origin, imputation-revised race and a random sort number

5.1.4 Weight Component #10: Dwelling Unit–Level Extreme Weight Adjustment

The product of Weight Components #1 through #9 was checked to see if the extreme weight adjustment step was needed. Using the SS region as the domain for the extreme weight definition, weights were defined as extreme if they were outside the range defined by the median $\pm 3 \times$ interquartile range (IQR). Because the unweighted, weighted, and winsorized extreme weight percentages were not high, the extreme weight adjustment was not necessary (see results in Appendix F). Therefore, Weight Component #10 was set to 1 for every DU for which roster information was collected (i.e., every DU with a completed screener).

After this adjustment was completed, the final DU weight was calculated as the product of Weight Components #1 through #10 described above. This adjusted weight was used to compute household-level estimates from the screener data. It also was used to compute person-level estimates derived from the full roster sample. In addition, these ten weight components became the first ten components of the final interview respondent sample weight. The remaining five weight components discussed in the next section account for the person probability of selection for those persons for which a NSDUH interview was sought; they also account for person-level nonresponse, extreme weights, and coverage errors resulting from the last stages of the sample design.

Details on the final models used for DU nonresponse and poststratification adjustment for each respective model group can be found in Appendix D.

5.2 Phase II Person-Level Weight Components

5.2.1 Weight Component #11: Selection of a Person within a Dwelling Unit

The rate at which persons were selected within each DU depended on the age group and was determined during the design of the 2005 study; this also was done for the probabilities of selecting DUs (i.e., Weight Component #5). Note that, similar to the previous surveys, all possible pairs of eligible rostered persons were given some nonzero probability of selection in order to facilitate unbiased variance estimation. With the use of the Apple Newton handheld computer used by FIs, selection probabilities were adjusted to reflect the total household composition. The survey design restricted the number of interviews to two per DU. With this restriction, a modified Brewer's selection method was used to select either zero, one, or two persons from the DU. (Three ghost units were defined for each DU to allow for the selection of no persons and to avoid division by 0 in Brewer's algorithm.) In short, if the sum of the selection probabilities for all eligible DU members was greater than 2, then the probabilities were ratio-adjusted to sum to 2; sums less than 2 were unadjusted. These adjusted rates then were retained as the final selection probabilities. An additional design change was made in 2002 and continued though 2005. A new pair-sampling strategy was implemented that increased the number of person pairs selected in DUs with older persons on the roster (Chromy & Penne, 2002). Weight Component #11 represents the inverse of this probability of selection.

5.2.2 Weight Component #12: Selected Person-Level Poststratification Adjustment

The selected person-level poststratification step was started during the 1999 NHSDA. In NHSDAs prior to 1999, a combined step of person-level nonresponse and poststratification to estimated totals from the screener person data was used as a compromise to this step. As was done for the previous surveys, the combined step was divided into two separate steps; the first step was poststratification of the selected persons (i.e., respondents and nonrespondents) to estimated control totals from the screener person data; the second step was respondent person-level nonresponse adjustment (see Component #13) to reproduce control totals from the selected person data (i.e., the full sample). Using two separate steps takes advantage of the inherent two-phase nature of the survey design (although the design is viewed primarily as multistage). With this step, more stable controls for the nonresponse adjustment were obtained (as compared with the traditional nonresponse adjustment) because of the additional selected-person poststratification. Note that this would not have been possible in the absence of screener data on the demographics of members of the selected DUs. See Appendix D for details on the final models.

5.2.3 Weight Component #13: Respondent Person-Level Nonresponse Adjustment

The next step was to adjust the sample weights of the interview respondents to the weighted distributions over various demographic domains based on the full sample.

Demographic information for the drug questionnaire respondents was available from two sources—screener data and questionnaire data—while only screener data were available for the large first-phase sample of rostered individuals of all the screened DUs. However, to be consistent with respect to the source of the data, screener data for both respondents and nonrespondents were used for the person-level nonresponse adjustment. It may be noted that during screening, the only required demographic was the age of each person who was rostered. Thus, such demographics as race/ethnicity and gender of all the rostered eligible persons were not required, and imputation procedures were needed to replace missing data for race/ethnicity and gender. For race/ethnicity, imputations were created using PMN methodology, and for gender, imputations were created using hot-deck methodology. It should be noted that answers from the questionnaire respondents potentially could cause discrepancies between screener values of demographics and their final imputation-revised values. Details on the final models used for the person nonresponse adjustment for each model group can be found in Appendix D.

5.2.4 Weight Component #14: Respondent Person-Level Poststratification Adjustment

This adjustment was to calibrate the weighted respondent-sample data for various demographic domains to the specified control totals obtained from the Census Bureau's estimates of the civilian, noninstitutionalized population aged 12 or older for the year 2005 based on the 2000 census. See Appendix B for details on the derivation of control totals.

After computing the various control totals that were needed, appropriate poststratification factors were applied to the sample weights using GEM in order to (1) control the resulting unequal weighting effect and thereby reduce the potential variance inflation that could result from this weight adjustment, and (2) control for a larger number of main effect and lower order interaction control variables. Details on the final models used for the person-level poststratification adjustment for each model group can be found in Appendix D.

5.2.5 Weight Component #15: Respondent Person-Level Extreme Weight Adjustment

The weights for the product of Weight Components #1 through #14 were checked to see if the extreme weight adjustment step was needed, with extreme weights defined as described in Section 4.1. As in the case of Weight Components #10, unweighted, weighted, and winsorized extreme weight percentages were acceptably low. Therefore, it was decided that the extreme weight adjustment was not required at this stage either. (See results in Appendix G.) Therefore, Weight Component #15 was set to 1 for each responding person.

6. Evaluation of Calibration Weights

During the weight calibration process, several criteria for quality control were implemented to assess model adequacy. This chapter describes the individual procedures and presents a summary of their results. All tables referred to in this chapter can be found in Appendices E, F, G, H, and I. More details can be found in the supplement to the appendices.

6.1 Response Rates

Table E in Appendix E displays the final sample sizes for the categories "selected," "eligible," and "completed" at the dwelling unit (DU) level, and for "selected" and "respondents" at the person level from the 2005 National Survey on Drug Use and Health (NSDUH), for both the national and State levels. This table also shows the weighted eligibility rates and weighted response rates for DU screeners and person-level interviews. Table E, at the national level, indicates an overall eligibility rate of 83.41 percent as compared with 84.24 percent for 2004. This similarity in overall rates held in nearly all States, with a few notable exceptions: the eligibility rate dropped from 86.87 to 77.53 percent for Hawaii and increased 71.13 to 76.47 percent for Vermont. The screening rate at the national level was also similar for the 2 years (91.33 percent for 2005 vs. 90.92 percent for 2004). The national interview response rate was 76.21 percent, a decrease of 0.67 percent compared with 76.88 percent for 2004, with the biggest decrease in DC (8.50 percent) and the biggest increase in Connecticut (3.20 percent). Table 6.1 presents summary statistics of overall response rates across individual States.

Table 6.1 Summary Statistics of Overall Weighted Response Rates across Individual States

Domain	National Level	Minimum	Median	Maximum
DU Level				
Eligibility Rate	83.41%	70.65% (Alaska)	83.99% (West Virginia)	89.63% (California)
Screener Response Rate	91.33%	81.75% (New York)	93.89% (Oregon)	95.61% (Utah)
Person Level				
Interview Response Rate	76.21%	70.43% (Hawaii)	77.13% (Maryland)	84.01% (New Mexico)

6.2 Percentage of Extreme Weight and Outwinsor Weights

During the stages of modeling adjustments (i.e., nonresponse and poststratification), a major factor in deciding the adequacy of a particular model was the extent of resulting extreme weights among the weights. As explained in Section 4.1, the percentages of extreme weights for the input weight were calculated for some domains of interest prior to adjustment. These values then were compared with the resulting percentages of extreme weights using the product of weight components that included the new adjustment.

Table F in Appendix F and Tables G.1 and G.2 in Appendix G present percentages of extreme weights at both the DU level for the Nation and the person level for the individual States. Unweighted percentages are based on the actual counts of units and are defined as the ratio of extreme weights relative to the total sample size. Weighted percentages reflect the percentage of total extreme value weights relative to the total sample weight, while outwinsor percentages represent the total amount of residual weight (given that the weights are trimmed to the critical values that were used for extreme weight definition) relative to the total sample weight. For evaluation purposes, the outwinsor percentage is considered the most important of the three percentages. This assessment stems from the fact that its value reflects only the actual amount of weight that would be affected if trimming were implemented.

For the 2005 NSDUH sample, domains for extreme weight definitions were defined as follows for various weight adjustments via the generalized exponential model (GEM) (see Section 4.1):

- DU nonresponse: by State sampling (SS) region;
- DU poststratification: by SS region;
- selected person-level poststratification: by SS region and age group,[4] State and age group, SS region, State;
- person-level nonresponse: by SS region and age group, State and age group, SS region, State; and
- person-level poststratification: by SS region and age group, State and age group, SS region, State.

Before any weight adjustment was implemented, the percentage of weighted extreme weights was 3.39 percent and outwinsor was 0.45 percent for the product of design weight components weight 1 to weight 7. After DU-level nonresponse adjustment and poststratification, the percentage of weighted extreme weights reduced to 2.68 percent but outwinsor increased slightly to 0.66 percent. When the design weight component weight 11 (inverse probability of selecting a person within a dwelling unit) was introduced, percentage of weighted extreme weights increased to 5.37 percent and outwinsor increased to 1.24 percent. The person-level adjustments, which consisted of selected person-level poststratification, person-level nonresponse adjustment and person-level poststratification, were able to bring down the percentage of weighted extreme weights to 3.47 percent and outwinsor to 0.76 percent.

6.3 Slippage Rates

The slippage rate for a given domain is defined as the percentage difference between the design-based domain population estimate and the census control total, relative to the census control, both before and after poststratification. The tables in Appendix H display national and State-level domain-specific weight sums for both before and after poststratification. They also

[4] Age group categories are 12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older.

present the control totals to be met through poststratification and the relative percentage difference (or the amount of adjustment necessary [positive or negative] to meet the given totals). The first relative difference was used explicitly during the poststratification modeling procedure to identify potential problems for convergence; this was done because large differences in domains with relatively small sample sizes indicate potentially large adjustment factors, which may cause problems in convergence. The reason is that adjustments required for one domain may have an adverse effect for another domain when a unit belongs to both domains.

Consider Table H.21 for Maine, which indicates a sample size of 19 for Hispanics; an Initial Total, also known as the design-based weight, of 11,163; a Census Total of 10,042; and an initial slippage rate of 11.17 percent. The ratio of the Census Total to the Initial Total gives the value of the weight adjustment, 0.90. Similar to this example, but in the opposite direction, is Table H.38 for Oklahoma. The Race domain for "black" contains a sample size of 94 and an initial slippage rate of -2.75 percent. The Initial Total of 200,204 and the Census Total of 205,862 indicates an adjustment of 1.03 would be required.

6.4 Weight Adjustment Summary Statistics

Tables I.1 to I.52 in Appendix I display summary statistics on the product of weight components for before, and after, all stages of adjustment, for both the DU and person levels. Note that these tables have "before" and "after" categories for all adjustments except for the DU poststratification (res.du.ps); this is because the "before" and "after" statistics are the same and are therefore displayed only as the category "after." Note also that there could be changes, although minimal, in person-level specific demographic distributions from screener data to questionnaire data, so the respondent sample unequal weighting effect (UWE) prior to poststratification based on the questionnaire data (e.g., see Table I.1, under the heading "After res.per.nr") would be only slightly different from what would be obtained after the nonresponse adjustment (e.g., see Table I.1, under the heading "Before res.per.ps"). The sample size (*n*) for the demographic domains from res.per.nr tables also could be different from the res.per.ps tables.

6.5 Sensitivity Analysis of Drug Use Estimates to Baseline Models

In general, there is a trade-off between bias reduction and variance reduction. For instance, with GEM (for nonresponse or poststratification), enlarging a simple model (such as the one with only main effects) has the potential of further reducing the bias. At the same time, this enlargement may be associated with a corresponding increase in the variance of the estimate of the population total. The increased variability comes from estimating the additional parameters included in the model. To check for possible overfitting of the GEM model, a sensitivity analysis was conducted for the poststratification step, where a simple baseline model was fitted with the same bounds and maximum number of iterations as that used for the final, more complex, model. Then, point estimates and standard errors (SEs) were examined for substantial changes. If the SE increased only slightly under the complex model or, even better, if it decreased (which is possible because of the correlation between the study and predictor variables), then we would feel comfortable fitting the more complex model.

The SE, a ratio-adjusted estimator computed under the DESCRIPT procedure in SUDAAN®, treats the calibration adjustment factors as nonrandom. Both the SE1 and the point estimates were calculated for a few important drug recency variables (past year marijuana, alcohol, and cigarette use), across four age groups (12 to17, 18 to 25, 26 to 34, and 35 or older), for the eight States with large sample sizes.

As noted above, to check for overfitting, the variances of the baseline and final models were compared. In Tables 6.2 to 6.7, there are cases where the SE from the final model is slightly larger than the SE from the baseline model, indicating possible overfitting. However, the variance estimates for the two models (baseline and final) are generally similar to each other. Note that smaller variance estimates for the final model would indicate that the complex model for the poststratification adjustment resulted in better variance reduction (due to correlation between study and predictor variables) and bias reduction (due to meeting control totals corresponding to a number of factor effects). Therefore, the evidence does not favor the view that fitting a large number of parameters in GEM creates instability in estimates.

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Table 6.2 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Cigarettes Lifetime											
Total	Point Estimates	66.70	66.55	59.00	58.66	65.21	65.61	65.79	65.72	69.40	69.28
	SE	0.35	0.35	1.29	1.32	1.19	1.20	1.20	1.22	1.12	1.10
12-17	Point Estimates	26.65	26.75	19.25	19.48	25.08	25.01	26.26	26.46	26.41	26.48
	SE	0.42	0.43	1.49	1.50	1.38	1.41	1.54	1.58	1.47	1.48
18-25	Point Estimates	67.58	67.35	59.79	59.38	64.35	64.32	68.22	68.09	73.38	73.62
	SE	0.46	0.48	1.75	1.81	1.55	1.61	1.94	1.95	1.43	1.43
26-34	Point Estimates	71.19	70.84	67.00	66.35	66.94	67.16	70.65	70.68	72.35	72.73
	SE	0.78	0.80	2.83	2.95	3.15	3.26	2.59	2.62	2.37	2.37
35+	Point Estimates	72.22	72.09	64.40	63.99	70.77	71.42	70.82	70.79	75.45	75.06
	SE	0.48	0.49	1.77	1.81	1.60	1.60	1.76	1.79	1.63	1.62
Alcohol Lifetime											
Total	Point Estimates	83.12	82.92	78.91	78.73	84.62	84.77	83.74	83.60	85.91	85.72
	SE	0.25	0.27	1.07	1.10	0.91	0.90	0.90	0.91	0.87	0.88
12-17	Point Estimates	40.65	40.65	36.13	36.07	43.31	42.91	41.79	41.80	38.76	38.74
	SE	0.43	0.44	1.49	1.50	1.46	1.52	1.59	1.63	1.63	1.64
18-25	Point Estimates	85.94	85.69	81.44	80.96	84.21	84.06	87.12	87.04	89.34	89.52
	SE	0.33	0.35	1.30	1.35	1.14	1.18	1.45	1.48	1.07	1.06
26-34	Point Estimates	90.63	90.42	84.69	84.02	93.12	93.71	89.52	89.57	90.55	90.67
	SE	0.53	0.55	2.25	2.38	1.59	1.55	1.76	1.82	1.91	1.90
35+	Point Estimates	87.93	87.70	85.07	84.99	88.99	89.24	88.76	88.62	92.44	92.00
	SE	0.36	0.38	1.44	1.48	1.22	1.20	1.28	1.28	1.19	1.24

(continued)

Table 6.2 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH (continued)

		New York		Ohio		Pennsylvania		Texas	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Cigarettes Lifetime									
Total	Point Estimates	65.19	64.84	70.27	70.52	69.15	69.12	62.90	62.62
	SE	1.36	1.44	1.23	1.21	1.25	1.30	1.13	1.15
12-17	Point Estimates	26.30	26.00	27.04	27.03	26.76	26.86	26.19	26.30
	SE	1.66	1.66	1.38	1.38	1.42	1.43	1.28	1.32
18-25	Point Estimates	66.24	65.67	69.76	69.83	71.80	71.35	66.44	65.94
	SE	1.87	1.90	1.50	1.49	1.52	1.60	1.81	1.84
26-34	Point Estimates	71.08	71.23	78.67	78.80	75.73	75.33	65.46	65.57
	SE	2.70	2.85	2.39	2.38	2.50	2.59	2.40	2.38
35+	Point Estimates	69.74	69.31	75.68	76.00	73.82	73.94	68.52	68.10
	SE	1.84	1.97	1.72	1.69	1.78	1.87	1.73	1.77
Alcohol Lifetime									
Total	Point Estimates	84.04	83.74	85.15	85.36	84.82	84.67	80.49	80.29
	SE	0.90	0.94	0.90	0.89	0.89	0.93	0.98	1.00
12-17	Point Estimates	43.09	42.40	41.27	41.06	40.56	40.69	43.87	43.91
	SE	1.72	1.73	1.51	1.53	1.53	1.55	1.61	1.66
18-25	Point Estimates	86.44	86.14	89.17	89.22	88.34	88.09	84.97	84.61
	SE	1.24	1.27	1.03	1.03	1.06	1.09	1.13	1.17
26-34	Point Estimates	91.02	90.55	94.38	94.91	93.60	93.35	87.89	87.79
	SE	1.81	1.98	1.50	1.36	1.50	1.58	1.87	1.90
35+	Point Estimates	88.38	88.19	89.54	89.74	89.19	89.05	84.50	84.26
	SE	1.34	1.38	1.26	1.24	1.28	1.33	1.52	1.56

Table 6.3 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Lifetime											
Total	Point Estimates	40.16	40.11	38.52	38.07	37.45	38.35	39.45	39.13	45.68	45.23
	SE	0.37	0.38	1.35	1.35	1.37	1.40	1.33	1.36	1.25	1.25
12-17	Point Estimates	17.40	17.36	16.05	15.82	18.46	18.47	16.63	16.66	17.16	17.14
	SE	0.33	0.33	1.26	1.25	1.15	1.17	1.31	1.31	1.16	1.18
18-25	Point Estimates	52.67	52.43	49.19	49.08	50.36	49.86	50.81	51.14	58.92	59.07
	SE	0.50	0.52	1.76	1.82	1.78	1.85	2.30	2.36	1.80	1.80
26-34	Point Estimates	50.39	49.84	49.02	48.18	51.90	51.14	49.09	48.99	51.09	51.15
	SE	0.90	0.92	3.50	3.57	3.36	3.46	3.20	3.26	2.99	3.01
35+	Point Estimates	38.93	39.02	37.67	37.17	35.22	36.71	38.45	37.93	46.70	45.90
	SE	0.51	0.53	1.79	1.81	1.82	1.88	1.92	2.00	1.85	1.85
Cocaine Lifetime											
Total	Point Estimates	13.90	13.84	15.93	15.78	14.71	15.04	11.63	11.63	13.94	13.77
	SE	0.24	0.24	0.87	0.89	0.98	1.01	0.75	0.77	0.91	0.90
12-17	Point Estimates	2.26	2.30	2.06	2.07	2.18	2.17	1.40	1.38	2.30	2.21
	SE	0.13	0.13	0.46	0.46	0.44	0.45	0.39	0.39	0.46	0.45
18-25	Point Estimates	15.19	15.10	15.03	15.17	15.85	15.80	11.80	11.85	15.11	15.19
	SE	0.35	0.35	1.36	1.38	1.14	1.13	1.17	1.17	1.20	1.20
26-34	Point Estimates	16.09	15.85	17.67	16.92	21.26	21.16	15.06	15.21	17.16	17.20
	SE	0.60	0.59	2.44	2.39	2.53	2.62	2.04	2.13	2.28	2.32
35+	Point Estimates	15.07	15.05	18.36	18.24	15.08	15.59	12.49	12.47	15.03	14.73
	SE	0.35	0.36	1.20	1.23	1.31	1.36	1.15	1.18	1.32	1.29

(continued)

Table 6.3 **Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH (continued)**

		New York		Ohio		Pennsylvania		Texas	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Lifetime									
Total	Point Estimates	42.25	41.96	39.89	40.42	38.41	38.22	36.48	36.04
	SE	1.58	1.67	1.36	1.37	1.45	1.48	1.22	1.24
12-17	Point Estimates	17.86	17.69	16.68	16.62	16.89	16.93	18.15	18.27
	SE	1.34	1.35	1.22	1.22	1.19	1.19	1.18	1.22
18-25	Point Estimates	55.72	55.12	53.24	53.36	55.66	55.03	48.98	48.52
	SE	2.04	2.13	1.66	1.66	1.60	1.63	1.99	2.02
26-34	Point Estimates	50.30	48.67	56.85	57.63	56.12	56.37	42.11	42.05
	SE	3.41	3.58	2.93	2.87	2.91	2.96	2.83	2.87
35+	Point Estimates	41.49	41.58	37.31	37.94	34.89	34.78	35.35	34.72
	SE	2.17	2.24	1.94	1.96	2.01	2.06	1.75	1.76
Cocaine Lifetime									
Total	Point Estimates	14.32	13.94	12.33	12.53	12.01	11.84	12.81	12.62
	SE	1.03	1.02	0.84	0.86	0.80	0.79	0.84	0.84
12-17	Point Estimates	2.23	2.21	1.73	1.76	1.73	1.77	4.44	4.40
	SE	0.48	0.47	0.42	0.42	0.41	0.41	0.67	0.68
18-25	Point Estimates	12.58	12.37	12.88	13.00	16.45	16.57	17.96	17.70
	SE	1.33	1.31	1.15	1.15	1.27	1.30	1.22	1.25
26-34	Point Estimates	17.15	16.87	14.96	15.09	16.82	16.73	13.52	13.30
	SE	2.32	2.40	1.82	1.83	2.09	2.09	2.01	1.97
35+	Point Estimates	15.93	15.44	13.40	13.64	11.77	11.54	12.96	12.76
	SE	1.51	1.50	1.23	1.26	1.11	1.09	1.28	1.29

Table 6.4 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Cigarettes Past Year											
Total	Point Estimates	29.18	29.12	23.68	23.39	26.84	27.41	31.18	31.24	33.26	33.15
	SE	0.33	0.33	1.08	1.11	1.30	1.34	1.29	1.30	1.28	1.27
12-17	Point Estimates	17.19	17.30	13.18	13.32	15.24	15.27	15.99	16.06	16.54	16.69
	SE	0.35	0.36	1.21	1.24	1.12	1.13	1.14	1.19	1.27	1.27
18-25	Point Estimates	47.47	47.24	40.48	40.20	44.23	44.33	48.33	48.58	53.31	53.44
	SE	0.46	0.48	1.59	1.64	1.63	1.66	1.83	1.85	1.63	1.62
26-34	Point Estimates	39.29	38.96	33.92	32.87	37.78	37.90	41.65	41.57	42.04	42.49
	SE	0.82	0.83	3.00	2.98	3.25	3.42	3.02	3.00	2.80	2.84
35+	Point Estimates	24.91	24.92	19.18	19.01	23.44	24.13	27.38	27.47	30.05	29.69
	SE	0.44	0.45	1.44	1.46	1.71	1.76	1.78	1.81	1.81	1.79
Alcohol Past Year											
Total	Point Estimates	66.69	66.45	65.58	65.42	69.47	69.61	69.08	68.85	70.34	70.16
	SE	0.36	0.38	1.25	1.26	1.12	1.10	1.35	1.36	1.29	1.30
12-17	Point Estimates	33.29	33.34	30.22	30.37	33.85	33.89	34.06	34.11	32.68	32.65
	SE	0.41	0.42	1.46	1.48	1.37	1.40	1.55	1.57	1.53	1.54
18-25	Point Estimates	78.17	77.89	73.07	72.55	77.24	76.86	80.97	81.03	83.94	84.11
	SE	0.41	0.43	1.55	1.59	1.32	1.36	1.68	1.75	1.29	1.26
26-34	Point Estimates	79.31	79.10	75.70	75.26	83.69	84.00	82.48	82.43	81.22	81.35
	SE	0.70	0.72	2.68	2.83	2.13	2.12	2.07	2.16	2.56	2.62
35+	Point Estimates	66.91	66.63	68.06	67.93	70.54	70.72	69.11	68.82	71.71	71.29
	SE	0.52	0.55	1.70	1.70	1.53	1.52	2.10	2.11	1.93	1.97

(continued)

Table 6.4 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH (continued)

Variables		New York Baseline	New York Final	Ohio Baseline	Ohio Final	Pennsylvania Baseline	Pennsylvania Final	Texas Baseline	Texas Final
Cigarettes Past Year									
Total	Point Estimates	28.79	28.88	31.26	31.53	30.83	30.77	30.19	30.11
	SE	1.52	1.59	1.21	1.21	1.20	1.26	1.18	1.19
12-17	Point Estimates	16.67	16.53	17.77	17.87	19.21	18.99	16.44	16.65
	SE	1.25	1.28	1.21	1.23	1.26	1.25	1.16	1.19
18-25	Point Estimates	46.26	45.98	49.59	49.60	49.59	49.15	48.07	47.76
	SE	2.03	2.09	1.51	1.51	1.82	1.90	1.82	1.84
26-34	Point Estimates	45.02	45.22	46.78	46.97	46.49	46.15	35.50	35.58
	SE	3.02	3.08	3.03	3.01	2.90	3.01	2.66	2.68
35+	Point Estimates	23.43	23.64	26.35	26.70	25.90	26.09	26.86	26.79
	SE	1.94	2.05	1.67	1.68	1.67	1.80	1.72	1.74
Alcohol Past Year									
Total	Point Estimates	69.28	68.25	66.83	67.16	69.56	69.14	64.07	63.72
	SE	1.29	1.42	1.39	1.38	1.19	1.30	1.31	1.34
12-17	Point Estimates	36.16	35.77	33.75	33.71	32.32	32.36	34.85	34.91
	SE	1.71	1.73	1.54	1.53	1.51	1.50	1.53	1.57
18-25	Point Estimates	79.48	78.94	82.65	82.68	82.06	81.83	76.23	75.98
	SE	1.80	1.81	1.32	1.32	1.29	1.32	1.48	1.51
26-34	Point Estimates	82.00	81.15	82.64	83.24	82.38	82.03	75.41	75.24
	SE	2.34	2.45	2.42	2.28	2.17	2.22	2.48	2.52
35+	Point Estimates	69.50	68.26	65.58	65.95	70.30	69.84	63.56	63.09
	SE	1.87	2.05	2.08	2.08	1.75	1.89	2.00	2.05

Table 6.5 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Past Year											
Total	Point Estimates	10.47	10.43	11.93	11.74	10.38	10.56	9.14	9.20	11.88	11.77
	SE	0.19	0.19	0.67	0.67	0.69	0.71	0.62	0.63	0.71	0.70
12-17	Point Estimates	13.37	13.34	12.23	12.13	14.43	14.38	13.31	13.34	12.85	12.94
	SE	0.30	0.30	1.05	1.06	1.05	1.06	1.14	1.16	1.08	1.12
18-25	Point Estimates	28.23	28.05	29.45	29.55	30.51	30.31	26.28	26.50	32.29	32.27
	SE	0.44	0.45	1.57	1.59	1.95	2.03	1.68	1.74	1.72	1.74
26-34	Point Estimates	15.09	14.84	16.87	16.08	20.08	19.45	13.01	12.98	16.34	16.44
	SE	0.63	0.63	2.47	2.48	2.62	2.62	2.06	2.04	2.23	2.25
35+	Point Estimates	5.08	5.12	6.57	6.46	4.50	4.77	3.65	3.72	6.42	6.20
	SE	0.21	0.22	0.75	0.75	0.68	0.73	0.61	0.64	0.89	0.86
Cocaine Past Year											
Total	Point Estimates	2.26	2.27	1.77	1.76	3.07	3.13	1.98	2.00	2.29	2.30
	SE	0.08	0.08	0.25	0.25	0.36	0.36	0.32	0.32	0.30	0.30
12-17	Point Estimates	1.62	1.67	1.01	1.05	1.67	1.66	1.13	1.11	1.80	1.77
	SE	0.10	0.11	0.29	0.30	0.38	0.39	0.33	0.34	0.40	0.40
18-25	Point Estimates	6.96	6.92	6.42	6.39	8.42	8.39	5.24	5.25	7.14	7.06
	SE	0.23	0.23	0.73	0.73	0.83	0.84	0.78	0.77	0.88	0.87
26-34	Point Estimates	3.14	3.11	2.20	2.25	8.61	8.57	1.43	1.31	3.36	3.38
	SE	0.27	0.27	0.88	0.90	1.93	1.95	0.65	0.63	1.11	1.12
35+	Point Estimates	1.15	1.17	0.74	0.72	1.30	1.36	1.55	1.61	1.12	1.14
	SE	0.10	0.10	0.26	0.25	0.36	0.37	0.47	0.48	0.33	0.33

(continued)

Table 6.5 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH (continued)

		New York		Ohio		Pennsylvania		Texas	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Past Year									
Total	Point Estimates	12.56	12.19	9.87	9.93	11.10	11.26	8.65	8.58
	SE	0.82	0.80	0.68	0.69	0.70	0.83	0.62	0.64
12-17	Point Estimates	14.50	14.47	13.61	13.65	13.37	13.34	12.61	12.60
	SE	1.24	1.26	1.11	1.11	1.07	1.07	0.99	1.02
18-25	Point Estimates	31.92	31.47	26.62	26.57	30.83	30.58	23.07	22.82
	SE	1.79	1.77	1.49	1.49	1.56	1.56	1.49	1.51
26-34	Point Estimates	23.29	21.92	16.61	16.92	16.18	16.28	10.05	9.87
	SE	2.78	2.74	2.10	2.13	2.16	2.18	1.66	1.64
35+	Point Estimates	5.86	5.71	4.32	4.35	5.86	6.24	3.81	3.83
	SE	0.83	0.81	0.68	0.69	0.85	1.11	0.75	0.79
Cocaine Past Year									
Total	Point Estimates	2.75	2.63	1.88	1.92	2.18	2.19	2.70	2.67
	SE	0.38	0.36	0.30	0.31	0.27	0.27	0.33	0.33
12-17	Point Estimates	1.63	1.67	1.07	1.09	1.11	1.15	3.08	3.06
	SE	0.40	0.41	0.32	0.32	0.32	0.33	0.50	0.51
18-25	Point Estimates	7.54	7.36	5.05	5.09	7.58	7.67	7.70	7.58
	SE	0.96	0.93	0.73	0.73	0.84	0.86	0.83	0.83
26-34	Point Estimates	4.24	4.12	2.71	2.77	3.69	3.68	2.82	2.86
	SE	1.22	1.19	0.92	0.94	1.15	1.15	0.83	0.83
35+	Point Estimates	1.61	1.49	1.17	1.22	0.99	1.00	1.32	1.31
	SE	0.49	0.46	0.34	0.35	0.30	0.31	0.39	0.39

Table 6.6 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Cigarettes Past Month											
Total	Point Estimates	24.94	24.89	19.31	18.97	23.58	24.13	26.91	26.92	29.21	29.08
	SE	0.31	0.32	0.96	0.98	1.25	1.29	1.19	1.20	1.23	1.22
12-17	Point Estimates	10.65	10.78	7.67	7.74	9.52	9.64	10.96	11.14	11.41	11.50
	SE	0.28	0.28	0.95	0.96	0.87	0.88	1.06	1.10	1.00	1.00
18-25	Point Estimates	39.20	38.99	31.21	30.89	35.48	35.44	40.03	40.30	45.53	45.62
	SE	0.45	0.46	1.50	1.53	1.54	1.56	1.76	1.75	1.72	1.71
26-34	Point Estimates	33.36	33.04	26.80	25.58	33.75	34.07	35.69	35.38	37.81	38.29
	SE	0.77	0.78	2.75	2.71	3.26	3.45	2.72	2.69	2.69	2.74
35+	Point Estimates	22.32	22.33	16.88	16.67	21.62	22.30	24.55	24.60	27.02	26.63
	SE	0.42	0.43	1.33	1.33	1.66	1.72	1.64	1.68	1.75	1.74
Alcohol Past Month											
Total	Point Estimates	52.04	51.82	51.51	51.14	54.91	55.21	54.31	54.20	56.72	56.58
	SE	0.39	0.40	1.38	1.41	1.27	1.28	1.45	1.47	1.33	1.33
12-17	Point Estimates	16.61	16.53	13.91	13.76	16.09	16.09	17.77	17.80	16.70	16.46
	SE	0.32	0.32	1.11	1.12	1.15	1.16	1.19	1.21	1.13	1.13
18-25	Point Estimates	61.20	60.90	56.49	56.10	58.02	57.74	64.76	64.99	66.90	67.00
	SE	0.50	0.51	1.81	1.84	1.75	1.79	2.22	2.29	1.74	1.73
26-34	Point Estimates	62.91	62.54	58.55	58.62	68.13	68.78	66.62	66.79	67.49	67.50
	SE	0.82	0.84	3.22	3.29	2.98	2.99	2.48	2.59	2.82	2.88
35+	Point Estimates	53.51	53.32	55.78	55.20	57.45	57.81	55.20	55.00	59.25	58.98
	SE	0.56	0.58	1.85	1.88	1.79	1.79	2.20	2.23	1.96	1.98

(continued)

Table 6.6 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Licit Drug Estimates, Cigarettes and Alcohol: 2005 NSDUH (continued)

		New York		Ohio		Pennsylvania		Texas	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Cigarettes Past Month									
Total	Point Estimates	24.78	24.85	27.60	27.90	26.94	26.92	24.79	24.69
	SE	1.42	1.49	1.17	1.18	1.16	1.21	1.04	1.06
12-17	Point Estimates	10.96	10.95	11.51	11.59	13.06	12.94	9.02	9.05
	SE	1.12	1.14	1.03	1.04	1.11	1.07	0.88	0.91
18-25	Point Estimates	39.85	39.76	41.93	41.96	41.75	41.20	39.21	38.95
	SE	2.10	2.18	1.59	1.59	1.71	1.76	1.83	1.86
26-34	Point Estimates	37.41	37.41	42.21	42.37	41.31	41.31	28.21	28.33
	SE	2.90	2.96	2.91	2.90	2.85	2.93	2.54	2.58
35+	Point Estimates	21.00	21.16	24.15	24.54	23.38	23.57	23.27	23.16
	SE	1.84	1.98	1.61	1.64	1.62	1.74	1.51	1.52
Alcohol Past Month									
Total	Point Estimates	55.17	54.09	51.60	51.75	53.40	52.75	49.50	49.36
	SE	1.46	1.58	1.43	1.43	1.49	1.51	1.32	1.34
12-17	Point Estimates	20.04	19.99	15.34	15.41	15.62	15.53	17.97	18.13
	SE	1.37	1.37	1.06	1.06	1.20	1.18	1.09	1.12
18-25	Point Estimates	65.31	64.85	65.01	65.08	64.18	63.89	60.29	60.04
	SE	2.07	2.10	1.72	1.73	1.58	1.57	1.73	1.75
26-34	Point Estimates	68.19	66.58	61.32	61.58	66.71	66.47	57.95	57.75
	SE	3.11	3.18	2.73	2.66	2.72	2.76	2.80	2.84
35+	Point Estimates	55.65	54.42	52.66	52.79	54.48	53.66	50.60	50.47
	SE	2.13	2.30	2.12	2.12	2.11	2.15	1.91	1.94

Table 6.7 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH

		U.S.		California		Florida		Illinois		Michigan	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Past Month											
Total	Point Estimates	6.03	6.01	6.72	6.69	6.16	6.27	5.17	5.20	6.09	6.00
	SE	0.14	0.15	0.53	0.54	0.52	0.54	0.48	0.48	0.53	0.52
12-17	Point Estimates	6.78	6.82	5.58	5.63	7.19	7.15	7.63	7.64	6.75	6.81
	SE	0.22	0.22	0.75	0.77	0.73	0.71	0.87	0.88	0.77	0.78
18-25	Point Estimates	16.72	16.59	17.46	17.71	18.34	18.11	14.31	14.65	16.56	16.39
	SE	0.37	0.37	1.39	1.43	1.45	1.48	1.37	1.42	1.36	1.36
26-34	Point Estimates	8.71	8.61	10.10	9.88	11.87	11.40	7.11	6.94	8.43	8.40
	SE	0.50	0.51	2.05	2.10	2.17	2.13	1.60	1.58	1.65	1.65
35+	Point Estimates	2.97	2.99	3.60	3.55	2.84	3.04	2.24	2.26	3.25	3.13
	SE	0.17	0.17	0.55	0.54	0.59	0.64	0.51	0.51	0.64	0.61
Cocaine Past Month											
Total	Point Estimates	0.98	0.99	0.73	0.71	1.44	1.48	0.82	0.83	1.14	1.15
	SE	0.06	0.06	0.15	0.14	0.25	0.26	0.21	0.22	0.22	0.23
12-17	Point Estimates	0.54	0.56	0.48	0.51	0.42	0.44	0.37	0.35	0.69	0.66
	SE	0.06	0.06	0.20	0.21	0.18	0.18	0.20	0.20	0.22	0.22
18-25	Point Estimates	2.64	2.56	2.26	2.26	3.72	3.74	1.75	1.70	2.52	2.44
	SE	0.15	0.15	0.50	0.50	0.61	0.61	0.49	0.47	0.52	0.50
26-34	Point Estimates	1.33	1.28	0.58	0.58	5.31	5.37	0.79	0.68	2.29	2.31
	SE	0.17	0.16	0.38	0.38	1.42	1.48	0.48	0.45	0.98	0.99
35+	Point Estimates	0.62	0.65	0.46	0.42	0.46	0.48	0.70	0.75	0.69	0.71
	SE	0.07	0.08	0.19	0.18	0.22	0.22	0.31	0.33	0.26	0.27

(continued)

Table 6.7 Point Estimates and Ratio-Adjusted Standard Errors for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2005 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Month									
Total	Point Estimates	7.26	6.98	5.95	5.98	6.01	6.24	4.55	4.47
	SE	0.58	0.56	0.51	0.51	0.49	0.68	0.43	0.43
12-17	Point Estimates	8.51	8.48	6.82	6.90	5.83	5.69	6.41	6.46
	SE	0.96	0.97	0.80	0.80	0.75	0.73	0.77	0.77
18-25	Point Estimates	20.81	20.52	15.83	15.83	17.96	17.67	13.00	12.95
	SE	1.68	1.67	1.25	1.25	1.22	1.21	1.30	1.30
26-34	Point Estimates	12.35	11.35	9.68	9.88	9.19	9.33	5.53	5.31
	SE	2.10	2.04	1.56	1.59	1.57	1.60	1.24	1.21
35+	Point Estimates	3.13	3.00	2.94	2.93	3.05	3.52	1.77	1.71
	SE	0.66	0.64	0.56	0.55	0.60	0.95	0.49	0.49
Cocaine Past Month									
Total	Point Estimates	1.29	1.22	0.78	0.78	0.89	0.90	1.19	1.12
	SE	0.26	0.25	0.22	0.22	0.20	0.20	0.23	0.22
12-17	Point Estimates	0.52	0.50	0.46	0.47	0.55	0.57	0.34	0.34
	SE	0.22	0.21	0.23	0.23	0.22	0.23	0.18	0.17
18-25	Point Estimates	3.16	3.08	1.77	1.77	2.31	2.40	3.39	3.20
	SE	0.59	0.58	0.59	0.58	0.55	0.56	0.57	0.55
26-34	Point Estimates	1.69	1.58	1.40	1.44	1.94	1.92	1.07	1.06
	SE	0.80	0.75	0.65	0.68	0.85	0.85	0.52	0.51
35+	Point Estimates	0.93	0.87	0.49	0.48	0.46	0.46	0.83	0.77
	SE	0.33	0.31	0.23	0.22	0.21	0.22	0.31	0.30

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Appendix A: Technical Details about the Generalized Exponential Model (GEM)

Appendix A: Technical Details about the Generalized Exponential Model (GEM)

A.1 Distance Function

Let $\Delta(w,d)$ denote the distance between the initial weights $d = \{d_k : k \in s\}$ and the adjusted weights *w*, with *k* being the k$^{\text{th}}$ unit in the sample, and *s* being the sample selected. The distance function minimized under the generalized exponential model (GEM), subject to calibration constraints, is given by

$$\Delta(w,d) = \sum_{k\in s} \frac{d_k}{A_k} \left\{ (a_k - \ell_k) \log \frac{a_k - \ell_k}{c_k - \ell_k} + (u_k - a_k) \log \frac{u_k - a_k}{u_k - c_k} \right\}, \tag{A1.1}$$

where $a_k = w_k / d_k, A_k = (u_k - \ell_k)/\left[(u_k - c_k)(c_k - \ell_k)\right]$, and ℓ_k, c_k, and u_k are prescribed real numbers. Let T_x denote the *p*-vector of control totals corresponding to predictor variables (x_1, ..., x_p). Then the calibration constraints for the above minimization problem are

$$\sum_{k\in s} x_k d_k a_k = T_x \ . \tag{A1.2}$$

The solution of the above minimization problem, if it exists, is given by a GEM with model parameters λ, that is,

$$a_k(\lambda) = \frac{\ell_k (u_k - c_k) + u_k (c_k - \ell_k) \exp\{A_k x_k' \lambda\}}{(u_k - c_k) + (c_k - \ell_k) \exp\{A_k x_k' \lambda\}}. \tag{A1.3}$$

Note that the number of parameters in GEM should be $\leq n$, where *n* is the size of the sample *s*. This is also the dimension of vectors *d* and *w*. It follows from Equation A1.3 that

$$\ell_k < a_k < u_k \, , k = 1, \ldots, n . \tag{A1.4}$$

The usual raking-ratio method (see, e.g., Singh & Mohl, 1996) of weight adjustment is a special case of GEM, such that for $\ell_k = 0,\ u_k = \infty,\ c_k = 1,\ k = 1, \ldots, n$, we have

$$\Delta(w,d) = \sum_{k\in s} d_k a_k \log a_k - \sum_{k\in s} d_k (a_k - 1), \tag{A1.5}$$

and

$$a_k(\lambda) = \exp(x_k' \lambda) \ .$$

The logit method of Deville and Särndal (1992) is also a special case of GEM, setting $\ell_k = \ell, u_k = u,$ and $c_k = 1$ for all *k*.

A.2 GEM Adjustments for Extreme-Value Treatment, Nonresponse, and Poststratification

By choosing the user-specified parameters ℓ_k, c_k, and u_k appropriately, the unified GEM formula (A1.3) can be justified for all three types of adjustment. Denote the winsorized weights by $\{b_k\}$ where $b_k = d_k$ if d_k is not an extreme weight, and $d_k = med\ \{d_k\} \pm 3 *$ IQR, if d_k is an extreme weight (where IQR is the interquartile range, and the quartiles for the weights are defined with respect to a suitable design-based stratum).

For the nonresponse adjustment, the sample is first divided into two parts: s^*, the nonextreme weight subsample; and s^{**}, the extreme weight subsample. For nonextreme weights, the following are set: $\ell_2 = 1, c_2 = \rho^{-1}, u_2 = u > \rho^{-1}$, where ρ is the overall response propensity; and for extreme weights with high weights, they are $\ell_k = \ell m_k, c_k = \rho^{-1} m_k, u_k = u_1 m_k$, where $m_k = b_k / d_k$, and $1 \le \ell_1 < \rho^{-1} = c_1 < u_1$, are prescribed numbers. Similarly, for extreme weights with low weights, $\ell_k = \ell_3 m_k, c_k = \rho^{-1} m_k, u_k = u_3 m_k$, and $1 \le \ell_3 < \rho^{-1} = c_3 < u_3$.

For the poststratification adjustment, for nonextreme weights, $\ell_k = \ell_2$, $c_k = c_2 = 1, u_k = u_2$, and for high extreme weights, $\ell_2 = \ell_1 m_k, c_k = m_k, u_k = u_1 m_k$, and similarly for low extreme weights, $l_k = \ell_3 m_k, c_k = m_k, u_k = u_3 m_k$. The extreme value adjustment is identical to poststratifcation, except for tighter bounds on extreme weights resulting from the final poststratification.

Notice that GEM allows for the flexibility of specifying different bounds for different subsamples; in addition, the lower bound (in the case of nonresponse adjustments) can be made to equal 1 by choosing the center $c_k > 1$.

A.3 Newton-Raphson Steps

Let *X* denote the *n* × *p* matrix of predictor values, and for the v^{th} iteration

$$\Gamma_{\phi v} = diag\left(d_k \phi_k^{(v)}\right), \phi_k^{(o)} = 1,$$

where

$$\phi_k^{(v)} = \left[\left(u_k - a_k^{(v)}\right)\left(a_k^{(v)} - l_k\right)\right] / \left[\left(u_k - c_k\right)\ \left(c_k - l_k\right)\right];$$

then, for Newton-Raphson iteration v, the value of the *p*-vector λ is adjusted as

$$\gamma^{(v)} = \gamma^{(v-1)} + \left(X' \Gamma_{\phi, v-1} X\right)^{-1} \left(T_x - \hat{T}_x^{(v-1)}\right),$$

where $\lambda^{(0)} = 1$.

The convergence criterion is based on the Euclidean distance $\left\| T_x - \hat{T}_x^{(v)} \right\|$. At each iteration, it is checked to determine whether it is decreasing or not. If not, a half-step is used in the iteration increment.

A.4 Scaled Constrained Exponential Model

In previous surveys, constrained exponential models were used for poststratification, and scaled constrained exponential models were used for nonresponse adjustments. The term "constrained exponential model" refers to the logit model of Deville and Särndal (1992), in which lower and upper bounds do not vary with *k* (i.e., $\ell_k = \ell, u_k = u,$ and $c_k = c = 1$ such that $\ell < 1 < u.$) Thus, it is a special case of GEM. For the nonresponse adjustment, Folsom and Witt (1994) modified the constrained exponential models' estimating equations by a scaling factor (ρ^{-1}, the inverse of the overall response propensity) such that $1 < \rho^{-1} a_k < \rho^{-1} u.$ This implies that choosing ℓ in constrained exponential models as ρ ensures that the scaled adjustment factor for nonresponse is at least 1.

Appendix B: Poststratification Control Totals

Appendix B: Poststratification Control Totals

For poststratification, quarterly State-specific totals for the target population (civilian, noninstitutionalized, aged 12 or older) are required for 120 demographic domains defined by Age, Race, Gender, and Hispanicity ($6\times5\times2\times2$). The Population Estimates Branch of the U.S. Bureau of the Census produced, in response to a special request, the necessary population estimates based on monthly State-level estimates of the target population, which were based on the enumerated population from Census 2000.

To arrive at quarterly estimates, approximations at the midpoints of the quarters were needed. To get these approximations, the estimates from the last 2 months in each quarter were averaged. For example, to obtain an approximation for the first quarter of 2005, the U.S. census estimates for February 1 and March 1 were averaged, resulting in a population estimate appropriate for February 15 (i.e., the midpoint of Quarter 1).

Appendix C: Imputation Methodology

Appendix C: Imputation Methodology

C.1 Unweighted Hot Deck

The adjustments of (1) dwelling unit (DU) poststratification, (2) poststratification of the selected sample to all eligible rostered persons, and (3) person-level nonresponse required the use of demographic information obtained from the 2005 National Survey on Drug Use and Health (NSDUH) screener interview. However, at the time of screening, the only required information for an individual was age, and, thus, some demographic information (i.e., gender, Hispanic origin, and race) was missing. Therefore, some form of imputation was required for cases with missing data.[1] This imputation was performed using an unweighted hot-deck methodology. The unweighted hot-deck method of imputing a variable with missing responses (which is called the base variable in this appendix) involved three basic steps.

1. *Forming imputation classes.* When a strong logical association existed between the base variable and certain auxiliary variables, the dataset was partitioned by the auxiliary variables, and imputation procedures were implemented independently within classes defined by the cross of the auxiliary variables.

2. *Sorting the file.* Within each imputation class, the file was sorted by auxiliary variables that were relevant to the item being imputed. The sort order of the auxiliary variables was chosen to reflect the degree of importance of the auxiliary variables in relation to the base variable being imputed (i.e., those auxiliary variables that were better predictors for the item being imputed were used as the first sorting variables).

   For the 2005 NSDUH, two types of sorting procedures were used to sort the files prior to imputation:

   (a) Straight Sort. A set of variables was sorted in ascending order by the first variable specified, then, within each level of the first variable, the file was sorted in ascending order by the second variable specified, and so on. For example:

1	1	1
1	1	2
1	2	1
1	2	2
1	3	1
1	3	2
2	1	1
2	1	2

[1] Because the imputation of these demographic variables was not required for the main NSDUH analysis, it is documented here in the weighting report.

2	2	1
2	2	2
2	3	1
2	3	2

(b) Serpentine Sort. A set of variables was sorted so that the direction of the sort (ascending or descending) changed each time the value of a variable changed. For example:

1	1	1
1	1	2
1	2	2
1	2	1
1	3	1
1	3	2
2	3	2
2	3	1
2	2	1
2	2	2
2	1	2
2	1	1

The serpentine sort has the advantage of minimizing the change in the entire set of auxiliary variables whenever any one of the variables changes its value.

3. *Replace missing values.* The file was sorted and then read sequentially. Each time an item respondent was encountered (i.e., the base variable was nonmissing), the base variable response was stored, updating the donor response, and any subsequent nonrespondent encountered received the stored donor response, creating the statistically imputed response. A starting value was needed if an item nonrespondent was the first record on a sorted file. Typically, the response from the first respondent on the sorted file was used as the starting value.

   Note that because the file was sorted by relevant auxiliary variables, the preceding item respondent (donor) closely matched the neighboring item nonrespondent (recipient) with respect to the auxiliary variables.

For more information on the general hot-deck method of item imputation, see Little and Rubin, 1987 (pp. 62-67).

With the unweighted sequential hot-deck imputation procedure, for any particular item being imputed, there was the risk of several nonrespondents appearing next to one another on the sorted file. To detect this problem in NSDUH, for every variable being imputed, a record was kept of the imputation donor. Then, by examining frequencies by imputation donor, if several nonrespondents were lining up next to one another in the sort, the situation could be detected. When this problem occurred, sort variables were added or eliminated, or the order of the sort variables was rearranged.

C.2 Predictive Mean Neighborhood (PMN)

As in 2002, the predictive mean neighborhood (PMN) methodology was used for the 2005 NSDUH weighting process to impute "race" and "Hispanic origin" for the screener demographic information, as well as the questionnaire data (Singh, Grau, & Folsom, 2002). Due to the lack of a good set of predictors for PMN modeling, the unweighted sequential hot-deck method was used to impute gender. Unweighted sequential hot deck is simple and quick to implement, but it has a number of disadvantages:

- The first few sorting covariates almost entirely determine what donor will be used for a particular respondent with missing data, regardless of how many sorting covariates are included.

- There is no mechanism derived from the data to weight the sorting covariates based on their relationship to the response variable.

- Weights are not used to determine the most appropriate donor for a respondent with missing data.

- The correlations across multiple outcome variables imputed to the same record are not accounted for when finding a donor.

- The choice of donor, after the sort has been completed, may be deterministic; this may introduce bias in estimating means and totals and, thus, make it difficult to determine the variance of the estimator when taking imputation into account.

To address the deficiencies of the unweighted sequential hot deck, the PMN methodology was developed for NSDUH. It is a combination of two commonly used imputation methods: a non-model-based hot deck and the model-based predictive mean matching method of Rubin. It enhances the predictive mean matching method in that it can be applied to both discrete and continuous variables either individually or jointly. It also enhances the nearest neighbor hot-deck method in that the distance function used to find neighbors is no longer ad hoc. It is easily applicable to problems of both univariate (UPMN) and multivariate (MPMN) imputations. Univariate imputation is used for imputing a single continuous or dichotomous discrete variable independently, while multivariate imputation arises when values of two or more variables are missing for a single respondent or when a single polytomous variable has missing values. (A polytomous variable is a categorical variable with three or more possible values, such as marital status, which is categorical and has the possible values of married, widowed, divorced, and never married.)

The procedure for implementing univariate and multivariable imputations can be summarized with the following six steps. Steps 2 through 5, and sometimes Step 6, were cycled through each of the variables in the order determined by Step 1. Steps 4 and 5 (Steps 4 through 6, when applicable) could be considered a variant of a random nearest neighbor hot deck.

Step 1: Hierarchy definition. Determine the order in which variables are modeled, so that variables early in the hierarchy may be used for modeling the conditional predictive mean (i.e., variables early in the hierarchy have the potential to be part of the set of covariates for variables later in the hierarchy).

For each variable:

Step 2: Setup for model building and hot-deck assignment. For each model that is fitted, two groups must be created: complete and incomplete data respondents (item respondents and item nonrespondents). Complete data respondents have complete data across the variables of interest, and incomplete data respondents encompass the remainder of respondents.

Step 3: Sequential hierarchical modeling. The model is built using the complete data for respondents only, with weights adjusted for item nonresponse.

Step 4: Computation of predictive means and delta neighborhoods. The predictive means for item respondents and item nonrespondents are calculated using the model coefficients. Then those item respondents whose predictive means are determined to be "close" (based on a distance function taking values within delta) to the item nonrespondents are considered part of the "delta" neighborhood.

Step 5: Assignment of imputed values using a univariate predictive mean. Using a simple random draw from the neighborhood developed in Step 4, a donor is chosen for each item nonrespondent.

If the variables for which Steps 2 through 5 have been completed are part of a complete multivariate set for which multivariate imputation is to be applied, Step 6 is the next step in the process. If the variables for which Steps 2 through 5 are completed are not part of a complete multivariate set, and other variables are still to be imputed, Step 2 is the next step. Otherwise, the process is finished.

Step 6: Determination of multivariate predictive mean neighborhood and assignment of imputed values. With multivariate imputation, the neighborhood is defined based on a vector of predictive means, rather than from a single predictive mean as in the univariate case.

The PMN methodology addresses all of the shortcomings of the unweighted sequential hot-deck method and was widely used for the imputation of a variety of variables in NSDUH, including both continuous and categorical variables with one or more levels. The models were fit using standard modeling procedures in SAS and SUDAAN®, while SAS macros were used to implement the hot-deck step, including the restrictions on the neighborhoods. Although creating a different neighborhood for each item nonrespondent was computationally intensive, the method was implemented successfully. For more details on PMN, see Grau et al. (2005).

Appendix D: Generalized Exponential Model (GEM) Summary

Appendix D: Generalized Exponential Model (GEM) Summary

This appendix summarizes each model group throughout all stages of modeling the weight calibrations. Unlike much of the other information presented in this report, this appendix provides a model-specific overview of weight calibration, as opposed to a State- or domain-specific one.

The modeling for the 2005 National Survey on Drug Use and Health (NSDUH) involved taking nine generalized exponential model (GEM) groups through five adjustment steps: (1) dwelling unit (DU)–level nonresponse adjustment, (2) DU-level poststratification, (3) selected person-level poststratification, (4) person-level nonresponse adjustment, and (5) respondent person-level poststratification. The sampling weights after DU-level poststratification for this year were reasonably distributed and did not require the additional treatment of the extreme weight adjustment step at the DU-level. Because the adaptive fitting strategy for choosing bounds introduced this year does not require the bounds to be as tight as possible (see Section 4.5), an extreme weight adjustment step was performed after respondent person-level poststratification to further control the extreme weight. See Table D for a summary of the distributions of each of the weight components at the national level.

Model-specific summary statistics are shown in Tables D.1a and D.1b to D.9a and D.9b. Included in these tables, for each stage of modeling, are the following: the number of effects that were controlled directly; the high, low, and nonextreme weight bounds set to provide the upper and lower limits for GEM; weighted, unweighted, and winsorized weight proportions; the unequal weighting effect (UWE); and weight distributions. The unequal weighting effect provides an approximate measure of variance and establishes how much impact a particular stage of modeling has on the distribution of the new product of weights. For more details on bounds, see Section 4.2. At each stage in the modeling, these summary statistics were calculated and utilized to evaluate the model that was constructed and its corresponding product of weights.

Such circumstances as small sample sizes and exact linear combinations (i.e., singularities) in the realized data led to situations where finalizing models with the originally proposed set of covariates was not possible. The text and exhibits in Sections D.1 to D.9 summarize the decisions made with regard to final covariates included in each model. For a list of the proposed initial covariates considered at each stage of modeling, see Exhibit D.1, and for the list of realized final model covariates, see Exhibits D1.1 through D9.5. The following sections establish a series of guidelines to assist in the interpretation of the covariates.

Table D Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (United States)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7[2]	**8**[3]	**1-8**[3]	**9**[4]	**1-9**[4]	**11**[5]	**1-11**[5]	**12**[5]	**1-12**[5]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	11	1.00	13	0.45	48	1.00	17	1.01	7	0.11	8	0.30	2
1%	75	1.00	81	1.00	88	1.00	111	1.01	91	0.34	98	0.99	69
5%	100	1.00	124	1.01	131	1.00	207	1.01	193	0.63	211	1.00	176
10%	143	1.04	171	1.02	181	1.00	351	1.01	328	0.74	357	1.02	299
25%	401	1.09	449	1.04	485	1.00	722	1.11	699	0.87	788	1.08	750
Median	513	1.14	588	1.07	644	1.00	1,368	1.38	1,336	0.99	1,488	1.17	1,479
75%	838	1.20	959	1.12	1,058	1.00	3,442	5.03	3,389	1.12	3,843	1.30	3,820
90%	1,130	1.26	1,359	1.19	1,453	1.00	7,550	9.79	7,602	1.28	9,494	1.49	9,432
95%	1,352	1.33	1,603	1.27	1,722	1.00	10,660	11.46	10,983	1.44	14,082	1.66	14,286
99%	1,505	1.50	1,795	1.47	1,970	1.00	19,263	13.35	18,822	2.07	26,322	2.34	26,577
Maximum	5,523	1.50	6,025	27.81	6,836	1.00	49,001	32.51	83,831	13.12	113,742	10.39	155,055
n	146,912	134,05	134,055	134,055	134,055	83,805	83,805	83,805	83,805	68,308	68,308	68,308	68,308
Max/Mean	9.13	-	8.52	-	8.83	-	16.87	-	28.89	-	31.94	-	43.55

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

D.1 Final Model Explanatory Variables

For brevity, numeric abbreviations for variable levels are established in Exhibit 3.1 in Chapter 3 (included here as Exhibit D.1 for easy reference). There, a complete list is provided of all variables and associated levels used at any stage of modeling. In this report, each level of a variable is referred to as a covariate. Note that (1) not all variables or levels are present in all stages of modeling; (2) the initial set of covariates, allowing for differences in States across model groups, is the same for all model groups within a stage of modeling; and (3) the initial set of covariates changes across the stages of modeling. Exhibits D.2 through D.5 provide the initial covariates for the stages of modeling, and Exhibits D1.1 through D9.5 provide lists of both the proposed and the final covariates for the nine model groups. This last group of exhibits is grouped by model groups and contains one exhibit for each stage of weight adjustment. The initial variables are found in the "Proposed" column, and the realized covariates are found in the "Final" column.

Section D.3 explains how to create cross-classification tables, which help to illustrate what covariates are controlled for at each stage of the modeling. The general pattern is as follows: directions to follow, semicolon, reason for the change. Sections D.2 and D.3 explain how to use various exhibits for selected model variables to construct these tables. For greater detail on why variable levels are collapsed or dropped, see Section 4.7.

Exhibit D.1 Definitions of Levels for Variables

Age (years)
1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+ [1,4]
Gender
1: Male, 2: Female[1]
Group Quarters Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]
Hispanicity
1: Hispanic, 2: Non-Hispanic[1]
Percentage of Owner-Occupied Dwelling Units in Segment (% Owner)
1: 50% - 100%,[1] 2: 10% - > 50%, 3: 0 - >10%
Percentage of Segments That Are Black (% Black)
1: 50% - 100%, 2: 10% - >50%, 3: 0 - >10%[1]
Percentage of Segments That Are Hispanic (% Hispanic)
1: 50% - 100%, 2: 10% - >50%, 3: 0 - >10%[1]
Population Density
1: MSA 1,000,000 or more, 2: MSA less than 1,000,000, 3: Non-MSA urban, 4: Non-MSA rural[1]
Quarter
1: Quarter 1, 2: Quarter 2, 3: Quarter 3, 4: Quarter 4[1]
Race (3 levels)
1: White,[1] 2: Black, 3: Other
Race (5 levels)
1: White,[1] 2: Black, 3: American Indian/Alaska Native, 4: Asian, 5: Two or More Races
Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Non-Relative
Segment-Combined Median Rent and Housing Value (Rent/Housing)[2]
1: First Quintile, 2: Second Quintile, 3: Third Quintile, 4: Fourth Quintile, 5: Fifth Quintile[1]
States[3]
Model Group 1: 1: Connecticut, 2: Maine, 3: New Hampshire, 4: Rhode Island, 5: Vermont, 6: Massachusetts[1]
Model Group 2: 1: New Jersey,[1] 2: New York, 3: Pennsylvania
Model Group 3: 1: Illinois, 2: Indiana,[1] 3: Michigan, 4: Wisconsin, 5: Ohio
Model Group 4: 1: Iowa, 2: Kansas, 3: Minnesota, 4: Missouri,[1] 5: Nebraska, 6: South Dakota, 7: North Dakota
Model Group 5: 1: Delaware, 2: District of Columbia, 3: Georgia,[1] 4: Maryland, 5: North Carolina, 6: South Carolina, 7: Virginia, 8: West Virginia, 9: Florida
Model Group 6: 1: Alabama, 2: Kentucky, 3: Mississippi, 4: Tennessee[1]
Model Group 7: 1: Arkansas,[1] 2: Louisiana, 3: Oklahoma, 4: Texas
Model Group 8: 1: Colorado, 2: Idaho, 3: Montana, 4: Nevada, 5: New Mexico, 6: Utah, 7: Wyoming, 8: Arizona[1]
Model Group 9: 1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

MSA = metropolitan statistical area.
[1] The reference level for this variable. This is the level against which effects of other factor levels are measured.
[2] Segment-Combined Median Rent and Housing Value (also known as the Socioeconomic Status [SES] indicator) is a composite measure based on rent, housing value, and percent owner occupied.
[3] The States or district assigned to a particular model are based on census divisions.
[4] 50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment and Person-Level Extreme Weight Adjustment.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

D.2 Glossary of Terms Used in the Exhibits and Descriptions of the Variables in the Final Model

Note: The following are given as a list of general terms. Certain other specific terms are sometimes used within a particular section.

All levels present. All levels of the variable under consideration were included in the final model.

Coll. Collapse (levels). These levels of the factor effect were collapsed together. Levels that have been collapsed together no longer appear in the model as separate variables, but rather manifest themselves jointly in the model.

Conv. If model is not convergent, dropping or collapsing of variables is performed.

Drop all levels. All levels of a factor effect were completely removed from the model, as well as any combinations involving this factor.

Drop *level(s)*. These levels of a factor effect were collapsed into the reference set. The dropped levels manifest themselves jointly with the appropriate reference levels.

Drop *level(s);* singularity/zero sample. During the modeling process, the levels of factor effect(s) listed were removed from the model due to either singularities or sample sizes of zero.

Drop or collapse using *. The asterisk is used as a wildcard character to indicate all levels of that factor effect.

Factor effects. Another name for covariates, or variables, such as "Age." In addition to one-factor effects, two-, and three-factor effects also are referenced, such as "Age × Race" and "Age × Race × Gender."

Hier. Factor effects collapsed/dropped at lower order and the hierarchical effect carries up. This indicates that one or more levels of factor effects were collapsed/dropped in an earlier stage, and that the same action (collapse/drop) was performed on the corresponding levels in all higher-order factor effects containing the dropped/collapsed levels.

Keep *level(s)*. These levels of the factor effect were kept in the model and the remainder into the reference set.

Reference/reference set. The reference levels of factor effects (see Exhibit D.1) are not explicitly listed in the set of model variables, but are represented implicitly in the model in the intercept term. These include one-, two-, and three-factor effects.

Repeat or **Do the same for *(effects)*.** The previous action was repeated for all effect levels listed.

Sing. Singularity is the linear dependence of columns of realized values of the predictors in the model. Any variable that is a linear combination of other variables is either dropped from the model or collapsed with other variables.

D.3 How to Interpret Collapsing and Dropping of Factor Effects

To help visualize what effects were directly controlled for in the model, a table that reflects the collapsing scheme employed can be constructed. The following is a complex example from the 1999 modeling, which demonstrates how to use the information found in Exhibits D1.1 through D9.5.

1. Consider the following entry for the factor effect of State × Age × Race (3 levels), for Model Group 9, for the Person-Level Nonresponse Adjustment.

Three-Factor Effects	**Comments**
State × Age × Race (3 levels)	Drop (3,4,2); sing. Coll. (1,4,2) & (1,4,3). Drop (3,*,*). Coll. (4,1,2) & (4,1,3). Do the same for each level of age in that State.

2. Determine the initial range of possible levels for the variables by referring to the variable definitions shown in Exhibit D.1:

- State (for the model group in question, in this case, Model Group 9)

Model Group 9: 1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

- Age (years)

1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+[1]

- Race (3 levels)

1: White,[1] 2: Black, 3: Other

Note that the superscript number indicates the reference level of the variable for a particular stage of modeling. For the example case, the model stage is "Person Nonresponse Adjustment."

3. Construct the cross-classification table.

For example, Race (5 levels) is defined this way:

Race (5 Level)	White	Black	Asian	American Indian/Alaska Native	Two or More Races

Indicates the reference-level set.

This is the cross-classification table for State × Race (5 levels):

State*Race (5 levels)	White	Black	Asian	American Indian/Alaska Native	Two or More Races
AK					
HI					
OR					
CA					
WA					

Indicates the reference-level set.

The cross-classification table of interest [State × Age × Race (3 levels)] is as follows:

State*Age * Race (3 levels)	White	Black	Other
AK * 12-17			
18-25			
26-34			
35-49			
50+			
HI * 12-17			
18-25			
26-34			
35-49			
50+			
OR * 12-17			
18-25			
26-34			
35-49			
50+			
CA * 12-17			
18-25			
26-34			
35-49			
50+			
WA * 12-17			
18-25			
26-34			
35-49			
50+			

Indicates the reference-level set.

The number of respondents in that class at this stage of modeling would appear within each cell of the table. Construction of the other cross-classification tables follows the same logic and is only necessary to the point of providing an understanding of the final table.

4. Use the information under the "Final" column definition to determine the combination of factors controlled.

Hier. This means the factor effect was collapsed at a lower order. Because this note is present, examine the information on lower-order factor effects that are the components of the interaction term, State × Race (3 levels) × Age; that is, look at the one-factor and two-factor effects for State, Race (5 levels), and Age, and their accompanying information:

One-Factor Effects	**Comments**
State	All levels present.
Race (5 levels)	All levels present.
Age	All levels present.

Two-Factor Effects	**Comments**
State × Age	All levels present.
State × Race (5 levels)	Coll. (1,3) & (1,4). Do the same for all other States except (2). Coll. (2,2), (2,3), & (2,4).

Following these directions, the resulting two-factor table is:

State*Race (5 levels)	White	Black	Asian	American Indian/Alaska Native	Two or More Races
AK					
HI					
OR					
CA					
WA					

Indicates the reference-level set.

Continuing on to the three-factor level for the same example:

Three-Factor Effects	**Comments**
State × Age × Race (3 levels)	Coll. (2,1,2) & (2,1,3); hier. Repeat for all levels of age in State (2); hier. Drop (3,4,2); sing. Coll. (1,4,2) & (1,4,3). Drop (3,*,*). Coll. (4,1,2) & (4,1,3). Do the same for each level of age in that State.

The reason for the note "Hier" in the three-factor effects is that collapsing was done on the two-factor interaction term State × Race (5 levels). Because collapsing was done on this term, all three-factor crosses involving State × Race must maintain this same collapsing scheme.

After following the directions, the cross-classification table should appear as follows:

State*Age* Race (3 levels)	White	Black	Other
AK * 12-17			
18-25			
26-34			
35-49			
50+			
HI * 12-17			
18-25			
26-34			
35-49			
50+			
OR * 12-17			
18-25			
26-34			
35-49			
50+			
CA * 12-17			
18-25			
26-34			
35-49			
50+			
WA * 12-17			
18-25			
26-34			
35-49			
50+			

Indicates the reference-level set.

The unshaded cells represent the factors directly controlled for by the model (i.e., those factors that were not collapsed or dropped). The shaded cells represent the composite reference set, whose values may be obtained by utilizing the marginal sums, although when changes to the initially proposed set occur, it can make certain reference cell counts indistinguishable.

Exhibit D.2 Covariates for 2005 NSDUH Person Weights (res.sdu.nr)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Population density	4	3
Group quarter	3	2
%Black	3	2
%Hispanic	3	2
%Owner-occupied	3	2
Rent/housing value	5	4
Two-Factor Effects		
%Owner-occupied × %Black	3 × 3	4
%Owner-occupied × %Hispanic	3 × 3	4
%Owner-occupied × Rent/housing	3 × 5	8
Rent/housing × %Black	3 × 5	8
Rent/housing × %Hispanic	3 × 5	8
State × Quarter	Model Specific	
State × Population density	Model Specific	
State × Group quarter	Model Specific	
State × %Black	Model Specific	
State × %Hispanic	Model Specific	
State × %Owner-occupied	Model Specific	
State × Rent/housing	Model Specific	
Three-Factor Effects		
State × %Owner-occupied × %Black	Model Specific	
State × %Owner-occupied × %Hispanic	Model Specific	
State × %Owner-occupied × Rent/housing	Model Specific	
State × Rent/house × %Black	Model Specific	
State × Rent/house × %Hispanic	Model Specific	

Exhibit D.3 Covariates for 2005 NSDUH Person Weights (res.sdu.ps)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	5	4
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Two-Factor Effects		
Age × Race (3 levels)	5 × 3	8
Age × Hispanicity	5 × 2	4
Age × Gender	5 × 2	4
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hisp × Gender	2 × 2	1
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8
Age × Race (3 levels) × Gender	5 × 3 × 2	8
Age × Hispanicity × Gender	5 × 2 × 2	4
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

Exhibit D.4 Covariates for 2005 NSDUH Person Weights (sel.per.ps and res.per.nr)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	5	4
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Relation to householder	4	3
Population Density	4	3
Group quarter	3	2
%Black	3	2
%Hispanic	3	2
%Owner-occupied	3	2
Rent/house value	5	4
Two-Factor Effects		
Age × Race (3 levels)	5 × 3	8
Age × Hispanicity	5 × 2	4
Age × Gender	5 × 2	4
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hispanicity × Gender	2 × 2	1
%Owner-occupied × %Black	3 × 3	4
%Owner-occupied × %Hispanicity	3 × 3	4
%Owner-occupied × Rent/housing	3 × 5	8
Rent/housing × %Black	3 × 5	8
Rent/housing × %Hispanic	3 × 5	8
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
State × %Black	Model Specific	
State × %Hispanic	Model Specific	
State × %Owner-occupied	Model Specific	
State × Rent/housing	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8
Age × Race (3 levels) × Gender	5 × 3 × 2	8
Age × Hispanicity × Gender	5 × 2 × 2	4
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

Exhibit D.5 Covariates for 2005 NSDUH Person Weights (res.per.ps and res.per.ev)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	6	5
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Two-Factor Effects		
Age × Race (3 levels)	6 × 3	10
Age × Hispanicity	6 × 2	5
Age × Gender	6 × 2	5
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hisp × Gender	2 × 2	1
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10
Age × Race (3 levels) × Gender	6 × 3 × 2	10
Age × Hispanicity × Gender	6 × 2 × 2	5
Race (3 level) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

Appendix D1: Model Group 1: New England

(Connecticut, Maine, New Hampshire, Rhode Island, Vermont, Massachusetts)

Table D.1a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 1: New England)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	6.80%	12.45%	1.91%	1.60300	306	(1.03, 1.63)	(1.04, 1.63)
	4.57%	8.86%	0.81%	1.64295	120	(1.00, 2.61)	(1.00, 2.61)
						(1.05, 1.83)	(1.05, 1.83)
res.sdu.ps	4.57%	8.86%	0.81%	1.64295	232	(0.20, 1.50)	(0.20, 1.50)
	3.53%	5.42%	1.25%	1.78554	208	(0.20, 5.00)	(0.20, 5.00)
						(0.85, 3.61)	(0.85, 3.61)
sel.per.ps	4.51%	7.83%	1.09%	3.43805	332	(0.28, 2.67)	(0.28, 2.67)
	1.61%	4.83%	1.22%	3.93994	260	(0.20, 4.78)	(0.20, 4.78)
						(0.35, 4.88)	(0.35, 4.88)
res.per.nr	1.61%	4.81%	1.11%	4.04507	332	(1.00, 3.00)	(1.00, 3.00)
	1.13%	4.40%	0.99%	4.59798	211	(1.00, 5.00)	(1.00, 5.00)
						(1.00, 2.92)	(1.00, 2.90)
res.per.ps	1.13%	4.27%	0.92%	4.59798	267	(0.20, 1.85)	(0.20, 1.85)
	0.91%	3.09%	0.60%	4.77437	200	(0.20, 3.58)	(0.20, 3.57)
						(0.35, 1.10)	(0.35, 1.10)

GEM = generalized exponential model.

1 For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

2 Unequal weighting effect defined as $1+ [(n\text{-}1)/n]*CV^2$ where CV = coefficient of variation of weights.

3 Number of proposed covariates on top line, and number finalized after modeling.

4 There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.1b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 1: New England)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7[2]	**8**[3]	**1-8**[3]	**9**[4]	**1-9**[4]	**11**[5]	**1-11**[5]	**12**[5]	**1-12**[5]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	13	0.45	61	0.13	22	1.01	26	0.11	11	0.30	11	0.06	3
1%	100	1.00	106	0.23	57	1.01	71	0.23	46	0.97	47	0.21	30
5%	131	1.00	135	0.64	115	1.01	138	0.46	124	1.00	135	0.56	120
10%	141	1.02	152	0.87	143	1.01	190	0.65	174	1.00	194	0.84	182
25%	192	1.06	212	0.98	215	1.06	331	0.84	313	1.07	340	0.94	344
Median	238	1.09	262	1.06	295	1.25	740	0.99	700	1.15	786	1.01	780
75%	544	1.13	597	1.16	688	5.40	1,726	1.15	1,750	1.29	2,017	1.07	1,992
90%	951	1.17	1,049	1.30	1,118	9.38	4,278	1.37	4,243	1.48	5,035	1.22	4,945
95%	971	1.24	1,114	1.48	1,274	13.24	7,030	1.57	7,975	1.63	9,390	1.44	9,104
99%	1,271	1.62	1,573	2.18	1,902	14.44	13,745	2.77	15,908	3.47	23,292	2.95	23,287
Maximum	1,894	27.81	2,882	5.00	4,953	22.26	27,646	13.12	33,338	5.00	47,538	3.57	54,329
n	12,518	11,375	11,375	11,375	11,375	6,651	6,651	6,651	6,651	5,480	5,480	5,480	5,480
Max/Mean	4.59	-	6.35	-	10.04	-	16.15	-	18.53	-	21.77	-	24.88

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 1 Overview

Dwelling Unit Nonresponse

For one-factor effects, College dorm had to be collapsed with other group quarters due to convergence problems. Out of 24 proposed one-factor effects, 23 were included in the model.

All the two-factor effects had some degree of variable collapsing or dropping except the percent Owner-occupied × Rent/housing, State × Quarter, State × percent Owner-occupied, and State × Rent/housing interactions. Out of 122 proposed variables, 88 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 160 proposed variables, 9 were included in the model.

In the final model, a total of 120 variables was included; see Exhibit D1.1.

Dwelling Unit Poststratification

All 19 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the State × Race interaction. Out of 86 proposed variables, 85 were included in the model.

For the three-factor effects, variable collapsing and dropping were present in Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and State × Race × Gender due to convergence problems or singularities. Out of 127 proposed variables, 104 were included in the model.

In the final model, a total of 208 variables were included; see Exhibit D1.2.

Selected Person-Level Poststratification

All 37 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Race × Hispanicity, percent Owner-occupied × percent Black, percent Owner-occupied × percent Hispanic, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, and State × percent Hispanic interactions. Out of 168 proposed variables, 148 were included in the model.

For three-factor effects, variable collapsing or dropping was present in all interactions except the Age × Race × Gender, Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 127 proposed variables, 75 were included in the model.

In the final model, a total of 260 variables were included; see Exhibit D1.3.

Respondent Person-Level Nonresponse

All 37 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Age × Race, Race × Hispanicity, percent Owner-occupied × percent Black, percent Owner-occupied × percent Hispanic, Rent/Housing × percent Black, Rent/Housing × percent Hispanic, State × Race, State × percent Black, and State × percent Hispanic interactions. Out of 168 proposed variables, 142 were included in the model.

For three-factor effects, all interactions except State × Age × Gender were affected by variable collapsing or dropping. Out of 127 proposed variables, 32 were included in the model.

In the final model, a total of 211 variables were included; see Exhibit D1.4.

Respondent Person-Level Poststratification

All 20 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race × Hispanicity and State × Race interactions. Out of 95 proposed variables, 92 were included in the model.

For three-factor effects, variable collapsing or dropping was present in all interactions except State × Age × Gender. Out of 152 proposed variables, 88 were included in the model.

In the final model, a total of 200 variables were included; see Exhibit D1.5.

Exhibit D1.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 1: New England

Variables	Level	Proposed	Final	Comments
One-Factor Effects		**24**	**23**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**122**	**88**	
%Owner-occupied × %Black	3*3	4	3	Drop (3, 1); zero.
%Owner-occupied × %Hispanic	3*3	4	3	Drop (2, 1); sing.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	5	Drop (1/4, 1); zero. Drop (3,1), sing.
Rent/housing × %Hispanic	3*5	8	6	Drop (4, 1); zero. Drop (3,1), sing.
State × Quarters	6*4	15	15	All levels present.
State × Population density	6*4	15	5	Drop (1,3), (2/3/5,1), (4,2/3); zero. Drop (1,2), (4,1), (5,2/3); sing.
State × Group quarter	6*3	10	4	Coll. (1,1) & (1,2), repeat for every State; hier. Drop (3,1/2); conv.
State × %Black	6*3	10	4	Drop (2/3/4/5,1), (3/5,2); zero.
State × %Hispanic	6*3	10	5	Drop (2/3/5,1), (2/5,2); zero.
State × %Owner-occupied	6*3	10	10	All levels present.
State × Rent/housing	6*5	20	20	All levels present.
Three-Factor Effects		**160**	**9**	
State × %Owner-occupied × %Black	6*3*3	20	0	Drop all; zero/sing.
State × %Owner-occupied × %Hispanic	6*3*3	20	1	Keep (1,2,2), drop others; zero/sing.
State × %Owner-occupied × Rent/housing	6*3*5	40	6	Keep (2,2,3), (3,2,4), (4,2,3), (4,2,4), (5,2,3), coll. (3,2,3) & (3,3,3); conv. Drop others; zero/sing.
State × Rent/housing × %Black	6*3*5	40	0	Drop all; zero/sing.
State × Rent/housing × %Hispanic	6*3*5	40	2	Keep (1,3,2), (1,4,2). Drop others; zero/sing.
Total		**306**	**120**	

Exhibit D1.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 1: New England

Variables	Level	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**86**	**85**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	6*4	15	15	All levels present.
State × Age	6*5	20	20	All levels present.
State × Race (5 levels)	6*5	20	19	Coll. (1,3) & (1,4); conv.
State × Hispanicity	6*2	5	5	All levels present.
State × Gender	6*2	5	5	All levels present.
Three-Factor Effects		**127**	**104**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	6	Coll. (1,2,1) & (1,3,1), (3,2,1) & (3,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	6*5*3	40	33	Coll. (2,1,2) & (2,1,3), (2,2,2) & (2,2,3), (2,4,2) & (2,4,3), (3,1,2) & (3,1,3), (5,2,2) & (5,2,3), (5,3,2) & (5,3,3); conv. Coll. (5,4,2) & (5,4,3); sing.
State × Age × Hispanicity	6*5*2	20	18	Coll. (5,1,1) & (5,2,1), (5,3,1) & (5,4,1); conv.
State × Age × Gender	6*5*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	6*3*2	10	0	Drop (2,2,1), (3,2,1); sing. Drop all others; conv.
State × Race (3 levels) × Gender	6*3*2	10	9	Coll. (5,2,1) & (5,3,1); conv.
State × Hispanicity × Gender	6*2*2	5	5	All levels present.
Total		**232**	**208**	

Exhibit D1.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**37**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**168**	**148**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-occupied × %Hispanic	3*3	4	3	Drop (2,1); ref zero.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	5	Drop (1,1), (3,1), (4,1); zero.
Rent/housing × %Hispanic	3*5	8	6	Drop (3,1), (4,1); zero./sing.
State × Quarter	6*4	15	15	All levels present.
State × Age	6*5	20	20	All levels present.
State × Race (5 levels)	6*5	20	19	Coll. (1,3) & (1,4); conv.
State × Hispanicity	6*2	5	5	All levels present.
State × Gender	6*2	5	5	All levels present.
State × %Black	6*3	10	4	Drop (2/3/4/5,1), (3/5,2); zero.
State × %Hispanic	6*3	10	5	Drop (2/3/5,1), (2/5,2); zero.
State × %Owner-occupied	6*3	10	10	All levels present.
State × Rent/housing	6*5	20	20	All levels present.
Three-Factor Effects		**127**	**75**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	1	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier. Coll. (1,2/3,1) & (2,2/3,1) & (3,2/3,1) & (4,2/3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; hier./conv.
State × Age × Race (3 levels)	6*5*3	40	15	Drop (3,4,2), (3,4,3), (5,4,2); sing. Coll. (1,1,2) & (1,1,3), repeat for all age levels in this State and in State=4; conv. Coll. (2,3,2) & (2,3,3), (2,4,2) & (2,4,3), (3,3,2) & (3,3,3), (5,3,2) & (5,3,3), (2,1,2) & (3,1,2), (2,1,3) & (3,1,3), (2,2,2) & (3,2,2), (2,2,3) & (3,2,3); conv. Drop (5,1/2,2), (5,1/2,3); conv.
State × Age × Hispanicity	6*5*2	20	11	Drop (1/4,1,1), (1/4,2,1), (1/4,3,1), (1/4,4,1); conv. Drop (5,4,1); sing.
State × Age × Gender	6*5*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), (4,2,1) & (4,3,1); hier. Drop (2,2,1), (3,2,1); zero. Coll. (1,2/3,1) & (4,2/3,1); conv.
State × Race (3 levels) × Gender	6*3*2	10	6	Coll. (2,2,1) & (2,3,1), repeat for State=3,4,and 5; conv.
State × Hispanicity × Gender	6*2*2	5	5	All levels present.
Total		**332**	**260**	

Exhibit D1.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**37**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**168**	**142**	
Age × Race (3 levels)	5*3	8	6	Coll. (1,2) & (1,3), (2,2) & (2,3); conv.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	2	Drop (3,1); zero. Coll. (2,1) & (2,2); conv.
%Owner-occupied × %Hispanic	3*3	4	3	Drop (2,1); sing.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	5	Drop (1/4,1); zero. Drop (3,1); sing.
Rent/housing × %Hispanic	3*5	8	6	Drop (4,1); zero. Drop (3,1); sing.
State × Quarter	6*4	15	15	All levels present.
State × Age	6*5	20	20	All levels present.
State × Race (5 levels)	6*5	20	16	Coll. (1,3) & (1,4), (2,3) & (2,5), (3,3) & (3,5), (5,3) & (5,5); conv.
State × Hispanicity	6*2	5	5	All levels present.
State × Gender	6*2	5	5	All levels present.
State × %Black	6*3	10	4	Drop all except (1,1), (1,2), (2,2), (4,2); zero.
State × %Hispanic	6*3	10	5	Drop all except (1,1), (1,2), (3,2), (4,1), (4,2); zero.
State × %Owner-occupied	6*3	10	10	All levels present.
State × Rent/housing	6*5	20	20	All levels present.
Three-Factor-Effects		**127**	**32**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; hier./conv.
Age × Race (3 levels) × Gender	5*3*2	8	1	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1); hier. Drop (2,2/3,1), (3,2,1), (3,3,1), (4,2,1), (4,3,1); conv.
Age × Hispanicity × Gender	5*2*2	4	3	Coll. (1,1,1) & (2,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; hier./conv.
State × Age × Race (3 levels)	6*5*3	40	0	Drop all; conv./sing./zero.
State × Age × Hispanicity	6*5*2	20	0	Drop (5,4,1); sing. Drop all others; conv.
State × Age × Gender	5*5*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	10	0	Drop all; conv.
State × Race (3 levels) × Gender	5*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all States; conv.
State × Hispanicity × Gender	5*2*2	5	3	Drop (2/5,1,1); conv.
Total		**332**	**211**	

Exhibit D1.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**20**	**20**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**95**	**92**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	6*4	15	15	All levels present.
State × Age	6*6	25	25	All levels present.
State × Race (5 levels)	6*5	20	18	Coll. (3,3) & (3,4), (4,3) & (4,4); conv.
State × Hispanicity	6*2	5	5	All levels present.
State × Gender	6*2	5	5	All levels present.
Three-Factor Effects		**152**	**88**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier. Drop (5,2/3,1); sing.
Age × Race (3 levels) × Gender	6*3*2	10	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv. Drop (5,2/3,1); conv.
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1); sing.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); hier.
State × Age × Race (3 levels)	6*5*3	50	20	Coll. (1,1,2) & (1,1,3), repeat for all age levels and all States; conv. Drop (3,4,2/3), (3,5,2/3), & (5,5,2/3); sing. Drop (1,5,2/3) & (4,5,2/3); conv.
State × Age × Hispanicity	6*6*2	25	18	Drop (5,5,1); zero. Drop (2,5,1), (3,5,1), (4,5,1), & (5,4,1); sing. Drop (1,4,1) & (1,5,1); conv.
State × Age × Gender	6*6*2	25	25	All levels present.
State × Race (3 levels) × Hispanicity	6*3*2	10	1	Coll. (1,2,1) & (1,3,1) repeat for all States; hier. Drop (1,2/3,1), (2,2/3,1), (3,2/3,1), & (5,2/3,1); conv.
State × Race (3 levels) × Gender	6*3*2	10	7	Coll. (2,2,1) & (2,3,1), repeat for State=3,5; conv.
State × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1); conv.
Total		**267**	**200**	

Appendix D2: Model Group 2: Middle Atlantic

(New Jersey, New York, Pennsylvania)

Table D.2a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 2: Middle Atlantic)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	1.49%	3.63%	0.37%	1.13045	153	(1.01, 1.27)	(1.01, 1.27)
	1.32%	1.76%	0.12%	1.14610	121	(1.00, 2.38)	(1.00, 2.37)
						(1.16, 1.17)	(1.16, 1.16)
res.sdu.ps	1.33%	1.76%	0.12%	1.14609	127	(0.85, 1.15)	(0.85, 1.15)
	0.98%	1.94%	0.42%	1.20475	127	(0.28, 4.20)	(0.30, 4.11)
						(0.80, 1.18)	(0.81, 1.17)
sel.per.ps	3.43%	4.36%	0.82%	2.46924	196	(0.39, 2.95)	(0.39, 2.95)
	1.46%	3.55%	0.89%	2.60774	191	(0.20, 3.15)	(0.20, 3.15)
						(0.30, 1.16)	(0.30, 1.15)
res.per.nr	1.62%	3.00%	0.73%	2.67155	196	(1.00, 2.90)	(1.00, 2.90)
	1.68%	5.87%	1.63%	3.15258	181	(1.00, 5.00)	(1.00, 5.00)
						(1.00, 1.87)	(1.00, 1.84)
res.per.ps	1.76%	5.98%	1.77%	3.15258	147	(0.14, 1.65)	(0.14, 1.65)
	1.00%	3.84%	0.91%	3.36009	123	(0.10, 3.54)	(0.10, 3.48)
						(0.53, 1.10)	(0.53, 0.53)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as $1+ [(n\text{-}1)/n]^*CV^2$ where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.2b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 2: Middle Atlantic)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7[2]	**8**[3]	**1-8**[3]	**9**[4]	**1-9**[4]	**11**[5]	**1-11**[5]	**12**[5]	**1-12**[5]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	161	0.85	459	0.30	293	1.01	332	0.14	81	0.56	94	0.07	9
1%	488	1.00	507	0.74	484	1.01	539	0.44	403	1.00	433	0.10	75
5%	496	1.03	524	0.88	537	1.01	618	0.69	582	1.01	626	0.17	353
10%	504	1.04	544	0.94	560	1.01	688	0.79	658	1.03	725	0.77	639
25%	534	1.06	581	1.00	617	1.14	847	0.92	865	1.10	950	0.98	920
Median	623	1.13	713	1.06	758	1.30	1,413	1.00	1,395	1.19	1,560	1.02	1,621
75%	816	1.23	939	1.12	1,000	5.87	4,019	1.11	4,165	1.33	4,835	1.05	4,835
90%	1,087	1.32	1,248	1.23	1,455	11.03	8,260	1.24	8,470	1.52	10,894	1.23	10,720
95%	1,186	1.39	1,446	1.32	1,724	12.58	10,744	1.39	11,216	1.73	15,564	1.57	15,754
99%	1,709	1.80	1,835	1.70	2,237	13.35	19,773	1.84	19,215	2.46	27,860	2.31	27,849
Maximum	3,602	6.20	3,253	4.11	6,971	19.27	38,457	3.15	55,492	5.00	78,948	3.48	125,587
n	20,299	17,435	17,435	17,433	17,433	10,343	10,343	10,343	10,343	8,231	8,231	8,231	8,231
Max/Mean	5.12	-	3.98	-	7.84	-	12.07	-	17.05	-	19.30	-	30.70

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.
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Model Group 2 Overview

Dwelling Unit Nonresponse

All 21 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the State × Population Density and State × Group Quarters interactions. Out of 68 proposed variables, 63 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 64 proposed variables, 37 were included in the model.

In the final model, a total of 121 variables were included; see Exhibit D2.1.

Dwelling Unit Poststratification

All 16 proposed one-factor effects were included in the model.

All 47 proposed two-factor effects were included in the model.

All 64 proposed three-factor effects were included in the model.

In the final model, a total of 127 variables were included; see Exhibit D2.2.

Selected Person-Level Poststratification

All 34 proposed one-factor effects were included in the model.

All 99 proposed two-factor effects were included in the model.

For three-factor effects, variable collapsing or dropping was present in the interactions of Age × Race × Hispanicity and State × Race × Hispanicity. Out of 64 proposed variables, 58 were included in the model.

In the final model, a total of 191 variables were included; see Exhibit D2.3.

Respondent Person-Level Nonresponse

All 34 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race × Hispanicity interaction only. Out of 99 proposed variables, 98 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age

× Race, and State × Race × Hispanicity interactions. Out of 64 proposed variables, 49 were included in the model.

In the final model, a total of 181 variables were included; see Exhibit D2.4.

Respondent Person-Level Poststratification

All 17 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race × Hispanicity and State × Race interactions. Out of 53 proposed variables, 51 were included in the model.

All three-factor effects except State × Age × Hispanicity, State × Age × Gender, State × Race × Gender, and State × Hispanicity × Gender were collapsed or dropped due to convergence or hierarchical collapsing requirements. Out of 77 proposed variables, 55 were included in the model.

In the final model, a total of 123 variables were included; see Exhibit D2.5.

Exhibit D2.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**21**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**68**	**63**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	3*4	6	6	All levels present.
State × Population density	3*4	6	4	Drop (2,2), (2,3); sing.
State × Group quarters	3*3	4	1	Drop (2,1), zero; drop (2,2), conv; coll. (3,1) & (3,2), conv.
State × %Black	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	4	All levels present.
State × %Owner-occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	8	All levels present.
Three-Factor Effects		**64**	**37**	
State × %Owner-occupied × %Black	3*3*3	8	6	Coll. (2,2,1) & (2,2,2), (2,3,1) & (2,3,2), conv.
State × %Owner-occupied × %Hispanic	3*3*3	8	5	Drop (3,3,2), (2,2,1), sing.; coll. (2,3,1) & (2,3,2), conv.
State × %Owner-occupied × Rent/housing	3*3*5	16	11	Drop (3,2,4), (2,2,1), (2,2,2), (2,3,1), (2,3,2), sing.
State × Rent/housing × %Black	3*3*5	16	8	Drop (3,4,1), (2,1,1), (2,1,2), (2,3,1), (2,4,1), sing; coll. (3,1,1) & (3,2,1) & (3,3,1), conv.; coll. (2,2,1) & (2,2,2), conv.
State × Rent/housing × %Hispanic	3*3*5	16	7	Drop (3,3,1) & (3,4,1), zero; drop (3,1,1), (3,2,1), (3,4,2), (2,1,1), (2,1,2,), (2,2,1), sing.; coll. (2,3,1) & (2,4,1), conv.
Total		**153**	**121**	

Exhibit D2.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**16**	**16**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**47**	**47**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	3*4	6	6	All levels present.
State × Age	3*5	8	8	All levels present.
State × Race (5 levels)	3*5	8	8	All levels present.
State × Hispanicity	3*2	2	2	All levels present.
State × Gender	3*2	2	2	All levels present.
Three-Factor Effects		**64**	**64**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	8	All levels present.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	3*5*3	16	16	All levels present.
State × Age × Hispanicity	3*5*2	8	8	All levels present.
State × Age × Gender	3*5*2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3*3*2	4	4	All levels present.
State × Race (3 levels) × Gender	3*3*2	4	4	All levels present.
State × Hispanicity × Gender	3*2*2	2	2	All levels present.
Total		**127**	**127**	

Exhibit D2.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**34**	**34**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**99**	**99**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	3*4	6	6	All levels present.
State × Age	3*5	8	8	All levels present.
State × Race (5 levels)	3*5	8	8	All levels present.
State × Hispanicity	3*2	2	2	All levels present.
State × Gender	3*2	2	2	All levels present.
State × %Black	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	4	All levels present.
State × %Owner-occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	8	All levels present.
Three-Factor Effects		**64**	**58**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	3*5*3	16	16	All levels present.
State × Age × Hispanicity	3*5*2	8	8	All levels present.
State × Age × Gender	3*5*2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3*3*2	4	2	Coll. (3,2,1) & (3,3,1), (2,2,1) & (2,3,1); conv.
State × Race (3 levels) × Gender	3*3*2	4	4	All levels present.
State × Hispanicity × Gender	3*2*2	2	2	All levels present.
Total		**197**	**191**	

Exhibit D2.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**34**	**34**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**99**	**98**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	3*4	6	6	All levels present.
State × Age	3*5	8	8	All levels present.
State × Race (5 levels)	3*5	8	8	All levels present.
State × Hispanicity	3*2	2	2	All levels present.
State × Gender	3*2	2	2	All levels present.
State × %Black	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	4	All levels present.
State × %Owner-occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	8	All levels present.
Three-Factor Effects		**64**	**49**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; hier./conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	3	Coll. (3,1,1) & (4,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); hier.
State × Age × Race (3 levels)	3*5*3	16	14	Coll. (3,2,2) & (3,2,3), (2,2,2) & (2,2,3); conv.
State × Age × Hispanicity	3*5*2	8	8	All levels present.
State × Age × Gender	3*5*2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3*3*2	4	1	Coll. (3,2,1) & (3,3,1), (2,2,1) & (2,3,1); hier. Drop (3,2/3,1), conv.
State × Race (3 levels) × Gender	3*3*2	4	4	All levels present.
State × Hispanicity × Gender	3*2*2	2	2	All levels present.
Total		**197**	**181**	

Exhibit D2.5 Covariates for 2005 NSDUH Weights (res.per.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**53**	**51**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	3*4	6	6	All levels present.
State × Age	3*6	10	10	All levels present.
State × Race (5 levels)	3*5	8	7	Coll. (3,3) & (3,4); conv.
State × Hispanicity	3*2	2	2	All levels present.
State × Gender	3*2	2	2	All levels present.
Three-Factor Effects		**77**	**55**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier.
Age × Race (3 levels) × Gender	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv.
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); hier.
State × Age × Race(3 levels)	3*6*3	20	12	Coll. (2,1,2) & (2,1,3), for all age levels in this State, coll. (3,5,2) & (3,5,3); conv. Drop (2,5,2/3), (3,5,2/3); conv.
State × Age × Hispanicity	3*6*2	10	10	All levels present.
State × Age × Gender	3*6*2	10	10	All levels present.
State × Race (3 levels) × Hispanicity	3*3*2	4	2	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); hier.
State × Race (3 levels) × Gender	3*3*2	4	4	All levels present.
State × Hispanicity × Gender	3*2*2	2	2	All levels present.
Total		**147**	**123**	

Appendix D3: Model Group 3: East North Central

(Illinois, Indiana, Michigan, Wisconsin, Ohio)

Table D.3a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 3: East North Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	1.76%	1.95%	0.08%	1.15395	255	(1.04, 1.97)	(1.06, 1.97)
	0.78%	1.05%	0.01%	1.13656	170	(1.00, 2.11)	(1.00, 2.11)
						(1.00, 2.22)	(1.00, 2.22)
res.sdu.ps	0.94%	1.21%	0.00%	1.13654	197	(0.20, 1.01)	(0.20, 1.01)
	1.44%	1.99%	0.21%	1.18384	195	(0.20, 4.22)	(0.20, 4.20)
						(0.99, 1.48)	(0.99, 1.48)
sel.per.ps	3.73%	5.20%	1.15%	2.29507	287	(0.20, 2.95)	(0.20, 2.95)
	1.44%	2.55%	0.40%	2.30491	280	(0.20, 3.97)	(0.20, 3.97)
						(0.30, 3.69)	(0.30, 3.60)
res.per.nr	1.60%	2.95%	0.53%	2.35391	287	(1.00, 2.95)	(1.00, 2.95)
	0.98%	2.63%	0.40%	2.61880	257	(1.00, 5.00)	(1.00, 4.68)
						(1.00, 5.00)	(1.00, 4.08)
res.per.ps	1.09%	2.76%	0.46%	2.61880	227	(0.20, 2.69)	(0.20, 2.69)
	0.92%	2.30%	0.47%	2.67685	180	(0.20, 4.94)	(0.20, 4.93)
						(0.99, 2.53)	(0.99, 2.53)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as $1+[(n-1)/n]*CV^2$ where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.3b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 3: East North Central)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7 [2]	**8** [3]	**1-8** [3]	**9** [4]	**1-9** [4]	**11** [5]	**1-11** [5]	**12** [5]	**1-12** [5]	**13** [6]	**1-13** [6]	**14** [6]	**1-14** [6]
Minimum	35	0.48	307	0.11	98	1.01	106	0.12	27	0.43	32	0.09	17
1%	441	1.00	475	0.58	356	1.01	398	0.52	380	1.00	413	0.20	158
5%	449	1.03	489	0.84	473	1.01	522	0.76	510	1.04	576	0.72	529
10%	458	1.04	500	0.92	507	1.01	585	0.84	580	1.07	661	0.90	650
25%	479	1.05	530	0.99	553	1.09	713	0.93	719	1.13	836	1.00	841
Median	563	1.09	605	1.04	631	1.25	1,083	1.00	1,085	1.21	1,231	1.02	1,243
75%	612	1.14	695	1.10	750	5.03	3,122	1.08	3,138	1.33	3,808	1.04	3,812
90%	1,031	1.25	1,242	1.22	1,245	10.37	6,138	1.18	6,165	1.47	7,904	1.08	7,864
95%	1,263	1.29	1,338	1.35	1,454	10.86	7,604	1.27	7,724	1.60	10,418	1.25	10,419
99%	1,363	1.45	1,445	1.71	1,792	11.98	14,683	1.57	13,349	2.03	17,505	1.67	17,895
Maximum	1,846	10.97	2,106	4.20	4,663	32.51	30,626	10.52	35,171	10.39	56,997	5.52	48,418
n	27,328	24,529	24,529	24,527	24,527	15,857	15,857	15,857	15,857	12,710	12,710	12,710	12,710
Max/Mean	2.98	-	3.05	-	6.37	-	12.68	-	14.64	-	19.01	-	16.15

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 3 Overview

Dwelling Unit Nonresponse

All 23 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in State × Group Quarters, State × percent Hispanic, and State × percent Owner Occupied interactions. Out of 104 proposed variables, 95 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 128 proposed variables, 52 were included in the model.

In the final model, a total of 170 variables were included; see Exhibit D3.1.

Dwelling Unit Poststratification

All 18 proposed one-factor effects were included in the model.

All 73 two-factor effects were kept in the model.

For three factor effects, variable collapsing was present in State× Race × Hispanicity. Out of 106 proposed variables, 104 were included the model.

In the final model, a total of 195 variables were included; see Exhibit D3.2.

Selected Person-Level Poststratification

All 36 proposed one-factor effects were included in the model.

All 145 proposed one-factor effects were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, and State × Race × Hispanicity interactions. Out of 128 proposed variables, 99 were included in the model.

In the final model, a total of 280 variables were included; see Exhibit D3.3.

Respondent Person-Level Nonresponse

All 36 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the State × Race interactions. Out of 145 proposed variables, 144 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and

State × Race × Gender interactions. Out of 84 proposed variables, 77 were included in the model.

In the final model, a total of 257 variables were included; see Exhibit D3.4.

Respondent Person-Level Poststratification

All 19 proposed one-factor effects were included in the model.

For two-factor effects, collapsing was present in Race × Hispanicity and State × Race. Out of 81 proposed variables, 78 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity interactions. Out of 127 proposed variables, 83 were included in the model.

In the final model, a total of 180 variables were included; see Exhibit D3.5.

Exhibit D3.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**23**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**104**	**95**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Population density	5*4	12	12	All levels present.
State × Group quarters	5*3	8	4	Drop (4,1/2); conv. Coll. (1,1) & (1,2), (3,1) & (3,2); conv. Coll. (5,1) & (5,2); zero.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	4	Coll. (*, 1) & (*,2); conv.
State × %Owner-occupied	5*3	8	7	Coll. (4,2) & (4,3); conv.
State × Rent/housing	5*5	16	16	All levels present.
Three-Factor Effects		**128**	**52**	
State × %Owner-occupied × %Black	5*3*3	16	7	Coll. (3,3,1) & (3,2,1), (3,3,2) & (3,2,2), repeat for State=4 and 5; conv.
State × %Owner-occupied × %Hispanic	5*3*3	16	6	Coll. (1,2,1) & (1,2,2), (1,3,1) & (1,3,2), repeat for State=3, Coll. (4,2,1) & (4,3,1), (4,2,2) & (4,3,2); heir. Coll. (5,2,1) & (5,3,1), (5,2,2) & (5,3,2); conv.
State × %Owner-occupied × Rent/housing	5*3*5	32	8	Drop (4,*,*), (5,*,*); conv. Coll. (1,2,1) & (1,3,1), repeat for CV=3 and 4. Coll. (3,2,1) & (3,3,1), (3,2,4) & (3,3,4); conv. Coll. (1,2,2) & (1,3,2), (3,2,2) & (3,3,2), (3,2,3) & (3,3,3); zero.
State × Rent/housing × %Black	5*3*5	32	20	Coll. (4,1,1) & (4,2,1), (4,1,2) & (4,2,2), Drop (4,3/4,1/2); zero. Coll. (3,2,1) & (3,2,2), (3,3,1) & (3,3,2), (5,4,1) & (5,4,2), Drop (3,4,1/2); sing.
State × Rent/housing × %Hispanic	5*3*5	32	11	Coll. (1,1,1) & (1,1,2), repeat for CV=2 and 3, coll.. (3,1,1) & (3,1,2), repeat for CV=2 and 3, coll. (4,1,1) & (4,1,2), repeat for CV=2 and 3, coll. (5,1,1) & (5,1,2), (5,2,1) & (5,2,2); heir. Drop (1,4,1/2), (4,4,1/2); sing. Drop (3,4,1/2), (5,3,1/2), (5,4,1/2); zero.
Total		**255**	**170**	

Exhibit D3.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**73**	**73**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	16	All levels present.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor Effects		**106**	**104**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	8	All levels present.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	5*5*3	32	32	All levels present.
State × Age × Hispanicity	5*5*2	16	16	All levels present.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	6	Coll. (4,2,1) & (4,3,1), (5,2,1) & (5,3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**197**	**195**	

Exhibit D3.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**145**	**145**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	16	All levels present.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	8	All levels present.
State × %Owner-occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	16	All levels present.
Three-Factor Effects		**128**	**99**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	6	Coll. (4,2,1) & (4,3,1); sing. Coll. (3,2,1) & (3,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	5*5*3	32	31	Coll. (4,3,2) & (4,3,3); conv.
State × Age × Hispanicity	5*5*2	16	16	All levels present.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (4,2,1) & (4,3,1); ref zero. Coll. (1,2,1) & (1,3,1), repeat for all States; conv.
State × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**280**	

Exhibit D3.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**145**	**144**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	15	Coll. (4,4) & (4,5); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	8	All levels present.
State × %Owner-occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	16	All levels present.
Three-Factor Effects		**84**	**77**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Drop (4,2,1), (4,3,1), coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	5*5*3	32	22	Coll. (4,4,2) & (4,4,3), repeat for all States; Coll. (4,1,2) & (4,1,3), repeat for all age levels, repeat for State=3; conv.
State × Age × Hispanicity	5*5*2	16	11	Drop (4,*,1), (3,4,1); conv.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; conv.
State × Race (3 levels) × Gender	5*3*2	8	7	Coll. (4,2,1) & (4,3,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**257**	

Exhibit D3.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**81**	**78**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*6	20	20	All levels present.
State × Race (5 levels)	5*5	16	14	Coll. (1,3) & (1,4), (4,3) & (4,4); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor Effects		**127**	**83**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	3	Coll. (1,2,1) & (1,3,1), repeat for all State. drop (4,*,*); conv
Age × Race (3 levels) × Gender	6*3*2	10	10	All levels present.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	5*6*3	40	17	Drop (4,5,2/3), coll. (5,5,2) & (5,5,3), (4,4,2) & (4,3,3); sing. Drop (1,5,2/3), (3,5,2/3), coll. (1,1,2) & (1,1,3), repeat for all State and age levels; conv.
State × Age × Hispanicity	5*6*2	20	15	Drop (1,5,1), (5,5,1); sing. Drop (4,5,1); ref zero. Drop (3,5,1), (5,4,1); conv.
State × Age × Gender	5*6*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	1	Coll. (3,2,1) & (3,3,1), drop rest; conv.
State × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**227**	**180**	

Appendix D4: Model Group 4: West North Central

(Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, North Dakota)

Table D.4a   2005 NSDUH Person Weight GEM Modeling Summary (Model Group 4: West North Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	5.72%	9.05%	1.17%	1.49997	357	(1.00, 1.63)	(1.00, 1.62)
	3.30%	4.40%	0.61%	1.49937	178	(1.00, 1.63)	(1.00, 1.55)
						(1.08, 1.09)	(0.95, 1.10)
res.sdu.ps	3.30%	4.40%	0.61%	1.49937	267	(0.58, 1.60)	(0.58, 1.60)
	2.80%	3.67%	0.71%	1.60259	250	(0.20, 5.00)	(0.20, 5.00)
						(0.99, 1.38)	(0.99, 1.38)
sel.per.ps	3.49%	6.68%	1.64%	3.28367	377	(0.20, 2.70)	(0.20, 2.70)
	1.17%	3.47%	0.75%	3.36361	319	(0.20, 3.00)	(0.20, 3.00)
						(0.90, 3.24)	(0.90, 3.24)
res.per.nr	1.30%	3.69%	0.80%	3.41502	377	(1.00, 2.75)	(1.00, 2.75)
	1.51%	4.95%	1.31%	3.73554	269	(1.00, 5.00)	(1.00, 5.00)
						(1.20, 2.69)	(1.20, 2.69)
res.per.ps	1.64%	5.37%	1.41%	3.73554	307	(0.20, 2.10)	(0.20, 2.10)
	1.13%	2.70%	0.61%	3.77332	229	(0.20, 4.14)	(0.20, 4.13)
						(0.99, 1.20)	(0.99, 1.20)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as 1+ [(*n*-1)/*n*]*CV^2 where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4]There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.4b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 4: West North Central)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7 [2]	**8** [3]	**1-8** [3]	**9** [4]	**1-9** [4]	**11** [5]	**1-11** [5]	**12** [5]	**1-12** [5]	**13** [6]	**1-13** [6]	**14** [6]	**1-14** [6]
Minimum	103	0.78	110	0.20	23	1.01	24	0.12	8	0.44	8	0.12	2
1%	110	0.98	112	0.26	76	1.01	80	0.20	78	0.97	78	0.20	46
5%	120	1.00	125	0.70	125	1.01	152	0.57	138	1.00	143	0.60	133
10%	124	1.01	131	0.86	142	1.01	210	0.67	185	1.00	194	0.90	184
25%	178	1.03	190	0.99	218	1.12	465	0.81	426	1.04	446	0.98	429
Median	498	1.05	518	1.08	528	1.50	958	0.97	970	1.11	1,100	1.02	1,109
75%	993	1.08	1,050	1.18	1,032	4.95	2,274	1.13	2,256	1.25	2,588	1.06	2,581
90%	1,143	1.11	1,257	1.29	1,382	10.14	6,159	1.33	5,506	1.46	6,615	1.13	6,563
95%	1,298	1.14	1,365	1.40	1,547	12.00	8,153	1.57	8,863	1.69	10,500	1.25	10,549
99%	1,350	1.24	1,449	1.92	1,930	13.23	17,108	2.51	16,761	2.93	21,845	2.12	22,516
Maximum	1,412	5.63	1,547	5.00	6,105	23.98	44,800	9.38	49,892	5.00	66,393	4.13	53,040
n	12,894	12,177	12,177	12,177	12,177	7,685	7,685	7,685	7,685	6,444	6,444	6,444	6,444
Max/Mean	2.47	-	2.55	-	9.33	-	20.22	-	23.36	-	26.06	-	20.82

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 4 Overview

Dwelling Unit Nonresponse

Variable collapsing was present in Group Quarters main effect. Out of 25 proposed one-factor effects, 24 were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the percent Owner-occupied × percent Black, percent Owner-occupied × percent Hispanic, percent Owner-occupied × Rent/housing, State × Rent/housing, and State × Quarter. Out of 140 proposed variables, 107 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 192 proposed variables, 47 were included in the model.

In the final model, a total of 178 variables were included; see Exhibit D4.1.

Dwelling Unit Poststratification

All 20 proposed one-factor effects were included in the model.

All 99 proposed two-factor effects were included in the model.

For three-factor effects, variable collapsing or dropping was present in the State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, Race × Hispanicity × Gender, and Age × Race × Hispanicity interactions. Out of 148 proposed variables, 131 were included in the model.

In the final model, a total of 250 variables were included; see Exhibit D4.2.

Selected Person-Level Poststratification

All 38 proposed one-factor effects were included in the model.

For two-factor effects, variable dropping was present in the Rent/housing × percent Black, Rent/housing × percent Hispanic, State × percent Black, and State × percent Hispanic interactions. Out of 191 proposed variables, 176 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, State × Race × Gender, Race × Hispanicity × Gender, and Age × Race × Hispanicity interactions. Out of 148 proposed variables, 105 were included in the model.

In the final model, a total of 319 variables were included; see Exhibit D4.3.

Respondent Person-Level Nonresponse

All 38 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × percent Black, Rent/housing × percent Black, Rent/housing × percent Hispanic, Age × Race, State × Race, State × percent Black, and State × percent Hispanic interactions. Out of 191 proposed variables, 169 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 148 proposed variables, 62 were included in the model.

In the final model, a total of 269 variables were included; see Exhibit D4.4.

Respondent Person-Level Poststratification

All 21 proposed one-factor effects were included in the model.

All 109 proposed two-factor effects were included in the model.

For three-factor effects, all levels were present for the Age × Race × Gender, Age × Hispanicity × Gender and State × Age × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 177 proposed variables, 99 were included in the model.

In the final model, a total of 229 variables were included; see Exhibit D4.5.

Exhibit D4.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**25**	**24**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarter	3	2	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**140**	**107**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Coll. (4,1) & (4,2); ref zero.
Rent/housing × %Hispanic	3*5	8	6	Coll. (3,1) & (3,2); zero. Coll. (4,1) & (4,2); sing.
State × Quarter	7*4	18	18	All levels present.
State × Population density	7*4	18	14	Coll. (1,1) & (1,2), repeat for State=5,6, and 7; zero.
State × Group quarters	7*3	12	0	Drop all; conv.
State × %Black	7*3	12	6	Drop (6,1/2); sing. Drop (7,1/2); conv. Coll. (3,1) & (3,2); sing. Coll. (1,1) & (1,2); zero.
State × %Hispanic	7*3	12	5	Coll. (1,1) & (1,2), repeat for State=3 and 6; zero. Coll. (2, 1) & (2,2), coll. (5,1) & (5,2); sing. Drop (7,1/2); zero.
State × %Owner-occupied	7*3	12	11	Coll. (3,2) & (3,3); conv.
State × Rent/housing	7*5	24	24	All levels present.
Three-Factor Effects		**192**	**47**	
State × %Owner-occupied × %Black	7*3*3	24	5	Drop (6,*,*), (7,*,*), coll. (3,2,1) & (3,3,1), (3,2,2) & (3,3,2); heir. Drop (1,*,*); sing. Coll. (2,2,1) & (2,2,2), (2,3,1) & (2,3,2), repeat for State=5; conv.
State × %Owner-occupied × %Hispanic	7*3*3	24	3	Drop (7,*,*), coll. (3,2/3,1) & (3,2/3, 2), heir. Drop (6,*,*), (5,*,*), coll. (2,2,1) & (2,2,2) & (2,3,1) & (2,3,2), repeat for State=1; conv.
State × %Owner-occupied × Rent/housing	7*3*5	48	25	Coll. (3,2,3) & (3,3,3), (3,2,4) & (3,3,4); heir. Coll. (1,2,1) & (1,2,2) & (1,3,1) & (1,3,2), repeat for State=3,7, and 5, coll. (1,2,3) & (1,3,3), (2,2,1) & (2,3,1), (5,2,4) & (5,3,4), (6,2,4) & (6,3,4); sing. Coll. (6,2,1) & (6,2,2) & (6,3,1) & (6,3,2), drop (6,2/3,3),conv.
State × Rent/housing × %Black	7*3*5	48	8	Drop (6,*,*), (7,*,*), coll. (3,3,1) & (3,3,2), (3,4,1) & (3,4,2); heir. Coll. (2,1,1) & (2,1,2), repeat for CV=2 and 3, coll. (3,1,1) & (3,2,1), (3,1,2) & (3,2,2); sing. Coll. (5,1,1) & (5,1,2) & (5,2,1) & (5,2,2) & (5,3,1) & (5,3,2), (5,4,1) & (5,4,2), drop (1,*,*), (2,4,1/2); conv.
State × Rent/housing × %Hispanic	7*3*5	48	6	Drop (7,*,*), coll. (2,1,1) & (2,1,2), (2,2,1) & (2,2,2), (5,3,1) & (5,3,2); heir. Drop (6,*,*), (3,3/4,1/2), repeat for State=1 and 2, drop (5,4,1/2); conv. Coll. (1,1,1) & (1,1,2) & (1,2,1) & (1,2,2), repeat for State=3, coll. (5,1,1) & (5,1,2) & (5,2,1) & (5,2,2); conv.
Total		**357**	**178**	

Exhibit D4.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**20**	**20**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**99**	**99**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	7*4	18	18	All levels present.
State × Age	7*5	24	24	All levels present.
State × Race (5 levels)	7*5	24	24	All levels present.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
Three-Factor Effects		**148**	**131**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), Drop (4,2,1), (4,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1) conv.
State × Age × Race (3 levels)	7*5*3	48	43	Coll. (7,1,2) & (7,1,3), repeat for all age levels, coll. (6,4,2) & (6,4,3); conv.
State × Age × Hispanicity	7*5*2	24	23	Drop (7,4,1) conv.
State × Age × Gender	7*5*2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	6	Coll. (2,2,1) & (2,3,1), (6,2,1) & (6,3,1) sing; Coll. (1,2,1) & (1,3,1), (3,2,1) & (3,3,1); Drop (6,2,1) & (6,3,1); conv.
State × Race (3 levels) × Gender	7*3*2	12	12	All levels present.
State × Hispanicity × Gender	7*2*2	6	6	All levels present.
Total		**267**	**250**	

Exhibit D4.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**38**	**38**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**191**	**176**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Coll. (4,1) & (4,2); ref zero.
Rent/housing × %Hispanic	3*5	8	6	Coll. (4,1) & (4,2); ref zero. Coll. (3,1) & (3,2); zero.
State × Quarter	7*4	18	18	All levels present.
State × Age	7*5	24	24	All levels present.
State × Race (5 levels)	7*5	24	23	Coll. (7,4) & (7,5); conv.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
State × %Black	7*3	12	7	Coll. (1,1) & (1,2), (7,1) & (7,2); zero. Coll. (3,1) & (3,2); sing. Drop (6,1) & (6,2); zero.
State × %Hispanic	7*3	12	6	Coll. (2,1) & (2,2), (5,1) & (5,2); sing. Coll. (3,1) & (3,2), (6,1) & (6,2); zero. Drop (7,1) & (7,2); zero.
State × %Owner-occupied	7*3	12	12	All levels present.
State × Rent/housing	7*5	24	24	All levels present.
Three-Factor Effects		**148**	**105**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Coll. (2,2,1) & (2,3,1), conv. Drop (4,*,*), (3,*,*) zero.
Age × Race (3 levels) × Gender	5*3*2	8	7	Coll. (4,2,1) & (4,3,1); conv.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	7*5*3	48	26	Coll. (6,3,2) & (6,3,3), (6,4,2) & (6,4,3); zero. Coll. (7,4,2,) & (7,4,3,); ref zero. Coll. (1,1,2) & (1,1,3), repeat for State=3 and 6, repeat for all age levels; conv. Coll. (2,2,2) & (2,2,3), (2,3,2) & (2,3,3) & (2,4,2) & (2,4,3), (5,4,2) & (5,4,3), (7,2,2) & (7,2,3), (7,3,2,) & (7,3,3), drop (3,4,*); conv.
State × Age × Hispanicity	7*5*2	24	21	Drop (6,4,1), repeat for State=7; ref zero. Drop (7,3,1); conv.
State × Race (3 levels) × Hispanicity	7*3*2	12	3	Drop (6,*,*) ref zero. Coll. (3,2,1) & (3,3,1); zero. Drop (1,*,*), (5,*,*); Coll. (2,2,1) & (2,3,1), repeat for State=7; conv.
State × Race (3 levels) × Gender	7*3*2	12	10	Coll. (6,2,1) & (6,3,1), (7,2,1) & (7,3,1); conv.
State × Age × Gender	7*5*2	24	24	All levels present.
State × Hispanicity × Gender	7*2*2	6	6	All levels present.
Total		**377**	**319**	

Exhibit D4.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**38**	**38**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**191**	**169**	
Age × Race (3 levels)	5*3	8	7	Coll. (4,2) & (4,3); zero.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	3	Coll. (3,1) & (3,2); zero.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	6	Coll. (3,1) & (3,2), (4,1) & (4,2) ; zero.
Rent/housing × %Hispanic	3*5	8	6	Coll. (3,1) & (3,2); zero. Coll. (4,1) & (4,2) ; sing.
State × Quarter	7*4	18	18	All levels present.
State × Age	7*5	24	24	All levels present.
State × Race (5 levels)	7*5	24	18	Coll. (1,3) & (1,4), (5,3) & (5,4), (7,4) & (7,5), (3,3) & (3,4) & (3,5), (6,4) & (6,5); conv.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
State × %Black	7*3	12	8	Drop (6,*), coll. (1,1) & (1,2), (7,1) & (7,2); zero.
State × %Hispanic	7*3	12	6	Coll. (3,1) & (3,2), repeat for State=6, drop (7,*); zero. Coll. (2,1) & (2,2), (5,1) & (5,2) sing;
State × %Owner-occupied	7*3	12	12	All levels present.
State × Rent/housing	7*5	24	24	All levels present.
Three-Factor Effects		**148**	**62**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Drop (4,*,*); sing. Coll. (3,2,1) & (3,3,1); zero. Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	7	Coll. (4,2,1) & (4,3,1); conv.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	7*5*3	48	3	Drop (1,*,*), (3,*,*), (6,*,*), (7,*,*), (2,4,*), (5,,4,*); conv. Coll. (2,1,2) & (2,1,3) & (5,1,2) & (5,1,3), repeat for all age levels; conv.
State × Age × Hispanicity	7*5*2	24	8	Drop (7,4,1), (6,4,1), ref zero. Drop (7,*,1), repeat for State=5 and 6, coll. (1,1,1) & (3,1,1), repeat for all age levels; conv.
State × Age × Gender	7*5*2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	0	Drop (6,*,1); sing. Drop rest; conv.
State × Race (3 levels) × Gender	7*3*2	12	7	Coll. (7,2,1) & (7,3,1); sing. Coll. (3,2,1) & (3,3,1) & (1,2,1) & (1,3,1), (5,2,1) & (5,3,1); conv.
State × Hispanicity × Gender	7*2*2	6	6	All levels present.
Total		**377**	**269**	

Exhibit D4.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**21**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**109**	**109**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	7*4	18	18	All levels present.
State × Age	7*6	30	30	All levels present.
State × Race (5 levels)	7*5	24	24	All levels present.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
Three-Factor Effects		**177**	**99**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	1	Drop (5,2/3,1); ref zero. Coll. (1,2,1) & (1,3,1), drop rest; conv.
Age × Race (3 levels) × Gender	6*3*2	10	10	All levels present.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	7*6*3	60	18	Drop (1,4,2/3), (1,5,2/3), (3,5,2/3), (7,5,2/3), (6,5,2/3); sing. Coll. (2,3,2) & (2,3,3), (7,3,2) & (7,3,3), (6,3,2) & (6,3,3); zero. Drop (2,4,2/3), (2,5,2/3), (3,4,2/3), (7,4,2/3), (5,4,2/3), (6,4,2/3); conv. Coll. (1,1,2) & (1,1,3), (1,2,2) & (1,2,3), (1,3,2) & (1,3,3), (2,1,2) & (2,1,3), (2,2,2) & (2,2,3), (3,1,2) & (3,1,3), (3,2,2) & (3,2,3), (3,3,2) & (3,3,3), (5,1,2) & (5,1,3), (5,2,2) & (5,2,3), (5,3,2) & (5,3,3), (6,1,2) & (6,1,3), (6,2,2) & (6,2,3), (7,1,2) & (7,1,3), (7,2,2) & (7,2,3); conv.
State × Age × Hispanicity	7*6*2	30	16	Drop (5,5,1); sing. Drop (1,5,1), (3,5,1); ref zero. Drop (7,4,1), (7,5,1), (6,4,1), (6,5,1); zero. Drop (7,1,1), (7,2,1), (7,3,1), (6,1,1), (6,2,1), (6,3,1), (5,4,1); conv.
State × Age × Gender	7*6*2	30	30	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	2	Coll. (2,2,1) & (2,3,1) & (5,2,1) & (5,3,1), (1,2,1) & (1,3,1) & (3,2,1) & (3,3,1); Drop rest. Conv.
State × Race (3 levels) × Gender	7*3*2	12	11	Coll. (7,2,1) & (7,3,1); conv.
State × Hispanicity × Gender	7*2*2	6	5	Coll. (6,1,1) & (7,1,1); conv.
Total		**307**	**229**	

Appendix D5: Model Group 5: South Atlantic

(Delaware, District of Columbia, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Florida)

Table D.5a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 5: South Atlantic)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	Unweighted	Weighted	Outwinsor			Nominal	Realized
res.sdu.nr	1.59%	2.15%	0.07%	1.56814	459	(1.00, 1.10)	(1.00, 1.10)
	1.20%	1.61%	0.01%	1.57924	280	(1.00, 1.91)	(1.00, 1.90)
						(1.00, 4.80)	(1.00, 2.41)
res.sdu.ps	1.20%	1.61%	0.01%	1.57920	337	(0.45, 1.01)	(0.45, 1.01)
	1.46%	2.01%	0.28%	1.55789	334	(0.20, 4.90)	(0.20, 4.90)
						(0.50, 1.80)	(0.50, 1.76)
sel.per.ps	2.79%	4.12%	0.87%	2.86817	467	(0.20, 2.90)	(0.20, 2.90)
	1.44%	4.16%	1.02%	3.14354	429	(0.20, 5.00)	(0.20, 5.00)
						(0.50, 5.00)	(0.50, 5.00)
res.per.nr	1.52%	4.01%	1.07%	3.20700	467	(1.00, 2.90)	(1.00, 2.90)
	1.26%	3.51%	0.55%	3.51232	357	(1.00, 3.89)	(1.00, 3.85)
						(1.00, 1.32)	(1.00, 1.32)
res.per.ps	1.33%	3.39%	0.55%	3.51232	387	(0.20, 3.00)	(0.20, 3.00)
	0.89%	3.93%	1.04%	3.74081	330	(0.16, 4.27)	(0.16, 4.27)
						(0.99, 1.05)	(0.99, 1.05)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as 1+ [(*n*-1)/*n*]*CV^2 where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.5b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 5: South Atlantic)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7[2]	**8**[3]	**1-8**[3]	**9**[4]	**1-9**[4]	**11**[5]	**1-11**[5]	**12**[5]	**1-12**[5]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	66	0.45	67	0.20	33	1.01	37	0.13	18	0.34	21	0.12	6
1%	67	1.00	75	0.34	64	1.01	88	0.36	77	1.00	85	0.16	63
5%	81	1.00	89	0.70	86	1.01	174	0.61	159	1.01	182	0.46	157
10%	96	1.01	114	0.83	116	1.01	291	0.72	280	1.03	314	0.81	255
25%	273	1.05	302	0.95	326	1.12	838	0.85	781	1.08	882	0.97	844
Median	793	1.09	853	1.05	872	1.38	1,442	0.98	1,438	1.16	1,619	1.03	1,641
75%	1,074	1.12	1,280	1.18	1,223	5.63	4,233	1.13	4,183	1.31	4,696	1.08	4,493
90%	1,533	1.18	1,767	1.32	1,932	10.14	9,673	1.32	9,268	1.52	11,712	1.19	11,602
95%	1,798	1.28	1,910	1.43	2,198	11.65	12,686	1.51	12,926	1.70	16,949	1.27	17,276
99%	1,874	1.50	2,138	1.79	2,950	13.64	23,184	2.18	22,703	2.24	32,548	1.61	31,591
Maximum	6,025	8.84	6,836	4.90	9,584	25.76	49,001	8.43	83,831	3.85	113,742	4.27	155,055
n	25,581	23,273	23,273	23,272	23,272	13,508	13,508	13,508	13,508	10,959	10,959	10,959	10,959
Max/Mean	7.47	-	7.71	-	10.29	-	14.39	-	24.56	-	27.04	-	36.86

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 5 Overview

Dwelling Unit Nonresponse

All 27 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in all State interactions except for State ×Quarter. Out of 176 proposed variables, 154 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Many factors were excluded due to zero sample sizes or exact linear combinations. Out of 256 proposed variables, 99 were included in the model.

In the final model, a total of 280 variables were included; see Exhibit D5.1.

Dwelling Unit Poststratification

All 22 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the State × Race interaction. Out of 125 proposed variables, 124 were included in the model.

For three-factor effects, variable collapsing was present in the State × Age × Hispanicity interaction. Out of 190 proposed variables, 188 were included in the model.

In the final model, a total of 334 variables were included; see Exhibit D5.2.

Selected Person-Level Poststratification

All 40 proposed one-factor effects were included in the model.

For two-factor effects, variable dropping was present in the percent State × Race, State × percent Black, State × percent Hispanic, and State × Rent/housing interactions. Out of 237 proposed variables, 227 were included in the model.

For three-factor effects, variable collapsing or dropping was present in all but Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity×Gender, and State × Age × Gender. Out of 190 proposed variables, 162 were included in the model.

In the final model, a total of 429 variables were included; see Exhibit D5.3.

Respondent Person-Level Nonresponse

All 40 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Rent/housing × percent Hispanic, State × Race, State × percent Hispanic, and State × Rent/housing interactions. Out of 237 proposed variables, 218 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, and State × Age × Gender interactions. Out of 190 proposed variables, 99 were included in the model.

In the final model, a total of 357 variables were included; see Exhibit D5.4.

Respondent Person-Level Poststratification

All 23 proposed one-factor effects were included in the model.

All two-factor effects are present except the Race × Hispanicity, and State × Race interactions. Out of 137 proposed variables, 134 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 227 proposed variables, 173 were included in the model.

In the final model, a total of 330 variables were included; see Exhibit D5.5.

Exhibit D5.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**27**	**27**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**176**	**154**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	9*4	24	24	All levels present.
State × Population density	9*4	24	17	Drop (1,1), (1,3), (2,2), (2,3), (6,3); zero. Drop (1,2), (2,1); sing.
State × Group quarters	9*3	16	9	Drop (5,1); zero. Coll. (2,1) & (2,2), (4,1) & (4,2), (6,1) & (6,2), (7,*) & (8,*); conv.
State × %Black	9*3	16	14	Coll. (6,1) & (6,2); conv. Drop (8,1); zero.
State × %Hispanic	9*3	16	13	Drop (6,1), (8,*); zero.
State × %Owner-occupied	9*3	16	14	Coll. (6,2) & (6,3), (8,2) & (8,3); conv.
State × Rent/housing	9*5	32	31	Drop (8,4); sing.
Three-Factor Effects		**256**	**99**	
State × %Owner-occupied × %Black	9*3*3	32	16	Coll. (2,2,1) & (2,3,1), (2,2,2) & (2,3,2), (4,3,1) & (4,3,2), (5,2,1) & (5,3,1), (5,2,2) & (5,3,2); conv. Drop (6,2,*), (7,3,2); conv. Drop (6,3,2); sing. Drop (6,3,1), (7,3,1), (8,*,*); zero.
State × %Owner-occupied × %Hispanic	9*3*3	32	11	Coll. (2,2,2) & (2,3,2), (6,2,2) & (6,3,2); conv. Keep (1,2,2), (4,*,2), (5,2,2), (7,*,2), (9,2,2) & (9,3,*), drop remainder; zero/sing/conv.
State × %Owner-occupied × Rent/housing	9*3*5	64	23	Coll. (5,2,2) & (5,2,3); conv. Keep (1,2,2), (1,2,3), (1,3,3), (2,3,1), (4,2,*), (4,3,2), (5,2,1), (6,2,1), (6,2,2), (8,2,1), (8,2,2) & (9,*,*), drop remainder; zero/sing/conv.
State × Rent/housing × %Black	9*3*5	64	30	Coll. (6,1,1) & (6,1,2), (7,1,1) & (7,1,2), (7,2,1) & (7,2,2), (7,3,1) & (7,3,2); conv. Drop (1,1,1), (1,4,1), (2,1,1), (2,3,2), (2,2,1), (2,4,2), (4,4,1), (5,1,2), (5,3,1), (5,4,2), (7,4,1), (8,3,2) & (9,4,1); sing. Drop (1,1,2), (2,1,2), (2,2,2), (5,4,1), (6,4,1), (8,*,1), (8,2,2) & (8,4,2); zero. Drop (6,2,*), (6,3,*), (6,4,2), (7,4,2); conv.
State × Rent/housing × %Hispanic	9*3*5	64	19	Keep (1,2,2), (2,2,2), (2,3,2), (2,4,2), (4,2,2), (4,3,2), (4,4,2), (5,1,2), (5,2,2), (5,3,2), (7,1,2), (9,*,*), drop remainder; zero/sing/conv.
Total		**459**	**280**	

Exhibit D5.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**125**	**124**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	9*4	24	24	All levels present.
State × Age	9*5	32	32	All levels present.
State × Race (5 levels)	9*5	32	31	Coll. (8,3) & (8,4); conv.
State × Hispanicity	9*2	8	8	All levels present.
State × Gender	9*2	8	8	All levels present.
Three-Factor Effects		**190**	**188**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	8	All levels present.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	9*5*3	64	64	All levels present.
State × Age × Hispanicity	9*5*2	32	30	Coll. (6,2,1) & (6,3,1); conv. Repeat for State=7.
State × Age × Gender	9*5*2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	16	All levels present.
State × Race (3 levels) × Gender	9*3*2	16	16	All levels present.
State × Hispanicity × Gender	9*2*2	8	8	All levels present.
Total		**337**	**334**	

Exhibit D5.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**40**	**40**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**237**	**227**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	9*4	24	24	All levels present.
State × Age	9*5	32	32	All levels present.
State × Race (5 levels)	9*5	32	27	Coll. (5,3) & (5,4); conv. Repeat for State=6 and 7. Coll. (2,3) & (2,4); zero. Repeat for State=8.
State × Hispanicity	9*2	8	8	All levels present.
State × Gender	9*2	8	8	All levels present.
State × %Black	9*3	16	15	Drop (8,1); zero.
State × %Hispanic	9*3	16	13	Drop (6,1) & (8,*); zero.
State × %Owner-occupied	9*3	16	16	All levels present.
State × Rent/housing	9*5	32	31	Drop (8,1); sing.
Three-Factor Effects		**190**	**162**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	6	Drop (4,*,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	9*5*3	64	47	Drop (5,4,3); sing. Drop (5,4,2); conv. Coll. (5,1,2) & (5,1,3), (5,2,2) & (5,2,3), (5,3,2) & (5,3,3); conv. Coll. (7,1,*) & (8,1,*), repeat for Age=1, 2, and 3 for State=7 and 8; conv. Drop (8,4,2); sing. Drop (8,4,3); conv.
State × Age × Hispanicity	9*5*2	32	31	Coll. (8,3,1) & (8,4,1); zero.
State × Age × Gender	9*5*2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	11	Coll. (2,2,1) & (2,3,1), repeat for State=5; conv. Coll. (7,*,1) & (8,*,1); conv/zero.
State × Race (3 levels) × Gender	9*3*2	16	14	Coll. (7,2,1) & (8,2,1), (7,3,1) & (8,3,1); conv.
State × Hispanicity × Gender	9*2*2	8	7	Coll. (7,1,1) & (8,1,1); conv.
Total		**467**	**429**	

Exhibit D5.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**40**	**40**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**237**	**218**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	6	Drop (1,1), (2,1); zero.
State × Quarter	9*4	24	24	All levels present.
State × Age	9*5	32	32	All levels present.
State × Race (5 levels)	9*5	32	18	Coll. (1,3) & (1,4) & (1,5) for all States except State=9; zero/conv.
State × Hispanicity	9*2	8	8	All levels present.
State × Gender	9*2	8	8	All levels present.
State × %Black	9*3	16	15	Drop (8,1); zero.
State × %Hispanic	9*3	16	13	Drop (6,1), (8,1), (8,2); zero.
State × %Owner-occupied	9*3	16	16	All levels present.
State × Rent/housing	9*5	32	31	Drop (8,4); sing.
Three-Factor Effects		**190**	**99**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Coll. (4,2,1) & (4,3,1); sing.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	9*5*3	64	18	Coll. (1,1,2) & (1,1,3), repeat for all age levels; conv. Drop (1,3,2/3), (1,4,2/3) for all States except State=9; sing/conv.
State × Age × Hispanicity	9*5*2	32	14	Drop (1,3,1), (1,4,1), repeat for all States except State=9; conv.,drop (6,1,1), (6,2,1) conv.; coll. (7,1,1) & (8,1,1), (7,2,1) & (8,2,1) conv.
State × Age × Gender	9*5*2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	0	None
State × Race (3 levels) × Gender	9*3*2	16	8	Coll. (1,2,1) & (1,3,1), repeat for all States; conv.
State × Hispanicity × Gender	9*2*2	8	6	Drop (6,1,1) conv.; coll. (7,1,1) & (8,1,1) conv.
Total		**467**	**357**	

Exhibit D5.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**23**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**137**	**134**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	9*4	24	24	All levels present.
State × Age	9*6	40	40	All levels present.
State × Race (5 levels)	9*5	32	30	Coll. (4,3) & (4,4), (9,3) & (9,4); conv.
State × Hispanicity	9*2	8	8	All levels present.
State × Gender	9*2	8	8	All levels present.
Three-Factor Effects		**227**	**173**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier.
Age × Race (3 levels) × Gender	6*3*2	10	10	All levels present.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); hier.
State × Age × Race (3 levels)	9*6*3	80	61	Coll. (5,1,2) & (5,1,3), repeat for age=1, 2, 3, and 4. Coll. (6,1,2) & (6,1,3), repeat for all age levels; conv. Drop (4,5,2), (5,3,2), (8,4,3); conv. Drop (2,5,*), (4,5,3), (5,3,3), (8,5,3), (8,4,2); sing. Drop (8,5,2); zero.
State × Age × Hispanicity	9*6*2	40	24	Coll. (1,1,1) & (2,1,1), repeat for all age levels; conv. Coll. (7,1,1) & (8,1,1), repeat age levels; conv./sing./zero. Drop (9,5,1); conv. Drop (5,4,1), (6,5,1), (7,5,1) & (8,5,1); sing. Drop (4,5,1), (5,5,1); zero.
State × Age × Gender	9*6*2	40	40	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	6	Coll. (4,2,1) & (4,3,1), repeat for State=5, 6, and 9; hier. Coll. (1,*,1) & (2,*,1), (7,*,1) & (8,*,1); conv./hier.
State × Race (3 levels) × Gender	9*3*2	16	13	Coll. (6,2,1) & (6,3,1), (7,2,1) & (8,2,1), (7,3,1) & (8,3,1); conv.
State × Hispanicity × Gender	9*2*2	8	8	All levels present.
Total		**387**	**330**	

Appendix D6: Model Group 6: East South Central

(Alabama, Kentucky, Mississippi, Tennessee)

Table D.6a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 6: East South Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	2.00%	2.80%	0.18%	1.08449	204	(1.04, 1.20)	(1.04, 1.20)
	1.46%	1.88%	0.07%	1.09317	120	(1.00, 1.34)	(1.00, 1.34)
						(1.07, 1.22)	(1.07, 1.22)
res.sdu.ps	1.46%	1.88%	0.07%	1.09316	162	(0.55, 1.10)	(0.55, 1.10)
	1.83%	3.64%	0.85%	1.16446	151	(0.20, 4.81)	(0.20, 4.77)
						(0.99, 3.43)	(0.99, 3.43)
sel.per.ps	2.61%	3.95%	0.63%	2.38625	242	(0.21, 2.50)	(0.21, 2.49)
	2.11%	3.54%	0.76%	2.53593	193	(0.20, 4.98)	(0.20, 4.98)
						(0.80, 2.29)	(0.80, 2.28)
res.per.nr	2.68%	4.03%	0.81%	2.58487	242	(1.00, 1.50)	(1.00, 1.50)
	2.08%	3.72%	0.52%	2.93769	169	(1.00, 4.97)	(1.00, 4.97)
						(1.20, 4.97)	(1.20, 4.97)
res.per.ps	2.08%	3.66%	0.53%	2.93769	187	(0.25, 2.41)	(0.27, 2.41)
	1.28%	2.56%	0.49%	3.04620	134	(0.22, 3.97)	(0.23, 3.80)
						(0.99, 4.51)	(0.99, 4.51)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as $1+ [(n-1)/n]*CV^2$ where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.6b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 6: East South Central)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7 [2]	**8** [3]	**1-8** [3]	**9** [4]	**1-9** [4]	**11** [5]	**1-11** [5]	**12** [5]	**1-12** [5]	**13** [6]	**1-13** [6]	**14** [6]	**1-14** [6]
Minimum	42	0.68	284	0.20	112	1.01	155	0.13	84	0.44	102	0.22	32
1%	441	1.00	456	0.35	317	1.01	345	0.28	224	0.87	305	0.34	250
5%	451	1.01	472	0.78	456	1.01	552	0.59	482	1.00	550	0.75	519
10%	509	1.02	538	0.89	561	1.01	733	0.68	631	1.00	706	0.88	686
25%	717	1.04	740	0.98	752	1.07	984	0.80	906	1.04	999	0.95	1,014
Median	824	1.06	879	1.05	940	1.38	1,507	0.96	1,495	1.13	1,666	1.02	1,681
75%	964	1.10	1,055	1.17	1,215	4.96	4,796	1.14	4,562	1.27	4,869	1.07	4,758
90%	1,207	1.14	1,334	1.39	1,467	9.12	8,119	1.39	8,050	1.50	9,698	1.13	9,561
95%	1,254	1.17	1,388	1.56	1,708	11.09	10,285	1.57	10,626	1.72	13,958	1.18	14,092
99%	1,280	1.28	1,490	2.29	2,220	16.32	19,932	2.54	20,576	2.52	27,019	1.65	28,218
Maximum	1,958	12.40	1,697	4.77	5,971	30.75	42,736	4.98	44,821	8.74	64,770	6.30	57,361
n	7,563	7,052	7,052	7,051	7,051	4,411	4,411	4,411	4,411	3,660	3,660	3,660	3,660
Max/Mean	2.31	-	1.86	-	5.96	-	12.91	-	13.60	-	16.31	-	14.45

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 6 Overview

Dwelling Unit Nonresponse

All of the 22 proposed one-factor effects were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the percent Owner-occupied × percent Black, Rent/housing × percent Black, State × Quarter, State × population density, State × percent Black and State × Rent/housing interactions. Out of 86 proposed variables, 70 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 28 were included in the model.

In the final model, a total of 120 variables were included; see Exhibit D6.1.

Dwelling Unit Poststratification

All of the 17 proposed one-factor effects were included in the model.

All of the 60 proposed two-factor effects were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, and State × Race × Hispanicity interactions. Out of 85 proposed variables, 74 were included in the model.

In the final model, a total of 151 variables were included; see Exhibit D6.2.

Selected Person-Level Poststratification

All of the 35 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × percent Hispanic, Rent/housing × percent Hispanic, State × Race, and State × percent Hispanic interactions. Out of 122 proposed variables, 109 were included in the model.

For three-factor effects, all levels were present for the Age × Race × Gender, Age × Hispanicity × Gender, and State × Age × Gender interactions. All the others interactions were collapsed or dropped. Out of 85 proposed variables, 51 were included in the model.

In the final model, a total of 193 variables were included; see Exhibit D6.3.

Respondent Person-Level Nonresponse

All of the 35 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Race × Hispanicity, percent Owner-occupied × percent Hispanic, Rent/housing × percent Hispanic, State × Race and State × percent Hispanic interactions. Out of 122 proposed variables, 107 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender and State × Age × Gender interactions. Out of 85 proposed variables, 27 were included in the model.

In the final model, a total of 169 variables were included; see Exhibit D6.4.

Respondent Person-Level Poststratification

All 18 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present only in the Age × Hispanicity interaction. Out of 67 proposed variables, 66 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the State × Age × Gender interaction. Out of 102 proposed variables, 50 were included in the model.

In the final model, a total of 134 variables were included; see Exhibit D6.5.

Exhibit D6.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**86**	**70**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	2	Drop (2,1); sing. Drop (3,1); zero.
%Owner-occupied × Rent/housing	3*5	8	7	Coll. (3,2) & (3,3); conv.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	4	Drop (1,3,4/1); zero. Drop (2,1); sing.
State × Quarter	4*4	9	9	All levels present.
State × Population density	4*4	9	9	All levels present.
State × Group quarters	4*3	6	5	Drop (1,2); zero.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	1	Drop (2/3,1), (2,2); zero; Drop (1,1), (3,2); sing.
State × %Owner-occupied	4*3	6	3	Coll. (1,3) & (1,2), repeat for all Sates; conv.
State × Rent/housing	4*5	12	12	All levels present.
Three-Factor Effects		**96**	**28**	
State × %Owner-occupied × %Black	4*3*3	12	4	Coll. (1,3,1) & (1,3,2), (1,2,1) & (1,2,2); conv./hier. Coll. (2,3,1) & (2,2,1); hier. Coll. (2,3,2) & (2,2,2); hier. Coll. (3,3,1) & (3,2,1); hier. Drop others; conv./sing./zero.
State × %Owner-occupied × %Hispanic	4*3*3	12	0	Drop all; conv./sing./zero.
State × %Owner-occupied × Rent/housing	4*3*5	24	8	Coll. (1,3,4) & (1,2,4), repeat for all States; hier; Coll. (*,3,2) & (*,3,3,) & (*,2,2) & (*,2,3); hier; Coll. (2,3,1) & (2,2,1); hier; Coll. (3,3,1) & (3,2,1); hier. drop others; conv./sing./zero.
State × Rent/housing × %Black	4*3*5	24	16	Drop (2,1/2,1), (3,1,2), (3,2,1), (3,4,1); sing. Drop (2,3/4,1); zero. Coll. (3,3,1) & (3,3,2); conv.
State × Rent/housing × %Hispanic	4*3*5	24	0	Drop all; conv./sing./zero.
Total		**204**	**120**	

Exhibit D6.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**60**	**60**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	12	All levels present.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
Three-Factor Effects		**85**	**74**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Coll. (1,2,1) & (1,3,1), repeat for age=2 and 3; zero/conv. Drop (4,2/3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4*5*3	24	23	Coll. (1,1,2) & (1,1,3); conv.
State × Age × Hispanicity	4*5*2	12	12	All levels present.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	2	Coll. (1,2,1) & (1,3,1) & (3,2,1) & (3,3,1); conv. Coll. (2,2,1) & (2,3,1), conv.
State × Race (3 levels) × Gender	4*3*2	6	6	All levels present.
State × Hispanicity × Gender	4*2*2	3	3	All levels present.
Total		**162**	**151**	

Exhibit D6.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present
%Black	3	2	2	All levels present.
%Hispanic	3	2	1	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**122**	**109**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	2	Drop (*, 1); zero/sing.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	4	Drop (*, 1); zero/sing.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	10	Coll. (3,3) &(3,4), (2,3) & (2,4), conv.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	1	Drop all except (1, 2); zero/sing.
State × %Owner-occupied	4*3	6	6	All levels present.
State × Rent/housing	4*5	12	12	All levels present.
Three-Factor Effects		**85**	**51**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Drop (1/3/4,2,1), (3/4,3,1); zero/sing/conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; sing/conv.
State × Age × Race (3 levels)	4*5*3	24	12	Drop (3,4,3); sing. Coll. (1,1,2) & (1,1,3); repeat for all age levels; conv. Coll. (2,1,2) & (2,1,3), repeat for all age levels; conv. Coll. (3,1,2), (3,1, 3), repeat for age=2 and 3; conv.
State × Age × Hispanicity	4*5*2	12	4	Coll. (1,1,1) & (1,2,1), (3,1,1) & (3,2,1), (1/3,3,1), (1/3,4,1), conv; Drop all the rest, sing./conv.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; zero/sing./conv.
State × Race (3 levels) × Gender	4*3*2	6	4	Coll. (1,2,1) & (1,3,1); repeat for race=3;conv.
State × Hispanicity × Gender	4*2*2	3	2	Coll. (1,1,1) & (3,1,1); conv.
Total		**242**	**193**	

Exhibit D6.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	0	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	1	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**122**	**107**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	2	Drop (*,1); zero/sing.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	4	Drop (*, 1); zero/sing.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	9	Coll. (1,4) & (1,5), repeat for all States; conv.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	1	Drop all except (1,2); zero/sing.
State × %Owner-occupied	4*3	6	6	All levels present.
State × Rent/housing	4*5	12	12	All levels present.
Three-Factor Effects		**85**	**27**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; zero/conv./hier.
Age × Race (3 levels) × Gender	5*3*2	8	4	Coll. (1, 2, 1) & (1,3,1), repeat for all age levels; conv.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	4*5*3	24	4	Coll. (1,1,2) & (1,1,3), repeat for all States and age levels, drop all others except (3,*, 2/3); conv.
State × Age × Hispanicity	4*5*2	12	0	Drop all; sing./conv.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all, zero/hier./conv.
State × Race (3 levels) × Gender	4*3*2	6	3	Coll. (1,2,1) & (1,3,1), repeat for all States; conv.
State × Hispanicity × Gender	4*2*2	3	0	Drop all; conv.
Total		**242**	**169**	

Exhibit D6.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**67**	**66**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	4	Drop (5,1); sing.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*6	15	15	All levels present.
State × Race (5 levels)	4*5	12	12	All levels present.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
Three-Factor Effects		**102**	**50**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	1	Keep (1,2/3,1), drop others; zero/sing./hier./conv.
Age × Race (3 levels) × Gender	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all age levels; zero/conv.
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1); hier.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	4*6*3	30	15	Coll. (1,1,2) & (1,1,3), repeat for all States and age levels; conv./zero/sing.
State × Age × Hispanicity	4*6*2	15	7	Drop (1,5,1), (2,*,1) , (3,4,1), (3,5,1); conv./sing./hier.
State × Age × Gender	4*6*2	15	15	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; conv./zero.
State × Race (3 levels) × Gender	4*3*2	6	3	Coll. (1,2,1) & (1,3,1); repeat for all States; conv.
State × Hispanicity × Gender	4*2*2	3	0	Drop all; conv.
Total		**187**	**134**	

Appendix D7: Model Group 7: West South Central

(Arkansas, Louisiana, Oklahoma, Texas)

Table D.7a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 7: West South Central)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	Unweighted	Weighted	Outwinsor			Nominal	Realized
res.sdu.nr	0.70%	0.44%	0.05%	1.07161	204	(1.01, 1.09)	(1.01, 1.08)
	0.23%	0.25%	0.00%	1.07013	136	(1.00, 1.34)	(1.00, 1.33)
						(1.05, 1.06)	(1.05, 1.05)
res.sdu.ps	0.23%	0.25%	0.00%	1.07011	162	(0.96, 1.20)	(0.97, 1.20)
	2.19%	3.40%	0.83%	1.13209	158	(0.20, 5.00)	(0.20, 5.00)
						(0.52, 1.40)	(0.52, 1.40)
sel.per.ps	3.38%	5.31%	1.28%	2.00008	242	(0.66, 2.50)	(0.70, 2.50)
	1.31%	2.96%	0.71%	2.02653	222	(0.20, 5.00)	(0.24, 4.69)
						(0.80, 2.51)	(0.80, 2.51)
res.per.nr	1.16%	2.85%	0.70%	2.05792	242	(1.00, 2.90)	(1.00, 2.90)
	1.02%	2.88%	0.54%	2.30895	203	(1.00, 5.00)	(1.00, 5.00)
						(1.00, 1.35)	(1.00, 1.00)
res.per.ps	1.06%	3.06%	0.66%	2.30895	187	(0.20, 1.10)	(0.20, 1.10)
	0.35%	1.07%	0.08%	2.32617	150	(0.20, 2.11)	(0.20, 2.09)
						(0.90, 1.04)	(1.04, 1.04)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as 1+ [(*n*-1)/*n*]*CV^2 where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.7b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 7: West South Central)

	sel.sdu.des [1]	*res.sdu.nr* [1]		*res.sdu.ps* [1]		*sel.per.des* [1]		*sel.per.ps* [1]		*res.per.nr* [1]		*res.per.ps* [1]	
	1-7 [2]	**8** [3]	**1-8** [3]	**9** [4]	**1-9** [4]	**11** [5]	**1-11** [5]	**12** [5]	**1-12** [5]	**13** [6]	**1-13** [6]	**14** [6]	**1-14** [6]
Minimum	202	1.00	523	0.20	111	1.01	117	0.24	89	0.39	92	0.06	42
1%	512	1.00	540	0.42	278	1.01	312	0.49	273	1.00	278	0.20	186
5%	535	1.01	567	0.78	522	1.01	642	0.69	561	1.00	625	0.51	473
10%	568	1.02	596	0.94	604	1.01	793	0.76	750	1.03	839	0.87	753
25%	604	1.04	647	1.03	793	1.21	1,259	0.88	1,223	1.08	1,360	1.00	1,351
Median	1,018	1.05	1,063	1.11	1,163	1.42	1,807	1.00	1,906	1.15	2,125	1.03	2,167
75%	1,128	1.07	1,180	1.21	1,336	4.80	5,850	1.11	5,450	1.26	6,159	1.07	6,081
90%	1,172	1.09	1,230	1.38	1,460	9.36	7,932	1.26	8,379	1.44	10,711	1.16	10,820
95%	1,190	1.11	1,252	1.51	1,569	10.22	12,153	1.40	11,671	1.59	15,363	1.23	15,371
99%	1,216	1.15	1,300	2.02	1,902	12.04	14,196	1.87	15,699	2.02	22,596	1.45	22,817
Maximum	1,272	3.15	1,412	5.00	6,544	18.14	47,951	5.21	38,191	5.00	58,030	2.09	41,532
n	11,994	11,366	11,366	11,365	11,365	7,492	7,492	7,492	7,492	6,199	6,199	6,199	6,199
Max/Mean	1.40	-	1.48	-	5.99	-	13.34	-	10.61	-	13.34	-	9.55

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 7 Overview

Dwelling Unit Nonresponse

For one-factor effects, College Dorm had to be collapsed with other group quarters due to convergence problems. Out of 22 proposed one-factor effects, 21 were included in the model.

For two-factor effects, variable collapsing and dropping was present in the percent Owner-occupied × percent Hispanic, percent Owner-occupied × Rent/housing, State × Group quarters, and State × percent Hispanic. Out of 86 proposed variables, 80 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 35 were included in the model.

In the final model, a total of 136 variables were included; see Exhibit D7.1.

Dwelling Unit Poststratification

All 17 proposed one-factor effects were included in the model.

All 60 proposed two-factor effects were included in the model.

For three-factor effects, variable collapsing was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 85 proposed variables, 81 were included in the model.

In the final model, a total of 158 variables were included; see Exhibit D7.2.

Selected Person-Level Poststratification

All 35 proposed one-factor effects were included in the model.

For two-factor effects, variable dropping was present in percent Owner-occupied × Rent/housing, Rent/housing× percent Black, State × Hispanicity, and State × percent Hispanic interactions. Out of 122 proposed variables, 118 were included in the model.

For three-factor effects, variable collapsing or dropping was present in Age × Race × Hispanicity, State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity interactions. All the others were affected by variable collapsing or dropping. Out of 85 proposed variables, 69 were included in the model.

In the final model, a total of 222 variables were included; see Exhibit D7.3.

Respondent Person-Level Nonresponse

All 35 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × Rent/housing, Rent/housing× percent Black, State × Race, and State × percent Hispanic interactions. Out of 122 proposed variables, 115 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, and State × Age × Gender interactions. Out of 85 proposed variables, 53 were included in the model.

In the final model, a total of 203 variables were included; see Exhibit D7.4.

Respondent Person-Level Poststratification

All 18 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race × Hispanicity interaction. Out of 67 proposed variables, 66 were included in the model.

For three-factor effects, all levels were present for the Age × Race × Gender, Age × Hispanicity × Gender, and State × Race × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 102 proposed variables, 66 were included in the model.

In the final model, a total of 150 variables were included; see Exhibit D7.5.

Exhibit D7.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**21**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present
Two-Factor Effects		**86**	**80**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	7	Drop (2,1); zero.
Rent/housing × %Black	3*5	8	7	Drop (4,1); sing.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Population density	4*4	9	9	All levels present.
State × Group quarter	4*3	6	3	Coll. gq1 & gq2 for all States; hier.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	5	Drop (2,1); zero.
State × %Owner-occupied	4*3	6	6	All levels present.
State × Rent/housing	4*5	12	12	All levels present.
Three-Factor Effects		**96**	**35**	
State × %Owner-occupied × %Black	4*3*3	12	6	Drop (2,3,1/2); sing. Drop all for State OK; conv.
State × %Owner-occupied × %Hispanic	4*3*3	12	3	Drop all for State LA; zero. Drop (4,2,1); sing. Drop all for State OK; conv.
State × %Owner-occupied × Rent/housing	4*3*5	24	11	Drop (2,3,1/2), (4,3,1); zero. Drop (2,3,4), (2,2,4); sing. Drop all for State OK; conv.
State × Rent/housing × %Black	4*3*5	24	11	Drop (2,3,1), (4,3,1); zero. Drop (2,3,1), (4,2/4,1); sing. Drop all for State OK; conv..
State × Rent/housing × %Hispanic	4*3*5	24	4	Keep (2,3,2), (4,1/3,2), drop rest; sing/zero/conv.
Total		**204**	**136**	

Exhibit D7.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**60**	**60**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	12	All levels present.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
Three-Factor Effects		**85**	**81**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	5	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	4*5*3	24	24	All levels present.
State × Age × Hispanicity	4*5*2	12	12	All levels present.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	5	Coll. (3,2,1) & (3,3,1); conv.
State × Race (3 levels) × Gender	4*3*2	6	6	All levels present.
State × Hispanicity × Gender	4*2*2	3	3	All levels present.
Total		**162**	**158**	

Exhibit D7.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	1	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**122**	**118**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	7	Drop (3,1); sing.
Rent/housing × %Black	3*5	8	7	Drop (4,1); sing..
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	12	All levels present.
State × Hispanicity	4*2	3	2	Coll. (2,3) & (2,4); conv.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	5	Drop (2,1); zero..
State × %Owner-occupied	4*3	6	6	All levels present.
State × Rent/housing	4*5	12	12	All levels present
Three-Factor Effects		**85**	**69**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	2	Drop (3,2,1); zero. Drop (3,3,1), (4,2,1), (4,3,1); conv. Coll. (1,2,1) & (1,3,1); (2,2,1) & (2,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	4*5*3	24	19	Coll. (2,1,2) & (2,1,3), repeat for all age levels; conv.
State × Age × Hispanicity	4*5*2	12	11	Drop (3,4,1); sing.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	2	Drop all for State OK and TX; conv.
State × Race (3 levels) × Gender	4*3*2	6	6	All levels present.
State × Hispanicity × Gender	4*2*2	3	3	All levels present.
Total		**242**	**222**	

Exhibit D7.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**122**	**115**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	7	Drop (3,1); zero.
Rent/housing × %Black	3*5	8	7	Drop (4,1); sing.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*5	12	12	All levels present.
State × Race (5 levels)	4*5	12	8	Coll. (2,3) & (2,4), repeat for State OK and TX, coll. (2,2) & (2,5); conv.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	5	Drop (2,1); zero.
State × %Owner-occupied	4*3	6	6	All levels present.
State × Rent/housing	4*5	12	12	All levels present.
Three-Factor Effects		**85**	**53**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	2	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1); conv. Drop (3,*,1), (4,*,1); sing/conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); sing.
State × Age × Race (3 levels)	4*5*3	24	16	Coll. r23 & r33 for all age levels for State LA and OK; conv/sing.
State × Age × Hispanicity	4*5*2	12	4	Drop all for State LA and OK; conv/sing/zero.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all.
State × Race (3 levels) × Gender	4*3*2	6	5	Coll. (2,2,1) & (2,3,1); hier.
State × Hispanicity × Gender	4*2*2	3	1	Drop (2/3,1,1); conv.
Total		**242**	**203**	

Exhibit D7.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**67**	**66**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Age	4*6	15	15	All levels present.
State × Race (5 levels)	4*5	12	12	All levels present.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
Three-Factor Effects		**102**	**66**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	0	Drop all; zero/sing./conv/hier.
Age × Race (3 levels) × Gender	6*3*2	10	10	All levels present.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; hier./conv.
State × Age × Race (3 levels)	4*6*3	30	24	Drop all related with age level 5; sing./conv.
State × Age × Hispanicity	4*6*2	15	7	Drop all for State=LA, drop (1/3,5,1), (3,4,1); sing/conv.
State × Age × Gender	4*6*2	15	12	Drop all related with age level 5; conv.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; conv.
State × Race (3 levels) × Gender	4*3*2	6	6	All levels present.
State × Hispanicity × Gender	4*2*2	3	2	Drop (2,1,1); conv.
Total		**187**	**150**	

Appendix D8: Model Group 8: Mountain

(Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Arizona)

Table D.8a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 8: Mountain)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	3.68%	4.43%	0.33%	1.60229	408	(1.02, 1.42)	(1.02, 1.42)
	3.05%	3.84%	0.42%	1.61285	195	(1.00, 1.42)	(1.00, 1.41)
						(1.01, 1.45)	(1.01, 1.07)
res.sdu.ps	3.05%	3.84%	0.42%	1.61291	302	(0.39, 2.48)	(0.40, 2.45)
	2.47%	3.52%	0.78%	1.68663	282	(0.20, 5.00)	(0.20, 5.00)
						(0.90, 4.24)	(0.90, 4.24)
sel.per.ps	3.74%	6.31%	1.61%	3.08446	422	(0.24, 2.80)	(0.26, 2.80)
	1.49%	4.31%	1.08%	3.33883	355	(0.20, 4.60)	(0.20, 4.56)
						(0.40, 4.48)	(0.40, 4.30)
res.per.nr	1.60%	4.30%	1.06%	3.40037	422	(1.00, 2.50)	(1.00, 2.50)
	1.07%	4.08%	0.92%	3.96212	314	(1.00, 5.00)	(1.00, 4.99)
						(1.20, 1.36)	(1.20, 1.36)
res.per.ps	1.23%	4.73%	1.08%	3.96212	347	(0.20, 2.24)	(0.20, 2.24)
	1.75%	5.77%	1.18%	4.27221	244	(0.20, 3.78)	(0.20, 3.78)
						(0.90, 1.11)	(0.90, 1.05)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as $1+ [(n-1)/n]*CV^2$ where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.8b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 8: Mountain)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7[2]	**8**[3]	**1-8**[3]	**9**[4]	**1-9**[4]	**11**[5]	**1-11**[5]	**12**[5]	**1-12**[5]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	45	0.85	48	0.20	17	1.01	17	0.11	7	0.36	14	0.13	3
1%	82	1.00	86	0.28	79	1.01	90	0.31	62	0.96	67	0.20	47
5%	95	1.00	99	0.74	102	1.01	131	0.57	122	1.00	135	0.22	110
10%	98	1.02	105	0.87	117	1.01	195	0.69	184	1.01	209	0.77	176
25%	181	1.03	192	1.02	220	1.12	406	0.83	385	1.05	428	0.93	397
Median	351	1.05	369	1.12	420	1.46	924	0.98	892	1.13	969	1.00	928
75%	638	1.08	678	1.24	746	4.97	2,105	1.15	2,067	1.26	2,347	1.09	2,367
90%	952	1.10	1,013	1.38	1,184	7.73	4,749	1.33	4,645	1.47	5,471	1.26	5,381
95%	1,033	1.12	1,149	1.56	1,500	11.34	7,107	1.50	7,034	1.67	8,715	1.41	8,673
99%	1,463	1.17	1,571	2.27	2,179	13.16	13,822	2.10	14,808	2.37	19,233	2.11	18,999
Maximum	2,531	1.41	2,805	5.00	6,296	20.18	35,118	5.12	36,085	4.99	51,978	3.78	72,776
n	14,413	13,621	13,621	13,620	13,620	8,738	8,738	8,738	8,738	7,314	7,314	7,314	7,314
Max/Mean	5.41	-	5.66	-	11.30	-	18.58	-	19.18	-	23.13	-	32.38

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 8 Overview

Dwelling Unit Nonresponse

All 26 proposed one-factor effects were included in the model.

For two-factor effects, all levels were present in the percent Owner-occupied × percent Hispanic, Owner-occupied × Rent/housing, State × Quarter, State × percent Owner-occupied ,and State × Rent/housing interactions. All the others were affected by variable collapsing or dropping. Out of 158 proposed variables, 119 were included in the model.

All three-factor effects were affected by variable collapsing and dropping. Out of 224 proposed variables, 50 were included in the model.

In the final model, a total of 195 variables were included; see Exhibit D8.1.

Dwelling Unit Poststratification

All 21 proposed one-factor effects were included in the model.

All 112 proposed two-factor effects were included in the model.

For three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 169 proposed variables, 149 were included in the model.

In the final model, a total of 282 variables were included; see Exhibit D8.2.

Selected Person-Level Poststratification

All 39 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × percent Black, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, State × percent Hispanicity, and State × percent Owner-occupied interactions. Out of 214 proposed variables, 190 were included in the model.

For three-factor effects, all levels are present in the Age × Race × Hispanicity, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Gender State × Age × Hispanicity, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 169 proposed variables, 126 were included in the model.

In the final model, a total of 355 variables were included; see Exhibit D8.3.

Respondent Person-Level Nonresponse

All 39 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × percent Black, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, and State × percent Hispanic interactions. Out of 214 proposed variables, 189 were included in the model.

For three-factor effects, all levels are present in the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, and State × Age × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 169 proposed variables, 86 were included in the model.

In the final model, a total of 314 variables were included; see Exhibit D8.4.

Respondent Person-Level Poststratification

All 22 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race × Gender interactions. Out of 123 proposed variables, 122 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 202 proposed variables, 100 were included in the model.

In the final model, a total of 244 variables were included; see Exhibit D8.5.

Exhibit D8.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**26**	**26**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**158**	**119**	
%Owner-occupied × %Black	3*3	4	2	Drop (3,1); zero. Drop (2,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present
Rent/housing × %Black	3*5	8	3	Drop (1/3/4,1); zero. Drop (1,2); conv. Drop (2,1); sing.
Rent/housing × %Hispanic	3*5	8	7	Drop (4,1); sing.
State × Quarter	8*4	21	21	All levels present.
State × Population density	8*4	21	15	Drop (2/3/5/6/7,1); zero. Drop (7,3); conv.
State × Group quarters	8*3	14	4	Drop (1,1/2), (3,1), (4,1/2), (5,1/2), (6,2); zero. Drop (7,1/2); sing.
State × %Black	8*3	14	3	Drop (1,1), (2,1/2), (3,1/2), (5,1), (6,1/2), (7,1/2); zero. Drop (4,1); sing.
State × %Hispanic	8*3	14	10	Drop (2/3/6/7,1); zero.
State × %Owner-occupied	8*3	14	14	All levels present.
State × Rent/housing	8*5	28	28	All levels present.
Three-Factor Effects		**224**	**50**	
State × %Owner-occupied × %Black	8*3*3	28	3	Keep (1,3,2), (1,2,3), (4,3,2), drop rest; zero/sing/conv.
State × %Owner-occupied × %Hispanic	8*3*3	28	10	Keep (1,3,1/2), (2,3,2), (4,3,1/2), (5,2,1/2), (6,2,2), coll. (1,2,1) & (1,2,2), (4,2,1) & (4,2,2), drop rest; zero/sing/conv.
State × %Owner-occupied × Rent/housing	8*3*5	56	17	Keep (1,3,3/4), (1,2,3/4), (2,3,1/3), (2,2,1/2), (3,2,1/2/3), (4,3,3), (4,2,3/4), (5,2,2/3), coll. (5,2,1) & (5,2,2), drop rest; zero/sing/conv.
State × Rent/housing × %Black	8*3*5	56	3	Keep (1,2/3/4,2), drop rest; zero/sing/conv.
State × Rent/housing × %Hispanic	8*3*5	56	17	Keep (1,1,1/2), (1,3,1/2), (1,4,2), (2,1/2,2), (4,1,2), (4,2,1), (4,3,2), (4,4,2), (5,1,1/2), (5,2,1), (6,2,2), (6,23,2), coll. (1,2,1) & (1,2,2), drop all rest; zero/sing/conv.
Total		**408**	**195**	

Exhibit D8.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**21**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**112**	**112**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	8*4	21	21	All levels present.
State × Age	8*5	28	28	All levels present.
State × Race (5 levels)	8*5	28	28	All levels present.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
Three-Factor Effects		**169**	**149**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	8*5*3	56	47	Coll. (2,2,2) & (2,2,3); zero. Coll. (2,4,2) & (2,4,3); sing. Coll. (3,2,2) & (3,2,3), (3,3,2) & (3,3,3), (3,4,2) & (3,4,3); conv. Coll. (6,1,2) & (6,1,3), repeat for all age levels; conv.
State × Age × Hispanicity	8*5*2	28	28	All levels present.
State × Age × Gender	8*5*2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	8	Coll. (2,2,1) & (2,3,1); zero. Coll. (3,2,1) & (3,3,1); sing. Drop (6,2/3,1); conv. Coll. (4,2,1) & (4,3,1), (7,2,1) & (7,3,1); conv.
State × Race (3 levels) × Gender	8*3*2	14	13	Coll. (3,2,1) & (3,3,1); conv.
State × Hispanicity × Gender	8*2*2	7	7	All levels present.
Total		**302**	**282**	

Exhibit D8.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**39**	**39**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**214**	**190**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	2	Drop (3,1); zero. Drop (2,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (2/3/4,1); zero. Drop (2,1); sing.
Rent/housing × %Hispanic	3*5	8	7	Drop (4,1); sing.
State × Quarter	8*4	21	21	All levels present.
State × Age	8*5	28	28	All levels present.
State × Race (5 levels)	8*5	28	27	Coll. (6,2) & (6,5); conv.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
State × %Black	8*3	14	2	Drop (1/2/3/4/6/7,1), (2/3/6/7,2); zero. Drop (4,2), (5,1); sing.
State × %Hispanic	8*3	14	10	Drop (2/3/6/7,1); zero.
State × %Owner-occupied	8*3	14	10	Drop (2/7,3); zero. Drop (3/6,3); sing.
State × Rent/housing	8*5	28	28	All levels present.
Three-Factor Effects		**169**	**126**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	8	All levels present.
Age × Race (3 levels) × Gender	5*3*2	8	6	Coll. (4,2,1) & (4,3,1); sing. Coll. (3,2,1) & (3,3,1); conv.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	8*5*3	56	24	Coll. (3,1,2) & (3,2,3), repeat for all age levels for State CO and NM, repeat for age level 1,2 and 3 for State UT and WY, repeat for age level 1 and 3 for State IO, keep (2,2/4,3), (2,2/3,3), (6,4,3), (7,4,3), drop all others; zero/sing/conv.
State × Age × Hispanicity	8*5*2	28	28	All levels present.
State × Age × Gender	8*5*2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	7	Coll. (2,2,1) & (2,3,1), repeat for State MT and UT; zero. Coll. (1,2,1) & (1,3,1), repeat for State NV, NM and WY; conv.
State × Race (3 levels) × Gender	8*3*2	14	12	Coll. (3,2,1) & (3,3,1), (6,2,1) & (6,3,1); sing.
State × Hispanicity × Gender	8*2*2	7	7	All levels present.
Total		**422**	**355**	

Exhibit D8.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**39**	**39**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**214**	**189**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	2	Drop (3,1); zero. Drop (2,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1/3/4,1); zero. Drop (2,1); sing.
Rent/housing × %Hispanic	3*5	8	7	Drop (4,1); sing.
State × Quarter	8*4	21	21	All levels present.
State × Age	8*5	28	28	All levels present.
State × Race (5 levels)	8*5	28	26	Coll. (3,2) & (3,5), (7,2) & (7,5); conv.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
State × %Black	8*3	14	2	Drop (1/2/3/4/6/7,1), (2/3/6/7,2); zero. Drop (4,2), (5,1); sing.
State × %Hispanic	8*3	14	10	Drop (2/3/6/7,1); zero.
State × %Owner-occupied	8*3	14	14	All levels present.
State × Rent/housing	8*5	28	28	All levels present.
Three-Factor Effects		**169**	**86**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Drop (4,2,1); sing.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	8*5*3	56	0	Drop all; conv.
State × Age × Hispanicity	8*5*2	28	19	Drop all for State MT and WY, drop (6,4,1); conv.
State × Age × Gender	8*5*2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	5	Coll. (1,2,1) & (1,3,1), repeat for State NV, and NM; conv. Drop (2/6/7,2,1), (2/7,3,1); zero/conv.
State × Race (3 levels) × Gender	8*3*2	14	7	Coll. r32h1 & r33h1 for all States; sing/zero/hier/conv.
State × Hispanicity × Gender	8*2*2	7	6	Drop (7,1,1); conv.
Total		**422**	**314**	

Exhibit D8.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**123**	**122**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	1	Coll. (2,1) & (3,1); conv.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	8*4	21	21	All levels present.
State × Age	8*6	35	35	All levels present.
State × Race (5 levels)	8*5	28	28	All levels present.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
Three-Factor Effects		**202**	**100**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	0	Drop all; hier./conv.
Age × Race (3 levels) × Gender	6*3*2	10	9	Coll. (5,2,1) & (5,3,1); sing.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; hier./conv.
State × Age × Race (3 levels)	8*6*3	70	5	Coll. (2,1,2) & (2,1,3), repeat for all age levels for State CO, drop all other factors; sing./zero/conv.
State × Age × Hispanicity	8*6*2	35	27	Drop (6/7,5,1); sing. Drop (2/3,5,1); zero. Drop (6,1/2/3/4,1); conv;
State × Age × Gender	8*6*2	35	35	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	0	Drop all; hier./conv.
State × Race (3 levels) × Gender	8*3*2	14	12	Coll. (3,2,1) & (3,3,1), (6,2,1) & (6,3,1), conv.
State × Hispanicity × Gender	8*2*2	7	7	All levels present.
Total		**347**	**244**	

Appendix D9: Model Group 9: Pacific

(Alaska, Hawaii, Oregon, Washington, California)

Table D.9a 2005 NSDUH Person Weight GEM Modeling Summary (Model Group 9: Pacific)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	3.70%	2.60%	0.13%	1.33507	255	(1.04, 1.40)	(1.04, 1.40)
	0.98%	1.16%	0.04%	1.34225	130	(1.00, 1.87)	(1.00, 1.87)
						(1.05, 1.24)	(1.05, 1.24)
res.sdu.ps	0.98%	1.16%	0.04%	1.34217	197	(0.64, 1.30)	(0.68, 1.30)
	1.44%	2.28%	0.34%	1.39367	182	(0.24, 4.58)	(0.25, 4.53)
						(0.95, 1.35)	(0.95, 1.35)
sel.per.ps	2.87%	5.38%	0.99%	2.51472	287	(0.22, 2.98)	(0.22, 2.98)
	1.38%	2.60%	0.60%	2.48823	251	(0.24, 4.05)	(0.24, 4.05)
						(0.90, 1.38)	(0.90, 1.38)
res.per.nr	1.61%	3.08%	0.72%	2.55259	287	(1.01, 2.80)	(1.01, 2.80)
	1.60%	3.75%	0.78%	2.81862	238	(1.00, 3.52)	(1.00, 3.49)
						(1.30, 1.36)	(1.30, 1.36)
res.per.ps	1.63%	3.95%	0.94%	2.81862	227	(0.20, 2.60)	(0.20, 2.60)
	1.27%	3.90%	0.77%	3.03791	182	(0.13, 4.06)	(0.13, 4.06)
						(0.99, 1.06)	(1.00, 1.06)

GEM = generalized exponential model.

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect defined as 1+ [(*n*-1)/*n*]*CV^2 where CV = coefficient of variation of weights.

[3] Number of proposed covariates on top line, and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the GEM adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high-extreme values, the nonextreme values, and the low-extreme values.

Table D.9b Distribution of Weight Adjustment Factors and Weight Products for the 2005 NSDUH Person Weight (Model Group 9: Pacific)

	sel.sdu.des [1]	***res.sdu.nr*** [1]		***res.sdu.ps*** [1]		***sel.per.des*** [1]		***sel.per.ps*** [1]		***res.per.nr*** [1]		***res.per.ps*** [1]	
	1-7 [2]	**8** [3]	**1-8** [3]	**9** [4]	**1-9** [4]	**11** [5]	**1-11** [5]	**12** [5]	**1-12** [5]	**13** [6]	**1-13** [6]	**14** [6]	**1-14** [6]
Minimum	71	0.73	109	0.25	36	1.01	51	0.13	26	0.56	29	0.12	14
1%	118	1.00	123	0.54	92	1.01	113	0.45	90	1.00	95	0.13	73
5%	126	1.01	134	0.79	132	1.01	178	0.69	175	1.02	194	0.14	176
10%	134	1.02	144	0.89	157	1.01	253	0.77	248	1.04	275	0.57	255
25%	273	1.04	320	0.98	440	1.14	1,007	0.88	960	1.09	1,087	0.95	761
Median	1,411	1.07	1,465	1.07	1,514	1.31	2,209	0.99	2,268	1.18	2,649	1.03	2,592
75%	1,635	1.11	1,753	1.17	1,920	4.86	6,002	1.11	5,378	1.32	5,798	1.11	5,612
90%	1,715	1.16	1,894	1.32	2,163	9.46	10,999	1.24	11,439	1.52	14,575	1.36	15,321
95%	1,739	1.18	1,966	1.47	2,355	10.65	16,768	1.34	15,611	1.71	20,571	1.43	21,776
99%	1,783	1.29	2,067	1.91	2,815	12.30	22,226	1.68	22,690	2.24	33,008	1.65	35,196
Maximum	1,822	19.65	3,017	4.53	6,540	20.43	46,765	4.05	58,365	3.49	87,067	4.06	68,252
n	14,322	13,227	13,227	13,226	13,226	9,120	9,120	9,120	9,120	7,311	7,311	7,311	7,311
Max/Mean	1.70	-	2.59	-	5.13	-	10.75	-	13.64	-	16.31	-	12.79

Note 1: Weight component 10 and weight products 1-10 are excluded because weight 10 = 1 for all selected dwelling units.
Note 2: Weight component 15 and weight products 1-15 are excluded because weight 15 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #8 and #13) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] sel.sdu.des refers to selected screener dwelling unit design weight and sel.per.des to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected persons.
[6] Based on questionnaire-complete persons.

Model Group 9 Overview

Dwelling Unit Nonresponse

For one-factor effects, College Dorm was collapsed with other group quarter. Out of 23 proposed variables, 22 were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner Occupied × percent Black, median Rent/housing × percent Black, State × Population Density, State × percent Black, and State × percent Hispanic interactions. State × Group Quarter interactions were dropped completely. Out of 104 proposed variables, 78 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 128 proposed variables, 30 were included in the model.

In the final model, a total of 130 variables were included; see Exhibit D9.1.

Dwelling Unit Poststratification

All 18 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the Race ×Hispanicity interactions. Out of 73 proposed variables, 72 were included in the model.

For three-factor effects, all the variables were kept in the model except Age × Race × Hispanicity, Race × Hispanicity × Gender, and State × Age × Race, State × Race × Hispanicity, and State × Hispanicity × Gender interactions. Out of 106 proposed variables, 92 were included in the model.

In the final model, a total of 182 variables were included; see Exhibit D9.2.

Selected Person-Level Poststratification

All 36 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner Occupied × percent Black, Median Rent/housing × percent Black, State × percent Black, State × percent Hispanic, and State × Median Rent/housing interactions. Out of 145 proposed variables, 133 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispancity × Gender, State × Age × Hispanicity, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 106 proposed variables, 82 were included in the model.

In the final model, a total of 251 variables were included; see Exhibit D9.3.

Respondent Person-Level Nonresponse

All 36 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner Occupied × percent Black, Median Rent/housing × percent Black, State × percent Black, and State × percent Hispanic interactions. Out of 145 proposed variables, 132 were included in the model.

For three-factor effects, all levels were present for the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Gender, State × Race × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 106 proposed variables, 70 were included in the model.

In the final model, a total of 238 variables were included; see Exhibit D9.4.

Respondent Person-Level Poststratification

All 19 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was only present in the State × Race interactions. Out of 81 proposed variables, 80 were included in the model.

For three-factor effects, all levels were present for Age × Race × Gender, Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 127 proposed variables, 83 were included in the model.

In the final model, a total of 182 variables were included; see Exhibit D9.5.

Exhibit D9.1 Covariates for 2005 NSDUH Person Weights (res.sdu.nr), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**22**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**104**	**78**	
%Owner-occupied × %Black	3*3	4	2	Drop (2,1); zero. Drop (3,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	3	Drop (*,1); zero/sing. Drop (4,2); conv.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Population density	5*4	12	8	Drop (1,1), (2,1), (2,3); zero. Drop (2,2); sing.
State × Group quarters	5*3	8	0	Drop (3,*); zero. Drop (2,*); sing. Frop (1,1/2); conv. Drop (5,1/2); conv.
State × %Black	5*3	8	4	Drop (1,1), (2,1), (3,1); zero. Drop (5,1); sing.
State × %Hispanic	5*3	8	5	Drop (1,1), (2,1); zero; Coll. (3,1) & (3,2); conv.
State × %Owner-occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	16	All levels present.
Three-Factor Effects		**128**	**30**	
State × %Owner-occupied × %Black	5*3*3	16	2	Keep (1,2,2), (5,2,2); Drop others zero/sing./conv.
State × %Owner-occupied × %Hispanic	5*3*3	16	6	Keep (1,2,2), (1,3,2), (2,2/3,2), (3,2,2), (5,2/3,1) (5,3,1/2), drop others; hier./zero/sing./conv.
State × %Owner-occupied × Rent/housing	5*3*5	32	13	Drop (1,3,1), (1,3,2), (2,3,1), (2,3,2), (2,3,3), (3,3,1), (3,3,2), (3,3,4); zero. Drop (1,2,2), (1,2,4), (1,3,3), (1,3,4), (2,2,4), (2,3,4), (3,3,3), (3,2,4), (5,3,1); sing; Coll. (1,2,1) & (1,2,3); conv. Coll. (5,3,3) & (5,3,4); conv.
State × Rent/housing × %Black	5*3*5	32	1	Keep (1,2,2), drop others; zero/sing./conv.
State × Rent/housing × %Hispanic	5*3*5	32	8	Keep (2,1,2), (2,2,2), (3,1,2), (3,2,2), (5,1,1), (5,2,2), (5,3,2), (5,4,2), drop others; zero/sing./conv.
Total		**255**	**130**	

Exhibit D9.2 Covariates for 2005 NSDUH Person Weights (res.sdu.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**73**	**72**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	1	Coll. (2,1) & (3,1) conv.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	16	All levels present.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor-Effects		**106**	**92**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (3,1,1) & (2,1,1); hier.
State × Age × Race (3 levels)	5*5*3	32	28	Coll. (2,1,2) & (2,1,3); repeat for all age levels, conv.
State × Age × Hispanicity	5*5*2	16	16	All levels present.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (1,2,1) & (1,3,1); repeat for all States, hier.
State × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
State × Hispanicity × Gender	5*2*2	4	3	Coll. (2,2,1) & (2,3,1); conv.
Total		**197**	**182**	

Exhibit D9.3 Covariates for 2005 NSDUH Person Weights (sel.per.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**145**	**133**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	2	Drop (2,1); zero. Drop (3,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (3,1), (4,1); zero. Drop (2,1); sing.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	16	All levels present.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	4	Drop (1,1), (2,1), (3,1); zero. Drop (5,1); sing.
State × %Hispanic	5*3	8	6	Drop (1,1), (2,1); zero.
State × %Owner-occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	6	Drop (1,4), (3,2), (3,3), (3,4), (5,1); zero. Drop (1,3), (2,2), (2,3), (2,4), (3,1); sing.
Three-Factor Effects		**106**	**82**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Drop (3,2,1). zero.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	5*5*3	32	16	Coll. (2,3,2) & (2,3,3), (3,4,2) & (3,4,3); zero. Coll. (1,1,2) & (1,1,3), repeat for all States and all age levels; sing./conv.
State × Age × Hispanicity	5*5*2	16	16	All levels present.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	4	Drop (3,2,1); zero. Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (5,2,1) & (5,3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	5	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (3,2,1) *=& (3,3,1) conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**251**	

Exhibit D9.4 Covariates for 2005 NSDUH Person Weights (res.per.nr), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to householder	4	3	3	All levels present.
Population density	4	3	3	All levels present.
Group quarters	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-occupied	3	2	2	All levels present.
Rent/housing value	5	4	4	All levels present.
Two-Factor Effects		**145**	**132**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	4	All levels present.
Age × Gender	5*2	4	4	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
%Owner-occupied × %Black	3*3	4	2	Drop (2,1); zero. Drop (3,1); sing.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (3,1), (4,1); zero. Drop (2,1); sing.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	16	All levels present.
State × Race (5 levels)	5*5	16	16	All levels present.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	3	Drop (1,1), (2,1), (3,1); zero. Drop (5,1); sing. Drop (3,2); conv.
State × %Hispanic	5*3	8	6	Drop (1,1), (2,1); zero.
State × %Owner-occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	16	All levels present.
Three-Factor Effects		**106**	**70**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Drop (3,2,1); zero.
Age × Race (3 levels) × Gender	5*3*2	8	8	All levels present.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	5*5*3	32	9	Kept (1,1,2/3), (1,2,2/3), (1,3,2/3), (2,1,2/3), (2,2,2/3), (2,3,2/3), (5,1,2/3), (5,2,2/3), (5,3,2/3), drop all others; zero/sing./conv.
State × Age × Hispanicity	5*5*2	16	12	Drop (1,4,1), repeat for all other States; conv.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	4	Drop (3,2,1); zero. Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (5,2,1) & (5,3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	4	Coll. (1,2,1) & (1,3,1), repeat for other States; conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**238**	

Exhibit D9.5 Covariates for 2005 NSDUH Person Weights (res.per.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**81**	**80**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	5	All levels present.
Age × Gender	6*2	5	5	All levels present.
Race (3 levels) × Hispanicity	3*2	2	2	All levels present.
Race (3 levels) × Gender	3*2	2	2	All levels present.
Hispanicity × Gender	2*2	1	1	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*6	20	20	All levels present.
State × Race (5 levels)	5*5	16	15	Coll. (3,2) & (3,5); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor Effects		**127**	**83**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all age groups; conv.
Age × Race (3 levels) × Gender	6*3*2	10	10	All levels present.
Age × Hispanicity × Gender	6*2*2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	5*6*3	40	16	Coll. (1,1,2) & (1,1,3), repeat for all States and age levels; hier./conv. Drop (1,5,2/3), repeat for all States; conv.
State × Age × Hispanicity	5*6*2	20	13	Drop (1,4,1), (1,5,1), (3,*,1); conv.
State × Age × Gender	5*6*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	3	Coll. (1,2,1) & (1,3,1), repeat for all States; hier./conv. Drop (3,2/3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	6	Coll. (3,2,1) & (3,3,1); hier. Coll. (2,2,1) & (2,3,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**227**	**182**	

Appendix E: Evaluation of Calibration Weights: Response Rates

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Table E 2005 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States

	Dwelling Unit (DU)					Person Level		Interview Response Rate	
Domain	**Selected DUs**	**Eligible DUs**	**Completed DUs**	**Eligibility Rate**	**Screening Rate**	**Selected Persons**	**Respondents**	**Weight 1-11[1]**	**Weight 1-12[2]**
United States	175,958	146,912	134,055	83.41%	91.33%	83,805	68,308	76.19%	76.21%
Alabama	2,320	1,779	1,653	74.21%	93.00%	1,118	914	77.10%	76.24%
Alaska	2,245	1,717	1,592	70.65%	92.71%	1,137	921	75.22%	75.27%
Arizona	1,945	1,609	1,518	81.49%	94.18%	1,112	908	78.75%	78.56%
Arkansas	2,194	1,854	1,753	84.54%	94.54%	1,040	851	77.70%	77.62%
California	7,672	6,875	6,297	89.63%	91.57%	4,633	3,699	75.57%	76.01%
Colorado	2,333	1,951	1,839	83.55%	94.26%	1,110	895	75.30%	74.57%
Connecticut	2,602	2,250	2,042	86.49%	90.77%	1,201	978	77.45%	77.99%
Delaware	2,473	1,994	1,824	76.67%	91.53%	1,160	942	76.05%	77.07%
District of Columbia	3,628	3,072	2,655	84.78%	86.34%	1,071	851	74.67%	74.46%
Florida	10,631	8,280	7,581	72.81%	91.61%	4,606	3,669	72.57%	72.71%
Georgia	2,328	1,849	1,721	79.29%	92.99%	1,108	920	78.52%	78.18%
Hawaii	2,404	1,900	1,735	77.53%	91.06%	1,134	895	71.95%	70.43%
Idaho	2,036	1,745	1,646	85.79%	94.39%	1,087	915	81.04%	81.24%
Illinois	9,357	8,281	6,864	88.52%	82.81%	4,731	3,661	71.84%	72.30%
Indiana	2,290	1,944	1,845	85.01%	94.87%	1,117	900	73.79%	73.48%
Iowa	2,010	1,733	1,636	86.24%	94.39%	1,088	923	79.03%	79.18%
Kansas	2,383	2,034	1,895	85.31%	92.97%	1,133	938	79.53%	79.09%
Kentucky	2,403	2,070	1,940	86.06%	93.74%	1,086	895	74.87%	75.84%
Louisiana	2,273	1,740	1,645	76.59%	94.56%	1,017	840	76.58%	76.25%
Maine	2,834	2,113	1,940	73.54%	91.83%	1,041	891	80.22%	80.07%
Maryland	2,315	2,027	1,739	87.72%	85.78%	1,156	941	76.80%	77.13%
Massachusetts	2,538	2,246	2,009	88.56%	89.32%	1,187	960	74.44%	74.64%
Michigan	9,190	7,629	6,898	82.99%	90.37%	4,503	3,655	76.32%	76.34%
Minnesota	1,899	1,641	1,555	86.27%	94.74%	1,063	904	81.74%	82.06%
Mississippi	2,369	1,780	1,697	75.33%	95.39%	1,106	930	80.33%	79.88%

[1] Includes DU-level and person-level design weights, DU nonresponse adjustment, and DU poststratification.
[2] Includes a selected person poststratification weight.

(continued)

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table E 2005 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States (continued)

	Dwelling Unit (DU)					Person Level		Interview Response Rate	
Domain	Selected DUs	Eligible DUs	Completed DUs	Eligibility Rate	Screening Rate	Selected Persons	Respondents	Weight 1-11[1]	Weight 1-12[2]
Missouri	2,119	1,762	1,666	83.19%	94.57%	1,073	884	78.08%	78.32%
Montana	2,571	1,976	1,866	76.75%	94.42%	1,083	914	79.72%	79.17%
Nebraska	2,377	2,072	1,953	87.35%	94.24%	1,127	935	77.51%	78.56%
Nevada	2,262	1,907	1,797	84.37%	94.28%	1,111	917	76.12%	75.28%
New Hampshire	2,500	2,086	1,883	83.58%	87.02%	1,098	881	77.35%	76.41%
New Jersey	2,466	2,114	1,866	86.24%	88.21%	1,197	925	70.39%	71.65%
New Mexico	2,176	1,811	1,713	83.41%	94.56%	1,036	902	83.61%	84.01%
New York	10,878	9,398	7,676	85.60%	81.75%	4,683	3,622	71.14%	70.45%
North Carolina	2,308	1,789	1,684	77.09%	94.11%	1,035	861	79.25%	78.43%
North Dakota	2,487	2,059	1,950	82.77%	94.68%	1,097	933	81.83%	81.94%
Ohio	8,990	7,750	7,310	86.19%	94.37%	4,403	3,579	76.84%	76.99%
Oklahoma	2,497	1,989	1,872	79.74%	94.15%	1,159	946	78.34%	78.26%
Oregon	2,423	2,093	1,962	86.12%	93.89%	1,142	920	74.93%	74.80%
Pennsylvania	10,195	8,787	7,893	85.88%	89.74%	4,463	3,684	76.71%	76.76%
Rhode Island	2,332	1,964	1,760	84.06%	89.63%	1,074	890	79.22%	77.64%
South Carolina	2,594	2,076	1,970	78.78%	94.91%	1,086	910	80.56%	80.21%
South Dakota	1,955	1,593	1,522	81.60%	95.51%	1,104	927	78.13%	78.25%
Tennessee	2,273	1,934	1,762	85.10%	91.06%	1,101	921	80.14%	79.38%
Texas	7,790	6,411	6,096	82.28%	95.10%	4,276	3,562	78.62%	78.51%
Utah	1,622	1,402	1,342	86.68%	95.61%	1,077	939	81.72%	83.93%
Vermont	2,410	1,859	1,741	76.46%	93.90%	1,050	880	78.31%	78.23%
Virginia	2,318	1,999	1,759	86.35%	88.35%	1,156	941	75.60%	76.06%
Washington	2,061	1,737	1,641	84.11%	94.54%	1,074	876	76.04%	77.03%
West Virginia	2,972	2,495	2,340	83.99%	93.84%	1,130	924	76.22%	76.82%
Wisconsin	2,143	1,724	1,612	80.41%	93.54%	1,103	915	78.18%	78.29%
Wyoming	2,567	2,012	1,900	77.06%	94.43%	1,122	924	77.40%	77.07%

[1] Includes DU-level and person-level design weights, DU nonresponse adjustment, and DU poststratification
[2] Includes a selected person poststratification weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Appendix F: Evaluation of Calibration Weights: Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors

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Table F 2005 NSDUH Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before nr[1] (Weight1*...*Weight7)			After nr & Before ps[2] (Weight1*...*Weight8)			After ps (Weight1*...*Weight9)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
United States	134,055	2.79%	3.39%	0.45%	1.74%	2.08%	0.20%	1.88%	2.68%	0.66%
Alabama	1,653	8.05%	10.88%	0.96%	2.36%	2.99%	0.15%	1.15%	1.82%	0.20%
Alaska	1,592	7.22%	7.80%	0.50%	2.07%	2.90%	0.49%	1.44%	2.74%	0.27%
Arizona	1,518	0.00%	0.00%	0.00%	2.37%	5.30%	0.81%	0.92%	2.28%	0.46%
Arkansas	1,753	3.31%	3.02%	0.08%	0.00%	0.00%	0.00%	3.25%	3.30%	0.81%
California	6,297	2.48%	1.99%	0.17%	1.49%	1.56%	0.12%	1.14%	1.70%	0.22%
Colorado	1,839	7.72%	8.42%	0.32%	1.79%	1.96%	0.13%	0.98%	1.76%	0.35%
Connecticut	2,042	0.34%	0.12%	0.17%	7.98%	8.82%	0.55%	1.96%	3.87%	1.54%
Delaware	1,824	0.44%	1.13%	0.62%	0.93%	1.11%	0.04%	2.08%	2.39%	0.45%
District of Columbia	2,655	0.00%	0.00%	0.00%	1.77%	3.36%	0.63%	1.02%	2.26%	0.31%
Florida	7,581	0.11%	0.39%	0.17%	0.45%	0.55%	0.02%	0.37%	0.78%	0.14%
Georgia	1,721	0.93%	0.68%	0.11%	0.93%	1.38%	0.01%	0.70%	1.48%	0.24%
Hawaii	1,735	0.00%	0.00%	0.00%	0.12%	0.27%	0.01%	1.10%	3.07%	0.59%
Idaho	1,646	2.37%	2.65%	0.14%	1.40%	2.03%	0.10%	5.22%	4.05%	1.28%
Illinois	6,864	1.49%	1.68%	0.30%	0.03%	0.03%	0.00%	0.98%	1.84%	0.33%
Indiana	1,845	3.31%	2.75%	0.18%	1.41%	1.21%	0.02%	2.71%	2.64%	0.51%
Iowa	1,636	18.58%	24.24%	5.87%	14.06%	18.45%	3.50%	1.71%	2.13%	0.69%
Kansas	1,895	2.53%	3.17%	0.02%	0.00%	0.00%	0.00%	3.75%	4.33%	1.34%
Kentucky	1,940	0.26%	0.04%	0.02%	2.78%	3.46%	0.15%	2.53%	3.83%	0.85%
Louisiana	1,645	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.70%	2.63%	0.46%
Maine	1,940	16.44%	18.84%	1.74%	5.41%	6.32%	0.63%	8.71%	6.56%	2.27%
Maryland	1,739	0.52%	0.68%	0.30%	1.84%	1.72%	0.10%	1.50%	1.82%	0.28%
Massachusetts	2,009	19.51%	23.50%	4.08%	10.70%	13.07%	1.26%	3.58%	6.40%	1.93%
Michigan	6,898	2.07%	2.99%	0.58%	1.35%	2.01%	0.35%	1.17%	1.25%	0.29%
Minnesota	1,555	0.26%	0.03%	0.13%	0.00%	0.00%	0.00%	1.35%	3.11%	0.83%
Mississippi	1,697	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.65%	4.28%	1.18%

[1] nr = nonresponse adjustment.

(continued)

[2] ps = poststratification adjustment.

[3] Weighted extreme value percentage = 100 * $\sum_k w_{ek} / \sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.

[4] Outwinsor weight percentage = 100 * $\sum_k (w_{ek} - b_k) / \sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table F 2005 NSDUH Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before nr[1] (Weight1*...*Weight7)			After nr & Before ps[2] (Weight1*...*Weight8)			After ps (Weight1*...*Weight9)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
Missouri	1,666	14.65%	16.72%	1.49%	4.20%	4.79%	0.26%	2.88%	5.14%	1.09%
Montana	1,866	0.00%	0.00%	0.00%	1.02%	0.94%	0.01%	3.43%	4.58%	1.12%
Nebraska	1,953	0.67%	0.76%	0.00%	0.72%	0.90%	0.06%	2.56%	2.45%	0.62%
Nevada	1,797	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.28%	4.60%	1.01%
New Hampshire	1,883	0.05%	0.28%	0.20%	1.33%	3.06%	0.85%	1.49%	2.69%	0.68%
New Jersey	1,866	13.72%	18.57%	2.13%	1.71%	2.19%	0.20%	1.61%	3.48%	0.83%
New Mexico	1,713	15.94%	19.63%	2.66%	11.62%	14.67%	1.64%	1.93%	4.42%	1.60%
New York	7,676	0.00%	0.00%	0.00%	1.19%	1.49%	0.05%	0.66%	1.44%	0.34%
North Carolina	1,684	6.59%	5.21%	0.52%	5.52%	4.78%	0.30%	5.05%	5.74%	1.61%
North Dakota	1,950	2.10%	1.91%	0.09%	3.03%	2.93%	0.16%	5.38%	5.26%	2.09%
Ohio	7,310	0.98%	0.79%	0.07%	0.41%	0.45%	0.01%	1.75%	2.09%	0.38%
Oklahoma	1,872	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.75%	1.46%	0.26%
Oregon	1,962	11.16%	11.17%	0.92%	0.00%	0.00%	0.00%	2.19%	4.32%	0.94%
Pennsylvania	7,893	0.05%	0.03%	0.00%	1.37%	1.92%	0.24%	1.15%	1.70%	0.27%
Rhode Island	1,760	0.00%	0.00%	0.00%	0.68%	0.93%	0.17%	4.03%	8.23%	2.92%
South Carolina	1,970	8.02%	8.35%	1.48%	0.25%	0.33%	0.03%	1.37%	2.37%	0.35%
South Dakota	1,522	2.76%	2.61%	0.33%	1.91%	1.85%	0.04%	1.18%	1.45%	0.26%
Tennessee	1,762	0.17%	0.13%	0.00%	0.57%	0.69%	0.03%	1.93%	4.58%	1.32%
Texas	6,096	0.34%	0.22%	0.06%	0.43%	0.38%	0.01%	2.48%	3.92%	1.42%
Utah	1,342	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.87%	8.24%	2.31%
Vermont	1,741	3.16%	2.63%	0.11%	0.00%	0.00%	0.00%	1.21%	2.52%	0.56%
Virginia	1,759	3.13%	2.27%	0.22%	1.82%	1.81%	0.12%	0.17%	0.39%	0.02%
Washington	1,641	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.07%	3.77%	0.69%
West Virginia	2,340	0.17%	0.05%	0.03%	0.17%	0.09%	0.03%	4.06%	4.43%	1.73%
Wisconsin	1,612	3.29%	2.22%	0.53%	4.96%	4.12%	0.73%	1.74%	2.68%	0.68%
Wyoming	1,900	2.47%	3.45%	0.10%	5.58%	5.77%	0.25%	1.53%	1.53%	0.33%

[1] nr = nonresponse adjustment.
[2] ps = poststratification adjustment.
[3] Weighted extreme value percentage = 100 * $\sum_k w_{ek} / \sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.
[4] Outwinsor weight percentage = 100 * $\sum_k (w_{ek}-b_k) / \sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Appendix G: Evaluation of Calibration Weights: Person-Level Percentages of Extreme Weights and Outwinsors

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Table G.1 2005 NSDUH Selected Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	n	Before sel.per.ps[1] (Weight1*...*Weight11)			After sel.per.ps[1] (Weight1*...*Weight12)		
		Unweighted	Weighted[2]	Outwinsor[3]	Unweighted	Weighted[2]	Outwinsor[3]
United States	83,805	3.53%	5.37%	1.24%	1.64%	3.65%	0.85%
Alabama	1,118	1.43%	2.23%	0.34%	1.34%	2.76%	0.75%
Alaska	1,137	2.29%	4.92%	0.79%	1.32%	3.30%	0.63%
Arizona	1,112	2.79%	4.71%	1.38%	2.70%	4.46%	1.04%
Arkansas	1,040	4.23%	4.72%	1.10%	0.77%	2.74%	0.53%
California	4,633	3.06%	5.47%	0.92%	1.08%	2.10%	0.36%
Colorado	1,110	3.15%	5.10%	1.14%	1.17%	3.47%	0.81%
Connecticut	1,201	3.91%	5.37%	1.57%	2.08%	3.64%	0.92%
Delaware	1,160	3.62%	5.53%	1.13%	2.24%	7.10%	1.34%
District of Co	1,071	1.21%	2.58%	0.29%	1.40%	5.92%	1.45%
Florida	4,606	2.56%	4.03%	0.69%	0.91%	1.51%	0.31%
Georgia	1,108	1.17%	1.87%	0.27%	1.62%	7.45%	1.76%
Hawaii	1,134	3.26%	6.62%	1.56%	1.32%	2.13%	0.28%
Idaho	1,087	6.16%	7.23%	2.33%	2.58%	4.82%	1.11%
Illinois	4,731	2.35%	4.79%	1.03%	1.73%	3.28%	0.60%
Indiana	1,117	3.67%	4.29%	0.95%	1.07%	3.21%	0.51%
Iowa	1,088	3.40%	7.77%	2.34%	1.01%	2.23%	0.38%
Kansas	1,133	2.38%	5.79%	1.67%	1.24%	3.11%	0.93%
Kentucky	1,086	2.21%	3.40%	0.65%	3.41%	6.15%	1.56%
Louisiana	1,017	4.13%	5.38%	1.28%	1.87%	3.70%	0.94%
Maine	1,041	8.74%	8.39%	2.82%	1.44%	1.59%	0.38%
Maryland	1,156	2.94%	4.58%	0.89%	1.12%	1.69%	0.26%
Massachusetts	1,187	5.39%	10.85%	1.84%	3.88%	8.26%	1.93%
Michigan	4,503	4.31%	5.93%	1.47%	2.02%	2.73%	0.41%
Minnesota	1,063	3.29%	5.56%	1.24%	1.60%	4.55%	1.19%
Mississippi	1,106	2.08%	5.07%	1.05%	1.08%	2.55%	0.74%

[1] Before sel.per.ps (selected person poststratification adjustment step) (Weight1*...*Weight11) and after sel.per.ps (Weight1*...*Weight12) used demographic variables from screener data for all selected persons.(continued)
[2] Weighted extreme value percentage = 100 * $\sum_k w_{ek}$ / $\sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.
[3] Outwinsor weight percentage = 100 * $\sum_k (w_{ek}-b_k)$ / $\sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table G.1 2005 NSDUH Selected Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before sel.per.ps[1] (Weight1*...*Weight11)			After sel.per.ps[1] (Weight1*...*Weight12)		
		Unweighted	Weighted[2]	Outwinsor[3]	Unweighted	Weighted[2]	Outwinsor[3]
Missouri	1,073	3.63%	9.30%	2.41%	1.21%	3.90%	0.70%
Montana	1,083	4.99%	7.06%	1.69%	2.03%	3.27%	0.69%
Nebraska	1,127	2.66%	3.91%	1.19%	1.15%	2.96%	0.41%
Nevada	1,111	2.52%	5.34%	1.34%	1.44%	7.42%	2.26%
New Hampshire	1,098	4.19%	7.14%	1.79%	0.55%	1.32%	0.25%
New Jersey	1,197	2.42%	3.82%	0.58%	1.00%	1.85%	0.41%
New Mexico	1,036	4.92%	9.32%	2.57%	1.93%	6.44%	1.45%
New York	4,683	2.61%	4.18%	0.74%	1.79%	5.04%	1.50%
North Carolina	1,035	4.73%	7.23%	1.95%	1.64%	8.82%	2.58%
North Dakota	1,097	6.65%	6.22%	2.44%	1.64%	3.73%	0.80%
Ohio	4,403	5.29%	7.97%	2.45%	1.45%	1.61%	0.45%
Oklahoma	1,159	1.29%	1.88%	0.43%	0.52%	2.01%	0.86%
Oregon	1,142	4.73%	7.48%	1.75%	4.12%	9.16%	2.81%
Pennsylvania	4,463	4.46%	5.34%	1.17%	2.04%	3.62%	0.68%
Rhode Island	1,074	6.33%	11.53%	3.97%	2.05%	7.77%	2.92%
South Carolina	1,086	1.84%	2.82%	0.94%	0.74%	1.14%	0.08%
South Dakota	1,104	2.81%	2.87%	0.71%	0.27%	1.17%	0.16%
Tennessee	1,101	3.63%	5.49%	1.05%	1.00%	2.36%	0.23%
Texas	4,276	3.51%	5.96%	1.66%	1.36%	3.08%	0.66%
Utah	1,077	5.48%	13.78%	4.27%	1.76%	4.64%	1.13%
Vermont	1,050	3.52%	6.21%	1.34%	1.71%	3.47%	0.47%
Virginia	1,156	1.38%	3.61%	1.13%	1.73%	4.75%	0.84%
Washington	1,074	3.54%	5.95%	1.07%	1.58%	3.25%	1.05%
West Virginia	1,130	6.02%	7.36%	2.45%	5.75%	8.94%	2.72%
Wisconsin	1,103	2.81%	3.02%	0.65%	2.90%	5.06%	0.82%
Wyoming	1,122	1.87%	1.62%	0.17%	0.62%	0.99%	0.18%

[1] Before sel.per.ps (selected person poststratification adjustment step) (Weight1*...*Weight11) and after sel.per.ps (Weight1*...*Weight12) used demographic variables from screener data for all selected persons.

[2] Weighted extreme value percentage = 100 * $\sum_k w_{ek} / \sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.

[3] Outwinsor weight percentage = 100 * $\sum_k (w_{ek} - b_k) / \sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table G.2 2005 NSDUH Respondent Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.per.nr[1] (Weight1*…*Weight12)			After res.per.nr[1] (Weight1*…*Weight13)			Before res.per.ps[2] (Weight1*…*Weight13)			After res.per.ps[2] (Weight1*…*Weight14)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
United States	68,308	1.63%	3.59%	0.85%	1.48%	4.03%	0.86%	1.55%	4.16%	0.94%	1.17%	3.47%	0.76%
Alabama	914	1.53%	3.53%	0.93%	2.41%	3.69%	0.35%	2.19%	3.07%	0.30%	2.63%	3.77%	0.39%
Alaska	921	1.63%	3.60%	0.59%	0.54%	1.62%	0.20%	0.65%	1.73%	0.20%	0.76%	4.16%	0.58%
Arizona	908	2.75%	4.47%	1.00%	1.54%	3.34%	0.77%	1.65%	3.74%	0.90%	1.43%	6.39%	1.01%
Arkansas	851	0.47%	1.67%	0.50%	0.82%	1.89%	0.11%	0.82%	1.89%	0.09%	0.35%	1.09%	0.03%
California	3,699	1.27%	2.52%	0.47%	1.05%	2.65%	0.41%	1.19%	2.94%	0.65%	0.70%	3.08%	0.38%
Colorado	895	1.01%	2.89%	0.75%	1.23%	4.25%	1.03%	1.45%	5.95%	1.29%	1.45%	5.48%	1.48%
Connecticut	978	1.94%	3.82%	0.87%	0.72%	2.12%	0.60%	0.82%	2.26%	0.58%	1.23%	3.88%	0.70%
Delaware	942	2.34%	6.10%	1.16%	1.91%	5.02%	0.69%	1.80%	4.89%	0.70%	1.38%	4.72%	0.32%
District of Co	851	1.06%	4.96%	1.71%	1.65%	4.98%	0.84%	1.76%	5.12%	0.91%	0.94%	2.49%	0.74%
Florida	3,669	0.93%	1.63%	0.40%	1.23%	3.03%	0.45%	1.25%	3.05%	0.44%	0.65%	1.22%	0.16%
Georgia	920	1.41%	5.73%	1.11%	1.30%	5.52%	0.48%	1.20%	4.50%	0.46%	2.83%	9.60%	1.33%
Hawaii	895	1.12%	2.44%	0.39%	1.45%	2.11%	0.31%	1.68%	2.51%	0.47%	0.89%	1.74%	0.42%
Idaho	915	2.73%	5.62%	1.28%	2.40%	5.97%	0.92%	2.51%	6.14%	0.97%	2.19%	6.56%	1.11%
Illinois	3,661	1.78%	3.55%	0.77%	1.45%	4.04%	0.58%	1.56%	4.30%	0.70%	0.90%	2.49%	0.30%
Indiana	900	1.22%	3.94%	0.67%	1.33%	3.95%	0.19%	1.33%	3.95%	0.18%	1.44%	4.18%	1.13%
Iowa	923	1.19%	2.15%	0.49%	2.17%	6.04%	1.25%	2.49%	6.21%	1.39%	1.52%	3.73%	1.21%
Kansas	938	1.60%	4.28%	1.17%	0.75%	3.15%	0.74%	0.96%	3.76%	0.83%	1.60%	4.89%	0.63%
Kentucky	895	3.91%	6.43%	1.50%	3.46%	4.23%	0.76%	3.46%	4.23%	0.77%	1.45%	4.19%	1.47%
Louisiana	840	1.55%	3.41%	0.85%	1.79%	4.86%	0.71%	1.67%	4.68%	0.77%	0.83%	3.03%	0.15%
Maine	891	1.12%	1.12%	0.26%	0.79%	1.14%	0.55%	0.79%	1.14%	0.55%	0.45%	0.38%	0.02%
Maryland	941	1.49%	2.27%	0.29%	0.53%	0.84%	0.08%	0.53%	0.91%	0.14%	0.53%	0.70%	0.22%
Massachusetts	960	3.75%	8.65%	1.95%	2.92%	7.54%	1.76%	2.81%	7.22%	1.70%	2.60%	4.63%	1.04%
Michigan	3,655	1.89%	2.99%	0.48%	1.07%	2.10%	0.34%	1.07%	2.15%	0.39%	0.68%	1.03%	0.12%
Minnesota	904	1.55%	4.50%	1.15%	2.43%	5.46%	1.51%	2.32%	5.31%	1.49%	0.88%	3.27%	0.87%
Mississippi	930	1.18%	2.49%	0.66%	0.75%	2.37%	0.58%	0.75%	2.49%	0.66%	0.86%	2.25%	0.23%

res.per.nr = respondent person nonresponse adjustment step; res.per.ps = respondent person poststratification adjustment step.

[1] Before res.per.nr (Weight1*...*Weight12) and after res.per.nr (Weight1*...*Weight13) used demographic variables from screener data for all respondents.

(continued)

[2] Before res.per.ps (Weight1*...*Weight13) and after res.per.ps (Weight1*...*Weight14) used demographic variables from questionnaire data for all respondents.

[3] Weighted outlier percentage = 100 * $\sum_k w_{ok} / \sum_k w_k$, where w_{ok} denotes the weight for outliers and w_k denotes the weight for both outliers and nonoutliers.

[4] Outwinsor weight percentage = 100 * $\sum_k (w_{ek}-b_k) / \sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table G.2 2005 NSDUH Respondent Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.per.nr[1] (Weight1*…*Weight12)			After res.per.nr[1] (Weight1*…*Weight13)			Before res.per.ps[2] (Weight1*…*Weight13)			After res.per.ps[2] (Weight1*…*Weight14)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
Missouri	884	1.02%	3.61%	0.65%	1.92%	6.27%	1.80%	2.26%	7.22%	2.06%	0.45%	0.69%	0.03%
Montana	914	2.08%	3.87%	0.85%	1.20%	3.29%	0.82%	1.20%	3.29%	0.82%	1.86%	2.21%	0.34%
Nebraska	935	0.96%	3.03%	0.39%	1.18%	1.61%	0.47%	1.39%	2.36%	0.71%	0.64%	2.97%	0.67%
Nevada	917	1.31%	6.70%	2.24%	1.53%	7.83%	2.12%	1.53%	7.83%	2.11%	1.74%	6.91%	0.90%
New Hampshire	881	0.34%	0.86%	0.14%	0.68%	2.03%	0.16%	0.68%	2.03%	0.18%	0.11%	1.13%	0.07%
New Jersey	925	1.08%	1.51%	0.49%	1.08%	2.71%	0.97%	1.08%	2.71%	0.96%	1.30%	2.98%	0.60%
New Mexico	902	1.88%	6.76%	1.42%	1.55%	5.55%	1.25%	1.66%	5.74%	1.42%	1.11%	3.15%	0.45%
New York	3,622	1.57%	3.69%	1.11%	2.95%	9.55%	2.69%	3.01%	9.70%	2.92%	1.13%	5.57%	1.11%
North Carolina	861	1.63%	7.66%	2.81%	1.16%	6.44%	1.55%	1.28%	6.58%	1.44%	1.16%	10.44%	4.44%
North Dakota	933	1.61%	4.54%	0.88%	1.29%	3.10%	0.51%	1.29%	3.10%	0.50%	1.29%	3.21%	1.14%
Ohio	3,579	1.59%	1.84%	0.48%	1.40%	1.49%	0.31%	1.59%	1.63%	0.39%	1.34%	1.67%	0.39%
Oklahoma	946	0.42%	2.26%	1.04%	0.95%	3.39%	0.93%	0.95%	3.39%	0.94%	0.21%	0.25%	0.03%
Oregon	920	3.70%	8.57%	2.66%	4.89%	12.31%	3.28%	5.22%	13.09%	3.42%	3.80%	7.76%	2.57%
Pennsylvania	3,684	1.95%	3.54%	0.63%	1.28%	3.40%	0.82%	1.30%	3.48%	0.89%	1.30%	3.00%	1.07%
Rhode Island	890	1.80%	6.06%	2.10%	1.91%	5.02%	1.87%	1.80%	4.71%	1.72%	1.91%	5.14%	1.25%
South Carolina	910	0.99%	1.19%	0.09%	0.88%	1.86%	0.25%	0.88%	1.91%	0.28%	0.44%	2.38%	0.48%
South Dakota	927	0.22%	0.97%	0.08%	1.08%	3.26%	0.45%	1.08%	3.26%	0.47%	1.51%	2.09%	0.58%
Tennessee	921	1.30%	2.68%	0.23%	1.09%	4.02%	0.44%	1.19%	4.23%	0.45%	0.33%	1.14%	0.11%
Texas	3,562	1.43%	3.07%	0.65%	0.98%	2.61%	0.50%	1.09%	2.92%	0.67%	0.36%	0.95%	0.11%
Utah	939	1.70%	4.36%	0.94%	0.96%	2.41%	0.40%	1.17%	2.76%	0.55%	3.83%	8.41%	2.78%
Vermont	880	1.25%	1.79%	0.32%	0.91%	5.25%	1.05%	1.02%	5.35%	1.06%	0.80%	1.77%	0.25%
Virginia	941	1.49%	4.57%	1.03%	0.64%	1.24%	0.06%	0.74%	1.39%	0.09%	0.11%	0.43%	0.06%
Washington	876	1.71%	3.71%	1.22%	2.28%	6.30%	1.68%	2.28%	6.30%	1.67%	2.17%	7.58%	2.30%
West Virginia	924	6.06%	10.47%	2.96%	4.11%	7.03%	1.63%	3.79%	6.04%	1.63%	3.35%	6.48%	1.82%
Wisconsin	915	2.73%	4.80%	0.92%	1.64%	4.07%	1.27%	1.64%	4.07%	1.28%	2.51%	5.63%	1.66%
Wyoming	924	0.54%	1.00%	0.20%	0.00%	0.00%	0.00%	0.22%	0.65%	0.15%	0.32%	0.38%	0.05%

res.per.nr = respondent person nonresponse adjustment step; res.per.ps = respondent person poststratification adjustment step.

[1] Before res.per.nr (Weight1*...*Weight12) and after res.per.nr (Weight1*...*Weight13) used demographic variables from screener data for all respondents.
[2] Before res.per.ps (Weight1*...*Weight13) and after res.per.ps (Weight1*...*Weight14) used demographic variables from questionnaire data for all respondents.
[3] Weighted outlier percentage = 100 * $\sum_k w_{ok} / \sum_k w_k$, where w_{ok} denotes the weight for outliers and w_k denotes the weight for both outliers and nonoutliers.
[4] Outwinsor weight percentage = 100 * $\sum_k (w_{ek}-b_k) / \sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Appendix H: Evaluation of Calibration Weights: Slippage Rates

Table H.1 2005 NSDUH Slippage Rates: UNITED STATES

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		68,308	243,220,284	243,220,283	243,220,283	0.00	0.00
Quarter	**Quarter 1**	16,380	60,554,780	60,554,780	60,554,780	0.00	0.00
	Quarter 2	18,169	60,716,592	60,716,592	60,716,592	0.00	0.00
	Quarter 3	16,963	60,889,862	60,889,862	60,889,862	0.00	0.00
	Quarter 4	16,796	61,059,050	61,059,050	61,059,050	0.00	0.00
Age Group	**12-17**	22,534	25,372,020	25,354,871	25,354,871	0.07	0.00
	18-25	22,511	32,302,424	32,485,929	32,485,929	-0.56	0.00
	26-34	6,856	34,838,202	34,857,775	34,857,775	-0.06	0.00
	35-49	10,099	65,328,084	65,254,714	65,254,714	0.11	0.00
	50-64	3,835	52,180,435	50,097,034	50,097,034	4.16	0.00
	65+	2,473	33,199,118	35,169,960	35,169,960	-5.60	0.00
Race	**White**	52,148	189,216,912	197,546,328	197,546,328	-4.22	0.00
	Black	8,542	29,392,310	29,282,700	29,282,700	0.37	0.00
	Other	7,618	24,611,062	16,391,256	16,391,255	50.15	0.00
Hispanicity	**Hispanic**	9,804	33,039,498	32,133,476	32,133,476	2.82	0.00
	Non-Hispanic	58,504	210,180,786	211,086,807	211,086,807	-0.43	0.00
Gender	**Male**	32,786	117,797,460	117,922,913	117,922,913	-0.11	0.00
	Female	35,522	125,422,823	125,297,370	125,297,370	0.10	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.2 2005 NSDUH Slippage Rates: ALABAMA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		914	3,773,741	3,773,741	3,773,741	0.00	0.00
Quarter	**Quarter 1**	201	940,236	940,236	940,236	0.00	0.00
	Quarter 2	248	942,516	942,516	942,516	-0.00	0.00
	Quarter 3	254	944,628	944,628	944,628	0.00	-0.00
	Quarter 4	211	946,361	946,361	946,361	0.00	0.00
Age Group	**12-17**	291	378,504	379,863	379,863	-0.36	0.00
	18-25	307	500,055	506,216	506,216	-1.22	0.00
	26-34	96	517,627	525,312	525,312	-1.46	0.00
	35-49	138	990,749	975,545	975,545	1.56	0.00
	50-64	51	884,814	808,045	808,045	9.50	0.00
	65+	31	501,991	578,761	578,761	-13.26	0.00
Race	**White**	552	2,707,773	2,743,190	2,743,190	-1.29	0.00
	Black	326	912,748	948,959	948,959	-3.82	0.00
	Other	36	153,220	81,592	81,592	87.79	0.00
Hispanicity	**Hispanic**	43	82,139	76,995	76,995	6.68	0.00
	Non-Hispanic	871	3,691,602	3,696,746	3,696,746	-0.14	0.00
Gender	**Male**	415	1,781,608	1,799,759	1,799,759	-1.01	0.00
	Female	499	1,992,132	1,973,982	1,973,982	0.92	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.3 2005 NSDUH Slippage Rates: ALASKA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		921	519,047	519,047	519,047	0.00	-0.00
Quarter	**Quarter 1**	199	129,022	129,022	129,022	0.00	0.00
	Quarter 2	242	129,362	129,362	129,362	0.00	0.00
	Quarter 3	264	129,938	129,938	129,938	0.00	-0.00
	Quarter 4	216	130,725	130,725	130,725	0.00	-0.00
Age Group	**12-17**	270	67,449	68,090	68,090	-0.94	-0.00
	18-25	336	75,970	75,289	75,289	0.90	-0.00
	26-34	96	64,599	64,654	64,654	-0.08	0.00
	35-49	145	149,466	150,119	150,119	-0.44	0.00
	50-64	53	116,677	117,599	117,599	-0.78	0.00
	65+	21	44,886	43,296	43,296	3.67	0.00
Race	**White**	578	370,330	377,339	377,339	-1.86	-0.00
	Black	40	16,194	15,497	15,497	4.50	0.00
	Other	303	132,523	126,211	126,211	5.00	0.00
Hispanicity	**Hispanic**	59	19,561	22,658	22,658	-13.67	-0.00
	Non-Hispanic	862	499,486	496,389	496,389	0.62	0.00
Gender	**Male**	443	260,243	260,243	260,243	0.00	-0.00
	Female	478	258,804	258,804	258,804	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.4 2005 NSDUH Slippage Rates: ARIZONA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		908	4,791,433	4,791,433	4,791,433	0.00	0.00
Quarter	**Quarter 1**	308	1,181,755	1,181,755	1,181,755	0.00	0.00
	Quarter 2	203	1,192,798	1,192,798	1,192,798	0.00	0.00
	Quarter 3	162	1,203,465	1,203,465	1,203,465	0.00	0.00
	Quarter 4	235	1,213,416	1,213,416	1,213,416	0.00	0.00
Age Group	**12-17**	280	514,258	517,262	517,262	-0.58	0.00
	18-25	310	646,333	655,373	655,373	-1.38	0.00
	26-34	98	768,407	745,617	745,617	3.06	0.00
	35-49	135	1,185,984	1,197,383	1,197,383	-0.95	0.00
	50-64	58	1,181,315	930,409	930,409	26.97	0.00
	65+	27	495,136	745,389	745,389	-33.57	0.00
Race	**White**	701	3,974,130	4,227,135	4,227,135	-5.99	0.00
	Black	33	185,688	163,214	163,214	13.77	0.00
	Other	174	631,615	401,085	401,085	57.48	0.00
Hispanicity	**Hispanic**	346	1,252,169	1,228,495	1,228,495	1.93	0.00
	Non-Hispanic	562	3,539,264	3,562,938	3,562,938	-0.66	0.00
Gender	**Male**	446	2,363,859	2,364,493	2,364,493	-0.03	0.00
	Female	462	2,427,574	2,426,940	2,426,940	0.03	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.5 2005 NSDUH Slippage Rates: ARKANSAS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		851	2,285,001	2,285,001	2,285,001	0.00	0.00
Quarter	**Quarter 1**	264	568,707	568,707	568,707	0.00	0.00
	Quarter 2	175	570,486	570,486	570,486	0.00	0.00
	Quarter 3	247	572,174	572,174	572,174	0.00	0.00
	Quarter 4	165	573,635	573,635	573,635	-0.00	0.00
Age Group	**12-17**	270	229,266	231,565	231,565	-0.99	0.00
	18-25	310	311,909	311,085	311,085	0.26	0.00
	26-34	72	310,856	316,543	316,543	-1.80	0.00
	35-49	110	583,132	575,970	575,970	1.24	0.00
	50-64	54	500,252	485,149	485,149	3.11	0.00
	65+	35	349,586	364,689	364,689	-4.14	0.00
Race	**White**	672	1,846,749	1,886,988	1,886,988	-2.13	0.00
	Black	145	343,166	334,220	334,220	2.68	0.00
	Other	34	95,086	63,794	63,794	49.05	0.00
Hispanicity	**Hispanic**	58	100,304	94,322	94,322	6.34	0.00
	Non-Hispanic	793	2,184,697	2,190,679	2,190,679	-0.27	0.00
Gender	**Male**	434	1,106,637	1,105,170	1,105,170	0.13	0.00
	Female	417	1,178,363	1,179,831	1,179,831	-0.12	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.6 2005 NSDUH Slippage Rates: CALIFORNIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,699	29,214,010	29,214,010	29,214,010	0.00	0.00
Quarter	**Quarter 1**	873	7,279,374	7,279,374	7,279,374	0.00	0.00
	Quarter 2	1,003	7,292,249	7,292,249	7,292,249	0.00	0.00
	Quarter 3	949	7,310,344	7,310,344	7,310,344	0.00	0.00
	Quarter 4	874	7,332,044	7,332,044	7,332,044	0.00	0.00
Age Group	**12-17**	1,209	3,319,416	3,324,479	3,324,479	-0.15	0.00
	18-25	1,178	3,976,916	3,977,199	3,977,199	-0.01	0.00
	26-34	378	4,457,850	4,525,351	4,525,351	-1.49	0.00
	35-49	590	7,989,668	7,998,614	7,998,614	-0.11	0.00
	50-64	210	5,890,945	5,634,348	5,634,348	4.55	0.00
	65+	134	3,579,215	3,754,019	3,754,019	-4.66	0.00
Race	**White**	2,431	19,905,751	22,495,212	22,495,212	-11.51	0.00
	Black	237	1,943,700	1,881,702	1,881,703	3.29	-0.00
	Other	1,031	7,364,560	4,837,095	4,837,095	52.25	0.00
Hispanicity	**Hispanic**	1,483	9,678,025	9,497,996	9,497,996	1.90	0.00
	Non-Hispanic	2,216	19,535,985	19,716,014	19,716,014	-0.91	0.00
Gender	**Male**	1,835	14,395,994	14,365,824	14,365,824	0.21	0.00
	Female	1,864	14,818,016	14,848,186	14,848,186	-0.20	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.7 2005 NSDUH Slippage Rates: COLORADO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		895	3,793,427	3,793,427	3,793,427	0.00	0.00
Quarter	**Quarter 1**	198	943,080	943,080	943,080	0.00	0.00
	Quarter 2	272	946,382	946,382	946,382	0.00	0.00
	Quarter 3	197	950,070	950,070	950,070	0.00	0.00
	Quarter 4	228	953,895	953,895	953,895	-0.00	0.00
Age Group	**12-17**	293	394,502	393,077	393,077	0.36	0.00
	18-25	264	500,392	510,901	510,901	-2.06	0.00
	26-34	72	614,916	632,042	632,042	-2.71	0.00
	35-49	193	1,058,625	1,048,889	1,048,889	0.93	0.00
	50-64	40	659,666	760,324	760,324	-13.24	0.00
	65+	33	565,326	448,195	448,195	26.13	0.00
Race	**White**	762	3,267,867	3,451,959	3,451,959	-5.33	0.00
	Black	37	151,383	141,497	141,497	6.99	0.00
	Other	96	374,177	199,971	199,971	87.12	0.00
Hispanicity	**Hispanic**	209	700,954	668,946	668,946	4.78	0.00
	Non-Hispanic	686	3,092,473	3,124,482	3,124,482	-1.02	0.00
Gender	**Male**	443	1,887,835	1,887,835	1,887,835	0.00	0.00
	Female	452	1,905,592	1,905,592	1,905,592	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.8 2005 NSDUH Slippage Rates: CONNECTICUT

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		978	2,915,935	2,915,935	2,915,935	0.00	0.00
Quarter	**Quarter 1**	217	727,378	727,378	727,378	0.00	0.00
	Quarter 2	225	728,309	728,309	728,309	0.00	0.00
	Quarter 3	248	729,504	729,504	729,504	0.00	0.00
	Quarter 4	288	730,744	730,744	730,744	0.00	0.00
Age Group	**12-17**	339	303,792	300,551	300,551	1.08	0.00
	18-25	354	344,952	347,469	347,469	-0.72	0.00
	26-34	94	345,561	351,868	351,868	-1.79	0.00
	35-49	126	842,593	837,011	837,011	0.67	0.00
	50-64	30	489,642	634,467	634,467	-22.83	0.00
	65+	35	589,395	444,570	444,570	32.58	0.00
Race	**White**	736	2,448,479	2,507,897	2,507,897	-2.37	0.00
	Black	142	285,504	273,171	273,171	4.51	0.00
	Other	100	181,952	134,868	134,868	34.91	0.00
Hispanicity	**Hispanic**	169	273,932	289,868	289,868	-5.50	0.00
	Non-Hispanic	809	2,642,002	2,626,067	2,626,067	0.61	0.00
Gender	**Male**	489	1,399,279	1,398,992	1,398,992	0.02	0.00
	Female	489	1,516,656	1,516,943	1,516,943	-0.02	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.9 2005 NSDUH Slippage Rates: DELAWARE

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		942	700,649	700,649	700,649	0.00	0.00
Quarter	**Quarter 1**	195	173,949	173,949	173,949	0.00	0.00
	Quarter 2	241	174,772	174,772	174,772	0.00	0.00
	Quarter 3	230	175,585	175,585	175,585	0.00	0.00
	Quarter 4	276	176,343	176,343	176,343	-0.00	0.00
Age Group	**12-17**	328	68,348	67,891	67,891	0.67	0.00
	18-25	305	89,331	92,587	92,587	-3.52	0.00
	26-34	81	98,626	95,827	95,827	2.92	0.00
	35-49	159	185,890	189,373	189,373	-1.84	0.00
	50-64	38	159,112	147,219	147,219	8.08	0.00
	65+	31	99,342	107,753	107,753	-7.81	0.00
Race	**White**	681	526,418	535,510	535,510	-1.70	0.00
	Black	194	135,501	136,270	136,270	-0.56	0.00
	Other	67	38,730	28,869	28,869	34.16	0.00
Hispanicity	**Hispanic**	51	34,076	37,212	37,212	-8.43	0.00
	Non-Hispanic	891	666,573	663,437	663,437	0.47	0.00
Gender	**Male**	441	335,489	335,489	335,489	0.00	0.00
	Female	501	365,160	365,160	365,160	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.10 2005 NSDUH Slippage Rates: DISTRICT OF COLUMBIA

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		851	461,073	461,073	461,073	0.00	0.00
Quarter	**Quarter 1**	227	115,741	115,741	115,741	0.00	0.00
	Quarter 2	209	115,391	115,391	115,391	0.00	0.00
	Quarter 3	195	115,098	115,098	115,098	0.00	0.00
	Quarter 4	220	114,842	114,842	114,842	0.00	0.00
Age Group	**12-17**	268	34,444	34,763	34,763	-0.92	0.00
	18-25	254	63,156	62,881	62,881	0.44	0.00
	26-34	101	93,458	93,393	93,393	0.07	0.00
	35-49	118	113,051	115,669	115,669	-2.26	0.00
	50-64	63	90,780	90,876	90,876	-0.11	0.00
	65+	47	66,184	63,491	63,491	4.24	0.00
Race	**White**	309	165,486	185,358	185,358	-10.72	0.00
	Black	471	252,549	251,988	251,988	0.22	0.00
	Other	71	43,038	23,727	23,727	81.39	0.00
Hispanicity	**Hispanic**	72	37,706	37,614	37,614	0.24	0.00
	Non-Hispanic	779	423,367	423,458	423,458	-0.02	0.00
Gender	**Male**	377	213,492	213,281	213,281	0.10	0.00
	Female	474	247,581	247,792	247,792	-0.09	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.11 2005 NSDUH Slippage Rates: FLORIDA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,669	14,828,967	14,828,967	14,828,967	0.00	0.00
Quarter	**Quarter 1**	830	3,673,227	3,673,227	3,673,227	0.00	0.00
	Quarter 2	1,100	3,695,183	3,695,183	3,695,183	0.00	0.00
	Quarter 3	819	3,718,500	3,718,500	3,718,500	0.00	0.00
	Quarter 4	920	3,742,057	3,742,057	3,742,057	0.00	0.00
Age Group	**12-17**	1,237	1,418,283	1,415,728	1,415,728	0.18	0.00
	18-25	1,228	1,711,941	1,748,510	1,748,510	-2.09	0.00
	26-34	329	1,888,274	1,877,673	1,877,673	0.56	0.00
	35-49	496	3,789,744	3,772,450	3,772,450	0.46	0.00
	50-64	193	3,014,724	3,104,872	3,104,872	-2.90	0.00
	65+	186	3,005,999	2,909,734	2,909,734	3.31	0.00
Race	**White**	2,607	11,514,564	12,171,282	12,171,282	-5.40	0.00
	Black	709	2,171,371	2,121,341	2,121,341	2.36	0.00
	Other	353	1,143,032	536,343	536,343	113.12	0.00
Hispanicity	**Hispanic**	907	2,910,806	2,801,962	2,801,962	3.88	0.00
	Non-Hispanic	2,762	11,918,161	12,027,004	12,027,004	-0.90	0.00
Gender	**Male**	1,739	7,130,840	7,146,731	7,146,731	-0.22	0.00
	Female	1,930	7,698,126	7,682,236	7,682,236	0.21	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.12 2005 NSDUH Slippage Rates: GEORGIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		920	7,294,559	7,294,559	7,294,559	0.00	-0.00
Quarter	**Quarter 1**	214	1,811,097	1,811,097	1,811,097	0.00	0.00
	Quarter 2	269	1,819,884	1,819,884	1,819,884	0.00	-0.00
	Quarter 3	183	1,828,106	1,828,106	1,828,106	0.00	0.00
	Quarter 4	254	1,835,472	1,835,472	1,835,472	0.00	0.00
Age Group	**12-17**	296	784,283	781,517	781,517	0.35	-0.00
	18-25	333	1,007,151	1,006,662	1,006,662	0.05	0.00
	26-34	79	1,228,476	1,206,832	1,206,832	1.79	0.00
	35-49	129	2,021,747	2,046,646	2,046,646	-1.22	0.00
	50-64	54	1,434,968	1,417,600	1,417,600	1.23	0.00
	65+	29	817,934	835,302	835,302	-2.08	0.00
Race	**White**	603	4,722,165	4,919,269	4,919,269	-4.01	0.00
	Black	254	2,185,904	2,087,492	2,087,492	4.71	0.00
	Other	63	386,490	287,797	287,798	34.29	-0.00
Hispanicity	**Hispanic**	82	512,889	470,950	470,950	8.91	0.00
	Non-Hispanic	838	6,781,670	6,823,609	6,823,609	-0.61	-0.00
Gender	**Male**	434	3,527,340	3,527,340	3,527,340	0.00	-0.00
	Female	486	3,767,219	3,767,219	3,767,219	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.13 2005 NSDUH Slippage Rates: HAWAII

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		895	1,027,252	1,027,252	1,027,252	0.00	0.00
Quarter	**Quarter 1**	163	254,993	254,993	254,993	0.00	-0.00
	Quarter 2	333	255,669	255,669	255,669	0.00	0.00
	Quarter 3	161	257,152	257,152	257,152	0.00	0.00
	Quarter 4	238	259,438	259,438	259,438	0.00	0.00
Age Group	**12-17**	304	101,052	101,052	101,052	0.00	0.00
	18-25	300	125,541	124,509	124,509	0.83	-0.00
	26-34	87	129,302	128,196	128,196	0.86	0.00
	35-49	125	255,070	262,575	262,575	-2.86	0.00
	50-64	54	273,948	239,343	239,343	14.46	0.00
	65+	25	142,339	171,577	171,577	-17.04	0.00
Race	**White**	198	259,419	268,613	268,613	-3.42	0.00
	Black	14	16,427	15,762	15,762	4.22	-0.00
	Other	683	751,406	742,877	742,877	1.15	0.00
Hispanicity	**Hispanic**	141	113,440	68,070	68,070	66.65	0.00
	Non-Hispanic	754	913,812	959,182	959,182	-4.73	0.00
Gender	**Male**	426	493,640	492,825	492,825	0.17	0.00
	Female	469	533,612	534,427	534,427	-0.15	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.14 2005 NSDUH Slippage Rates: IDAHO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		915	1,158,701	1,158,701	1,158,701	0.00	0.00
Quarter	**Quarter 1**	253	286,705	286,705	286,705	0.00	0.00
	Quarter 2	201	288,779	288,779	288,779	0.00	0.00
	Quarter 3	255	290,728	290,728	290,728	0.00	0.00
	Quarter 4	206	292,489	292,489	292,489	0.00	0.00
Age Group	**12-17**	289	128,921	127,463	127,463	1.14	0.00
	18-25	319	173,453	174,749	174,749	-0.74	0.00
	26-34	83	161,034	164,750	164,750	-2.26	0.00
	35-49	141	294,079	292,526	292,526	0.53	0.00
	50-64	45	208,209	240,723	240,723	-13.51	0.00
	65+	38	193,004	158,490	158,490	21.78	0.00
Race	**White**	836	1,089,369	1,110,554	1,110,554	-1.91	0.00
	Black	6	5,765	5,765	5,765	0.00	0.00
	Other	73	63,566	42,382	42,382	49.99	0.00
Hispanicity	**Hispanic**	119	95,850	93,636	93,636	2.36	0.00
	Non-Hispanic	796	1,062,851	1,065,065	1,065,065	-0.21	0.00
Gender	**Male**	454	567,502	573,409	573,409	-1.03	0.00
	Female	461	591,199	585,292	585,292	1.01	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.15 2005 NSDUH Slippage Rates: ILLINOIS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,661	10,446,542	10,446,542	10,446,542	0.00	0.00
Quarter	**Quarter 1**	768	2,605,929	2,605,929	2,605,929	-0.00	0.00
	Quarter 2	983	2,609,342	2,609,342	2,609,342	0.00	0.00
	Quarter 3	1,046	2,613,504	2,613,504	2,613,504	0.00	0.00
	Quarter 4	864	2,617,768	2,617,768	2,617,768	0.00	0.00
Age Group	**12-17**	1,208	1,103,197	1,103,493	1,103,493	-0.03	0.00
	18-25	1,214	1,409,984	1,408,349	1,408,349	0.12	0.00
	26-34	386	1,596,508	1,576,576	1,576,576	1.26	0.00
	35-49	530	2,798,810	2,818,175	2,818,175	-0.69	0.00
	50-64	206	2,301,932	2,092,025	2,092,025	10.03	0.00
	65+	117	1,236,112	1,447,924	1,447,924	-14.63	-0.00
Race	**White**	2,749	7,987,469	8,401,322	8,401,322	-4.93	0.00
	Black	505	1,470,696	1,481,810	1,481,810	-0.75	0.00
	Other	407	988,377	563,410	563,410	75.43	0.00
Hispanicity	**Hispanic**	649	1,386,107	1,364,442	1,364,442	1.59	0.00
	Non-Hispanic	3,012	9,060,435	9,082,100	9,082,100	-0.24	-0.00
Gender	**Male**	1,788	5,077,496	5,073,072	5,073,072	0.09	0.00
	Female	1,873	5,369,046	5,373,470	5,373,470	-0.08	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.16 2005 NSDUH Slippage Rates: INDIANA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		900	5,133,632	5,133,632	5,133,632	0.00	0.00
Quarter	**Quarter 1**	206	1,279,107	1,279,107	1,279,107	0.00	0.00
	Quarter 2	264	1,281,940	1,281,940	1,281,940	0.00	0.00
	Quarter 3	195	1,284,917	1,284,917	1,284,917	0.00	0.00
	Quarter 4	235	1,287,669	1,287,669	1,287,669	0.00	0.00
Age Group	**12-17**	328	551,621	551,621	551,621	0.00	0.00
	18-25	274	698,241	706,767	706,767	-1.21	0.00
	26-34	97	735,487	727,783	727,783	1.06	0.00
	35-49	124	1,378,815	1,358,205	1,358,205	1.52	0.00
	50-64	51	1,125,412	1,057,109	1,057,109	6.46	0.00
	65+	26	644,057	732,148	732,148	-12.03	0.00
Race	**White**	772	4,567,859	4,592,183	4,592,183	-0.53	0.00
	Black	83	394,837	422,466	422,466	-6.54	0.00
	Other	45	170,937	118,984	118,984	43.66	0.00
Hispanicity	**Hispanic**	47	204,476	209,850	209,850	-2.56	0.00
	Non-Hispanic	853	4,929,156	4,923,782	4,923,782	0.11	0.00
Gender	**Male**	439	2,502,180	2,502,180	2,502,180	0.00	0.00
	Female	461	2,631,452	2,631,452	2,631,452	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.17 2005 NSDUH Slippage Rates: IOWA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		923	2,486,265	2,486,265	2,486,265	0.00	0.00
Quarter	**Quarter 1**	223	620,050	620,050	620,050	0.00	0.00
	Quarter 2	228	621,252	621,252	621,252	0.00	0.00
	Quarter 3	235	622,217	622,217	622,217	0.00	0.00
	Quarter 4	237	622,747	622,747	622,747	0.00	0.00
Age Group	**12-17**	263	237,688	238,442	238,442	-0.32	0.00
	18-25	324	352,276	351,935	351,935	0.10	0.00
	26-34	111	324,311	326,734	326,734	-0.74	0.00
	35-49	141	640,551	637,717	637,717	0.44	0.00
	50-64	48	526,778	526,240	526,240	0.10	0.00
	65+	36	404,661	405,199	405,199	-0.13	0.00
Race	**White**	839	2,342,342	2,374,824	2,374,824	-1.37	-0.00
	Black	33	52,897	52,144	52,144	1.44	0.00
	Other	51	91,026	59,296	59,296	53.51	0.00
Hispanicity	**Hispanic**	31	67,829	80,082	80,082	-15.30	0.00
	Non-Hispanic	892	2,418,436	2,406,183	2,406,183	0.51	0.00
Gender	**Male**	445	1,226,639	1,216,784	1,216,784	0.81	0.00
	Female	478	1,259,625	1,269,481	1,269,481	-0.78	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.18 2005 NSDUH Slippage Rates: KANSAS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		938	2,242,553	2,242,553	2,242,553	0.00	0.00
Quarter	**Quarter 1**	205	559,190	559,190	559,190	-0.00	0.00
	Quarter 2	267	560,289	560,289	560,289	0.00	0.00
	Quarter 3	266	561,229	561,229	561,229	-0.00	0.00
	Quarter 4	200	561,846	561,846	561,846	0.00	0.00
Age Group	**12-17**	322	232,840	231,709	231,709	0.49	0.00
	18-25	325	323,662	328,431	328,431	-1.45	0.00
	26-34	72	309,129	311,291	311,291	-0.69	0.00
	35-49	122	572,890	580,579	580,579	-1.32	0.00
	50-64	53	447,752	458,116	458,116	-2.26	-0.00
	65+	44	356,280	332,427	332,427	7.18	0.00
Race	**White**	794	1,978,270	2,023,144	2,023,144	-2.22	0.00
	Black	69	121,957	121,342	121,342	0.51	0.00
	Other	75	142,325	98,067	98,067	45.13	0.00
Hispanicity	**Hispanic**	86	177,110	166,638	166,638	6.28	0.00
	Non-Hispanic	852	2,065,444	2,075,915	2,075,915	-0.50	0.00
Gender	**Male**	480	1,099,259	1,098,459	1,098,459	0.07	0.00
	Female	458	1,143,294	1,144,094	1,144,094	-0.07	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.19 2005 NSDUH Slippage Rates: KENTUCKY

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		895	3,447,472	3,447,472	3,447,472	0.00	-0.00
Quarter	**Quarter 1**	218	859,066	859,066	859,066	0.00	0.00
	Quarter 2	254	861,021	861,021	861,021	0.00	-0.00
	Quarter 3	192	862,902	862,902	862,902	0.00	0.00
	Quarter 4	231	864,484	864,484	864,484	0.00	-0.00
Age Group	**12-17**	318	335,037	336,230	336,230	-0.35	0.00
	18-25	261	451,767	451,706	451,706	0.01	0.00
	26-34	86	505,580	493,236	493,236	2.50	-0.00
	35-49	131	919,716	922,496	922,496	-0.30	-0.00
	50-64	61	781,414	744,969	744,969	4.89	-0.00
	65+	38	453,959	498,835	498,835	-9.00	-0.00
Race	**White**	808	3,128,103	3,144,342	3,144,342	-0.52	0.00
	Black	58	226,991	239,462	239,462	-5.21	-0.00
	Other	29	92,378	63,668	63,668	45.09	0.00
Hispanicity	**Hispanic**	23	64,490	59,693	59,693	8.04	0.00
	Non-Hispanic	872	3,382,982	3,387,779	3,387,779	-0.14	-0.00
Gender	**Male**	424	1,665,340	1,666,199	1,666,199	-0.05	0.00
	Female	471	1,782,132	1,781,273	1,781,273	0.05	-0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.20 2005 NSDUH Slippage Rates: LOUISIANA

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		840	3,667,177	3,667,177	3,667,177	0.00	0.00
Quarter	**Quarter 1**	215	914,916	914,916	914,916	0.00	0.00
	Quarter 2	252	916,384	916,384	916,384	0.00	0.00
	Quarter 3	190	917,570	917,570	917,570	0.00	0.00
	Quarter 4	183	918,308	918,307	918,308	0.00	-0.00
Age Group	**12-17**	312	391,126	395,660	395,660	-1.15	-0.00
	18-25	229	542,848	545,613	545,613	-0.51	0.00
	26-34	88	501,246	512,572	512,572	-2.21	0.00
	35-49	149	953,583	948,723	948,723	0.51	0.00
	50-64	36	748,067	761,974	761,974	-1.83	0.00
	65+	26	530,307	502,635	502,635	5.51	0.00
Race	**White**	520	2,358,019	2,424,089	2,424,089	-2.73	-0.00
	Black	283	1,140,352	1,142,854	1,142,854	-0.22	-0.00
	Other	37	168,805	100,234	100,234	68.41	0.00
Hispanicity	**Hispanic**	22	113,689	102,026	102,026	11.43	-0.00
	Non-Hispanic	818	3,553,488	3,565,151	3,565,151	-0.33	0.00
Gender	**Male**	392	1,740,190	1,741,564	1,741,564	-0.08	-0.00
	Female	448	1,926,986	1,925,613	1,925,613	0.07	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.21 2005 NSDUH Slippage Rates: MAINE

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		891	1,133,884	1,133,884	1,133,884	0.00	0.00
Quarter	**Quarter 1**	229	282,683	282,683	282,683	0.00	0.00
	Quarter 2	226	283,242	283,242	283,242	-0.00	0.00
	Quarter 3	214	283,771	283,772	283,772	-0.00	0.00
	Quarter 4	222	284,187	284,187	284,187	0.00	0.00
Age Group	**12-17**	268	107,050	107,503	107,503	-0.42	0.00
	18-25	309	137,794	138,219	138,219	-0.31	0.00
	26-34	77	126,988	126,110	126,110	0.70	0.00
	35-49	139	311,166	311,166	311,166	-0.00	0.00
	50-64	61	276,039	266,971	266,971	3.40	0.00
	65+	37	174,847	183,914	183,914	-4.93	0.00
Race	**White**	820	1,084,030	1,102,908	1,102,908	-1.71	0.00
	Black	12	12,101	7,166	7,166	68.87	0.00
	Other	59	37,752	23,809	23,809	58.56	0.00
Hispanicity	**Hispanic**	19	11,163	10,042	10,042	11.17	0.00
	Non-Hispanic	872	1,122,720	1,123,842	1,123,842	-0.10	0.00
Gender	**Male**	427	548,373	548,373	548,373	-0.00	0.00
	Female	464	585,510	585,510	585,510	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.22 2005 NSDUH Slippage Rates: MARYLAND

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		941	4,595,815	4,595,815	4,595,815	0.00	0.00
Quarter	**Quarter 1**	209	1,145,240	1,145,240	1,145,240	0.00	0.00
	Quarter 2	231	1,147,270	1,147,270	1,147,270	0.00	0.00
	Quarter 3	255	1,150,029	1,150,029	1,150,029	0.00	0.00
	Quarter 4	246	1,153,276	1,153,276	1,153,276	0.00	0.00
Age Group	**12-17**	275	499,233	495,159	495,159	0.82	0.00
	18-25	335	566,615	579,316	579,316	-2.19	0.00
	26-34	97	624,547	609,872	609,872	2.41	0.00
	35-49	159	1,324,038	1,308,156	1,308,156	1.21	0.00
	50-64	50	1,049,765	983,321	983,321	6.76	0.00
	65+	25	531,616	619,992	619,992	-14.25	0.00
Race	**White**	555	2,842,008	3,003,165	3,003,165	-5.37	0.00
	Black	276	1,329,727	1,297,602	1,297,602	2.48	0.00
	Other	110	424,080	295,048	295,048	43.73	0.00
Hispanicity	**Hispanic**	86	259,997	242,519	242,519	7.21	0.00
	Non-Hispanic	855	4,335,818	4,353,296	4,353,296	-0.40	0.00
Gender	**Male**	444	2,173,788	2,178,991	2,178,991	-0.24	0.00
	Female	497	2,422,027	2,416,824	2,416,824	0.22	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.23 2005 NSDUH Slippage Rates: MASSACHUSETTS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		960	5,368,881	5,368,881	5,368,881	-0.00	0.00
Quarter	**Quarter 1**	196	1,342,423	1,342,423	1,342,423	0.00	0.00
	Quarter 2	244	1,342,205	1,342,205	1,342,205	0.00	0.00
	Quarter 3	241	1,342,216	1,342,216	1,342,216	0.00	0.00
	Quarter 4	279	1,342,038	1,342,038	1,342,038	-0.00	0.00
Age Group	**12-17**	322	520,566	511,495	511,495	1.77	0.00
	18-25	329	656,735	675,654	675,654	-2.80	0.00
	26-34	99	782,053	768,350	768,350	1.78	0.00
	35-49	128	1,500,863	1,504,719	1,504,719	-0.26	0.00
	50-64	55	1,222,828	1,108,453	1,108,453	10.32	0.00
	65+	27	685,836	800,211	800,211	-14.29	0.00
Race	**White**	800	4,597,099	4,699,808	4,699,808	-2.19	0.00
	Black	54	353,277	339,976	339,976	3.91	0.00
	Other	106	418,505	329,097	329,097	27.17	0.00
Hispanicity	**Hispanic**	132	401,812	382,933	382,933	4.93	0.00
	Non-Hispanic	828	4,967,069	4,985,948	4,985,948	-0.38	0.00
Gender	**Male**	429	2,577,077	2,577,077	2,577,077	-0.00	0.00
	Female	531	2,791,804	2,791,804	2,791,804	-0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.24 2005 NSDUH Slippage Rates: MICHIGAN

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,655	8,384,776	8,384,776	8,384,776	0.00	0.00
Quarter	**Quarter 1**	839	2,093,584	2,093,584	2,093,584	-0.00	0.00
	Quarter 2	949	2,095,158	2,095,158	2,095,158	0.00	0.00
	Quarter 3	1,025	2,097,128	2,097,128	2,097,128	0.00	0.00
	Quarter 4	842	2,098,906	2,098,906	2,098,906	0.00	0.00
Age Group	**12-17**	1,250	910,067	909,522	909,522	0.06	0.00
	18-25	1,108	1,098,694	1,110,576	1,110,576	-1.07	0.00
	26-34	384	1,133,941	1,131,494	1,131,494	0.22	0.00
	35-49	569	2,261,478	2,258,712	2,258,712	0.12	0.00
	50-64	223	1,948,788	1,763,187	1,763,187	10.53	0.00
	65+	121	1,031,808	1,211,286	1,211,286	-14.82	0.00
Race	**White**	2,918	6,826,346	6,922,325	6,922,325	-1.39	0.00
	Black	505	1,126,397	1,129,886	1,129,886	-0.31	0.00
	Other	232	432,032	332,566	332,566	29.91	0.00
Hispanicity	**Hispanic**	182	291,202	286,978	286,978	1.47	0.00
	Non-Hispanic	3,473	8,093,573	8,097,798	8,097,798	-0.05	0.00
Gender	**Male**	1,806	4,058,075	4,067,770	4,067,770	-0.24	0.00
	Female	1,849	4,326,700	4,317,005	4,317,005	0.22	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.25 2005 NSDUH Slippage Rates: MINNESOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		904	4,273,652	4,273,652	4,273,652	-0.00	0.00
Quarter	**Quarter 1**	267	1,064,717	1,064,717	1,064,717	-0.00	0.00
	Quarter 2	190	1,067,271	1,067,271	1,067,271	0.00	0.00
	Quarter 3	230	1,069,765	1,069,765	1,069,765	-0.00	0.00
	Quarter 4	217	1,071,899	1,071,899	1,071,899	-0.00	0.00
Age Group	**12-17**	293	432,326	434,873	434,873	-0.59	0.00
	18-25	293	597,336	600,717	600,717	-0.56	0.00
	26-34	117	599,680	602,222	602,222	-0.42	0.00
	35-49	120	1,192,526	1,184,055	1,184,055	0.72	0.00
	50-64	54	999,957	866,705	866,705	15.37	0.00
	65+	27	451,828	585,080	585,080	-22.78	0.00
Race	**White**	783	3,842,850	3,882,294	3,882,294	-1.02	0.00
	Black	51	167,004	161,188	161,188	3.61	-0.00
	Other	70	263,799	230,170	230,170	14.61	0.00
Hispanicity	**Hispanic**	55	137,783	135,305	135,305	1.83	0.00
	Non-Hispanic	849	4,135,869	4,138,348	4,138,348	-0.06	0.00
Gender	**Male**	441	2,106,732	2,106,732	2,106,732	-0.00	0.00
	Female	463	2,166,920	2,166,920	2,166,920	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.26 2005 NSDUH Slippage Rates: MISSISSIPPI

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		930	2,361,852	2,361,852	2,361,852	0.00	0.00
Quarter	**Quarter 1**	224	588,531	588,531	588,531	0.00	0.00
	Quarter 2	200	590,012	590,012	590,012	0.00	0.00
	Quarter 3	205	591,229	591,229	591,229	0.00	0.00
	Quarter 4	301	592,081	592,081	592,081	-0.00	0.00
Age Group	**12-17**	310	257,317	255,325	255,325	0.78	0.00
	18-25	300	347,502	346,717	346,717	0.23	0.00
	26-34	80	343,732	336,022	336,022	2.29	0.00
	35-49	143	576,028	600,690	600,690	-4.11	0.00
	50-64	54	486,652	483,590	483,590	0.63	0.00
	65+	43	350,620	339,508	339,508	3.27	0.00
Race	**White**	518	1,485,242	1,492,100	1,492,100	-0.46	0.00
	Black	399	839,379	829,326	829,326	1.21	0.00
	Other	13	37,231	40,427	40,427	-7.90	0.00
Hispanicity	**Hispanic**	13	44,937	38,706	38,706	16.10	0.00
	Non-Hispanic	917	2,316,916	2,323,147	2,323,147	-0.27	0.00
Gender	**Male**	434	1,113,562	1,120,783	1,120,783	-0.64	0.00
	Female	496	1,248,291	1,241,069	1,241,069	0.58	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.27 2005 NSDUH Slippage Rates: MISSOURI

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		884	4,802,657	4,802,657	4,802,657	0.00	0.00
Quarter	**Quarter 1**	241	1,196,526	1,196,526	1,196,526	0.00	0.00
	Quarter 2	232	1,199,423	1,199,423	1,199,423	0.00	0.00
	Quarter 3	199	1,202,197	1,202,197	1,202,197	0.00	0.00
	Quarter 4	212	1,204,511	1,204,511	1,204,511	0.00	0.00
Age Group	**12-17**	289	482,404	485,626	485,626	-0.66	0.00
	18-25	304	669,167	657,106	657,106	1.84	0.00
	26-34	85	649,917	658,757	658,757	-1.34	0.00
	35-49	128	1,283,006	1,265,446	1,265,446	1.39	0.00
	50-64	50	1,065,279	1,007,524	1,007,524	5.73	0.00
	65+	28	652,884	728,199	728,199	-10.34	0.00
Race	**White**	749	4,198,212	4,149,308	4,149,308	1.18	0.00
	Black	94	456,936	515,392	515,392	-11.34	0.00
	Other	41	147,510	137,957	137,957	6.92	0.00
Hispanicity	**Hispanic**	33	145,128	116,393	116,393	24.69	0.00
	Non-Hispanic	851	4,657,529	4,686,264	4,686,264	-0.61	0.00
Gender	**Male**	427	2,315,763	2,315,763	2,315,763	0.00	0.00
	Female	457	2,486,894	2,486,894	2,486,894	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.28 2005 NSDUH Slippage Rates: MONTANA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		914	791,608	791,608	791,608	-0.00	-0.00
Quarter	**Quarter 1**	225	196,968	196,967	196,968	0.00	-0.00
	Quarter 2	248	197,647	197,647	197,647	-0.00	0.00
	Quarter 3	221	198,256	198,256	198,256	-0.00	0.00
	Quarter 4	220	198,737	198,737	198,737	-0.00	0.00
Age Group	**12-17**	306	76,819	76,652	76,652	0.22	-0.00
	18-25	315	108,877	109,736	109,736	-0.78	0.00
	26-34	82	94,334	93,641	93,642	0.74	-0.00
	35-49	141	200,572	200,572	200,572	0.00	0.00
	50-64	39	178,695	188,696	188,696	-5.30	0.00
	65+	31	132,312	122,311	122,311	8.18	0.00
Race	**White**	828	732,145	729,174	729,174	0.41	-0.00
	Black	3	819	2,178	2,179	-62.39	-0.00
	Other	83	58,644	60,256	60,256	-2.67	0.00
Hispanicity	**Hispanic**	46	20,102	17,279	17,279	16.34	-0.00
	Non-Hispanic	868	771,506	774,329	774,329	-0.36	-0.00
Gender	**Male**	439	391,140	391,140	391,140	0.00	-0.00
	Female	475	400,468	400,468	400,468	-0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.29 2005 NSDUH Slippage Rates: NEBRASKA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		935	1,442,367	1,442,367	1,442,367	0.00	0.00
Quarter	**Quarter 1**	217	359,584	359,584	359,584	-0.00	0.00
	Quarter 2	253	360,315	360,315	360,315	0.00	0.00
	Quarter 3	235	360,982	360,982	360,982	0.00	0.00
	Quarter 4	230	361,486	361,486	361,486	0.00	0.00
Age Group	**12-17**	340	147,168	147,168	147,168	0.00	0.00
	18-25	278	212,311	211,479	211,479	0.39	0.00
	26-34	80	199,139	202,091	202,091	-1.46	0.00
	35-49	141	377,936	368,728	368,728	2.50	0.00
	50-64	60	306,586	295,279	295,279	3.83	0.00
	65+	36	199,227	217,622	217,622	-8.45	0.00
Race	**White**	812	1,317,171	1,339,655	1,339,655	-1.68	0.00
	Black	45	60,371	56,013	56,013	7.78	0.00
	Other	78	64,824	46,698	46,698	38.82	0.00
Hispanicity	**Hispanic**	100	100,115	88,785	88,785	12.76	0.00
	Non-Hispanic	835	1,342,252	1,353,582	1,353,582	-0.84	0.00
Gender	**Male**	480	706,677	706,677	706,677	0.00	0.00
	Female	455	735,690	735,690	735,690	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.30 2005 NSDUH Slippage Rates: NEVADA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		917	1,969,076	1,969,076	1,969,076	0.00	0.00
Quarter	**Quarter 1**	207	485,443	485,443	485,443	0.00	0.00
	Quarter 2	261	489,878	489,878	489,878	-0.00	0.00
	Quarter 3	227	494,520	494,520	494,520	0.00	0.00
	Quarter 4	222	499,235	499,235	499,235	0.00	0.00
Age Group	**12-17**	306	204,209	204,889	204,889	-0.33	0.00
	18-25	296	243,342	245,352	245,352	-0.82	0.00
	26-34	101	325,206	320,619	320,619	1.43	0.00
	35-49	132	534,069	526,802	526,802	1.38	0.00
	50-64	59	499,017	402,998	402,998	23.83	0.00
	65+	23	163,232	268,416	268,416	-39.19	0.00
Race	**White**	682	1,520,776	1,629,309	1,629,309	-6.66	0.00
	Black	69	146,731	143,953	143,953	1.93	0.00
	Other	166	301,569	195,813	195,813	54.01	0.00
Hispanicity	**Hispanic**	284	432,619	417,500	417,500	3.62	0.00
	Non-Hispanic	633	1,536,457	1,551,576	1,551,576	-0.97	0.00
Gender	**Male**	444	996,501	992,113	992,113	0.44	0.00
	Female	473	972,575	976,963	976,963	-0.45	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.31 2005 NSDUH Slippage Rates: NEW HAMPSHIRE

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		881	1,107,223	1,107,223	1,107,223	0.00	0.00
Quarter	**Quarter 1**	230	275,655	275,655	275,655	0.00	0.00
	Quarter 2	184	276,389	276,389	276,389	0.00	0.00
	Quarter 3	307	277,191	277,191	277,191	0.00	0.00
	Quarter 4	160	277,988	277,988	277,988	0.00	0.00
Age Group	**12-17**	285	115,100	115,310	115,310	-0.18	0.00
	18-25	241	135,055	137,700	137,700	-1.92	0.00
	26-34	107	132,868	130,780	130,780	1.60	0.00
	35-49	159	321,167	323,618	323,618	-0.76	0.00
	50-64	57	264,440	246,392	246,392	7.33	0.00
	65+	32	138,592	153,423	153,423	-9.67	0.00
Race	**White**	813	1,053,616	1,066,913	1,066,913	-1.25	0.00
	Black	13	11,699	9,777	9,777	19.66	0.00
	Other	55	41,909	30,533	30,533	37.26	0.00
Hispanicity	**Hispanic**	41	25,985	21,784	21,784	19.28	0.00
	Non-Hispanic	840	1,081,238	1,085,439	1,085,439	-0.39	0.00
Gender	**Male**	413	539,671	541,981	541,981	-0.43	0.00
	Female	468	567,552	565,242	565,242	0.41	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.32 2005 NSDUH Slippage Rates: NEW JERSEY

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		925	7,195,333	7,195,333	7,195,333	-0.00	0.00
Quarter	**Quarter 1**	266	1,795,463	1,795,463	1,795,463	-0.00	-0.00
	Quarter 2	234	1,797,122	1,797,122	1,797,122	0.00	0.00
	Quarter 3	252	1,799,784	1,799,784	1,799,784	0.00	0.00
	Quarter 4	173	1,802,963	1,802,963	1,802,963	-0.00	0.00
Age Group	**12-17**	315	758,011	750,618	750,618	0.98	0.00
	18-25	331	812,034	839,549	839,549	-3.28	0.00
	26-34	74	980,472	947,855	947,855	3.44	0.00
	35-49	126	2,014,095	2,074,556	2,074,556	-2.91	-0.00
	50-64	42	1,506,131	1,502,325	1,502,325	0.25	-0.00
	65+	37	1,124,589	1,080,430	1,080,430	4.09	0.00
Race	**White**	629	5,268,089	5,594,128	5,594,128	-5.83	0.00
	Black	156	968,332	977,159	977,159	-0.90	0.00
	Other	140	958,912	624,047	624,047	53.66	0.00
Hispanicity	**Hispanic**	199	1,140,184	1,036,489	1,036,489	10.00	0.00
	Non-Hispanic	726	6,055,148	6,158,843	6,158,843	-1.68	0.00
Gender	**Male**	434	3,344,491	3,458,639	3,458,639	-3.30	0.00
	Female	491	3,850,841	3,736,693	3,736,693	3.05	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.33 2005 NSDUH Slippage Rates: NEW MEXICO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		902	1,578,514	1,578,514	1,578,514	0.00	0.00
Quarter	**Quarter 1**	266	391,864	391,864	391,864	0.00	0.00
	Quarter 2	184	393,611	393,611	393,611	0.00	-0.00
	Quarter 3	221	395,527	395,527	395,527	0.00	0.00
	Quarter 4	231	397,512	397,512	397,512	0.00	0.00
Age Group	**12-17**	303	172,260	172,592	172,592	-0.19	-0.00
	18-25	275	224,531	227,065	227,065	-1.12	0.00
	26-34	96	212,603	204,177	204,177	4.13	0.00
	35-49	136	392,353	400,354	400,354	-2.00	0.00
	50-64	52	341,766	345,567	345,567	-1.10	0.00
	65+	40	235,000	228,758	228,758	2.73	0.00
Race	**White**	709	1,245,264	1,348,640	1,348,640	-7.67	0.00
	Black	17	35,356	34,949	34,949	1.17	-0.00
	Other	176	297,893	194,925	194,925	52.82	0.00
Hispanicity	**Hispanic**	479	657,404	659,362	659,362	-0.30	0.00
	Non-Hispanic	423	921,109	919,151	919,151	0.21	-0.00
Gender	**Male**	417	762,596	762,596	762,596	0.00	0.00
	Female	485	815,918	815,918	815,918	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.34 2005 NSDUH Slippage Rates: NEW YORK

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,622	16,034,185	16,034,185	16,034,185	-0.00	0.00
Quarter	**Quarter 1**	800	4,009,627	4,009,627	4,009,627	-0.00	0.00
	Quarter 2	1,034	4,008,333	4,008,333	4,008,333	-0.00	0.00
	Quarter 3	977	4,008,156	4,008,156	4,008,156	-0.00	0.00
	Quarter 4	811	4,008,069	4,008,069	4,008,069	-0.00	0.00
Age Group	**12-17**	1,244	1,588,808	1,585,930	1,585,930	0.18	0.00
	18-25	1,129	2,024,695	2,051,613	2,051,613	-1.31	0.00
	26-34	366	2,292,259	2,288,883	2,288,883	0.15	0.00
	35-49	559	4,476,597	4,381,839	4,381,839	2.16	0.00
	50-64	182	3,261,641	3,327,038	3,327,038	-1.97	0.00
	65+	142	2,390,185	2,398,883	2,398,883	-0.36	0.00
Race	**White**	2,414	10,935,155	11,986,651	11,986,651	-8.77	0.00
	Black	624	2,657,715	2,654,773	2,654,773	0.11	0.00
	Other	584	2,441,315	1,392,762	1,392,762	75.29	0.00
Hispanicity	**Hispanic**	742	2,502,530	2,445,367	2,445,367	2.34	0.00
	Non-Hispanic	2,880	13,531,656	13,588,819	13,588,819	-0.42	0.00
Gender	**Male**	1,726	7,667,604	7,653,749	7,653,749	0.18	0.00
	Female	1,896	8,366,581	8,380,436	8,380,436	-0.17	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.35 2005 NSDUH Slippage Rates: NORTH CAROLINA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		861	7,058,554	7,058,554	7,058,554	0.00	-0.00
Quarter	**Quarter 1**	215	1,752,666	1,752,666	1,752,666	0.00	-0.00
	Quarter 2	240	1,760,830	1,760,830	1,760,830	0.00	-0.00
	Quarter 3	222	1,768,826	1,768,826	1,768,826	0.00	0.00
	Quarter 4	184	1,776,232	1,776,232	1,776,232	0.00	0.00
Age Group	**12-17**	264	720,641	720,858	720,859	-0.03	-0.00
	18-25	309	913,362	902,050	902,050	1.25	0.00
	26-34	78	1,053,009	1,074,202	1,074,202	-1.97	0.00
	35-49	140	1,917,026	1,897,319	1,897,319	1.04	0.00
	50-64	45	1,541,518	1,457,424	1,457,424	5.77	0.00
	65+	25	912,998	1,006,701	1,006,701	-9.31	0.00
Race	**White**	619	5,200,460	5,315,165	5,315,165	-2.16	0.00
	Black	193	1,471,282	1,474,483	1,474,483	-0.22	0.00
	Other	49	386,812	268,906	268,906	43.85	-0.00
Hispanicity	**Hispanic**	93	362,872	392,892	392,892	-7.64	-0.00
	Non-Hispanic	768	6,695,682	6,665,662	6,665,662	0.45	0.00
Gender	**Male**	399	3,377,731	3,397,980	3,397,980	-0.60	0.00
	Female	462	3,680,824	3,660,574	3,660,574	0.55	-0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.36 2005 NSDUH Slippage Rates: NORTH DAKOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		933	533,566	533,566	533,566	0.00	-0.00
Quarter	**Quarter 1**	212	133,215	133,215	133,215	0.00	0.00
	Quarter 2	268	133,379	133,379	133,379	0.00	-0.00
	Quarter 3	230	133,486	133,486	133,486	-0.00	0.00
	Quarter 4	223	133,486	133,486	133,486	-0.00	0.00
Age Group	**12-17**	314	49,776	49,616	49,616	0.32	-0.00
	18-25	309	81,444	82,220	82,221	-0.94	-0.00
	26-34	95	69,254	69,208	69,208	0.07	-0.00
	35-49	139	132,222	131,653	131,653	0.43	0.00
	50-64	44	116,287	114,248	114,248	1.78	-0.00
	65+	32	84,583	86,621	86,621	-2.35	0.00
Race	**White**	838	496,251	498,533	498,533	-0.46	0.00
	Black	6	2,706	2,706	2,706	0.00	0.00
	Other	89	34,609	32,327	32,327	7.06	-0.00
Hispanicity	**Hispanic**	16	7,476	7,267	7,267	2.89	0.00
	Non-Hispanic	917	526,090	526,300	526,300	-0.04	-0.00
Gender	**Male**	461	263,343	263,343	263,343	0.00	-0.00
	Female	472	270,223	270,223	270,223	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.37 2005 NSDUH Slippage Rates: OHIO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,579	9,513,391	9,513,391	9,513,391	0.00	0.00
Quarter	**Quarter 1**	809	2,375,793	2,375,793	2,375,793	0.00	0.00
	Quarter 2	1,041	2,377,573	2,377,573	2,377,573	0.00	0.00
	Quarter 3	876	2,379,412	2,379,412	2,379,412	0.00	0.00
	Quarter 4	853	2,380,613	2,380,613	2,380,613	0.00	0.00
Age Group	**12-17**	1,150	977,000	978,132	978,132	-0.12	0.00
	18-25	1,223	1,264,047	1,257,664	1,257,664	0.51	0.00
	26-34	369	1,261,949	1,274,607	1,274,607	-0.99	0.00
	35-49	478	2,518,764	2,535,155	2,535,155	-0.65	0.00
	50-64	214	2,095,899	2,024,181	2,024,181	3.54	0.00
	65+	145	1,395,731	1,443,652	1,443,652	-3.32	0.00
Race	**White**	2,914	8,084,602	8,205,775	8,205,775	-1.48	0.00
	Black	504	1,066,015	1,058,346	1,058,346	0.72	0.00
	Other	161	362,773	249,270	249,270	45.53	0.00
Hispanicity	**Hispanic**	130	223,661	197,151	197,151	13.45	0.00
	Non-Hispanic	3,449	9,289,729	9,316,240	9,316,240	-0.28	0.00
Gender	**Male**	1,719	4,568,612	4,583,862	4,583,862	-0.33	0.00
	Female	1,860	4,944,778	4,929,529	4,929,529	0.31	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.38 2005 NSDUH Slippage Rates: OKLAHOMA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		946	2,897,287	2,897,287	2,897,287	0.00	0.00
Quarter	**Quarter 1**	216	721,511	721,511	721,511	0.00	0.00
	Quarter 2	216	723,395	723,395	723,395	0.00	0.00
	Quarter 3	271	725,312	725,313	725,313	-0.00	0.00
	Quarter 4	243	727,069	727,069	727,069	0.00	0.00
Age Group	**12-17**	286	291,070	290,467	290,467	0.21	0.00
	18-25	349	418,608	419,860	419,860	-0.30	-0.00
	26-34	92	407,444	404,878	404,878	0.63	0.00
	35-49	128	725,851	727,767	727,767	-0.26	0.00
	50-64	54	648,059	610,937	610,937	6.08	0.00
	65+	37	406,256	443,378	443,378	-8.37	0.00
Race	**White**	652	2,192,998	2,308,858	2,308,858	-5.02	0.00
	Black	94	200,204	205,862	205,862	-2.75	0.00
	Other	200	504,086	382,568	382,568	31.76	0.00
Hispanicity	**Hispanic**	90	177,377	169,874	169,875	4.42	-0.00
	Non-Hispanic	856	2,719,911	2,727,413	2,727,413	-0.28	0.00
Gender	**Male**	440	1,406,750	1,404,014	1,404,014	0.19	0.00
	Female	506	1,490,538	1,493,273	1,493,273	-0.18	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.39 2005 NSDUH Slippage Rates: OREGON

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		920	3,049,330	3,049,330	3,049,330	-0.00	0.00
Quarter	**Quarter 1**	214	757,783	757,783	757,783	-0.00	0.00
	Quarter 2	212	760,915	760,915	760,915	0.00	0.00
	Quarter 3	228	763,960	763,960	763,960	0.00	0.00
	Quarter 4	266	766,672	766,672	766,672	0.00	0.00
Age Group	**12-17**	287	301,714	297,895	297,895	1.28	0.00
	18-25	302	391,242	399,067	399,067	-1.96	-0.00
	26-34	101	456,991	452,984	452,984	0.88	0.00
	35-49	132	769,951	776,904	776,904	-0.89	0.00
	50-64	57	645,068	666,073	666,073	-3.15	0.00
	65+	41	484,364	456,407	456,407	6.13	0.00
Race	**White**	789	2,665,487	2,784,416	2,784,416	-4.27	-0.00
	Black	14	37,912	43,276	50,979	-25.63	-15.11
	Other	117	345,931	221,639	213,935	61.70	3.60
Hispanicity	**Hispanic**	75	283,865	261,009	261,009	8.76	0.00
	Non-Hispanic	845	2,765,465	2,788,321	2,788,321	-0.82	0.00
Gender	**Male**	443	1,500,697	1,500,566	1,500,566	0.01	0.00
	Female	477	1,548,633	1,548,764	1,548,764	-0.01	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.40 2005 NSDUH Slippage Rates: PENNSYLVANIA

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,684	10,436,338	10,436,338	10,436,338	0.00	0.00
Quarter	**Quarter 1**	848	2,604,797	2,604,797	2,604,797	0.00	0.00
	Quarter 2	997	2,607,519	2,607,519	2,607,519	0.00	-0.00
	Quarter 3	889	2,610,657	2,610,657	2,610,657	0.00	0.00
	Quarter 4	950	2,613,365	2,613,365	2,613,365	0.00	0.00
Age Group	**12-17**	1,210	1,032,276	1,033,652	1,033,652	-0.13	0.00
	18-25	1,289	1,321,220	1,323,979	1,323,979	-0.21	0.00
	26-34	359	1,258,543	1,276,231	1,276,231	-1.39	0.00
	35-49	485	2,757,737	2,752,941	2,752,941	0.17	0.00
	50-64	191	2,265,440	2,265,597	2,265,597	-0.01	0.00
	65+	150	1,801,121	1,783,938	1,783,938	0.96	-0.00
Race	**White**	3,038	8,999,056	9,097,133	9,097,133	-1.08	0.00
	Black	463	1,026,818	1,013,415	1,013,415	1.32	0.00
	Other	183	410,463	325,790	325,790	25.99	0.00
Hispanicity	**Hispanic**	215	377,318	372,495	372,495	1.29	-0.00
	Non-Hispanic	3,469	10,059,020	10,063,843	10,063,843	-0.05	0.00
Gender	**Male**	1,748	5,002,322	5,001,303	5,001,303	0.02	0.00
	Female	1,936	5,434,016	5,435,035	5,435,035	-0.02	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.41 2005 NSDUH Slippage Rates: RHODE ISLAND

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		890	902,072	902,072	902,072	-0.00	0.00
Quarter	**Quarter 1**	221	225,822	225,822	225,822	-0.00	0.00
	Quarter 2	218	225,600	225,600	225,600	0.00	0.00
	Quarter 3	206	225,423	225,423	225,423	-0.00	0.00
	Quarter 4	245	225,226	225,226	225,226	-0.00	0.00
Age Group	**12-17**	276	88,361	88,361	88,361	0.00	0.00
	18-25	278	119,357	123,642	123,642	-3.47	0.00
	26-34	99	122,783	119,512	119,512	2.74	0.00
	35-49	147	242,702	243,560	243,560	-0.35	0.00
	50-64	58	214,926	186,745	186,745	15.09	0.00
	65+	32	113,942	140,251	140,251	-18.76	0.00
Race	**White**	711	766,464	810,537	810,537	-5.44	-0.00
	Black	66	53,789	50,884	50,884	5.71	0.00
	Other	113	81,819	40,651	40,651	101.27	0.00
Hispanicity	**Hispanic**	117	90,134	85,853	85,853	4.99	0.00
	Non-Hispanic	773	811,938	816,219	816,219	-0.52	0.00
Gender	**Male**	410	430,844	430,844	430,844	0.00	0.00
	Female	480	471,227	471,228	471,228	-0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.42 2005 NSDUH Slippage Rates: SOUTH CAROLINA

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		910	3,493,487	3,493,487	3,493,487	0.00	0.00
Quarter	**Quarter 1**	207	868,213	868,213	868,213	0.00	0.00
	Quarter 2	248	871,772	871,772	871,772	0.00	0.00
	Quarter 3	220	875,198	875,198	875,198	0.00	0.00
	Quarter 4	235	878,305	878,305	878,305	0.00	0.00
Age Group	**12-17**	324	358,309	359,960	359,960	-0.46	0.00
	18-25	235	464,691	464,920	464,920	-0.05	0.00
	26-34	93	487,064	488,276	488,276	-0.25	0.00
	35-49	146	899,424	905,173	905,173	-0.64	0.00
	50-64	69	821,905	759,721	759,721	8.19	0.00
	65+	43	462,093	515,437	515,437	-10.35	0.00
Race	**White**	579	2,417,919	2,439,544	2,439,544	-0.89	0.00
	Black	289	962,953	979,518	979,518	-1.69	0.00
	Other	42	112,615	74,425	74,425	51.31	0.00
Hispanicity	**Hispanic**	39	98,005	103,034	103,034	-4.88	0.00
	Non-Hispanic	871	3,395,481	3,390,453	3,390,453	0.15	0.00
Gender	**Male**	414	1,676,389	1,661,717	1,661,717	0.88	0.00
	Female	496	1,817,097	1,831,770	1,831,770	-0.80	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.43 2005 NSDUH Slippage Rates: SOUTH DAKOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		927	635,910	635,910	635,910	0.00	0.00
Quarter	**Quarter 1**	246	158,373	158,373	158,373	0.00	-0.00
	Quarter 2	245	158,802	158,802	158,802	0.00	-0.00
	Quarter 3	182	159,204	159,204	159,204	0.00	0.00
	Quarter 4	254	159,530	159,530	159,530	0.00	-0.00
Age Group	**12-17**	303	65,450	65,673	65,673	-0.34	-0.00
	18-25	309	93,426	94,482	94,482	-1.12	0.00
	26-34	89	77,767	80,531	80,531	-3.43	0.00
	35-49	134	162,126	160,338	160,338	1.12	0.00
	50-64	51	129,470	131,894	131,894	-1.84	0.00
	65+	41	107,671	102,993	102,993	4.54	0.00
Race	**White**	762	574,145	574,763	574,763	-0.11	-0.00
	Black	11	9,466	4,176	4,176	126.69	0.00
	Other	154	52,298	56,971	56,971	-8.20	0.00
Hispanicity	**Hispanic**	28	8,371	11,250	11,250	-25.59	0.00
	Non-Hispanic	899	627,538	624,660	624,660	0.46	0.00
Gender	**Male**	441	311,765	311,764	311,765	0.00	-0.00
	Female	486	324,145	324,145	324,145	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.44 2005 NSDUH Slippage Rates: TENNESSEE

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		921	4,950,513	4,950,513	4,950,513	0.00	0.00
Quarter	**Quarter 1**	247	1,231,408	1,231,408	1,231,408	0.00	0.00
	Quarter 2	279	1,235,656	1,235,656	1,235,656	0.00	0.00
	Quarter 3	164	1,239,826	1,239,826	1,239,826	0.00	0.00
	Quarter 4	231	1,243,623	1,243,623	1,243,623	0.00	-0.00
Age Group	**12-17**	314	477,644	477,589	477,589	0.01	0.00
	18-25	311	635,258	644,486	644,486	-1.43	0.00
	26-34	94	720,887	726,957	726,957	-0.84	-0.00
	35-49	133	1,328,925	1,323,576	1,323,576	0.40	0.00
	50-64	44	1,068,447	1,062,578	1,062,578	0.55	0.00
	65+	25	719,352	715,328	715,328	0.56	-0.00
Race	**White**	700	4,040,498	4,055,912	4,055,912	-0.38	-0.00
	Black	181	782,464	780,281	780,281	0.28	0.00
	Other	40	127,550	114,320	114,320	11.57	0.00
Hispanicity	**Hispanic**	41	114,472	133,786	133,786	-14.44	0.00
	Non-Hispanic	880	4,836,041	4,816,727	4,816,727	0.40	0.00
Gender	**Male**	428	2,386,945	2,386,945	2,386,945	0.00	0.00
	Female	493	2,563,568	2,563,568	2,563,568	0.00	-0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.45 2005 NSDUH Slippage Rates: TEXAS

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,562	18,113,027	18,113,028	18,113,028	-0.00	0.00
Quarter	Quarter 1	926	4,495,712	4,495,713	4,495,713	-0.00	0.00
	Quarter 2	943	4,517,267	4,517,267	4,517,267	0.00	0.00
	Quarter 3	847	4,539,271	4,539,271	4,539,271	-0.00	0.00
	Quarter 4	846	4,560,778	4,560,778	4,560,778	0.00	0.00
Age Group	12-17	1,177	2,065,577	2,061,525	2,061,525	0.20	0.00
	18-25	1,158	2,667,571	2,648,680	2,648,680	0.71	0.00
	26-34	376	2,866,382	2,909,416	2,909,416	-1.48	0.00
	35-49	529	4,908,743	4,882,845	4,882,845	0.53	0.00
	50-64	218	3,800,450	3,445,880	3,445,880	10.29	0.00
	65+	104	1,804,303	2,164,681	2,164,682	-16.65	-0.00
Race	White	2,778	14,513,060	15,157,635	15,157,635	-4.25	0.00
	Black	447	2,039,363	2,028,551	2,028,551	0.53	0.00
	Other	337	1,560,604	926,842	926,842	68.38	0.00
Hispanicity	Hispanic	1,427	6,109,276	5,979,105	5,979,105	2.18	0.00
	Non-Hispanic	2,135	12,003,752	12,133,923	12,133,923	-1.07	0.00
Gender	Male	1,715	8,855,991	8,851,429	8,851,429	0.05	0.00
	Female	1,847	9,257,037	9,261,599	9,261,599	-0.05	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.46 2005 NSDUH Slippage Rates: UTAH

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		939	1,926,464	1,926,464	1,926,464	0.00	0.00
Quarter	Quarter 1	232	477,653	477,653	477,653	0.00	0.00
	Quarter 2	250	480,551	480,551	480,551	0.00	0.00
	Quarter 3	203	483,098	483,098	483,098	0.00	0.00
	Quarter 4	254	485,162	485,162	485,162	0.00	0.00
Age Group	12-17	327	226,235	225,945	225,945	0.13	-0.00
	18-25	281	358,497	361,368	361,368	-0.79	0.00
	26-34	124	371,169	368,588	368,588	0.70	0.00
	35-49	148	443,049	446,313	446,313	-0.73	0.00
	50-64	40	358,124	314,576	314,576	13.84	0.00
	65+	19	169,390	209,674	209,674	-19.21	0.00
Race	White	868	1,739,601	1,812,423	1,812,423	-4.02	-0.00
	Black	4	7,755	17,436	17,436	-55.52	-0.00
	Other	67	179,108	96,606	96,606	85.40	0.00
Hispanicity	Hispanic	107	190,496	192,690	192,690	-1.14	0.00
	Non-Hispanic	832	1,735,968	1,733,774	1,733,774	0.13	0.00
Gender	Male	451	957,391	955,943	955,943	0.15	0.00
	Female	488	969,073	970,521	970,521	-0.15	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.47 2005 NSDUH Slippage Rates: VERMONT

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		880	536,973	536,973	536,973	0.00	0.00
Quarter	**Quarter 1**	288	133,947	133,947	133,947	0.00	0.00
	Quarter 2	202	134,159	134,159	134,159	0.00	0.00
	Quarter 3	167	134,358	134,358	134,358	0.00	0.00
	Quarter 4	223	134,509	134,509	134,509	0.00	0.00
Age Group	**12-17**	305	51,852	52,156	52,156	-0.58	0.00
	18-25	286	71,599	71,825	71,825	-0.32	0.00
	26-34	106	62,221	62,240	62,240	-0.03	0.00
	35-49	119	146,264	145,714	145,714	0.38	0.00
	50-64	41	129,143	126,931	126,931	1.74	0.00
	65+	23	75,894	78,107	78,107	-2.83	0.00
Race	**White**	834	510,611	521,307	521,307	-2.05	0.00
	Black	6	7,966	3,199	3,199	149.03	0.00
	Other	40	18,395	12,467	12,467	47.55	0.00
Hispanicity	**Hispanic**	29	6,244	5,662	5,662	10.27	0.00
	Non-Hispanic	851	530,729	531,311	531,311	-0.11	0.00
Gender	**Male**	402	263,584	262,964	262,964	0.24	0.00
	Female	478	273,389	274,009	274,009	-0.23	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.48 2005 NSDUH Slippage Rates: VIRGINIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		941	6,125,856	6,125,856	6,125,856	0.00	0.00
Quarter	**Quarter 1**	220	1,523,119	1,523,119	1,523,119	0.00	0.00
	Quarter 2	212	1,528,294	1,528,294	1,528,294	0.00	0.00
	Quarter 3	276	1,534,138	1,534,138	1,534,138	0.00	0.00
	Quarter 4	233	1,540,305	1,540,305	1,540,305	0.00	0.00
Age Group	**12-17**	305	624,552	624,849	624,849	-0.05	0.00
	18-25	355	787,892	782,453	782,453	0.70	0.00
	26-34	100	840,675	845,818	845,818	-0.61	0.00
	35-49	108	1,707,583	1,707,583	1,707,583	0.00	0.00
	50-64	47	1,373,371	1,335,964	1,335,964	2.80	0.00
	65+	26	791,784	829,191	829,191	-4.51	-0.00
Race	**White**	604	4,475,559	4,582,690	4,582,690	-2.34	0.00
	Black	214	1,105,604	1,161,675	1,161,675	-4.83	0.00
	Other	123	544,693	381,490	381,490	42.78	0.00
Hispanicity	**Hispanic**	113	351,470	333,555	333,555	5.37	0.00
	Non-Hispanic	828	5,774,386	5,792,301	5,792,301	-0.31	0.00
Gender	**Male**	425	2,922,213	2,922,213	2,922,213	0.00	0.00
	Female	516	3,203,643	3,203,643	3,203,643	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.49 2005 NSDUH Slippage Rates: WASHINGTON

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		876	5,216,989	5,216,989	5,216,989	-0.00	0.00
Quarter	**Quarter 1**	237	1,296,357	1,296,357	1,296,357	-0.00	0.00
	Quarter 2	207	1,301,432	1,301,432	1,301,432	-0.00	0.00
	Quarter 3	214	1,306,876	1,306,876	1,306,876	-0.00	0.00
	Quarter 4	218	1,312,324	1,312,325	1,312,325	-0.00	0.00
Age Group	**12-17**	279	527,294	527,294	527,294	-0.00	0.00
	18-25	262	682,541	699,984	699,984	-2.49	0.00
	26-34	96	759,518	746,520	746,520	1.74	0.00
	35-49	148	1,439,698	1,426,691	1,426,691	0.91	0.00
	50-64	63	1,206,430	1,117,454	1,117,454	7.96	0.00
	65+	28	601,509	699,047	699,047	-13.95	-0.00
Race	**White**	726	4,332,616	4,481,680	4,481,680	-3.33	0.00
	Black	22	165,621	172,657	164,954	0.40	4.67
	Other	128	718,752	562,652	570,356	26.02	-1.35
Hispanicity	**Hispanic**	123	426,890	395,882	395,882	7.83	0.00
	Non-Hispanic	753	4,790,100	4,821,107	4,821,107	-0.64	-0.00
Gender	**Male**	409	2,562,790	2,562,790	2,562,790	-0.00	0.00
	Female	467	2,654,199	2,654,199	2,654,199	-0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.50 2005 NSDUH Slippage Rates: WEST VIRGINIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		924	1,546,578	1,546,578	1,546,578	0.00	0.00
Quarter	**Quarter 1**	214	386,288	386,288	386,288	0.00	0.00
	Quarter 2	254	386,613	386,613	386,613	0.00	0.00
	Quarter 3	232	386,840	386,840	386,840	-0.00	0.00
	Quarter 4	224	386,837	386,837	386,837	0.00	0.00
Age Group	**12-17**	309	135,707	136,382	136,382	-0.49	0.00
	18-25	321	191,331	191,047	191,047	0.15	0.00
	26-34	72	198,073	198,643	198,643	-0.29	0.00
	35-49	121	384,497	387,194	387,194	-0.70	0.00
	50-64	67	430,219	365,880	365,880	17.58	0.00
	65+	34	206,751	267,434	267,434	-22.69	0.00
Race	**White**	886	1,466,221	1,479,169	1,479,169	-0.88	0.00
	Black	13	45,307	45,307	45,307	-0.00	0.00
	Other	25	35,051	22,102	22,102	58.58	0.00
Hispanicity	**Hispanic**	14	12,851	12,565	12,565	2.28	0.00
	Non-Hispanic	910	1,533,727	1,534,013	1,534,013	-0.02	0.00
Gender	**Male**	448	749,881	750,435	750,435	-0.07	0.00
	Female	476	796,697	796,143	796,143	0.07	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.51 2005 NSDUH Slippage Rates: WISCONSIN

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		915	4,629,408	4,629,408	4,629,408	-0.00	0.00
Quarter	**Quarter 1**	190	1,153,881	1,153,881	1,153,881	-0.00	0.00
	Quarter 2	302	1,156,256	1,156,256	1,156,256	-0.00	0.00
	Quarter 3	226	1,158,627	1,158,627	1,158,627	0.00	0.00
	Quarter 4	197	1,160,644	1,160,644	1,160,644	0.00	0.00
Age Group	**12-17**	279	471,632	469,857	469,857	0.38	0.00
	18-25	336	637,351	639,157	639,157	-0.28	0.00
	26-34	83	621,172	608,691	608,691	2.05	0.00
	35-49	128	1,244,441	1,256,890	1,256,890	-0.99	0.00
	50-64	54	992,215	969,500	969,500	2.34	0.00
	65+	35	662,597	685,311	685,311	-3.31	0.00
Race	**White**	828	4,229,309	4,226,435	4,226,435	0.07	0.00
	Black	49	225,188	241,609	241,609	-6.80	0.00
	Other	38	174,911	161,363	161,363	8.40	0.00
Hispanicity	**Hispanic**	56	173,673	182,238	182,238	-4.70	0.00
	Non-Hispanic	859	4,455,735	4,447,169	4,447,169	0.19	0.00
Gender	**Male**	457	2,270,484	2,269,955	2,269,955	0.02	0.00
	Female	458	2,358,923	2,359,453	2,359,453	-0.02	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Table H.52 2005 NSDUH Slippage Rates: WYOMING

Domain		n	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		924	427,287	427,287	427,287	0.00	0.00
Quarter	**Quarter 1**	245	106,415	106,415	106,415	0.00	-0.00
	Quarter 2	196	106,703	106,703	106,703	0.00	0.00
	Quarter 3	213	106,970	106,970	106,970	0.00	0.00
	Quarter 4	270	107,199	107,199	107,199	0.00	0.00
Age Group	**12-17**	294	41,564	41,544	41,544	0.05	0.00
	18-25	330	62,419	62,018	62,018	0.65	0.00
	26-34	79	54,316	53,353	53,353	1.81	0.00
	35-49	154	109,026	109,025	109,025	0.00	0.00
	50-64	42	99,470	102,001	102,001	-2.48	0.00
	65+	25	60,492	59,346	59,346	1.93	0.00
Race	**White**	844	403,491	407,767	407,767	-1.05	0.00
	Black	9	2,424	3,028	3,028	-19.95	-0.00
	Other	71	21,372	16,492	16,492	29.60	0.00
Hispanicity	**Hispanic**	83	28,538	26,272	26,272	8.63	0.00
	Non-Hispanic	841	398,749	401,015	401,015	-0.57	-0.00
Gender	**Male**	471	212,814	212,814	212,814	0.00	0.00
	Female	453	214,472	214,472	214,472	0.00	0.00

[1] Weight1*...*Weight13 (before person poststratification).
[2] Weight1*...*Weight14 (after person poststratification).
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005.

Appendix I: Evaluation of Calibration Weights: Weight Summary Statistics

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Table I.1 2005 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.du.nr (Weight1*...*Weight7)[1]						After res.du.nr & Before res.du.ps (Weight1*...*Weight8)[1]						After res.du.ps (Weight1*...*Weight9)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
United States	134,055	13	449	588	959	6,025	1.41	48	485	644	1,058	6,836	1.41	17	475	703	1,140	9,584	1.45
Alaska	1,592	117	123	127	131	298	1.01	119	128	135	142	239	1.01	48	125	143	167	372	1.07
Alabama	1,653	42	791	848	911	1,958	1.04	379	851	933	1,002	1,453	1.03	166	909	1,048	1,284	2,765	1.09
Arkansas	1,753	202	552	575	586	620	1.00	543	583	603	624	691	1.00	118	580	635	685	3,085	1.05
Arizona	1,518	45	913	1,021	1,433	2,531	1.07	48	986	1,107	1,506	2,805	1.08	17	1,137	1,399	1,681	6,296	1.14
California	6,297	71	1,456	1,640	1,700	1,822	1.01	956	1,621	1,759	1,874	3,017	1.01	623	1,736	1,929	2,116	6,540	1.03
Colorado	1,839	800	854	867	896	997	1.00	800	888	930	958	1,141	1.00	245	846	938	1,076	3,208	1.05
Connecticut	2,042	19	530	540	550	574	1.00	501	557	594	615	1,348	1.01	106	591	665	741	3,220	1.09
District of Columbia	2,655	66	69	82	89	99	1.02	67	82	91	105	182	1.04	33	77	91	109	310	1.08
Delaware	1,824	137	145	152	161	418	1.02	143	161	167	176	216	1.01	37	160	176	194	432	1.05
Florida	7,581	455	586	699	921	2,959	1.06	491	656	784	976	1,922	1.05	146	765	900	1,041	3,041	1.06
Georgia	1,721	376	1,486	1,535	1,804	3,004	1.02	1,401	1,578	1,668	1,911	2,653	1.01	313	1,598	1,886	2,256	6,483	1.08
Hawaii	1,735	101	139	185	220	290	1.06	109	154	210	241	501	1.07	36	174	224	292	941	1.16
Iowa	1,636	163	580	593	608	984	1.04	558	604	625	671	1,121	1.05	122	642	740	805	3,013	1.07
Idaho	1,646	240	249	269	282	484	1.01	248	266	285	299	416	1.01	54	296	333	361	1,073	1.07
Illinois	6,864	301	477	488	597	1,174	1.02	376	563	626	736	1,039	1.03	121	583	661	768	3,656	1.06
Indiana	1,845	983	1,018	1,235	1,289	1,407	1.01	1,008	1,098	1,302	1,394	1,591	1.01	205	1,158	1,345	1,490	4,137	1.07
Kansas	1,895	428	450	505	568	768	1.03	431	494	549	656	859	1.04	94	511	565	647	3,755	1.10
Kentucky	1,940	111	731	745	833	960	1.01	284	772	841	916	1,221	1.01	154	779	846	956	4,180	1.05
Louisiana	1,645	802	838	862	907	942	1.00	831	881	919	959	1,153	1.00	191	934	1,026	1,153	3,195	1.05
Massachusetts	2,009	915	940	951	975	1,894	1.02	915	1,008	1,057	1,203	2,882	1.04	192	1,055	1,139	1,297	4,953	1.12
Maryland	1,739	324	922	975	1,075	2,088	1.01	630	1,090	1,151	1,280	1,493	1.01	203	1,049	1,184	1,355	2,759	1.05
Maine	1,940	221	233	237	242	494	1.01	228	251	258	278	340	1.01	50	267	284	309	614	1.06
Michigan	6,898	116	453	467	508	1,846	1.03	307	494	521	590	1,707	1.02	98	512	553	624	2,117	1.04
Minnesota	1,555	156	1,027	1,156	1,289	1,412	1.01	867	1,082	1,255	1,361	1,533	1.01	215	1,128	1,295	1,455	6,105	1.08
Missouri	1,666	679	1,093	1,113	1,141	1,383	1.01	679	1,150	1,175	1,280	1,547	1.01	307	1,231	1,338	1,477	3,875	1.06

[1] Weight1-Weight7 are design-based weight components; nr = nonresponse adjustment, ps = poststratification adjustment.
(continued)
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as 1+[(*n*-1)/*n*]*CV^2, where CV = coefficient of variation of weights.

Table I.1 2005 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.du.nr (Weight1*...*Weight7)[1]						After res.du.nr & Before res.du.ps (Weight1*...*Weight7)[1]						After res.du.ps (Weight1*...*Weight9)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	1,697	439	456	516	601	635	1.02	449	482	557	626	683	1.02	112	511	636	741	2,884	1.13
Montana	1,866	157	163	173	180	188	1.00	164	175	182	189	214	1.00	38	190	208	227	717	1.05
North Carolina	1,684	156	1,405	1,752	1,806	1,941	1.01	1,266	1,563	1,860	1,927	2,290	1.02	281	1,810	1,991	2,195	9,584	1.08
North Dakota	1,950	103	111	123	125	132	1.00	110	119	129	133	163	1.01	23	125	140	152	649	1.09
Nebraska	1,953	283	306	315	331	380	1.01	283	320	334	357	434	1.01	61	333	357	388	1,480	1.04
New Hampshire	1,883	185	199	219	255	1,271	1.04	188	214	234	308	797	1.08	44	218	256	319	1,543	1.13
New Jersey	1,866	161	1,103	1,140	1,250	3,602	1.05	992	1,229	1,339	1,593	3,253	1.04	331	1,447	1,636	1,897	6,971	1.08
New Mexico	1,713	223	329	351	365	588	1.04	258	346	368	405	671	1.05	79	371	420	479	1,984	1.11
Nevada	1,797	302	328	365	396	461	1.02	302	354	392	432	572	1.02	77	420	489	556	1,897	1.10
New York	7,676	545	631	684	828	1,277	1.02	595	750	871	991	1,843	1.05	403	805	924	1,060	3,874	1.07
Ohio	7,310	35	500	571	597	1,581	1.04	382	533	602	636	1,698	1.04	102	564	623	668	2,466	1.06
Oklahoma	1,872	504	529	600	619	694	1.01	523	583	629	676	795	1.01	111	608	769	914	2,795	1.13
Oregon	1,962	522	553	710	737	874	1.02	546	644	749	800	932	1.02	197	641	717	820	2,672	1.07
Pennsylvania	7,893	337	506	528	542	624	1.00	459	547	573	615	1,312	1.01	293	566	609	662	2,407	1.02
Rhode Island	1,760	79	185	189	208	236	1.01	153	206	213	239	306	1.01	37	205	232	264	1,276	1.20
South Carolina	1,970	338	605	864	891	1,424	1.04	586	814	889	971	1,290	1.04	159	735	843	971	2,662	1.07
South Dakota	1,522	128	147	173	178	199	1.01	129	153	181	191	226	1.01	30	179	205	231	516	1.06
Tennessee	1,762	896	971	1,182	1,214	1,290	1.01	993	1,116	1,271	1,351	1,697	1.01	216	1,130	1,331	1,520	5,971	1.10
Texas	6,096	266	1,054	1,122	1,161	1,272	1.00	743	1,110	1,177	1,217	1,412	1.00	221	1,213	1,314	1,415	6,544	1.05
Utah	1,342	393	424	493	568	652	1.02	414	447	522	607	687	1.03	83	507	583	683	2,720	1.15
Virginia	1,759	230	1,436	1,483	1,511	6,025	1.32	858	1,493	1,658	1,747	6,836	1.33	267	1,221	1,526	1,920	6,503	1.20
Vermont	1,741	13	102	135	144	172	1.03	61	114	142	156	187	1.03	22	125	146	170	685	1.08
Washington	1,641	1,116	1,198	1,389	1,432	1,559	1.01	1,184	1,326	1,450	1,514	1,756	1.01	642	1,355	1,493	1,635	5,402	1.04
Wisconsin	1,612	593	795	1,209	1,275	1,350	1.04	761	888	1,291	1,342	2,106	1.04	152	1,156	1,387	1,526	4,663	1.06
West Virginia	2,340	75	254	271	293	319	1.01	150	276	282	312	343	1.01	58	289	323	345	1,507	1.07
Wyoming	1,900	73	84	96	98	145	1.02	75	91	102	107	145	1.01	18	100	112	122	327	1.04

[1] Weight1-Weight7 are design-based weight components; nr = nonresponse adjustment, ps = poststratification adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]*CV^2$, where CV = coefficient of variation of weights.

Table I.2 2005 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

		Before sel.per.ps (Weight1*...*Weight11)[1]						After sel.per.ps (Weight1*...*Weight12)[1]					
Domain	***n***	**Min**	**Q1**[2]	**Med**	**Q3**[2]	**Max**	**UWE**[3]	**Min**	**Q1**[2]	**Med**	**Q3**[2]	**Max**	**UWE**[3]
United States	83,805	17	722	1,368	3,442	49,001	2.76	7	699	1,336	3,389	83,831	2.88
Alaska	1,137	62	168	244	594	3,062	2.09	26	171	249	600	3,826	2.02
Alabama	1,118	177	1,059	1,488	4,708	18,958	2.03	122	967	1,508	4,797	26,217	2.29
Arkansas	1,040	119	714	907	3,133	9,928	2.00	197	667	996	3,246	15,699	2.15
Arizona	1,112	17	1,317	1,911	6,740	28,263	2.23	34	1,212	1,880	5,975	36,085	2.45
California	4,633	818	2,184	2,908	9,461	46,765	1.92	640	2,227	3,020	9,659	58,365	1.89
Colorado	1,110	329	1,168	1,816	4,205	17,015	1.81	69	1,082	1,845	4,461	21,533	2.13
Connecticut	1,201	108	640	807	3,143	18,303	2.50	98	540	929	2,661	22,135	3.15
District of Columbia	1,071	37	140	226	711	2,448	1.84	21	128	244	648	3,346	1.96
Delaware	1,160	45	176	241	884	6,121	2.18	18	159	254	700	7,788	2.87
Florida	4,606	187	951	1,245	4,807	21,164	2.10	93	945	1,296	4,838	21,691	2.16
Georgia	1,108	406	2,175	3,044	10,777	33,319	2.00	203	1,896	2,993	10,267	76,664	2.32
Hawaii	1,134	51	233	395	1,139	6,981	2.38	38	228	414	1,113	8,504	2.62
Iowa	1,088	123	775	1,057	3,640	21,337	2.11	51	756	1,186	3,035	15,406	2.12
Idaho	1,087	55	368	470	1,620	6,062	2.08	20	361	501	1,516	8,116	2.15
Illinois	4,731	122	724	965	3,319	19,305	2.08	27	731	1,000	3,254	19,114	2.01
Indiana	1,117	262	1,491	2,163	6,626	23,776	2.04	124	1,518	2,239	6,476	35,171	2.10
Kansas	1,133	105	649	871	2,877	20,856	2.36	29	605	904	2,762	16,473	2.38
Kentucky	1,086	155	993	1,489	5,088	17,888	1.88	126	912	1,500	5,167	26,094	1.90
Louisiana	1,017	193	1,189	1,862	4,936	17,625	1.93	89	1,208	1,963	4,620	34,945	2.14
Massachusetts	1,187	242	1,212	1,738	6,360	27,646	2.13	202	1,182	1,737	6,645	33,338	2.27
Maryland	1,156	215	1,279	1,739	5,642	28,568	2.28	72	1,268	1,833	5,404	25,447	2.17
Maine	1,041	52	331	414	1,750	5,752	2.24	11	334	440	1,757	5,734	2.08
Michigan	4,503	120	642	850	2,614	19,179	1.94	29	646	892	2,563	22,609	1.99
Minnesota	1,063	218	1,261	1,720	5,847	26,092	2.21	56	1,248	1,879	5,039	30,318	2.30
Missouri	1,073	627	1,426	1,842	6,491	44,800	2.37	245	1,265	2,019	6,074	49,892	2.36

[1] Weight1*...*Weight11 and Weight1*...*Weight12 used demographic variables from screener data; ps = poststratification adjustment.

(continued)

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

[3] Unequal weighting effect defined as 1+[(*n*-1)/*n*]* CV^2, where CV = coefficient of variation of weights.

Table I.2 2005 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before sel.per.ps (Weight1*...*Weight11)[1]						After sel.per.ps (Weight1*...*Weight12)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	1,106	187	725	1,070	3,379	20,952	1.91	155	702	1,093	3,104	13,177	1.99
Montana	1,083	44	224	292	1,022	4,627	2.23	34	219	298	948	6,296	2.53
North Carolina	1,035	304	2,099	2,677	9,806	45,928	2.16	123	1,922	2,986	9,968	83,831	2.56
North Dakota	1,097	24	151	242	687	5,614	2.26	16	148	230	575	4,723	2.53
Nebraska	1,127	80	401	634	2,088	8,112	1.96	16	394	660	1,860	9,702	2.01
New Hampshire	1,098	53	306	475	1,478	7,651	2.24	22	305	538	1,247	6,709	2.19
New Jersey	1,197	450	1,698	2,192	9,451	38,457	2.34	93	1,586	2,364	9,122	49,746	2.46
New Mexico	1,036	131	490	743	1,942	12,028	2.17	48	485	779	1,930	15,461	2.26
Nevada	1,111	90	533	787	3,010	12,662	2.04	29	514	881	2,723	24,535	2.27
New York	4,683	437	1,038	1,470	4,865	25,976	2.05	147	1,041	1,513	4,704	55,492	2.27
Ohio	4,403	106	696	859	3,074	30,626	2.05	64	696	905	3,187	10,984	2.03
Oklahoma	1,159	117	816	1,108	3,751	11,877	2.09	90	705	1,177	3,462	38,191	2.41
Oregon	1,142	250	865	1,151	3,941	14,356	1.92	111	856	1,221	3,819	33,881	2.03
Pennsylvania	4,463	332	713	865	3,201	17,180	2.16	81	701	930	3,351	20,017	2.25
Rhode Island	1,074	39	277	383	1,220	4,964	2.02	12	271	413	1,163	10,955	2.30
South Carolina	1,086	177	998	1,679	4,904	22,079	1.98	37	1,046	1,749	4,874	17,128	1.84
South Dakota	1,104	36	207	282	849	3,785	2.18	8	193	299	754	4,252	2.12
Tennessee	1,101	306	1,213	1,736	6,870	42,736	2.53	84	1,123	1,840	5,493	44,821	2.76
Texas	4,276	237	1,525	1,985	6,657	47,951	1.85	167	1,543	2,137	6,436	30,310	1.82
Utah	1,077	94	626	1,066	2,334	35,118	2.35	93	652	1,115	2,156	15,120	2.10
Virginia	1,156	319	1,383	2,166	6,094	49,001	2.56	71	1,342	2,140	6,308	79,057	2.78
Vermont	1,050	26	152	207	617	4,221	2.38	27	153	219	595	4,544	2.62
Washington	1,074	749	1,693	2,359	7,269	32,952	1.92	311	1,651	2,518	7,094	21,737	1.87
Wisconsin	1,103	157	1,354	1,741	5,961	24,518	2.14	31	1,244	1,833	6,237	29,658	2.18
West Virginia	1,130	74	384	521	2,110	11,623	2.22	61	361	496	2,140	8,504	2.20
Wyoming	1,122	21	119	175	540	1,904	2.10	7	118	177	469	3,603	2.64

[1] Weight1*...*Weight11 and Weight1*...*Weight12 used demographic variables from screener data; ps = poststratification adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as 1+[(*n*-1)/*n*]* CV^2, where CV = coefficient of variation of weights.

Table I.3 2005 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

		Before res.per.nr (Weight1*...*Weight12)[1]						After res.per.nr (Weight1*...*Weight13)[1]							Before res.per.ps (Weight1*...*Weight13)[2]						Final Weight After res.per.ps (Weight1*...*Weight14)[2]					
Domain	***n***	**Min**	**Q1[3]**	**Med**	**Q3[3]**	**Max**	**UWE[4]**	**Min**	**Q1[3]**	**Med**	**Q3[3]**	**Max**	**UWE[4]**	***n***	**Min**	**Q1[3]**	**Med**	**Q3[3]**	**Max**	**UWE[4]**	**Min**	**Q1[3]**	**Med**	**Q3[3]**	**Max**	**UWE[4]**
United States	68,308	7	675	1,258	3,055	83,831	2.94	8	788	1,488	3,843	113,742	3.31	68,308	8	788	1,488	3,843	113,742	3.31	2	750	1,479	3,820	155,055	3.48
Alaska	921	26	171	238	536	3,826	2.05	29	194	282	673	5,152	2.36	921	29	194	282	673	5,152	2.36	14	191	285	692	6,471	2.44
Alabama	914	122	962	1,435	4,213	26,217	2.34	122	1,085	1,734	5,007	34,715	2.68	914	122	1,085	1,734	5,007	34,715	2.68	83	1,079	1,734	4,887	45,485	2.96
Arkansas	851	197	660	961	2,805	15,699	2.24	197	761	1,107	3,559	19,833	2.41	851	197	761	1,107	3,559	19,833	2.41	51	772	1,102	3,550	19,892	2.44
Arizona	908	34	1,182	1,843	5,724	36,085	2.49	34	1,381	2,332	6,710	51,978	2.74	908	34	1,381	2,332	6,710	51,978	2.74	7	1,359	2,376	6,145	72,776	3.11
California	3,699	765	2,210	2,919	9,148	58,365	1.93	797	2,601	3,554	11,775	87,067	2.14	3,699	797	2,601	3,554	11,775	87,067	2.14	182	2,510	3,703	12,076	68,252	2.31
Colorado	895	69	1,071	1,758	3,945	21,533	2.12	69	1,209	2,044	4,751	50,269	2.72	895	69	1,209	2,044	4,751	50,269	2.72	15	1,180	2,145	4,630	45,283	2.77
Connecticut	978	98	519	903	2,330	22,135	3.27	104	617	1,160	2,606	31,431	3.51	978	104	617	1,160	2,606	31,431	3.51	23	615	1,114	2,724	54,329	3.82
District of Columbia	851	21	123	229	614	3,346	2.03	21	141	260	792	4,016	2.26	851	21	141	260	792	4,016	2.26	8	136	269	809	4,431	2.22
Delaware	942	22	156	239	637	7,788	3.01	22	186	285	846	10,185	3.15	942	22	186	285	846	10,185	3.15	9	187	292	855	8,669	3.13
Florida	3,669	93	930	1,237	4,356	21,596	2.26	93	1,070	1,456	5,722	45,099	2.56	3,669	93	1,070	1,456	5,722	45,099	2.56	19	1,096	1,519	5,738	32,187	2.61
Georgia	920	235	1,862	2,944	8,962	76,664	2.38	236	2,048	3,352	11,009	74,206	2.64	920	236	2,048	3,352	11,009	74,206	2.64	44	1,948	3,349	10,692	80,973	2.68
Hawaii	895	38	223	377	959	8,504	2.71	39	245	456	1,160	13,972	3.36	895	39	245	456	1,160	13,972	3.36	18	245	428	1,137	15,370	3.72
Iowa	923	51	741	1,100	2,861	12,466	2.14	92	813	1,246	3,439	20,907	2.45	923	92	813	1,246	3,439	20,907	2.45	79	818	1,228	3,472	19,784	2.43
Idaho	915	20	350	480	1,465	8,116	2.20	24	398	576	1,797	13,140	2.36	915	24	398	576	1,797	13,140	2.36	8	401	598	1,793	12,074	2.42
Illinois	3,661	27	721	955	3,035	19,114	2.06	141	865	1,190	4,153	29,018	2.33	3,661	141	865	1,190	4,153	29,018	2.33	28	865	1,222	4,161	36,305	2.38
Indiana	900	124	1,486	2,122	5,686	35,171	2.17	124	1,729	2,516	7,709	56,997	2.53	900	124	1,729	2,516	7,709	56,997	2.53	25	1,742	2,474	7,352	48,418	2.64
Kansas	938	30	589	878	2,582	16,473	2.42	30	698	1,024	3,344	23,734	2.51	938	30	698	1,024	3,344	23,734	2.51	13	676	1,034	3,276	22,705	2.59
Kentucky	895	126	888	1,384	4,830	15,248	1.94	130	998	1,582	5,985	27,543	2.20	895	130	998	1,582	5,985	27,543	2.20	94	1,033	1,646	5,696	53,616	2.38
Louisiana	840	89	1,186	1,894	4,470	34,945	2.15	99	1,303	2,260	5,422	48,902	2.65	840	99	1,303	2,260	5,422	48,902	2.65	49	1,311	2,318	5,376	41,532	2.57
Massachusetts	960	202	1,149	1,637	6,042	27,968	2.34	202	1,387	2,014	7,513	47,538	2.65	960	202	1,387	2,014	7,513	47,538	2.65	58	1,463	2,093	7,437	44,252	2.71
Maryland	941	77	1,253	1,743	5,222	25,447	2.17	77	1,447	2,136	6,629	42,028	2.49	941	77	1,447	2,136	6,629	42,028	2.49	12	1,453	2,129	6,318	42,325	2.60
Maine	891	11	325	424	1,620	5,080	2.12	11	366	497	1,968	8,296	2.32	891	11	366	497	1,968	8,296	2.32	3	373	515	1,931	8,319	2.38
Michigan	3,655	29	635	844	2,430	22,609	2.05	99	738	1,007	3,130	24,681	2.24	3,655	99	738	1,007	3,130	24,681	2.24	26	741	1,027	3,170	17,696	2.24
Minnesota	904	56	1,231	1,838	4,725	30,318	2.30	56	1,349	2,126	5,759	36,550	2.48	904	56	1,349	2,126	5,759	36,550	2.48	63	1,410	2,170	5,490	46,094	2.53
Missouri	884	245	1,237	1,992	5,801	49,892	2.39	245	1,421	2,325	7,135	66,393	2.66	884	245	1,421	2,325	7,135	66,393	2.66	69	1,470	2,410	6,952	53,040	2.65

[1] Weight1*...*Weight12 and Weight1*...*Weight13 used demographic variables from screener data; nr = nonresponse adjustment.

(continued)

[2] Weight1*...*Weight13 and Weight1*...*Weight14 used demographic variables from questionnaire data; ps = poststratification adjustment.
[3] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[4] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weights.

Table I.3 2005 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.per.nr (Weight1*...*Weight12)[1]						After res.per.nr (Weight1*...*Weight13)[1]						*n*	Before res.per.ps (Weight1*...*Weight13)[2]						Final Weight After res.per.ps (Weight1*...*Weight14)[2]					
		Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]		Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]
Mississippi	930	155	697	1,045	2,961	13,177	2.00	214	776	1,226	3,359	26,112	2.24	930	214	776	1,226	3,359	26,112	2.24	157	792	1,209	3,338	24,498	2.36
Montana	914	34	215	289	894	6,296	2.54	44	249	350	1,052	11,700	2.98	914	44	249	350	1,052	11,700	2.98	17	241	343	1,038	8,520	2.96
North Carolina	861	154	1,894	2,953	9,279	83,831	2.49	155	2,171	3,447	10,978	113,742	2.80	861	155	2,171	3,447	10,978	113,742	2.80	25	2,193	3,425	10,953	155,055	3.40
North Dakota	933	16	144	222	553	4,723	2.65	16	159	252	653	6,379	2.68	933	16	159	252	653	6,379	2.68	5	158	254	663	9,046	2.79
Nebraska	935	16	382	613	1,720	9,702	2.07	20	427	703	2,247	10,353	2.23	935	20	427	703	2,247	10,353	2.23	4	439	755	2,131	19,665	2.42
New Hampshire	881	22	299	525	1,188	6,709	2.19	22	346	652	1,485	11,981	2.48	881	22	346	652	1,485	11,981	2.48	11	346	654	1,506	12,547	2.46
New Jersey	925	93	1,535	2,283	7,847	47,458	2.59	94	1,833	2,796	11,407	65,918	2.84	925	94	1,833	2,796	11,407	65,918	2.84	9	1,886	2,807	9,467	125,587	3.16
New Mexico	902	49	480	753	1,821	15,461	2.31	49	527	839	2,087	15,862	2.43	902	49	527	839	2,087	15,862	2.43	27	520	830	2,053	14,811	2.60
Nevada	917	29	491	816	2,341	24,535	2.39	29	570	950	2,903	24,043	2.70	917	29	570	950	2,903	24,043	2.70	6	551	938	2,842	29,270	2.84
New York	3,622	147	1,016	1,424	4,336	55,492	2.25	185	1,166	1,797	5,585	78,948	2.78	3,622	185	1,166	1,797	5,585	78,948	2.78	28	1,178	1,889	5,634	85,789	2.89
Ohio	3,579	64	687	868	3,020	10,663	2.08	150	819	1,061	3,774	16,264	2.24	3,579	150	819	1,061	3,774	16,264	2.24	30	827	1,074	3,728	23,722	2.26
Oklahoma	946	90	705	1,165	3,073	38,191	2.46	92	836	1,375	3,750	26,520	2.62	946	92	836	1,375	3,750	26,520	2.62	74	843	1,362	3,606	27,118	2.66
Oregon	920	111	834	1,172	3,612	33,881	2.09	145	955	1,366	4,242	28,950	2.34	920	145	955	1,366	4,242	28,950	2.34	36	905	1,320	4,539	23,752	2.28
Pennsylvania	3,684	81	687	894	2,953	20,017	2.33	149	795	1,061	3,846	54,235	2.63	3,684	149	795	1,061	3,846	54,235	2.63	15	798	1,073	3,832	61,731	2.72
Rhode Island	890	12	265	405	1,093	7,274	2.21	16	304	465	1,376	8,375	2.32	890	16	304	465	1,376	8,375	2.32	3	298	509	1,374	10,145	2.40
South Carolina	910	37	1,037	1,682	4,727	14,746	1.83	37	1,159	2,024	5,575	22,940	2.05	910	37	1,159	2,024	5,575	22,940	2.05	6	1,171	2,032	5,385	33,964	2.18
South Dakota	927	8	189	289	675	4,252	2.18	8	200	315	920	5,290	2.37	927	8	200	315	920	5,290	2.37	2	200	308	893	5,116	2.42
Tennessee	921	102	1,116	1,784	5,105	44,821	2.78	102	1,275	2,158	5,905	64,770	3.20	921	102	1,275	2,158	5,905	64,770	3.20	32	1,232	2,138	5,969	57,361	3.15
Texas	3,562	167	1,521	2,053	6,114	30,310	1.86	209	1,716	2,376	7,502	58,030	2.07	3,562	209	1,716	2,376	7,502	58,030	2.07	42	1,751	2,454	7,637	39,488	2.10
Utah	939	93	625	1,067	2,103	15,120	2.12	95	701	1,196	2,385	19,951	2.31	939	95	701	1,196	2,385	19,951	2.31	71	630	1,144	2,481	17,247	2.38
Virginia	941	71	1,297	2,089	5,583	79,057	2.88	76	1,521	2,554	6,814	69,014	3.05	941	76	1,521	2,554	6,814	69,014	3.05	21	1,568	2,545	6,731	58,372	3.02
Vermont	880	27	146	207	512	4,544	2.77	27	169	246	643	7,265	3.03	880	27	169	246	643	7,265	3.03	10	167	246	618	5,263	3.01
Washington	876	311	1,602	2,365	6,724	21,433	1.89	312	1,839	2,794	8,194	43,952	2.13	876	312	1,839	2,794	8,194	43,952	2.13	45	1,832	2,901	8,371	56,068	2.29
Wisconsin	915	31	1,229	1,749	5,720	29,658	2.21	32	1,411	2,060	7,435	38,782	2.38	915	32	1,411	2,060	7,435	38,782	2.38	17	1,393	2,084	7,046	46,513	2.46
West Virginia	924	61	359	486	2,004	8,504	2.30	68	406	573	2,661	12,610	2.46	924	68	406	573	2,661	12,610	2.46	18	417	599	2,687	16,299	2.77
Wyoming	924	7	116	172	427	3,251	2.69	14	132	203	531	5,020	2.96	924	14	132	203	531	5,020	2.96	3	128	198	544	6,175	3.06

[1] Weight1*...*Weight12 and Weight1*...*Weight13 used demographic variables from screener data; nr = nonresponse adjustment.
[2] Weight1*...*Weight13 and Weight1*...*Weight14 used demographic variables from questionnaire data; ps = poststratification adjustment.
[3] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[4] Unequal weighting effect defined as 1+[(n-1)/n]* CV2, where CV = coefficient of variation of weights.