

ICPSR 37166

**Generations: A Study of the Life
and Health of LGB People in a
Changing Society, United States,
2016-2019**

Ilan H. Meyer

*Williams Institute (University of California, Los
Angeles. School of Law)*

Methodology and Technical Notes

Inter-university Consortium for
Political and Social Research
P.O. Box 1248
Ann Arbor, Michigan 48106
www.icpsr.umich.edu

Terms of Use

The terms of use for this study can be found at:
<http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/37166/terms>

Information about Copyrighted Content

Some instruments administered for studies archived with ICPSR may contain in whole or substantially in part contents from copyrighted instruments. Reproductions of the instruments are provided as documentation for the analysis of the data associated with this collection. Restrictions on "fair use" apply to all copyrighted content. More information about the reproduction of copyrighted works by educators and librarians is available from the United States Copyright Office.

NOTICE

WARNING CONCERNING COPYRIGHT RESTRICTIONS

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.



Methodology and Technical Notes
Gallup Quantitative Survey

May 26, 2021
Version 21

Evan A. Krueger
Andy Lin
Krystal R. Kittle
Ilan H. Meyer

Table of Contents

About the Generations Study.....	4
Generations Recruitment.....	4
Data sources described in this document	6
Generations eligibility.....	6
Generations Sample	9
How to characterize the sample?	9
Sample: Baseline (Wave 1)	10
Sample: Wave 2.....	10
Sample: Wave 3.....	11
Data Processing and Transformation	12
New variable creation	12
Cohort.....	12
Race.....	13
Sex assigned at birth.	14
Gender identity.....	14
Sexual identity.....	14
Education.....	17
Geography.....	17
Poverty.....	18
Sexual orientation change therapy.....	19
Scale creation	19
Positive Health.....	19
Identity.....	20
Healthcare Access & Utilization.....	21
Health Outcomes.....	22
Stressors.....	25
Social support.....	28
Missing Data and Imputation	30
Baseline survey.....	30
Wave 2 survey.....	31
Wave 3 survey.....	31
Sample weight.....	31
STATA	32
SPSS.....	32
Attrition Analysis.....	34
References.....	37
Appendices.....	40
Appendix 1: Information Sheet.....	40
Appendix 2: Wave 1 Scale reliability (Cronbach's a) by total sample, sex at birth, cohort, race/ethnicity.....	42
Appendix 3: Wave 2 Scale reliability (Cronbach's a) by total sample, sex at birth, cohort, race/ethnicity.....	43

Appendix 4: Wave 3 Scale reliability (Cronbach's a) by total sample, sex at birth, cohort, race/ethnicity	44
Appendix 5: Missing values for each variable in Wave 1 dataset.....	45
Appendix 6: Missing values for each variable in Wave 2 dataset.....	58
Appendix 7: Missing values for each variable in Wave 3 dataset.....	69
Appendix 8. Creating an Analysis Plan using Point-and-Click method in SPSS.....	80

About the Generations Study

The Generations study¹ was designed to examine health and well-being across three generations of non-transgender sexual minorities. The study explores identity, stress, health outcomes, and health care and service utilization among sexual minorities in three generations of adults who came of age during distinctly different historical contexts. It is based on minority stress theory, which states that the social and legal environment for sexual minorities, characterized by stigma and prejudice, leads to excess stress (e.g., exposure to violence and discrimination), which, in turn, leads to adverse health outcomes and health disparities (Meyer, 2003). Today's LGB youth have come of age in a society that is more accepting of sexual diversity than ever in the past. As the social and legal environment of sexual minorities in the United States improves, we set to examine whether exposure to stress would reduce and health would improve, as would be predicted by minority stress theory. Because of its focus on the social environment, minority stress theory leads us to predict that with improvement in the social conditions of sexual minority people, the character of stress processes, and associated health outcomes affecting sexual minority people will also change. Thus, the study aimed to assess whether younger cohorts of sexual minority people differ from older cohorts in how they experience stress related to prejudice and everyday forms of discrimination, and whether patterns of resilience differ between different sexual minority cohorts. Additionally, the study aimed to examine how differences in stress experience affect mental health and well-being, including depressive and anxiety symptoms, substance and alcohol use, and suicide ideation and behavior, and how younger sexual minority people utilize LGBT-oriented social and health services, relative to older cohorts.

Generations Recruitment

Generations participants were recruited by Gallup, Inc., a survey research consulting company (<http://www.gallup.com/>) using the Gallup Daily Tracking Survey as initial contact. Generations participants were screened and enrolled in the study between March 28, 2016 – March 30, 2017. An enhancement oversample, recruiting Black and Latino respondents was screened and enrolled between April 1, 2017 – March 30, 2018. Research participants provided oral consent to be screened, due to minimal risk.

The Daily Tracking Survey is a telephone interview of a national probability sample of 1,000 adults ages 18 and older daily (350 days a year) to inquire about topics including the respondents' politics, economics and general well-being. Gallup respondents include

¹ Generations is funded by a grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD grant 1R01HD078526) and through supplemental grants from the National Institutes of Health, Office of Behavioral and Social Sciences Research and the Office of Research on Women's Health. The Generations investigators are: Ilan H. Meyer, Ph.D., (PI), David M. Frost, Ph.D., Phillip L. Hammack, Ph.D., Marguerita Lightfoot, Ph.D., Stephen T. Russell, Ph.D., and Bianca D.M. Wilson, Ph.D. (Co-Investigators, listed alphabetically).

English and Spanish-speaking individuals from all 50 U.S. states and the District of Columbia.

Gallup uses a dual-frame sampling procedure, which includes random-digit dialing (RDD) to reach both landline and cellphone users, as well as an additional random selection method for choosing respondents with landlines. Gallup stratifies the RDD list to ensure that the unweighted samples are proportionate by U.S. Census region and time zone. Gallup weights the data daily to compensate for disproportionalities in non-response and selection probabilities.

The Generations study used a 2-phase recruitment procedure. In the first phase, utilizing a question asked of all Gallup respondents, all sexual minority individuals were identified. This question to assess sexual orientation and gender identity, asked by the phone interviewer, is “I have one final question we are asking only for statistical purposes. Do you, personally, identify as lesbian, gay, bisexual, or transgender?”

In the second phase, respondents who were thus identified as LGBT were then assessed for sexual identity, gender identity and other eligibility criteria, and if eligible were invited to participate in the Generations study and sent a survey questionnaire by mail or email link.

Respondents were eligible if they identified as sexual minority (and not transgender) in response to a question that asked if they were lesbian, gay, bisexual, queer, or same-gender loving and were in the age and race/ethnicity groups targeted for the 3 cohorts under investigation in Generations: ages 18 - 25, 34 – 41, or 52 – 59; Black, Latino, or White or multi-racial including one of these; completed 6th grade at least, and if they spoke English well enough to conduct the phone interview in English. (Respondents who were transgender, regardless of their sexual orientation, were screened for participation in a sister TransPop study; respondents who were gender nonbinary but not identified as transgender were included in the Generations study.)

Respondents who were eligible for participation in Generations were invited to participate in the study. If they agreed, they were emailed or mailed a survey questionnaire to complete by self-administration (via a web link or printed questionnaire, respectively). Respondents were sent \$25 gift certificate (as an Amazon gift card by email or as cash by mail).

Participants responded to the survey by self-administering the study questionnaire either online via a link provided in an email or on paper via a mailed questionnaire returned in a pre-stamped preaddressed envelope.

Participants read an information sheet (See Appendix 1) prior to beginning the survey and consented by filling out the questions and submitting it to the researchers. No signed consent forms were collected because it was determined that a signed consent form, if it were collected, would impose an unnecessary risk to the respondents' confidentiality.

The study protocol was reviewed by the Gallup IRB, the UCLA IRB and the IRBs of collaborating institutions through reliance on UCLA IRB. Collaborating institutions have included Columbia University, the University of Texas at Austin, the University of California, Santa Cruz, the University of California, San Francisco, the University of Arizona, the University College London, UK, and the University of Surrey, UK.

Following this baseline interview, respondents are asked to complete two follow-up surveys, using the same modality (mail or web) and receive the same compensation of \$25 per interview, one year apart, at Year 2 and Year 3.

Data sources described in this document

1. Gallup survey—Gallup survey administered to all respondents as part of the Gallup Daily phone survey (part of recruitment and screening).
2. Gallup screen—A screen conducted by Gallup on phone to determine eligibility for the Generations survey (additional screening).
3. Generations survey—A self-administered survey completed online via link sent by email or on paper via mailed questionnaire to all eligible Generations respondents (total of ## items).

While the dataset consists mostly of data obtained from the Generations survey (variables affixed with “w1” prefix), key variables are also included from the Gallup survey (affixed with “g” prefix) and Gallup screen (affixed with “screen_” prefix).

Generations eligibility

Eligibility for the Generations study was assessed in two stages through items that already existed on the Gallup Daily Tracking Survey (source: Gallup survey), as well as additional screener questions that the Generations Study team included (source: Gallup screen). First, respondents were identified as potentially eligible using responses to 5 items from the Gallup Daily Tracking Survey:

Table 1. Preliminary eligibility criteria			
<i>Measure</i>	<i>Question Text</i>	<i>Response Options</i>	<i>Generations Eligibility</i>
<i>Age</i>	<i>Please tell me your age</i>	<i>Open Ended</i>	<i>18-25</i>
			<i>34-41</i>
			<i>52-59</i>
<i>Education</i>	<i>What is the highest level of school you have completed or the highest degree you have received?</i>	<i>Less than a high school diploma (Grades 1 through 11 or no schooling</i>	<i>If yes, then final education criteria assessed in subsequent education question, i.e., minimum 6th</i>

			<i>grade (below).</i>
		<i>High school graduate (Grade 12 with diploma or GED certificate)</i>	<i>Eligible</i>
		<i>Technical, trade, vocational or business school or program after high school</i>	<i>Eligible</i>
		<i>Some college – college, university, or community college -- but no degree</i>	<i>Eligible</i>
		<i>Two year associate degree from a college, university, or community college</i>	<i>Eligible</i>
		<i>Four year bachelor's degree from a college or university (e.g., BS, BA, AB)</i>	<i>Eligible</i>
		<i>Some postgraduate or professional schooling after graduating college, but no postgraduate degree (e.g., some graduate school)</i>	<i>Eligible</i>
		<i>Postgraduate or professional degree, including master's, doctorate, medical, or law degree (e.g., MA, MS, PhD, MD, JD)</i>	<i>Eligible</i>
<i>Ethnicity</i>	<i>Are you of Hispanic, Latino, or Spanish origin – such as Mexican, Puerto Rican, Cuban, or other Spanish origin?</i>	<i>Yes</i>	<i>Eligible if ethnicity = "yes" and race = "White" only or race = "White" + "Black or African American" only or race = "Black or African American" only or race = "Black or African American" + "Asian" and/or "American Indian or Alaska Native" and/or</i>
		<i>No</i>	
<i>Race</i>	<i>Which of the following describes your race? (up to five responses allowed)</i>	<i>White</i>	
		<i>Black or African American</i>	
		<i>Asian</i>	

		<i>American Indian or Alaska Native</i>	<i>"Native Hawaiian or Pacific Islander"</i>
		<i>Native Hawaiian or Pacific Islander</i>	
<i>Sexual orientation/ gender identity</i>	<i>I have one final question we are asking only for statistical purposes. Do you, personally, identify as lesbian, gay, bisexual, or transgender?</i>	<i>Yes, do</i>	<i>Eligible</i>
		<i>No, do not</i>	<i>Not eligible</i>
<i>Survey</i>	<i>Able to conduct survey in English</i>	<i>Yes</i>	<i>Eligible</i>
		<i>No</i>	<i>Not Eligible</i>

Second, people meeting eligibility requirements based on the five items above were then informed they were potentially eligible for participation in the Generations study. If interested in participation, they were then asked the following 2 questions from the Generations study team to determine final eligibility:

Table 2. Additional eligibility criteria			
<i>Measure</i>	<i>Question Text</i>	<i>Response Options</i>	<i>Generations Eligibility</i>
<i>Education, 6th grade or higher</i>	<i>What is the highest level of school you have completed? (Only asked of those selecting "Less than a high school diploma (Grades 1 through 11 or no schooling" on education</i>	<i>5th grade or lower</i>	<i>Not eligible</i>
		<i>6th grade or higher</i>	<i>Eligible</i>
<i>Sexual identity</i>	<i>Do you consider yourself to be...?</i>	<i>Straight or heterosexual</i>	<i>Not eligible</i>
		<i>Lesbian</i>	<i>Eligible</i>
		<i>Gay</i>	<i>Eligible</i>
		<i>Bisexual</i>	<i>Eligible</i>
		<i>Queer</i>	<i>Eligible</i>
		<i>Same-gender loving</i>	<i>Eligible</i>

		<i>Don't know</i>	<i>Eligible</i>
		<i>Refuse</i>	<i>Eligible</i>
<i>Gender identity</i>	<i>On your original birth certificate, was your sex assigned as female or male?</i>	<i>Female</i>	<i>Eligible if currently identify as "female" or assigned "female" at birth, or currently identify as "man" or assigned "male" at birth.</i>
		<i>Male</i>	
	<i>Do you currently describe yourself as man, woman, or transgender?</i>	<i>Man</i>	<i>Ineligible if currently identify as "transgender" or assigned "female" at birth and currently identify as "man" or assigned "male" at birth and currently identify as "woman". Respondents were screened into TransPop survey.</i>
		<i>Woman</i>	
		<i>Transgender</i>	

Respondents were eligible to participate in Phase 2, the self-administered survey, if they identified as sexual minorities but were not transgender. Respondents who were transgender, regardless of their sexual orientation, were screened for participation in a companion study, TransPop (see www.TransPop.org), which included questions to address issues that are specific to transgender people (e.g., transitioning). Respondents who were sexual minorities and gender nonbinary, but did not identify as transgender, were included in the Generations study.

Eligibility was restricted to three age cohorts of interest in the Generations study (18–25, 34–41, or 52–59) because the scientific focus of Generations was on differences among age cohorts related to the social environment when the respondents were children. Eligibility was also limited to the three largest U.S. racial and ethnic groups (Black, Latino, or White, or multiple racial and ethnic identities that included at least one of these) because estimates showed that we would not be able to recruit a sufficient number of respondents who were Asian (5.9% of U.S. population) or Native American/Alaskan Native (1.3%) to satisfy power requirements for Generations. Eligibility was restricted to English-speaking people with above 5th-grade education to ensure they are competent to self-administer of the survey questionnaire.

Generations Sample

How to characterize the sample?

The term “non-transgender sexual minorities” accurately describes the sample. Because all respondents were eligible by first identifying as “lesbian, gay, bisexual, or transgender,” “non-transgender LGB” is also correct. “Sexual minorities” is more fitting because respondents reported diverse sexual identities (e.g., queer, same-gender-loving, pansexual, asexual) in the subsequent screen and in the Generations survey questionnaire.

In terms of gender identity, Generations participants are non-transgender, meaning they include cisgender and gender non-binary individuals who did not identify as transgender. Transgender people, including transgender-identified gender nonbinary people, were recruited into the TransPop study (see www.TransPop.org).

The sample is representative of the target population in the United States, but, like all probability samples, it is not necessarily representative of *all* people in the United States. For example, our target population and sampling frame excluded people with no phone (cell or landline), people in specific age groups, people with lower educational attainment, people who speak only Spanish, and people who identified as Asian and American Indian/Alaska Native (but Asian and American Indian/Alaska Native people who were multi-racial that included White, Black, or Latino identities *were* included).

Sample: Baseline (Wave 1)

The Generations baseline sample was recruited between March 28, 2016 and March 30, 2017. In the first year of recruitment 366,644 participants were screened by Gallup for inclusion in the Generations study. Of them, 12,837 (3.5%) were identified as LGBT and 3,525 (27.5%) of them were eligible for Generations based on the eligibility criteria described above. Of those eligible, 2,840 (80%) agreed to participate in the survey and of them, 1,369 (48%) completed the survey, for a total cooperation rate of 39%.

To increase the number of racial/ethnic minority respondents in Wave 1 we oversampled Black and Latino respondents using the same procedures by extending the recruitment period (April 1, 2017 to March 30, 2018). The final dataset for the Generations baseline survey included 1,563 respondents: 1,369 were recruited into the original sample (2016-2017) and 194 were recruited into the enhancement oversample (2017-2018).

Of the 1,563 baseline respondents who were enrolled, a total of 45 people who were incorrectly screened in were removed from the dataset, including 27 respondents were identified as transgender and 18 respondents were of an ineligible age. The final Generations baseline sample size was, thus, 1,518, including 1,331 from original sample and 187 from enhancement sample (see Table 4b).

The variable **w1sample** can be used to identify whether respondents were recruited into the original baseline sample or the enhancement (oversample) baseline sample.

Sample: Wave 2

Wave 2 of data collection occurred between April 1, 2017 and March 30, 2018. Respondents were re-interviewed approximately one year after they completed the baseline survey. Thirty respondents who agreed to participate in the Generations survey at baseline but did not submit a baseline survey in time for inclusion in the sample completed the Wave 2 survey. Given the longitudinal design of the Generations study, these 30 respondents were removed from the wave 2 sample. The enhancement oversample was not included in the longitudinal design of this study because their recruitment took place during Wave 2 of the original sample. The final Generations Wave 2 sample was 894 (67% retention from original baseline sample).

Sample: Wave 3

Wave 3 of data collection occurred between April 1, 2018 and March 30, 2019. Respondents were re-interviewed approximately a year after completing Wave 2 and 2 years after completing the baseline survey. Only respondents who participated in the original sample of participants were surveyed at Wave 3 (the enhancement oversample was not included in the longitudinal design of this study). The final Generations Wave 3 sample was 707 (53% retention from original baseline sample).

The variable **waveparticipated** can be used to identify which waves of data collection respondents participated in. In total, 616 respondents participated in all three waves of data collection.

Table 3. Recruitment statistics		
Wave 1	N	%
Total screened	366,644	
LGBT Total (“...Do you, personally, identify as lesbian, gay, bisexual, or transgender?” = “yes”)	12,837	3.5%
Met eligibility criteria for Generations Study	3,525	27.5%
Agreed to participate in the survey	2,830	80%
Completed survey	1,369	48%
Response rate		39%
Enhancement sample	194	
Total	1,563	
Removed due to inconsistencies with eligibility criteria	-45	
Total Wave 1	1,518	
Wave 1 to 2 Retention*	894	67%
Wave 1 to 3 Retention*	707	53%

*Does not include enhancement sample, i.e., individuals followed from original sample (1,331)

Table 4a. Final sample: Generations respondents by gender, race/ethnicity, and age cohort (N = 1,518)				
	White	Black	Latino	Total
	Total N (n baseline, n enhancement)	Total N (n baseline, n enhancement)	Total N (n baseline, n enhancement)	Total N (n baseline, n enhancement)
	Cohort 1 (18-25 years)			
Male	153 (153, 0)	35 (21, 14)	84 (63, 21)	272 (237, 35)
Female	213 (213, 0)	90 (55, 35)	95 (65, 30)	398 (333, 65)
	Cohort 2 (34-41 years)			

Male	93 (93, 0)	30 (22, 8)	44 (27, 17)	167 (142, 25)
Female	141 (141, 0)	40 (23, 17)	24 (11, 13)	205 (175, 30)
Cohort 3 (52-59 years)				
Male	212 (212, 0)	28 (19, 9)	27 (14, 13)	267 (245, 22)
Female	169 (169, 0)	16 (13, 3)	24 (17, 7)	209 (199, 10)
Total	981 (981, 0)	239 (153, 86)	298 (197, 101)	1,518 (1,331, 187)

Table 4b. Generations respondents, by recruitment and interview wave				
	Baseline	Wave 2	Wave 3	Notes
	616	616	616	All waves
	346			Baseline only
	187	N/A	N/A	Baseline enhancement sample*
	278	278		Baseline and Wave 2 only
	91		91	Baseline and Wave 3 only
Total	1,518	894	707	
Removed from dataset, available upon request	27 (transgender)			
	18 (age ineligible)			
		30 (participated at Wave 2, but not baseline)		

*Enhancement sample was not eligible for Wave 2 because their recruitment took place during the year that Wave 1 respondents completed Wave 2.

Data Processing and Transformation

New variable creation

Several variables were created using items from the Generations survey. The calculated variables are included in the final dataset. Each newly created variable is described below.

Cohort.

Respondents were asked “in what year were you born?” (variable: w1q165), and a numeric age (variable: **w1age**) was calculated by subtracting birth year from the year in which the respondent completed the baseline survey (2016, 2017, or 2018). Respondents were then assigned to one of three Generational cohorts, below (variable: **cohort**). Since age was assessed at multiple time points (at screening, as well as on the survey), consistency across the two measures was assessed. Small variations of 2 years or fewer were allowed to account for changes in age between screening and survey, and also for possible errors in reporting. As such, the age ranges of each cohort were expanded by ± 2 years, as indicated in Table 5. 19 respondents did not provide a response to item

w1q165, and their age reported at screening was assigned to w1age; these respondents are retained in the sample.

Table 5. Generations names		
Target Age Range	Expanded Age Range	Cohort name and supporting word
18-25	16-27	Cohort name: "cultural inclusion"
		Support word: equality
34-41	32-43	Cohort name: "institutional advancement"
		Supporting word: visibility
52-59	50-61	Cohort name: "identity formation"
		Supporting word: pride

Race.

We have two race variables **screen_race**, which is a more restrictive 3-categories race/ethnicity variable that determined eligibility and **w1race**, which allowed eligible respondents to indicate a more precise race/ethnic identity. Eligibility restrictions based on race/ethnicity were implemented to ensure sufficient number of respondents in each category of race/ethnicity so that meaningful statistical analyses could be performed. Based on prior experience with Gallup recruiting of LGBT respondents since 2012 our estimates showed that we could not recruit sufficient numbers of Asian and American Indian/Alaska Native participants in each of the age/gender cells.

screen_race, a 3-categories race/ethnicity variable, was calculated based on respondents' reported races and ethnicities at screening (see Table 1 for specific questions). Eligible were only Black, Latino and White respondents and respondents who indicated multiple race/ethnic identities that included these three. This means that Asian and American Indian/Alaska Native individuals who had no bi- or multi-race identity that included White, Black, or Latino, were excluded from this study (see Eligibility, above).

We used the following algorithm to classify people in one of the three race/ethnicity categories: Anyone who indicated Hispanic/Latino was categorized as *Latino* regardless of any other entries; then, anyone who indicated Black/African American was categorized as *Black* regardless of other races selected, except Latino; then, anyone who indicated White including any other race, except Latino and Black, was categorized as *White*.

Thus, for example, a respondent identifying as both Latino and American Indian would be coded as *Latino*; a respondent identifying as both Black and White were coded as *Black*, and respondents identifying as White and Asian were recoded as *White*. However, a respondent identifying as both Asian and/or American Indian would not have been eligible for the study.

w1race is a less restrictive race/ethnicity variable. It was defined using responses from the Generations survey (variables: w1q20_1 – w1q20_7). This variable was included to provide more nuanced personal identification of race/identity among eligible respondents

who completed the survey. Response categories include White, Black/African American, Hispanic/Latino, Asian, Middle Eastern, Native Hawaiian/Pacific Islander, Middle Eastern, American Indian, and Multiracial. Respondents selecting more than one race/ethnicity on items w1q20_1 – w1q20_7 were categorized as “multiracial.” 18 respondents did not provide a race response on the survey (w1q20_1 – w1q20_7), and so their race reported on the Gallup screen (variable: screen_race) was assigned.

Race/ethnicity was not re-assessed at waves 2 and 3.

Sex assigned at birth.

Respondents’ sex assigned at birth (variable: **w1sex**) was based on their reported sex at birth on the survey (variable: w1q27). However, 22 respondents who had missing data on variable w1q27 were assigned a value based on their sex reported on the Gallup survey. The Gallup survey asked respondents, “I am required to ask, are you male or female?” Response options were: male, female.

Sex assigned at birth was not re-assessed at waves 2 and 3.

Gender identity.

Respondents were assigned a current gender identity (variable: **w1gender**) based on their reported current gender identity on the survey (variable: w1q28). Since respondents who identified as transgender were dropped from the dataset, no respondents identified as transgender (response option 3: Transgender Woman/Male-to-Female (MTF) or 4: Transgender Man/Female-to-Male (FTM))

However, 15 respondents did not provide a gender identity on the survey. Of them, 10 were assigned the gender identity reported on the Gallup screen². The remaining 5 were also missing a gender identity on the Gallup screen, and so their values were assigned to be consistent with the sex assigned at birth (e.g., females were assigned as “women”).

A third calculated variable (**w1sex_gender**) is included in the dataset, in which responses from “w1sex” and “w1gender” were combined into a single analytic variable with 4 response categories: women, non-transgender; men, non-transgender; genderqueer/non-binary (GQNB), female; GQNB, male.

Sexual identity.

Two calculated sexual identity variables are included in the dataset. The first variable (**w1sexualid**) is equivalent to respondents’ self-reported sexual identity on the survey

² Participants were recruited for the parallel TransPop study between March 8, 2016 – June 20, 2016 and January 1, 2017 – April 4, 2018. During this time, questions assessing current gender identity were included on the Gallup screen to determine whether respondents were routed either to the Generations (lesbian, gay, bisexual respondents who were not transgender) or TransPop study (transgender respondents, regardless of sexual orientation). Current gender identity on the Gallup screen was assessed with one of two questions. The first question was “which of the following terms best describes your current gender identity?” Response options were: man, woman, non-binary/genderqueer. The second question was “Do you currently describe yourself as a man, a woman, or transgender?” Response options were: man, woman, transgender.

(variable: w1q29). However, 71 respondents provided a write-in response (variable: w1q29_t_verb). These 71 responses were placed into existing categories when possible (e.g., "DYKE" write-in response was placed into the "Lesbian" identity category), and new categories were created for common write-in responses (e.g., pansexual). The resulting categorizations are shown in Table 6. As such, the final variable (w1sexualid) contains more response categories than the original survey item (w1q29). 13 respondents did not provide a sexual identity on the survey, and their sexual identity reported on the Gallup screen was assigned in this variable.

Table 6. Sexual identity write-in responses and resulting categorizations, baseline sample	
Resulting categorization (w1sexualid)	Write-in response (w1q29_t_verb)
Lesbian	DYKE
Lesbian	Lesbian and Same Gender Loving
Gay	GAY/BICURIOS
Asexual spectrum	demi sexual
Asexual spectrum	Bi-romantic Asexual
Asexual spectrum	NON-SEXUAL
Asexual spectrum	Asexual
Asexual spectrum	Asexual
Asexual spectrum	ASEXUAL
Asexual spectrum	Asexual; panromantic (No sexual attraction, close romantic emotional attachment to any gender)
Asexual spectrum	Asexual
Asexual spectrum	Asexual, Pan-romantic.
Asexual spectrum	demisexual
Asexual spectrum	Panromantic asexual
Asexual spectrum	asexual
Asexual spectrum	Demisexual towards women but likes men
Asexual spectrum	Asexual
Asexual spectrum	Asexual
Asexual spectrum	Asexual
Asexual spectrum	Demisexual
Asexual spectrum	Asexual
Asexual spectrum	asexual
Asexual spectrum	Demisexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual

Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexaul
Pansexual	pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	pansexual
Pansexual	Fluid
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Lover of All
Pansexual	pansexual
Pansexual	PANSEXUAL
Pansexual	Pansexual
Pansexual	PANSEXUAL
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual (loving without gender bias)
Pansexual	Pansexual
Pansexual	PANSEXUAL; DEMISEXUAL
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Pansexual	Pansexual
Anti-label	just me
Anti-label	Neutral
Anti-label	DON'T LIKE LABELS ORIENTATION
Other	[left blank]
Other	[left blank]
Other	[left blank]

Other	[left blank]
-------	--------------

* Note: When a respondent provided two identity labels in their write-in response, the first label chosen was used for categorization purposes (e.g., “Lesbian and Same Gender Loving coded” as “Lesbian”), except for asexual, which took precedence when there were two categories in the write-in. Four respondents selected “other,” but did not provide a write in response. These respondents remain categorized as “other.”

A second calculated variable (**w1sexminid**) was also included, in which respondents reporting a sexual minority identity were categorized into 1 of 3 categories: lesbian/gay (lesbian, gay), bisexual (bisexual), and other sexual minority identity (queer, pansexual, same-gender loving, asexual spectrum, anti-label, other). 11 respondents identified as straight/heterosexual and were recoded as missing for the w1sexminid variable. These 11 respondents screened in as LGB but identified as straight/heterosexual in the survey.

Sexual identity was re-assessed at waves 2 and 3. Four variables (**w2sexualid**, **w3sexualid**, **w2sexminid**, and **w3sexminid**) were created using the same approach described above.

Education.

Responses from the Gallup Daily Tracking Survey variable (**geducation**) were re-categorized into two additional variables with fewer response options: **geduc1** (high school or less, some college, college completed, more than college completed) and **geduc2** (high school or less, more than high school).

Education was not re-assessed at waves 2 or 3.

Geography.

Urbanicity

Using respondents’ zip codes, urbanicity scores were calculated using the USDA Rural-Urban Commuting Area coding system (USDA, 2013). RUCA scores are included in the dataset (variable: **gruca**). 2010 RUCA codes were used, and scores of 1-3 represent urban zip codes, while scores of greater than 3 represent non-urban zip codes. The variable, **gurban** was created using this scoring system.

23 respondents’ zip codes did not have a corresponding RUCA code or corresponding urbanicity score. These 23 values were imputed using Predictive Mean Matching, described in detail in a later section. Both un-imputed (**gruca**, **gurban**) and imputed (**gruca_i**, **gurban_i**) versions of the variables are included in the dataset.

Urbanicity was not re-assessed at waves 2 or 3.

Census region and division

Using respondents’ states of residence (**gzipstate**), respondents were assigned to their corresponding Census regions (**gcenreg**) and divisions (**gcendiv**) (US Census Bureau, 2015).

There are 9 Census divisions:

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

There are 4 corresponding Census regions:

1. Northeast (New England, Middle Atlantic regions)
2. Midwest (East North Central, West North Central regions)
3. South (South Atlantic, East South Central, West South Central regions)
4. West (Mountain, Pacific regions)

Census region and division were not re-assessed at waves 2 or 3.

Distance from an LGBT community health center

Distance from the respondents' residence to the nearest LGBT community health center (**gmilesaway**). This distance was calculated using geocoded health center data and respondents' zip codes (**gzipcode**), as described by Martos et al. (2017). A dichotomous variable (**gmilesaway2**) was created to differentiate between respondents living less than 60 miles away from the nearest LGBT health center and those living 60 or more miles away. A 60-mile distance was chosen arbitrarily to represent a practical travel distance of about 1-hour drive.

Distance from an LGBT community health center was not re-assessed at waves 2 or 3.

Poverty.

Using weighted Census estimates for poverty thresholds in 2016 and 2017 (US Census Bureau, 2018), respondents were categorized as either living in poverty (below 100% FPL) or not, based on the year they completed the Generations survey (2016 or 2017), their reported household income (**w1hinc**), and the reported number of people living on that household income (**w1q173**) (constructed variable: **w1poverty**)³. 32 respondents did not indicate the number of people living on their household income. Of them, 5 reported household incomes <\$11,999, and could be categorized as living below the 100% federal poverty line. The remaining 27 could not be categorized and were recoded as missing.

³ At the time the data were cleaned, 2018 poverty thresholds were not available. For the 29 respondents from the extended wave 1 sample who completed the Generations survey in 2018, their poverty statuses were calculated using 2017 poverty thresholds.

Another variable was created (**w1povertycat**) using the same thresholds above, which categorized respondents into the following income ratio categories: <100% FPL, 100-199% FPL, 200-299% FPL, 300%+ FPL. 32 respondents did not indicate the number of people living on their household income. Of them, 5 reported household incomes >\$11,999, and could be categorized as living below the 100% federal poverty line. The remaining 27 could not be categorized and were recoded as missing.

An imputed version of poverty (**poverty_i**, **povertycat_i**), using imputed household income (**hinc_i**) variable is also in the dataset. Poverty was not re-assessed at waves 2 or 3.

Sexual orientation change therapy.

Respondents reported their lifetime experiences receiving treatment to change their sexual orientations (**w1q133**: for respondents completing the survey by mail; **w1q133_1** - **w1q133_3**: for respondents completing the survey by web). Three variables were calculated. First, respondents were coded dichotomously as having ever received such treatment or not (variable: **w1conversion**). Next, respondents were categorized according to the provider of the treatment: from a healthcare professional (variable: **w1conversionhc**) or from a religious leader (variable: **w1conversionrel**).

Exposure to sexual orientation change therapy was not re-assessed at waves 2 or 3.

Scale creation

Several items from the Generations study are part of validated scales, designed to measure constructs relevant to identity, stress, and health. Each of the scales within the Generations survey have been calculated from individual variables, according to published instructions, detailed below. The reliability of each scale was assessed with Cronbach's alpha (α), for the entire sample and then by sex at birth, cohort, and race/ethnicity, respectively. The reliability test scores are presented in Appendix 2. Two calculated variables are included in the dataset for each of the scales: an un-imputed version and an imputed version. The unimputed version has missing values for participants who were missing on one or more items that make up the scale. The imputed variable has no missing values. The steps taken to create each scale are described below.

Scale reliabilities (Cronbach's alpha) are presented in appendices 1 and 2.

Positive Health.

Social Well-Being assessed one's "appraisal of one's circumstances and functioning in society," and serves as a measure of one's "social wellness" (Keyes, 1998). Keyes (1998) Social Well-Being scale consists of 15 items (**w1q04**- **w1q18**; e.g. "I don't feel I belong to anything I'd call a community," "My community is a source of comfort," "I have something valuable to give to the world."), each rated on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree", with the middle category as "Neither agree nor disagree". To create a scale variable, 8 of the 15 items (**w1q04**, **w1q08**, **w1q11**, **w1q12**, **w1q14**, **w1q15**, **w1q16**, **w1q17**) were reverse-coded then the scale was created as

a mean score of each of the items within the scale. Lower values represent lower social well-being and higher values represent greater social well-being. Scale values range from 1 to 7.

There were two resulting variables: “**w1socialwb**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1socialwb_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Social well-being was re-assessed at waves 2 and 3. Four variables (**w2socialwb**, **w3socialwb**, **w2socialwb_i**, and **w3socialwb_i**) were created using the same approach described above.

Satisfaction with Life (Satisfaction with Life Scale, SWLS) assessed respondents’ global satisfaction with life “as a cognitive-judgmental process” (Diener et al., 1985). The scale consisted of 5 items (wlq186- wlq190; e.g., “In most ways my life is close to ideal,” “The conditions of my life are excellent,” “I am satisfied with life.”), each rated on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”, with the middle category as “Neither agree nor disagree”. The scale variable was created as a mean score of each of the items within the scale. Lower values represent less satisfaction with life and higher values represent greater satisfaction with life. Scale values range from 1 to 7.

There were two resulting variables: “**w1lifesat**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1lifesat_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Satisfaction with life was not re-assessed at waves 2 or 3.

Identity.

Multi-group Ethnic Identity was assessed using Phinney and Ong’s (2007) revised Multi-group Ethnic Identity Measure (MEIM-R). MEIM-R assessed respondents’ “investigation, learning, and commitment” to their race/ethnic identities (Phinney & Ong, 2007). The scale consisted of 6 items (wlq21- wlq26; e.g., “I have spent time trying to find out more about my race/ethnic group, such as its history, traditions, and customs,” and “I have a strong sense of belonging to my own race/ethnic group.” Each item was rated on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”, with the middle category as “Neither agree nor disagree”. The scale variable was created as a mean score of each of the items within the scale. Lower values represent less investigation, learning, and commitment to one’s own race/ethnic identity, and higher values represent greater investigation, learning, and commitment. Scale values range from 1 to 5.

There were two resulting variables: “**w1meim**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1meim_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Multi-group ethnic identity was not re-assessed at waves 2 or 3.

Sexual Identity Centrality, a 5-item subscale from Mohr and Kendra's (2011) 27-item Lesbian, Gay, and Bisexual Identity Scale (LGBIS), assessed the degree to which respondents' sexual identities were central to their overall identities. Scale items (w1q40-w1q44) included "my sexual orientation is an insignificant part of who I am" and "being an LGB person is a very important aspect of my life." Responses were recorded on a 6-point Likert scale ranging from "disagree strongly" to "agree strongly." To create a scale variable, 1 item (w1q40) was first reverse-coded. Next, the scale was created as a mean score of each of the items within the scale. Lower values represent lower centrality and higher values represent greater centrality. Scale values range from 1 to 6.

There were two resulting variables: "**w1idcentral**" (calculated only from complete cases, in which no individual scale items were missing) and "**w1idcentral_i**" (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Sexual identity centrality was re-assessed at waves 2 and 3. Four variables (**w2idcentral**, **w3idcentral**, **w2idcentral_i**, and **w3idcentral_i**) were created using the same approach described above.

Community connectedness, a 7-item scale adapted from the 8-item scale described by Frost & Meyer (2012), assessed the desire for and strength of LGBT community affiliation among respondents. Scale items (w1q53- w1q59) included "you feel you're a part of the LGBT community," and "you are proud of the LGBT community." Responses were recorded on a 4-point Likert scale ranging from "agree strongly" to "disagree strongly." The scale variable was created as a mean score of each of the items within the scale. The final scale was reverse-coded so that lower scores represented lower community connectedness, while higher scores represented greater community connectedness. Scale values range from 1 to 4.

There were two resulting variables: "**w1connectedness**" (calculated only from complete cases, in which no individual scale items were missing) and "**w1connectedness_i**" (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Community connectedness was re-assessed at waves 2 and 3. Four variables (**w2connectedness**, **w3connectedness**, **w2connectedness_i**, and **w3connectedness_i**) were created using the same approach described above.

Healthcare Access & Utilization.

Healthcare Stereotype Threat, a 4-item scale modified from Abdou & Fingerhut's (2014) measure, assessed the degree to which respondents worried about being negatively judged by or confirming stereotypes about LGBT people with healthcare providers. Scale items (w1q60- w1q63) included "I worry about being negatively judged because of my sexual orientation or gender identity," and "I worry that evaluations of me may be

negatively affected by my sexual orientation or gender identity.” Responses were recorded on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”, with the middle category as “Neither agree nor disagree”. The scale was created as a mean score of each of the items within the scale. Lower values represent less worry about being judged or confirming LGBT stereotypes, and higher values represent greater worry. Scale values range from 1 to 5.

There were two resulting variables: “**w1hcthreat**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1hcthreat_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Healthcare Stereotype Threat was not re-assessed at waves 2 or 3.

Health Outcomes.

Mental Disability was assessed using the Kessler-6, a 6-item scale from the National Comorbidity Survey (Kessler et al., 2003). Scale items (w1q77A- w1q77F) asked respondents how often, in the past 30 days, they had felt “nervous,” “hopeless,” “restless or fidgety,” “so depressed that nothing could cheer you up,” “that everything was an effort,” and “worthless.” Responses were recorded on a 5-point scale ranging from “all of the time” to “none of the time.” All items were first reverse-coded so that “none of the time” had a value of 1 and “all of the time” had a value of 5. The scale was then created as the sum of all variables within the scale.

Per scale creation instructions, respondents failing to answer any single item in the scale were recorded as “missing,” on the resulting scale score. In addition, an imputed version of the scale was calculated in which missing individual scale items were imputed, and a final scale score was calculated for each respondent.

The resulting scales, named “**w1kessler6**” and “**w1kessler6_i**” had values ranging from 0 to 24.

Mental disability was re-assessed at waves 2 and 3. Four variables (**w2kessler6**, **w3kessler6**, **w2kessler6_i**, and **w3kessler6_i**) were created using the same approach described above.

There appear to be no clear standards for optimal K6 scoring. The unweighted scale has values in the range 0–24. The scoring rule used in most applications based on standard validation studies is to classify respondents with scores of 13–24 as having probable serious mental illness and those with scores of 0–12 as probably not having serious mental illness (Kessler et al., 2003). Furukawa and colleagues (Furukawa et al., 2003, 2008) have shown that this simple dichotomous scoring approach can be refined by using polychotomous rather than dichotomous scoring rules that collapse K6 scores into strata based on analysis of data in a clinical calibration study such that the observed prevalence of SMI differs significantly across strata. For example, one such scoring rule might collapse K6 scores into strata with K6 score values of 0, 1–7, 8–12, 13–18, and 19–24,

with respondents in each stratum assigned a predicted probability of serious mental illness based on the results of a clinical calibration study (Kessler et al., 2010).

Alcohol use was assessed using the Alcohol Use Disorder Identification Test (AUDIT-C), a 3-item scale designed to identify persons with hazardous drinking behavior, or who have active alcohol use disorders (Bush et al., 1998), including AUDs for DSM-5 (Dawson et al., 2012). The scale items (w1q85- w1q87) and available responses were “how often do you have a drink containing alcohol?” (never [0 points], monthly or less [1 point], 2-4 times a month [2 points], 2-3 times a week [3 points], 4 or more times a week [4 points]), “how many standard drinks containing alcohol do you have on a typical day?” (none [0 points], 1 or 2 [0 points], 3 or 4 [1 point], 5 or 6 [2 points], 7 to 9 [3 points], 10 or more [4 points]), and “how often do you have six or more drinks on one occasion?” (never [0 points], less than monthly [1 points], monthly [2 points], weekly [3 points], daily or almost daily [4 points]). The scale was then created as the sum of all variables in the scale. Per scale creation instructions, respondents failing to answer any single item in the scale were recorded as “missing,” on the resulting scale score. In addition, an imputed version of the scale was calculated in which missing individual scale items were imputed, and a final scale score was calculated for each respondent.

The resulting scales, named “**w1auditc**,” and “**w1auditc_i**” had values ranging from 0 to 12.

Alcohol use was re-assessed at waves 2 and 3. Four variables (**w2auditc**, **w3auditc**, **w2auditc_i**, and **w3auditc_i**) were created using the same approach described above.

The recommending screening thresholds for the AUDIT-C questions to identify alcohol use disorders or risky drinking is 4 or more for men, and 3 or more for women (Frank et al., 2008).

Drug use was assessed using the Drug Use Disorders Identification Test (DUDIT), an 11-item scale designed to identify individuals with drug- related problems (Berman et al., 2003). The scale was created as the sum of all variables (w1q90- w1q100) in the scale (see Table 7). Per scale creation instructions, respondents failing to answer any single item in the scale were recorded as “missing,” on the resulting scale score. In addition, an imputed version of the scale was calculated in which missing individual scale items were imputed, and a final scale score was calculated for each respondent.

The resulting scales, named “**w1dudit**,” and “**w1dudit_i**” had values ranging from 0 to 44.

Table 7. Generations survey variables used for calculating DUDIT scale			
<i>Variable</i>	<i>Question Text</i>	<i>Response Options</i>	<i>Points</i>
<i>w1q90</i>	<i>How often do you use drugs other than alcohol?</i>	<i>Never</i>	<i>0</i>
		<i>Once a month or less often</i>	<i>1</i>

		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q91	Do you use more than one type of drug on the same occasion?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q92	How many times do you take drugs on a typical day when you use drugs?	0	0
		1-2	1
		3-4	2
		5-6	3
		7 or more	4
w1q93	How often are you influenced heavily by drugs?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q94	Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q95	Has it happened, over the past year, that you have not been able to stop taking drugs once you get started?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q96	How often over the past year have you taken drugs and then neglected to do something you should have done?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q97	How often over the past year have you needed to take a drug the morning after heavy drug use the day before?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4
w1q98	How often over the past year have you had guilt feelings or a bad conscience because you used drugs?	Never	0
		Once a month or less often	1
		2-4 times a month	2
		2-3 times a week	3
		4 times a week or more often	4

w1q99	<i>Have you or anyone else been hurt (mentally or physically) because you used drugs?</i>	<i>No</i>	<i>0</i>
		<i>Yes, but not over the past year</i>	<i>2</i>
		<i>Yes, over the past year</i>	<i>4</i>
w1q100	<i>Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?</i>	<i>No</i>	<i>0</i>
		<i>Yes, but not over the past year</i>	<i>2</i>
		<i>Yes, over the past year</i>	<i>4</i>

Drug use was re-assessed at waves 2 and 3. Four variables (**w2dudit**, **w3dudit**, **w2dudit_i**, and **w3dudit_i**) were created using the same approach described above.

The suggested cut-off score for men with drug-related problems is a score of 6 or more, indicating probable drug-related problems, either substance abuse/harmful use or dependence. For women, the cut-off score is 2 or more. For both sexes, it is highly probable that a score of 25 or more indicates dependence on one or more drugs (Berman et al., 2003).

Stressors.

Felt stigma assessed respondents' awareness and experiences of sexual minority- related stress (Herek, 2008). Scale items (w1q125- w1q127) were "most people where I live think less of a person who is LGB," "most employers where I live will hire openly LGB people if they are qualified for the job," and "most people where I live would not want someone who is openly LGB to take care of their children." Responses were recorded on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree", with the middle category as "Neither agree nor disagree". 1/3 items (w1q126) was reverse coded, then the scale was created as a mean score of each of the items within the scale. Lower values represent less felt stigma, and higher values represent greater felt stigma. Scale values range from 1 to 5.

There were two resulting variables: "**w1feltstigma**" (calculated only from complete cases, in which no individual scale items were missing) and "**w1feltstigma_i**" (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Felt stigma was re-assessed at waves 2 and 3. Four variables (**w2feltstigma**, **w3feltstigma**, **w2feltstigma_i**, and **w3feltstigma_i**) were created using the same approach described above.

Internalized homophobia assessed the degree to which respondents accept stigma as a part of their own value systems (Herek et al., 2009). Scale items (w1q128- w1q132) included "I have tried to stop being attracted to people who are the same sex as me," "I wish I weren't LGB," and "I feel that being LGB is a personal shortcoming for me." Responses were recorded on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The scale was created as a mean score of each of the items within the scale. Lower values represent less internalized homophobia and higher values represent greater internalized homophobia. Scale values range from 1 to 5.

There were two resulting variables: “**w1internalized**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1internalized_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Internalized homophobia was re-assessed at waves 2 and 3. Four variables (**w2internalized**, **w3internalized**, **w2internalized_i**, and **w3internalized_i**) were created using the same approach described above.

Bisexual stigma assessed the degree to which bisexual-identified respondents were aware of stigma directed towards members of the bisexual community (Bostwick, 2012). Four items (w2q117 – w2q120) assessed bisexual stigma consciousness. Respondents were asked to rate their agreement with each of four statements: “I worry that my behaviors will be viewed as stereotypically bisexual,” “Stereotypes about bisexuals affect me,” “Most lesbians/gays have a problem with bisexuals,” and “Most heterosexuals have a problem with bisexuals.” Responses were recorded on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”, with the middle category as “Neither agree nor disagree”. The scale was created as a mean score of each of the items within the scale. Lower values represent less stigma consciousness and higher values represent greater stigma consciousness. Scale values range from 1 to 5.

There were two resulting variables: “**w2bistigma**” (calculated only from complete cases, in which no individual scale items were missing) and “**w2bistigma_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

A fifth item (**w2q121**) assessed perceived contestation of one’s bisexual identity: I feel that others view my bisexual identity as “untrue” or not real.

Bisexual stigma was only assessed at wave 2.

Everyday discrimination assessed chronic, relatively minor experiences of discrimination or unfair treatment (Williams et al., 1997). Scale items (w1q144A- w1q144I) asked respondents who often the following things happened to them over the past year, including “you were treated with less courtesy than other people,” “you were treated with less respect than other people,” “and you were called names or insulted.” Responses were recorded on a 4-point Likert scale ranging from “often” to “never.” The scale was created as a mean score of each of the items within the scale. The resulting variable was reverse-coded so that lower values represent less everyday discrimination and higher values represent more everyday discrimination. Scale value range from 1 to 4.

There were two resulting variables: “**w1everyday**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1everyday_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Everyday discrimination was re-assessed at waves 2 and 3. Four variables (**w2everyday**, **w3everyday**, **w2everyday_i**, and **w3everyday_i**) were created using the same approach described above.

Chronic strains (Wheaton, 1999, abridged version). Scale items (w1q146A- w1q146L) asked respondents to think about their lives currently, and to determine whether several statements were not true, somewhat true, or very true. A “does not apply” response option was also provided. Questions included “you’re trying to take on too many things at once,” “your job often leaves you feeling both mentally and physically tired,” “and you are alone too much.”.

Childhood gender conformity (Zucker et al., 2006). Scale items (w1q147- w1q150) included “as a child, my favorite toys and games were...,” and “as a child, the characters on TV or in the movies that I imitated or admired were...” Response were recorded on a 5-point scale, with the wording of response options varying according to the question, but all ranged from “masculine” (e.g., 1= “always ‘masculine,’” “always boys or men”) to “feminine” (e.g., 5= “always ‘feminine,’” “always girls or women”). “Neither” and “not applicable” responses were set as missing. A preliminary score was assigned to each participant and was calculated the mean score of all the values present within the scale for each individual. A final categorical score was then calculated for each participant, based on their sex at birth (male/female), using cutoff scores described in the table below. The resulting variable for the scale was named “**w1childgnc**.” In addition, an imputed version of the scale was calculated in which missing individual scale items were imputed, and a final scale score was calculated for each respondent in the same manner (**w1childgnc_i**). The resulting categories of the measure are 1 "Top decile (most GNC)" 2 "Median-Top decile" 3 "< Median (least GNC)".

Table 8. Cutoff scores used to calculate w1childgnc		
	Lower cutoff	Upper cutoff
90 th percentile or greater (most gender non-conforming in childhood)	Females: 1.00 Males: 3.66	Females: 2.00 Males: 5.00
Between 50 th percentile and 90 th percentile	Females: 2.01 Males: 2.33	Females: 3.00 Males: 3.65
Less than 50 th percentile (least gender non-conforming in childhood)	Females: 3.01 Males: 1.00	Females: 5.00 Males: 2.32

Childhood gender conformity was not re-assessed at waves 2 or 3.

Adverse childhood experiences (ACE) (CDC-BRFSS, 2010). Scale items (w1q151- w1q161) asked respondents to “look back before you were 18 years of age,” and included items such as “did you live with anyone who was depressed, mentally ill, or suicidal,” and “how often did your parents or adults in your home ever slap, hit, kick, punch, or beat each other up?” Available response options ranged from dichotomous (yes/no) to 3-point Likert scales (never to more than once), depending on the question. “Don’t

know/not sure” and “refused” answer options were also available to respondents, where appropriate. To create a summary ACE score, all items were dichotomized (1= yes, event occurred at least once vs. 0=no, event never occurred) if not already dichotomized. Per published instruction (CDC, 2016), 8 subscores were created from the existing 11 items: presence of emotional abuse (**wlace_emo**: w1q158), physical abuse (**wlace_phy**: w1q157), sexual abuse (**wlace_sex**: w1q159, w1q160, w1q161), household intimate partner violence (**wlace_ipv**: w1q156), household substance use (**wlace_sub**: w1q152, w1q153), household mental illness (**wlace_men**: w1q151), parental separation or divorce (**wlace_sep**: w1q155), incarcerated household member (**wlace_inc**: w1q154). A resulting final score was created as a sum score indicating the number of adverse childhood experiences respondents reported during childhood. Scale values for the resulting ACE measure (**wlace**) range from 0 to 8. Respondents indicating “don’t know” or “refused” on any single scale item were recorded as missing for that subscore(s), and the subsequent final score.

Missing individual scale items were also imputed using predictive mean matching, and individual subscores and the final scale score was calculated for each respondent (**wlace**, **wlace_emo_i**, **wlace_phy_i**, **wlace_sex_i**, **wlace_ipv_i**, **wlace_sub_i**, **wlace_men_i**, **wlace_sep_i**, **wlace_inc_i**).

Adverse childhood experiences were not re-assessed at waves 2 or 3.

Social support.

Multidimensional scale of perceived social support (Zimet et al., 1988) includes scale items (w1q164a- w1q164l) that asked respondents to rate their levels of agreement with several items, including “there is a special person who is around when I am in need,” and “my family really tries to help me.” Responses were recorded on a 7-point Likert scale ranging from “very strongly disagree” to “very strongly agree””, with the middle category as “Neither agree nor disagree”. The scale was created as a mean score of each of the items within the scale. Lower values represent less perceived social support and higher values represent more perceived social support. Scale values range from 1 to 7.

There were two resulting variables: “**w1socsupport**” (calculated only from complete cases, in which no individual scale items were missing) and “**w1socsupport_i**” (missing individual scale items were imputed, and a final scale score was calculated for each respondent).

Additionally, 3 subscales were created, representing perceived social support from significant others (**w1socsupport_so** and **w1socsupport_so_i**, w1q164a, b, e, j), family (**w1socsupport_fam** and **w1socsupport_fam_i**, w1q164c, d, h, k), and friends (**w1socsupport_fr** and **w1socsupport_fr_i**, w1q164f, g, i, l). Each subscale was similarly created as a mean score of each of the items within the subscale. Lower values represent less perceived social support and higher values represent more perceived social support. Subscale values range from 1 to 7.

Social support was re-assessed at wave 2. Eight variables (**w2socsupport**, **w2socsupport_i**, **w2socsupport_so**, **w2socsupport_so_i**, **w2socsupport_fam**, **w2socsupport_fam_i**, **w2socsupport_fr**, **w2socsupport_fr_i**) were created using the same approach described above for wave 2, and eight (**w3socsupport**, **w3socsupport_i**, **w3socsupport_so**, **w3socsupport_so_i**, **w3socsupport_fam**, **w3socsupport_fam_i**, **w3socsupport_fr**, **w3socsupport_fr_i**) were created using the same approach for wave 3.

Social support matrix questions

Social support matrix questions were part of the wave 2 Generations questionnaire (w2q156-161). Respondents were asked to denote the total number of people they could rely on for everyday (w2q156) and major (w2q159) social support. After that, respondents were asked to indicate how many of these people were (w2q157/160a) their family (other than spouse); (w2q157/160b) their spouse; their close friends (w2q157/160c); their friends/acquaintances (w2q157/160d); Volunteer/paid worker (w2q157/160e); or Other (w2q157/160f). Lastly, they were asked to indicate how many of the people they could rely on for everyday/major social support were of the same race/ethnicity as them (w2q158/161a); Of the same gender as them (w2q158/161b); LGBT (w2q158/161c); Of the same race/ethnicity and gender as them, and LGBT (w2q158/161d).

Response pattern inconsistencies

Respondents sometimes displayed one or several of four types of response pattern inconsistencies when filling in the social support matrix questions:

- Pattern 1: Occasional missing responses. Some respondents filled in the total size of their everyday or major social support network and filled one or more of the subsequent subcategories, but also left some of these subcategories blank.
- Pattern 2: The size of the total support network filled in questions 156/159 did not equal the sum of subcategories provided in questions 157/160.
- Pattern 3: The total size of the social support network filled in questions 156/159 was smaller than one or more of the entries for subparts of those networks that were homophilous to the focal respondents in terms of race/ethnicity, gender, and/or were LGBT.
- Pattern 4: The number of persons in their support networks homophilous to them in both race/ethnicity and gender who were also LGBT, was larger than one or more of the subparts of social support networks fulfilling only one of these criteria.

Handling response pattern inconsistencies

The Generations research team identified two strategies for dealing with these response pattern inconsistencies.

Strategy 1:

- For pattern 1: Replace occasional missings with 0's.
- For patterns 2-4: Leave the data as is, accepting there is measurement error in the data.

Strategy 2:

Set some of the inconsistent response patterns to missing, use imputation to fill them in.

- Pattern 1: Replace occasional missings with 0's
- Pattern 2: Set both total network size (w2q156/159) and all subcategories (w2q157/160) to missing
- Pattern 3: Set homophilous network category exceeding total (w2q158*/161*) to missing
- Pattern 4: Set multidimensionally homophilous response (w2q158d/161d) to missing

Missing Data and Imputation

Baseline survey

When possible, missing values on demographic characteristics were assigned from other known sources. (See Appendices 5, 6, & 7 for missing values in the baseline, wave 2, and wave 3 datasets, respectively).

- 19 respondents were missing an age on the Generations survey (w1age). All 19 were assigned the age reported to Gallup on the Gallup survey.
- 18 respondents were missing a race on the Generations survey (w1race). All 18 were assigned the race reported on the Gallup screen.
- 22 respondents were missing a sex at birth on the Generations survey (w1sex). All 22 were assigned the sex at birth reported to Gallup on the Gallup survey.
- 13 respondents were missing a sexual identity on the Generations survey (w1sexualid). All 13 were assigned the sexual identity reported on the Gallup screen.
- 15 respondents were missing a current gender identity on the Generations survey (w1gender). Of them, 10 could be assigned using the gender reported on the Gallup screen. The remaining 5 were assigned the gender that corresponded to their sex at birth (e.g., “male” sex at birth was coded as “man” gender identity).
- 39 respondents were missing a household income. Of them, 23 could be assigned the household income reported to Gallup on the Gallup survey.

For the remaining missing values, we did a single imputation by chained equations (fully conditional specification), using predictive mean matching (Little, 1988) to draw the imputed values. With predictive mean matching, regression is used to predict the missing value, and then a single value is randomly selected from the k observed values nearest to the predicted missing value from a donor pool of complete observations. We used donor pools of size $k=5$ according to Heitjan and Little (1991). When doing imputation by chained equations, each of the imputed variables serve as predictors in the imputation regression models for all other imputed variables. Additionally, age, race/ethnicity, and sex at birth, completed through other sources, were included in the imputation models to improve matching.

Predictive mean matching can be considered a more general form of hot-deck imputation, in which missing values are imputed by matching non-respondents to respondents only

through categorical predictors. These matching-imputation methods are attractive because they recreate distributions well by using observed values for imputations and because they are somewhat more robust to misspecification of the imputation model (e.g. normality assumption violation) than parametric imputation methods (Morris et al., 2014). For each of the variables that were imputed, both the original/un-imputed and imputed versions are available in the dataset.

- The remaining 16 (out of 39) respondents with a missing household income were imputed using Predictive Mean Matching.
- 41 respondents were missing a personal income. All 41 were imputed using Predictive Mean Matching.

Wave 2 survey

- 5 respondents were missing a sexual identity on the Generations survey (w2sexualid). All 5 were assigned the sexual identity reported on the Gallup screen.
- 7 respondents were missing a current gender identity on the Generations survey (w2gender). All 7 were assigned a gender consistent with the gender reported at wave 1.

Wave 3 survey

- 12 respondents were missing a sexual identity on the Generations survey (w3sexualid). All 12 were assigned the sexual identity reported on the Gallup screen.
- 12 respondents were missing a current gender identity on the Generations survey (w3gender). All 12 were assigned a gender consistent with the gender reported at wave 1.

Missing in imputed scales in Wave 2 and Wave 3 reflect attrition from the baseline (attrition from Wave 1 to Wave 2 n=437; attrition from Wave 1 to Wave 3 n=624) and those who were in the extended sample (n=187) who were not given the follow up surveys Wave 2 and Wave 3.

Sample weight

Final sample weights are available for use with the data. When applied, results from analyses are generalizable to the U.S. population of LGB adults ages 18-25, 34-41, and 52-59 during data collection. The sample weights are (see also Table 9):

1. **w1weight_full** to be used for analyses using the full sample (original plus extended sample).
2. **w1weight_orig** to be used for analyses using the original sample only.
3. **w2weight** to be used for analyses using Wave 2 survey (including longitudinal analyses of Wave 1 and Wave 2 respondents).
4. **w3weight** to be used for analyses using Wave 3 survey (Including longitudinal analyses of Wave 1, Wave 2, and Wave 3 respondents).

The different weights for each wave takes into account attrition between the waves.

Table 9. Use of sample weights	
For analyses of:	Use this weight:
Cross-sectional analysis using Wave 1 data for the original sample (excluding the enhancement sample)	w1weight_orig
Cross-sectional analysis using Wave 1 data for the full sample (original and enhancement samples)	w1weight_full
Cross-sectional analysis using Wave 2 data	w2weight
Cross-sectional analysis using Wave 3 data	w3weight
Longitudinal analysis using both Wave 1 and Wave 2 data	w2weight
Longitudinal analysis using Wave 1, wave 2, and wave 3 data	w3weight

STATA

In Stata, the sample weight can be applied to analyses using the “svy” command.

For example, if the procedure is a generalized linear model, use the same procedure as you would when analyzing non-complex survey data, but include the prefix **svy**: regress x y z.

To register the survey design of the data for analysis, use the following command:

svyset _n [pweight=(*weight variable name*)]

Copy the code above but replace “weight variable name” with the weight variable of the dataset you are using.

SPSS

In SPSS, first a Complex Samples Module is needed, this is not included with the base SPSS package. From there, create an “Analysis Plan” which contains survey design variable information and identifies the sampling weight. When running an analysis procedure, procedures that are found in the Complex Sample modules must be used and these are accessed through a link to the Analysis Plan that the analyst must create.

For example, if the procedure generalized linear model (GLM) is used to run a regression with data, with complex survey data, the analyst needs to create the Analysis Plan file and then use complex sample generalized linear model (CSGLM) to run the regression. CSGLM uses a syntax different from GLM.

The steps to analysis survey data in SPSS:

1. Complex Samples Module is needed
2. Create an Analysis Plan file using the code below:

CSPLAN ANALYSIS

```
/PLAN FILE='myplanfile.csaplan'  
/PLANVARS ANALYSISWEIGHT=weight variable name  
/DESIGN  
/ESTIMATOR TYPE=WR.
```

Copy the code above, and replace 'myplanfile.csaplan' with file name that makes sense for your project. Keep the .csaplan extension. Replace "weight variable name" with the weight variable in the dataset.

3. Use Complex Samples procedures to analyze the data

Point-and-click is another method to create the Analysis Plan file. To find step-by-step instructions on this approach, please see Appendix 8.

Base Weights:

The base weights for this study were calculated for the Daily Tracking Frame for the timeframe included in this study in multiple stages. The entire frame, selected as an RDD sample, was initially weighted to represent aged 18+ US population. The weighting process accounted for multiple stages of selection and non-response.

Non-Response Stage 1:

The first stage of non-response accounted for respondents agreeing to be re-contacted by Gallup for follow-up studies. Non-response adjustment cells were created based on demographic characteristics defined as Hispanic x Region x Age x Gender x Education. For nonresponse adjustments, the inverse of weighted response rates (weighted by base weight) for each cell was used as the non-response adjustment factor.

Non-Response Stage 2:

The second stage of non-response accounted for respondents who were deemed eligible for the LGB study agreeing to be re-contacted for this study. Non-response adjustment cells were created based on demographic characteristics defined as Age x Gender x Region x Education. For nonresponse adjustments, the inverse of weighted response rates (weighted by cumulative weight) for each cell was used as the non-response adjustment factor. All respondents who agreed to participate in the study at this stage were sampled so every eligible person had an equal selection probability.

Non-Response Stage 3:

The third and final stage of non-response accounted for respondents who were sampled and did not complete the survey. Non-response adjustment cells were created based on demographic characteristics defined as Age x Gender x Region x Education. For nonresponse adjustments, the inverse of weighted response rates (weighted by cumulative weight) for each cell was used as the non-response adjustment factor.

Post Stratification Adjustment:

The final step was a post-stratification adjustment to targets for the LGBT community obtained from weighted estimates using the Gallup Daily Tracking surveys. Non-Response Adjusted Weights were post-stratified to targets for LGBT population were created for age, gender, education, race/ethnicity and region.

Attrition Analysis

Attrition analysis using weighted data was performed to evaluate the extent of similarities between wave 1 population and wave 2 population, as well as, between wave 1 population and wave 3 population (Table 9). The original sample was used for the attrition analysis (n=1,331) since the extended sample was not included in waves 2 and 3.

Wave 1 to Wave 2

There were some expected differences seen between those who were retained versus those who were loss to follow up for the age cohorts, specifically the younger cohort were more likely to have loss to follow up from wave 1 to wave 2. Generally, this is a trend is observed in longitudinal studies in that younger respondents are generally more likely to have loss to follow up between subsequent waves. In addition, some differences were seen with race, specifically, Blacks and Latinos were more likely to have loss to follow up from wave 1 to wave 2. For education, respondents with a high school education or less were more likely to have loss to follow up from wave 1 to wave 2. Among the general health categories, ranging from poor to excellent, those with fair health were more likely to have loss to follow up from wave 1 to wave 2.

Wave 1 to Wave 3

Similarly, the attrition analysis between wave 1 and wave 3 indicated that the younger cohort, Blacks and Latinos, and respondents with a high school degree or less were more likely to have loss to follow up. Additionally, respondents who lived 60 miles or more from the nearest LGB health center were more likely to have loss to follow up from wave 1 to wave 3.

Table 10: Attrition Analysis by select demographic characteristics, stressors, and health outcomes: *Generations* national probability original sample respondents (n = 1,331)

	Wave 1 to Wave 2 Respondents Retained (n=894)	Wave 1 to Wave 2 Respondents Loss to Follow-Up (n=437)		Wave 1 to Wave 3 Respondents Retained (n=707)	Wave 1 to Wave 3 Respondents Loss to Follow-Up (n=624)	
	n (%) or mean (±sd)	n (%) or mean (±sd)	p-value	n (%) or mean (±sd)	n (%) or mean (±sd)	p-value
Demographics						
Cohort			0.019*			<0.001*
Younger	367 (57.7)	203 (65.8)		276 (55.7)	294 (65.0)	
Middle	211 (22.1)	106 (19.7)		157 (21)	160 (21.4)	
Older	316 (20.2)	128 (14.5)		274 (23.3)	170 (13.6)	
Gender			0.34			0.069
Female	427 (52.4)	225 (57.7)		329 (50.4)	323 (57.7)	
Male	409 (39.5)	187 (35.6)		335 (42.3)	261 (34.5)	
Nonbinary or	58 (8.1)	25 (6.7)		43 (7.36)	40 (7.78)	

genderqueer						
Race			0.018*			0.038*
White	684 (66.8)	297 (57.4)		551 (68.1)	430 (59.3)	
Black or African American	86 (13.3)	67 (20.2)		70 (14.3)	83 (17.2)	
Latino or Hispanic	124 (19.9)	73 (22.3)		86 (17.6)	111 (23.5)	
Education			0.03*			0.002*
High school or less	157 (37.7)	103 (45.9)		110 (34.7)	150 (46.0)	
More than high school	737 (62.3)	334 (54.1)		597 (65.3)	474 (54.0)	
Employment			0.225			0.656
Unemployed	43 (7.34)	25 (7.72)		34 (7.26)	34 (7.67)	
Sexual orientation			0.297			0.39
Lesbian or gay	492 (46.45)	247 (49.46)		412 (48.86)	327 (46.42)	
Bisexual	285 (39.57)	143 (38.74)		205 (36.12)	223 (41.99)	
Queer	59 (6.43)	19 (4.55)		44 (6.54)	34 (5.05)	
Pansexual	21 (2.86)	11 (2.67)		19 (3.57)	13 (2.12)	
Same-gender loving	14 (1.06)	8 (1.73)		9 (1.02)	13 (1.56)	
Asexual	16 (2.41)	3 (0.81)		12 (2.33)	7 (1.38)	
Straight/ Heterosexual	4 (0.77)	4 (1.93)		4 (1.05)	4 (1.32)	
Anti-label	3 (0.45)	1 (0.06)		2 (0.52)	2 (0.12)	
Other	0 (0.00)	1 (0.06)		0 (0.00)	1 (0.04)	
Marital status			0.553			0.32
Legally married, civil union, domestic partner	201 (16.1)	91 (14.8)		163 (16.8)	129 (14.6)	
Unmarried	691 (83.9)	346 (85.2)		543 (83.2)	494 (85.4)	
Born in United States			0.876			0.894
Yes	836 (95.2)	405 (95.4)		667 (95.3)	574 (95.2)	
No	47 (4.83)	26 (4.61)		34 (4.65)	39 (4.83)	
Political affiliation			0.582			0.225
Republican	40 (5.46)	19 (6.19)		34 (5.92)	25 (5.55)	
Democrat	522 (58.9)	237 (54.9)		416 (60.5)	343 (54.7)	
Independent	254 (35.6)	129 (38.9)		196 (33.6)	187 (39.7)	
LGB Center Access			0.536			0.028
Reside 60+ miles from LGBT center	229 (26.2)	113 (28.2)		169 (23.3)	173 (30.0)	
Reside less than 60 miles from LGBT center	657 (73.8)	316 (71.8)		532 (76.7)	441 (70.0)	
Identity						
Community Connectedness	3.0 (±.57)	3.0 (±.57)	0.385	2.9 (±.59)	3.0 (±.54)	0.227
Stressor						
Internalized	1.6 (±.77)	1.7 (±.74)	0.615	1.6 (±.80)	1.7 (±.72)	0.656

Homophobia
Health Outcome
 General Health

Poor	37 (4.15)	10 (1.73)	0.032*	23 (2.85)	24 (3.62)	0.158
Fair	108 (13.5)	66 (19.8)		76 (12.7)	98 (18.6)	
Good	293 (35.5)	128 (30.6)		222 (34.0)	199 (33.4)	
Very good	332 (35.8)	174 (34.4)		284 (37.7)	222 (33.2)	
Excellent	111 (11)	55 (13.5)		96 (12.8)	70 (11.2)	

* $p < .05$

References

- Abdou, C. M., & Fingerhut, A. W. (2014). Stereotype Threat Among Black and White Women in Health Care Settings. *Cultural Diversity & Ethnic Minority Psychology*, 20(3), 316–323. <http://doi.org/10.1126/science.1249098>. Sleep
- Alcohol Use Disorder Identification Test (AUDIT-C). Retrieved from: http://www.integration.samhsa.gov/images/res/tool_auditc.pdf
- Berman, A.H., Bergman, H., Palmstierna, T., & Schlyter, F. (2003). The Drug Use Disorders Identification Test (DUDIT) Manual. Retrieved from: <http://www.paihdelinkki.fi/sites/default/files/duditmanual.pdf>
- Bostwick (2012) Assessing Bisexual Stigma and Mental Health Status: A Brief Report, *Journal of Bisexuality*, 12(2), 214-222.
- Bush, K. Kivlahan, D.R., McDonnell, M.B., Fihn, S.D., & Bradley, K.A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol Use Disorder Identification Test. *Archives of Internal Medicine*, 158(16): 1789-95.
- Centers for Disease Control and Prevention (CDC). (2016, April 01). Violence Prevention. Retrieved from https://www.cdc.gov/violenceprevention/acestudy/ace_brfss.html
- CDC-BRFSS (2010). Adverse Childhood Experiences (ACE) module. Retrieved from: <http://www.acestudy.org/>
- Dawson, D.A., Smith, S.M., Saha, T.D., Rubinsky, A.D., & Grants, B.F. (2012). Comparative performance of the AUDIT-C in screening for DSM-IV and DSM-5 Alcohol Use Disorders. *Drug Alcohol Dependency*, 126 (3): 384-388.
- Diener, E. , Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality*, 49(1), 71–75.
- Frank, D., DeBenedetti, A.F., Volk, R.J., Williams, E.C., Kivlahan, D.R., & Bradley, K.A. (2008). Effectiveness of the AUDIT-C as a screening test for alcohol misuse in three race/ethnic groups. *Journal of General Medicine*, 23 (6), 781-787.
- Frost, D. M., & Meyer, I. H. (2012). Measuring community connectedness among diverse sexual minority populations. *Journal of Sex Research*, 49(1), 36–49.
- Furukawa T.A., Kawakami N., Saitoh M., Ono Y., Nakane Y., Nakamura Y., Tachimori H., Iwata N., Uda H., Nakane H., Watanabe M., Naganuma Y., Hata Y., Kobayashi M., Miyake Y., Takeshima T., Kikkawa T. (2008). The performance of the Japanese version of the K6 and K10 in the World Mental Health Survey Japan. *Int J Methods Psychi-atr Res*, 17, 152–158, DOI: 10.1002/mpr.257
- Furukawa T.A., Kessler R.C., Slade T., Andrews G. (2003). The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. *Psychol Med*, 33, 357–362, DOI: 10.1017/S0033291702006700
- Gallup Daily Methodology. (2015).
- Herek (2008), Hate Crimes and Stigma-Related Experiences Among Sexual Minority Adults in the United States. *Journal of Interpersonal Violence*. Retrieved from:

- <http://jiv.sagepub.com/content/early/2008/04/07/0886260508316477.full.pdf+html>
1
- Herek et al (2009), Internalized stigma among sexual minority adults: Insights from a social psychological perspective. *Journal of Counseling Psychology*, 56(1).
- Heitjan, D.F., & Little, R.J.A. (1991). Multiple Imputation for the Fatal Accident Reporting System. *Applied Statistics*, 40(1), 13-29.
- Kessler, R.C., Green, J. G., Gruber, M.J. et al. (2010). Screening for serious mental illness in the general population with the K6 screening scale: results from the WHO World Mental Health (WMH) survey initiative. *Int. J. Methods Psychiatr. Res.* 19(Supplement 1): 4–22, DOI: 10.1002/mpr.310
- Kessler R.C., Barker P.R., Colpe L.J., Epstein J.F., Gfroerer J.C., Hiripi E., Howes M.J., Normand S.L., Manderscheid R.W., Walters E.E., Zaslavsky A.M. (2003). Screening for serious mental illness in the general population. *Arch Gen Psychiatry*, 60, 184 –189.
- Keyes, C. L. (1998). Social Well-Being. *Social Psychology Quarterly*, 61(2), 121–140.
- Little, R.J.A. (1988). Missing-Data Adjustments in Large Surveys. *Journal of Business & Economic Statistics*, 6(3), 287-296.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychol Bull*, 129(5), 674-697. doi:10.1037/0033-2909.129.5.674
- Martos AJ, Wilson PA, Meyer IH (2017). Lesbian, gay, bisexual, and transgender (LGBT) health services in the United States: Origins, evolution, and contemporary landscape. *PLoS ONE* 12(7), e0180544. <https://doi.org/10.1371/journal.pone.0180544>
- Mohr, J. J., & Kendra, M. S. (2011). Revision and extension of a multidimensional measure of sexual minority identity: the Lesbian, Gay, and Bisexual Identity Scale. *Journal of Counseling Psychology*, 58(2), 234–45. <http://doi.org/10.1037/a0022858>
- Morris, T.P., White, I.R., & Royston, P. (2014). Tuning multiple imputation by predictive mean matching and local residual draws. *BMC Medical Research Methodology*, 14(75).
- National Comorbidity Survey. Kessler 6 - Self Report Q1 (a)-(f). Retrieved from: <http://www.integration.samhsa.gov/images/res/K6%20Questions.pdf>
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271–281.
- US Census Bureau. (2015). 2010 Geographic Terms and Concepts - Census Divisions and Census Regions. Retrieved from https://www.census.gov/geo/reference/gtc/gtc_census_divreg.html
- US Census Bureau. (2018). Poverty Thresholds. Retrieved from <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>
- USDA. (2013). Rural-Urban Commuting Area Codes. Retrieved from <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx>

- Wheaton B. The nature of stressors. In: Horwitz AF, Scheid TL, editors. A handbook for the study of mental health: Social contexts, theories, and systems. Cambridge, UK: Cambridge University Press; 1999. pp. 176–197.
- Williams, D.R., Yu, Y., Jackson, J.S. & Anderson, N.B (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology*, 2(3).
- Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52, 30-41. Retrieved from: <http://www.yorku.ca/rokada/psyctest/socsupp.pdf>
- Zucker, K.J., Mitchell, J.N., Bradley, S.J., Tkachuk, J. Cantor, J.M. & Allin, S.M.(2006), The Recalled Childhood Gender Identity/Gender Role Questionnaire: Psychometric properties. *Sex Roles*, 54(7).

Appendices

Appendix 1: Information Sheet⁴

Identity Stress and Health in Three Cohorts of LGB individuals Consent Information Sheet Generations Study

The *Generations* survey is the first long-term, five-year study to examine the health and well-being of lesbians, gay men, and bisexuals (LGB) across three generations. The survey explores identity, stress, health outcomes, and health care among LGBs from different age groups.

You were selected as a participant in this survey because you are 18 years or older and because you recently told Gallup you were willing to participate in this study. Your participation in this research survey is completely voluntary and you can skip any question you do not want to answer. Your participation in this survey is completely anonymous.

The information you provide will be kept confidential and will be kept separate from your identifying information including your name, email address, or home address. Information will only be reported in the aggregate.

Information about you is protected by a federal Certificate of Confidentiality. This means that we can't be forced to release information about you for any legal proceeding, even if a court of law asks.

The Certificate allows us to use information about you for purposes of this research, or to disclose it for other research when allowed by law. The Certificate requires other researchers to also protect information we share with them.

There are limits to this protection. The Certificate does not protect your information when:

- You or your family voluntarily release information about yourselves.
- You consent to release of information (for example, the uses described in this form or if you sign release forms for employment, insurance or medical care).
- A federal agency audits or evaluates research that it funds.

As a token of our appreciation you will receive \$25 for your participation in this survey.

If you have any questions about this research, may contact the survey's primary investigator, Dr. Ilan Meyer at meyer@law.ucla.edu, call (310) 825-7270, or write to him at The Williams Institute UCLA School of Law, Box 951476, Los Angeles, CA 90095.

UCLA Office of the Human Research Protection Program (OHRPP):

If you have questions about your rights as a research subject, or you have concerns or suggestions

⁴ There was slight variation of the information sheets provided in Baseline, Wave 2, and Wave 3, due to changes in IRB requirements that were not specific to the study. This version of the information sheet is from Wave 3.

and you want to talk to someone other than the researchers, you may contact the UCLA OHRPP by phone: (310) 206-2040; by email: participants@research.ucla.edu or by mail: Box 951406, Los Angeles, CA 90095-1406.

Appendix 2: Wave 1 Scale reliability (Cronbach's α) by total sample, sex at birth, cohort, race/ethnicity

<i>Scale</i>	<i>Total Sample</i>	<i>Sex at Birth</i>		<i>Cohort</i>			<i>Race/Ethnicity</i>		
		Female	Male	Younger	Middle	Older	White	Black/ African American	Latino/ Hispanic
<i>Multi-Group Ethnic Identity</i>	0.86	0.86	0.86	0.87	0.85	0.83	0.82	0.83	0.88
<i>Sexual Identity Centrality</i>	0.81	0.83	0.80	0.80	0.80	0.84	0.84	0.74	0.75
<i>Community Connectedness</i>	0.86	0.87	0.86	0.85	0.86	0.87	0.86	0.85	0.86
<i>Healthcare Stereotype Threat</i>	0.90	0.89	0.91	0.90	0.90	0.91	0.91	0.90	0.89
<i>Mental Disability</i>	0.89	0.89	0.88	0.86	0.87	0.89	0.89	0.88	0.89
<i>Alcohol Use</i>	0.67	0.65	0.69	0.70	0.66	0.68	0.66	0.75	0.69
<i>Drug Use</i>	0.85	0.85	0.85	0.85	0.87	0.81	0.84	0.86	0.86
<i>Felt Stigma</i>	0.70	0.69	0.71	0.71	0.73	0.67	0.74	0.63	0.63
<i>Internalized Homophobia</i>	0.75	0.73	0.76	0.76	0.76	0.73	0.74	0.77	0.75
<i>Everyday Discrimination</i>	0.91	0.91	0.91	0.90	0.91	0.90	0.90	0.91	0.90
<i>Childhood Gender Conformity</i>	0.75	0.75	0.71	0.75	0.78	0.71	0.72	0.81	0.76
<i>Adverse Childhood Experiences</i>	0.77	0.79	0.74	0.76	0.81	0.75	0.77	0.76	0.75
<i>Social Support</i>	0.93	0.92	0.93	0.91	0.93	0.94	0.93	0.92	0.92
<i>Social Well-Being</i>	0.81	0.81	0.81	0.80	0.80	0.83	0.83	0.77	0.78
<i>Satisfaction with Life</i>	0.91	0.90	0.91	0.88	0.91	0.92	0.91	0.88	0.88

Appendix 3: Wave 2 Scale reliability (Cronbach's α) by total sample, sex at birth, cohort, race/ethnicity

<i>Scale</i>	<i>Total Sample</i>	<i>Sex at Birth</i>		<i>Cohort</i>			<i>Race/Ethnicity</i>		
		Female	Male	Younger	Middle	Older	White	Black/ African American	Latino/ Hispanic
<i>Sexual Identity Centrality</i>	0.85	0.86	0.85	0.88	0.81	0.84	0.87	0.77	0.81
<i>Community Connectedness</i>	0.86	0.85	0.86	0.86	0.84	0.87	0.86	0.85	0.85
<i>Mental Disability</i>	0.89	0.89	0.87	0.86	0.89	0.87	0.89	0.88	0.88
<i>Alcohol Use</i>	0.71	0.71	0.71	0.68	0.74	0.72	0.72	0.76	0.60
<i>Drug Use</i>	0.86	0.87	0.86	0.87	0.90	0.82	0.87	0.82	0.87
<i>Felt Stigma</i>	0.74	0.74	0.73	0.73	0.75	0.73	0.74	0.74	0.71
<i>Internalized Homophobia</i>	0.78	0.77	0.79	0.78	0.77	0.79	0.77	0.80	0.77
<i>Bisexual Stigma Consciousness (among bisexual respondents)</i>	0.77	0.78	0.73	0.79	0.72	0.81	0.79	0.71	0.73
<i>Everyday Discrimination</i>	0.91	0.90	0.91	0.90	0.92	0.89	0.90	0.91	0.92
<i>Social Support</i>	0.91	0.91	0.91	0.90	0.93	0.91	0.92	0.91	0.87
<i>Social Well-Being</i>	0.81	0.80	0.81	0.77	0.82	0.83	0.81	0.74	0.82

Appendix 4: Wave 3 Scale reliability (Cronbach's α) by total sample, sex at birth, cohort, race/ethnicity

<i>Scale</i>	<i>Total Sample</i>	<i>Sex at Birth</i>		<i>Cohort</i>			<i>Race/Ethnicity</i>		
		Female	Male	Younger	Middle	Older	White	Black/ African American	Latino/ Hispanic
<i>Sexual Identity Centrality</i>	0.85	0.84	0.86	0.87	0.84	0.84	0.87	0.72	0.79
<i>Community Connectedness</i>	0.87	0.86	0.87	0.86	0.84	0.88	0.87	0.81	0.84
<i>Mental Disability</i>	0.89	0.89	0.88	0.88	0.87	0.88	0.89	0.90	0.85
<i>Alcohol Use</i>	0.63	0.60	0.66	0.68	0.63	0.59	0.65	0.55	0.55
<i>Drug Use</i>	0.88	0.88	0.88	0.90	0.88	0.82	0.88	0.89	0.89
<i>Felt Stigma</i>	0.78	0.78	0.77	0.79	0.80	0.74	0.80	0.72	0.65
<i>Internalized Homophobia</i>	0.76	0.75	0.76	0.73	0.73	0.80	0.76	0.75	0.74
<i>Everyday Discrimination</i>	0.91	0.91	0.91	0.91	0.92	0.88	0.90	0.91	0.93
<i>Social Support</i>	0.92	0.91	0.93	0.91	0.92	0.92	0.92	0.92	0.89
<i>Social Well-Being</i>	0.83	0.83	0.82	0.81	0.80	0.86	0.84	0.82	0.72

Appendix 5: Missing values for each variable in Wave 1 dataset.

Variable	Missing	Total	Percent Missing
studyid	0	1,518	0
wlweight_f~l	0	1,518	0
wlweight_o~g	187	1,518	12.32
wlsurvey_yr	0	1,518	0
cohort	0	1,518	0
educ1	0	1,518	0
educ2	0	1,518	0
education	0	1,518	0
gemploy~2010	64	1,518	4.22
gmethod_type	0	1,518	0
gmsaname	0	1,518	0
gpl	98	1,518	6.46
gruca	22	1,518	1.45
gruca_i	0	1,518	0
gurban	22	1,518	1.45
gurban_i	0	1,518	0
gzipcode	14	1,518	0.92
gzipstate	0	1,518	0
gcendiv	0	1,518	0
gcenreg	0	1,518	0
gmilesaway	18	1,518	1.19
gmilesaway2	18	1,518	1.19
w1q01	16	1,518	1.05
w1q02	60	1,518	3.95
w1q03	48	1,518	3.16
w1q04	13	1,518	0.86
w1q05	13	1,518	0.86
w1q06	14	1,518	0.92
w1q07	15	1,518	0.99
w1q08	19	1,518	1.25
w1q09	17	1,518	1.12
w1q10	17	1,518	1.12
w1q11	14	1,518	0.92
w1q12	17	1,518	1.12
w1q13	17	1,518	1.12
w1q14	21	1,518	1.38
w1q15	18	1,518	1.19

wlq16	16	1,518	1.05
wlq17	18	1,518	1.19
wlq18	22	1,518	1.45
wlq190	15	1,518	0.99
wlq19a	18	1,518	1.19
wlq19b	19	1,518	1.25
wlq19c	30	1,518	1.98
wlq19d	24	1,518	1.58
wlq20_1	1,482	1,518	97.63
wlq20_2	1,262	1,518	83.14
wlq20_3	1,238	1,518	81.55
wlq20_4	1,504	1,518	99.08
wlq20_5	1,509	1,518	99.41
wlq20_6	393	1,518	25.89
wlq20_7	1,466	1,518	96.57
wlq20_t_verb	0	1,518	0
wlq21	15	1,518	0.99
wlq22	19	1,518	1.25
wlq23	19	1,518	1.25
wlq24	22	1,518	1.45
wlq25	18	1,518	1.19
wlq26	18	1,518	1.19
wlq27	22	1,518	1.45
wlq28	15	1,518	0.99
wlq29	13	1,518	0.86
wlq29_t_verb	0	1,518	0
wlq30_1	848	1,518	55.86
wlq30_2	508	1,518	33.47
wlq30_3	1,474	1,518	97.1
wlq30_4	1,469	1,518	96.77
wlq30_5	1,361	1,518	89.66
wlq31a	28	1,518	1.84
wlq31b	23	1,518	1.52
wlq31c	47	1,518	3.1
wlq31d	43	1,518	2.83
wlq32	19	1,518	1.25
wlq33	601	1,518	39.59
wlq34	595	1,518	39.2
wlq35	597	1,518	39.33
wlq36	596	1,518	39.26
wlq37	13	1,518	0.86

wlq38	11	1,518	0.72
wlq39_1	1,367	1,518	90.05
wlq39_2	1,388	1,518	91.44
wlq39_3	1,374	1,518	90.51
wlq39_4	1,370	1,518	90.25
wlq39_5	1,402	1,518	92.36
wlq39_6	1,440	1,518	94.86
wlq39_7	1,462	1,518	96.31
wlq39_8	1,300	1,518	85.64
wlq39_9	1,307	1,518	86.1
wlq39_10	1,149	1,518	75.69
wlq39_11	979	1,518	64.49
wlq39_12	1,456	1,518	95.92
wlq40	15	1,518	0.99
wlq41	15	1,518	0.99
wlq42	12	1,518	0.79
wlq43	17	1,518	1.12
wlq44	14	1,518	0.92
wlq45	71	1,518	4.68
wlq46	206	1,518	13.57
wlq47	346	1,518	22.79
wlq48	71	1,518	4.68
wlq49	119	1,518	7.84
wlq50	277	1,518	18.25
wlq51	711	1,518	46.84
wlq52	23	1,518	1.52
wlq53	14	1,518	0.92
wlq54	30	1,518	1.98
wlq55	20	1,518	1.32
wlq56	20	1,518	1.32
wlq57	22	1,518	1.45
wlq58	18	1,518	1.19
wlq59	15	1,518	0.99
wlq60	15	1,518	0.99
wlq61	21	1,518	1.38
wlq62	20	1,518	1.32
wlq63	19	1,518	1.25
wlq64_1	1,397	1,518	92.03
wlq64_2	982	1,518	64.69
wlq64_3	1,417	1,518	93.35
wlq64_4	1,131	1,518	74.51

wlq64_5	1,507	1,518	99.28
wlq64_6	1,429	1,518	94.14
wlq64_7	1,471	1,518	96.9
wlq64_8	1,447	1,518	95.32
wlq64_9	1,326	1,518	87.35
wlq64_10	1,494	1,518	98.42
wlq64_11	1,498	1,518	98.68
wlq64_12	1,518	1,518	100
wlq64_13	1,473	1,518	97.04
wlq64 t verb	0	1,518	0
wlq65	24	1,518	1.58
wlq66_1	1,021	1,518	67.26
wlq66_2	682	1,518	44.93
wlq66_3	1,333	1,518	87.81
wlq66_4	1,426	1,518	93.94
wlq66_5	1,452	1,518	95.65
wlq67	29	1,518	1.91
wlq68_1	1,125	1,518	74.11
wlq68_2	1,348	1,518	88.8
wlq68_3	444	1,518	29.25
wlq69	21	1,518	1.38
wlq70	20	1,518	1.32
wlq71	185	1,518	12.19
wlq72	123	1,518	8.1
wlq73	171	1,518	11.26
wlq74_1	1,184	1,518	78
wlq74_2	1,219	1,518	80.3
wlq74_3	1,448	1,518	95.39
wlq74_4	1,511	1,518	99.54
wlq74_5	1,504	1,518	99.08
wlq74_6	1,504	1,518	99.08
wlq74_7	1,509	1,518	99.41
wlq74_8	1,257	1,518	82.81
wlq74_9	1,437	1,518	94.66
wlq74_10	1,443	1,518	95.06
wlq74_11	1,429	1,518	94.14
wlq74_12	1,400	1,518	92.23
wlq74_13	1,322	1,518	87.09
wlq74_14	1,486	1,518	97.89
wlq74_15	1,483	1,518	97.69
wlq74_16	1,388	1,518	91.44

wlq74 17	1,484	1,518	97.76
wlq74 18	1,490	1,518	98.16
wlq74 19	1,500	1,518	98.81
wlq74 20	1,499	1,518	98.75
wlq74 21	1,441	1,518	94.93
wlq74 22	1,333	1,518	87.81
wlq74 23	1,176	1,518	77.47
wlq75	23	1,518	1.52
wlq76	18	1,518	1.19
wlq77a	10	1,518	0.66
wlq77b	19	1,518	1.25
wlq77c	14	1,518	0.92
wlq77d	13	1,518	0.86
wlq77e	17	1,518	1.12
wlq77f	13	1,518	0.86
wlq78	22	1,518	1.45
wlq79	19	1,518	1.25
wlq80	184	1,518	12.12
wlq81	166	1,518	10.94
wlq82	85	1,518	5.6
wlq83	17	1,518	1.12
wlq84	15	1,518	0.99
wlq85	14	1,518	0.92
wlq86	11	1,518	0.72
wlq87	12	1,518	0.79
wlq88	16	1,518	1.05
wlq89	849	1,518	55.93
wlq90	19	1,518	1.25
wlq91	20	1,518	1.32
wlq92	23	1,518	1.52
wlq93	24	1,518	1.58
wlq94	15	1,518	0.99
wlq95	17	1,518	1.12
wlq96	24	1,518	1.58
wlq97	21	1,518	1.38
wlq98	22	1,518	1.45
wlq99	22	1,518	1.45
wlq100	19	1,518	1.25
wlq101	18	1,518	1.19
wlq102	1,220	1,518	80.37
wlq103	765	1,518	50.4

wlq104	765	1,518	50.4
wlq105	20	1,518	1.32
wlq106	1,234	1,518	81.29
wlq107	1,220	1,518	80.37
wlq108	1,225	1,518	80.7
wlq109	27	1,518	1.78
wlq110	1,192	1,518	78.52
wlq111	1,012	1,518	66.67
wlq112	1,038	1,518	68.38
wlq113	19	1,518	1.25
wlq114	1,154	1,518	76.02
wlq115	1,268	1,518	83.53
wlq116	1,407	1,518	92.69
wlq117	1,407	1,518	92.69
wlq118	1,152	1,518	75.89
wlq119	26	1,518	1.71
wlq120	1,371	1,518	90.32
wlq121	1,102	1,518	72.6
wlq122	1,101	1,518	72.53
wlq123a	15	1,518	0.99
wlq123b	14	1,518	0.92
wlq123c	18	1,518	1.19
wlq123d	19	1,518	1.25
wlq124	14	1,518	0.92
wlq125	14	1,518	0.92
wlq126	14	1,518	0.92
wlq127	15	1,518	0.99
wlq128	15	1,518	0.99
wlq129	15	1,518	0.99
wlq130	16	1,518	1.05
wlq131	17	1,518	1.12
wlq132	14	1,518	0.92
wlq133	1,206	1,518	79.45
wlq133_1	420	1,518	27.67
wlq133_2	1,488	1,518	98.02
wlq133_3	1,445	1,518	95.19
wlq134	1,412	1,518	93.02
wlq135a	15	1,518	0.99
wlq135b	18	1,518	1.19
wlq135c	18	1,518	1.19
wlq135d	20	1,518	1.32

wlq135e	18	1,518	1.19
wlq135f	16	1,518	1.05
wlq136_1	1,314	1,518	86.56
wlq136_2	1,122	1,518	73.91
wlq136_3	1,513	1,518	99.67
wlq136_4	1,327	1,518	87.42
wlq136_5	1,348	1,518	88.8
wlq136_6	1,387	1,518	91.37
wlq136_7	1,007	1,518	66.34
wlq136_8	1,181	1,518	77.8
wlq136_9	1,455	1,518	95.85
wlq136_10	1,464	1,518	96.44
wlq137	17	1,518	1.12
wlq138	17	1,518	1.12
wlq139_1	1,377	1,518	90.71
wlq139_2	1,383	1,518	91.11
wlq139_3	1,516	1,518	99.87
wlq139_4	1,447	1,518	95.32
wlq139_5	1,449	1,518	95.45
wlq139_6	1,423	1,518	93.74
wlq139_7	1,345	1,518	88.6
wlq139_8	1,424	1,518	93.81
wlq139_9	1,494	1,518	98.42
wlq139_10	1,451	1,518	95.59
wlq140	18	1,518	1.19
wlq141_1	1,512	1,518	99.6
wlq141_2	1,511	1,518	99.54
wlq141_3	1,517	1,518	99.93
wlq141_4	1,514	1,518	99.74
wlq141_5	1,512	1,518	99.6
wlq141_6	1,504	1,518	99.08
wlq141_7	1,508	1,518	99.34
wlq141_8	1,515	1,518	99.8
wlq141_9	1,517	1,518	99.93
wlq141_10	1,515	1,518	99.8
wlq142a	17	1,518	1.12
wlq142b	18	1,518	1.19
wlq142c	15	1,518	0.99
wlq142d	24	1,518	1.58
wlq142e	18	1,518	1.19
wlq142f	18	1,518	1.19

wlq142g	21	1,518	1.38
wlq142h	19	1,518	1.25
wlq142i	22	1,518	1.45
wlq142j	18	1,518	1.19
wlq142k	17	1,518	1.12
wlq143_1	1,321	1,518	87.02
wlq143_2	1,332	1,518	87.75
wlq143_3	1,514	1,518	99.74
wlq143_4	1,451	1,518	95.59
wlq143_5	1,423	1,518	93.74
wlq143_6	1,308	1,518	86.17
wlq143_7	1,341	1,518	88.34
wlq143_8	1,394	1,518	91.83
wlq143_9	1,481	1,518	97.56
wlq143_10	1,433	1,518	94.4
wlq144a	14	1,518	0.92
wlq144b	14	1,518	0.92
wlq144c	17	1,518	1.12
wlq144d	21	1,518	1.38
wlq144e	16	1,518	1.05
wlq144f	20	1,518	1.32
wlq144g	17	1,518	1.12
wlq144h	18	1,518	1.19
wlq144i	14	1,518	0.92
wlq145_1	1,122	1,518	73.91
wlq145_2	1,054	1,518	69.43
wlq145_3	1,510	1,518	99.47
wlq145_4	1,309	1,518	86.23
wlq145_5	1,225	1,518	80.7
wlq145_6	1,273	1,518	83.86
wlq145_7	1,096	1,518	72.2
wlq145_8	1,135	1,518	74.77
wlq145_9	1,441	1,518	94.93
wlq145_10	1,418	1,518	93.41
wlq146a	75	1,518	4.94
wlq146b	85	1,518	5.6
wlq146c	288	1,518	18.97
wlq146d	370	1,518	24.37
wlq146e	446	1,518	29.38
wlq146f	580	1,518	38.21
wlq146g	76	1,518	5.01

wlq146h	316	1,518	20.82
wlq146i	222	1,518	14.62
wlq146j	203	1,518	13.37
wlq146k	319	1,518	21.01
wlq146l	488	1,518	32.15
wlq147	99	1,518	6.52
wlq148	149	1,518	9.82
wlq149	127	1,518	8.37
wlq150	200	1,518	13.18
wlq151	20	1,518	1.32
wlq152	19	1,518	1.25
wlq153	21	1,518	1.38
wlq154	22	1,518	1.45
wlq155	16	1,518	1.05
wlq156	139	1,518	9.16
wlq157	61	1,518	4.02
wlq158	91	1,518	5.99
wlq159	76	1,518	5.01
wlq160	81	1,518	5.34
wlq161	77	1,518	5.07
wlq162	19	1,518	1.25
wlq163_1	1,284	1,518	84.58
wlq163_2	1,217	1,518	80.17
wlq163_3	1,515	1,518	99.8
wlq163_4	1,210	1,518	79.71
wlq163_5	1,339	1,518	88.21
wlq163_6	1,321	1,518	87.02
wlq163_7	1,122	1,518	73.91
wlq163_8	761	1,518	50.13
wlq163_9	1,443	1,518	95.06
wlq163_10	1,449	1,518	95.45
wlq164a	19	1,518	1.25
wlq164b	23	1,518	1.52
wlq164c	22	1,518	1.45
wlq164d	19	1,518	1.25
wlq164e	21	1,518	1.38
wlq164f	20	1,518	1.32
wlq164g	23	1,518	1.52
wlq164h	18	1,518	1.19
wlq164i	21	1,518	1.38
wlq164j	21	1,518	1.38

wlq164k	22	1,518	1.45
wlq164l	21	1,518	1.38
wlq165	19	1,518	1.25
wlq166	21	1,518	1.38
wlq167	21	1,518	1.38
wlq168	17	1,518	1.12
wlq169	16	1,518	1.05
wlq170_1	1,362	1,518	89.72
wlq170_2	1,488	1,518	98.02
wlq170_3	1,469	1,518	96.77
wlq170_4	1,414	1,518	93.15
wlq171_1	817	1,518	53.82
wlq171_2	1,245	1,518	82.02
wlq171_3	1,342	1,518	88.41
wlq171_4	1,463	1,518	96.38
wlq171_5	1,428	1,518	94.07
wlq171_6	1,465	1,518	96.51
wlq171_7	1,187	1,518	78.19
wlq171_8	1,475	1,518	97.17
wlq171_9	1,384	1,518	91.17
wlq172	39	1,518	2.57
wlq173	32	1,518	2.11
wlq174	41	1,518	2.7
wlq175	43	1,518	2.83
wlq176	24	1,518	1.58
wlq177_1	920	1,518	60.61
wlq177_2	937	1,518	61.73
wlq177_3	1,361	1,518	89.66
wlq177_4	1,118	1,518	73.65
wlq177_5	1,412	1,518	93.02
wlq177_6	1,497	1,518	98.62
wlq177_7	1,513	1,518	99.67
wlq177_8	1,517	1,518	99.93
wlq177_9	1,516	1,518	99.87
wlq177_10	1,417	1,518	93.35
wlq177_11	1,515	1,518	99.8
wlq177_12	1,487	1,518	97.96
wlq178	17	1,518	1.12
wlq179	24	1,518	1.58
wlq180	21	1,518	1.38
wlq181	19	1,518	1.25

wlq182	24	1,518	1.58
wlq183	1,445	1,518	95.19
wlq184	1,467	1,518	96.64
wlq185	1,467	1,518	96.64
wlq186	14	1,518	0.92
wlq187	14	1,518	0.92
wlq188	15	1,518	0.99
wlq189	17	1,518	1.12
screen_race	0	1,518	0
wlrace	0	1,518	0
wlsample	0	1,518	0
wlsex	0	1,518	0
wlgender	0	1,518	0
wlsex_gender	0	1,518	0
wlage	0	1,518	0
wlsexualid	0	1,518	0
wlsexminid	11	1,518	0.72
wlpinc	0	1,518	0
wlhinc	0	1,518	0
wlpoverty	27	1,518	1.78
wlpovertycat	27	1,518	1.78
wlconversion	0	1,518	0
wlconversi~c	0	1,518	0
wlconversi~l	0	1,518	0
wlace	277	1,518	18.25
wlace_i	0	1,518	0
wlace_emo	91	1,518	5.99
wlace_emo_i	0	1,518	0
wlace_inc	22	1,518	1.45
wlace_inc_i	0	1,518	0
wlace_ipv	139	1,518	9.16
wlace_ipv_i	0	1,518	0
wlace_men	20	1,518	1.32
wlace_men_i	0	1,518	0
wlace_phy	61	1,518	4.02
wlace_phy_i	0	1,518	0
wlace_sep	16	1,518	1.05
wlace_sep_i	0	1,518	0
wlace_sex	75	1,518	4.94
wlace_sex_i	0	1,518	0
wlace_sub	21	1,518	1.38

wlace_sub_i	0	1,518	0
wlaudite	15	1,518	0.99
wlaudite_i	0	1,518	0
wlchildgnc	0	1,518	0
wlchildgnc_i	0	1,518	0
wlconnecte~s	51	1,518	3.36
wlconnecte~i	0	1,518	0
wldudit	66	1,518	4.35
wldudit_i	0	1,518	0
wleveryday	40	1,518	2.64
wleveryday_i	0	1,518	0
wlfeltstigma	17	1,518	1.12
wlfeltstig~i	0	1,518	0
wlframe_wt	187	1,518	12.32
wlhcthreat	27	1,518	1.78
wlhcthreat_i	0	1,518	0
wlidcentral	23	1,518	1.52
wlidcentra~i	0	1,518	0
wlinternal~d	29	1,518	1.91
wlinternal~i	0	1,518	0
wlkessler6	27	1,518	1.78
wlkessler6_i	0	1,518	0
wllifesat	24	1,518	1.58
wllifesat_i	0	1,518	0
wlmeim	31	1,518	2.04
wlmeim_i	0	1,518	0
wlsocialwb	59	1,518	3.89
wlsocialwb_i	0	1,518	0
wlsocsupport	46	1,518	3.03
wlsocsuppo~m	28	1,518	1.84
wlsocsup~m_i	0	1,518	0
wlsocsuppo~r	30	1,518	1.98
wlsocsup~r_i	0	1,518	0
wlsocsup~t_i	0	1,518	0
wlsocsuppo~o	28	1,518	1.84
wlsocsup~o_i	0	1,518	0
wlweightin~1	187	1,518	12.32
wlweightin~3	187	1,518	12.32
wlcumulati~1	187	1,518	12.32
wlcumulati~2	187	1,518	12.32
wlcumulati~3	187	1,518	12.32

w1cumulati~g	187	1,518	12.32
--------------	-----	-------	-------

Appendix 6: Missing values for each variable in Wave 2 dataset.

Variable	Missing	Total	Percent Missing
studyid	0	894	0
w2weight	0	894	0
w2q01	9	894	1.01
w2q02	46	894	5.15
w2q03	25	894	2.8
w2q04	5	894	0.56
w2q05	7	894	0.78
w2q06	7	894	0.78
w2q07	8	894	0.89
w2q08	9	894	1.01
w2q09	11	894	1.23
w2q10	7	894	0.78
w2q11	8	894	0.89
w2q12	9	894	1.01
w2q13	10	894	1.12
w2q14	10	894	1.12
w2q15	10	894	1.12
w2q16	9	894	1.01
w2q17	9	894	1.01
w2q18	8	894	0.89
w2q19a	10	894	1.12
w2q19b	10	894	1.12
w2q19c	17	894	1.9
w2q19d	10	894	1.12
w2q20	7	894	0.78
w2q21	5	894	0.56
w2q21 t verb	0	894	0
w2q22_1	621	894	69.46
w2q22_2	374	894	41.83
w2q22_3	874	894	97.76
w2q22_4	874	894	97.76
w2q22_5	713	894	79.75
w2q23a	8	894	0.89
w2q23b	12	894	1.34
w2q23c	16	894	1.79
w2q23d	16	894	1.79

w2q24	5	894	0.56
w2q25	6	894	0.67
w2q26	7	894	0.78
w2q27	8	894	0.89
w2q28	5	894	0.56
w2q29a	7	894	0.78
w2q29b	13	894	1.45
w2q29c	10	894	1.12
w2q29d	13	894	1.45
w2q29e	7	894	0.78
w2q29f	7	894	0.78
w2q30	7	894	0.78
w2q31	14	894	1.57
w2q32	11	894	1.23
w2q33	9	894	1.01
w2q34	13	894	1.45
w2q35	8	894	0.89
w2q36	8	894	0.89
w2q37	5	894	0.56
w2q38	341	894	38.14
w2q39	342	894	38.26
w2q40	341	894	38.14
w2q40 t verb	0	894	0
w2q41	341	894	38.14
w2q42	342	894	38.26
w2q43a	347	894	38.81
w2q43b	350	894	39.15
w2q43c	359	894	40.16
w2q43d	347	894	38.81
w2q44	342	894	38.26
w2q45	343	894	38.37
w2q46	342	894	38.26
w2q47	342	894	38.26
w2q48	342	894	38.26
w2q49	341	894	38.14
w2q50	341	894	38.14
w2q51	565	894	63.2
w2q52	572	894	63.98
w2q53	715	894	79.98
w2q54	715	894	79.98
w2q55	6	894	0.67

w2q56	9	894	1.01
w2q57	11	894	1.23
w2q58_1	824	894	92.17
w2q58_2	533	894	59.62
w2q58_3	825	894	92.28
w2q58_4	705	894	78.86
w2q58_5	888	894	99.33
w2q58_6	837	894	93.62
w2q58_7	875	894	97.87
w2q58_8	838	894	93.74
w2q58_9	791	894	88.48
w2q58_10	885	894	98.99
w2q58_11	886	894	99.11
w2q58_12	894	894	100
w2q58_13	863	894	96.53
w2q58_t_verb	0	894	0
w2q59	11	894	1.23
w2q60_1	566	894	63.31
w2q60_2	312	894	34.9
w2q60_3	789	894	88.26
w2q60_4	840	894	93.96
w2q60_5	866	894	96.87
w2q60_t_verb	0	894	0
w2q61	9	894	1.01
w2q62_1	683	894	76.4
w2q62_2	806	894	90.16
w2q62_3	241	894	26.96
w2q63_1	434	894	48.55
w2q63_2	365	894	40.83
w2q63_3	397	894	44.41
w2q63_4	748	894	83.67
w2q63_5	616	894	68.9
w2q63_6	717	894	80.2
w2q64	9	894	1.01
w2q65	8	894	0.89
w2q66	6	894	0.67
w2q67a	12	894	1.34
w2q67b	22	894	2.46
w2q67c	26	894	2.91
w2q67d	17	894	1.9
w2q68_1	347	894	38.81

w2q68_2	847	894	94.74
w2q68_3	848	894	94.85
w2q68_4	865	894	96.76
w2q68_5	859	894	96.09
w2q68_6	824	894	92.17
w2q68_7	777	894	86.91
w2q68_8	875	894	97.87
w2q68_9	882	894	98.66
w2q68_10	879	894	98.32
w2q68_11	848	894	94.85
w2q68_12	891	894	99.66
w2q68_13	799	894	89.37
w2q68_14	767	894	85.79
w2q68_15	781	894	87.36
w2q69_1	590	894	66
w2q69_2	796	894	89.04
w2q69_3	760	894	85.01
w2q69_4	781	894	87.36
w2q69_5	783	894	87.58
w2q69_6	708	894	79.19
w2q69_7	701	894	78.41
w2q69_8	812	894	90.83
w2q69_9	827	894	92.51
w2q69_10	786	894	87.92
w2q69_11	715	894	79.98
w2q69_12	854	894	95.53
w2q69_13	788	894	88.14
w2q69_14	700	894	78.3
w2q69_15	767	894	85.79
w2q70	36	894	4.03
w2q71	41	894	4.59
w2q72	10	894	1.12
w2q73	11	894	1.23
w2q74	7	894	0.78
w2q75	11	894	1.23
w2q76	9	894	1.01
w2q77	5	894	0.56
w2q78	83	894	9.28
w2q79	65	894	7.27
w2q80	86	894	9.62
w2q81_1	722	894	80.76

w2q81_2	755	894	84.45
w2q81_3	861	894	96.31
w2q81_4	890	894	99.55
w2q81_5	891	894	99.66
w2q81_6	891	894	99.66
w2q81_7	891	894	99.66
w2q81_8	821	894	91.83
w2q81_9	879	894	98.32
w2q81_10	878	894	98.21
w2q81_11	845	894	94.52
w2q81_12	838	894	93.74
w2q81_13	796	894	89.04
w2q81_14	889	894	99.44
w2q81_15	881	894	98.55
w2q81_16	836	894	93.51
w2q81_17	885	894	98.99
w2q81_18	885	894	98.99
w2q81_19	888	894	99.33
w2q81_20	886	894	99.11
w2q81_21	862	894	96.42
w2q81_22	860	894	96.2
w2q81_23	752	894	84.12
w2q81_24	867	894	96.98
w2q82	10	894	1.12
w2q83	8	894	0.89
w2q84a	4	894	0.45
w2q84b	7	894	0.78
w2q84c	6	894	0.67
w2q84d	8	894	0.89
w2q84e	6	894	0.67
w2q84f	6	894	0.67
w2q85	4	894	0.45
w2q86	7	894	0.78
w2q87	5	894	0.56
w2q88	5	894	0.56
w2q89	5	894	0.56
w2q90	5	894	0.56
w2q91	6	894	0.67
w2q92	5	894	0.56
w2q93	6	894	0.67
w2q94	9	894	1.01

w2q95	6	894	0.67
w2q96	5	894	0.56
w2q97	7	894	0.78
w2q98	9	894	1.01
w2q99	5	894	0.56
w2q100	7	894	0.78
w2q101	7	894	0.78
w2q102	11	894	1.23
w2q103	7	894	0.78
w2q104	873	894	97.65
w2q105	7	894	0.78
w2q106a	16	894	1.79
w2q106b	17	894	1.9
w2q106c	151	894	16.89
w2q106d	106	894	11.86
w2q107	8	894	0.89
w2q108	5	894	0.56
w2q109	7	894	0.78
w2q110	7	894	0.78
w2q111	6	894	0.67
w2q112	9	894	1.01
w2q113	8	894	0.89
w2q114	6	894	0.67
w2q115	5	894	0.56
w2q116	7	894	0.78
w2q117	557	894	62.3
w2q118	559	894	62.53
w2q119	557	894	62.3
w2q120	557	894	62.3
w2q121	557	894	62.3
w2q122a	7	894	0.78
w2q122b	8	894	0.89
w2q122c	10	894	1.12
w2q122d	10	894	1.12
w2q122e	8	894	0.89
w2q122f	6	894	0.67
w2q123_1	845	894	94.52
w2q123_2	790	894	88.37
w2q123_3	889	894	99.44
w2q123_4	844	894	94.41
w2q123_5	848	894	94.85

w2q123_6	845	894	94.52
w2q123_7	774	894	86.58
w2q123_8	785	894	87.81
w2q123_9	869	894	97.2
w2q123_10	862	894	96.42
w2q124	9	894	1.01
w2q125	9	894	1.01
w2q126_1	858	894	95.97
w2q126_2	864	894	96.64
w2q126_3	893	894	99.89
w2q126_4	888	894	99.33
w2q126_5	877	894	98.1
w2q126_6	873	894	97.65
w2q126_7	867	894	96.98
w2q126_8	870	894	97.32
w2q126_9	889	894	99.44
w2q126_10	875	894	97.87
w2q127	10	894	1.12
w2q128_1	893	894	99.89
w2q128_2	893	894	99.89
w2q128_3	894	894	100
w2q128_4	893	894	99.89
w2q128_5	894	894	100
w2q128_6	894	894	100
w2q128_7	893	894	99.89
w2q128_8	893	894	99.89
w2q128_9	894	894	100
w2q128_10	894	894	100
w2q129a	7	894	0.78
w2q129b	8	894	0.89
w2q129c	12	894	1.34
w2q129d	9	894	1.01
w2q129e	9	894	1.01
w2q129f	8	894	0.89
w2q129g	14	894	1.57
w2q129h	9	894	1.01
w2q129i	12	894	1.34
w2q129j	6	894	0.67
w2q129k	7	894	0.78
w2q130_1	777	894	86.91
w2q130_2	803	894	89.82

w2q130_3	891	894	99.66
w2q130_4	862	894	96.42
w2q130_5	854	894	95.53
w2q130_6	776	894	86.8
w2q130_7	818	894	91.5
w2q130_8	834	894	93.29
w2q130_9	874	894	97.76
w2q130_10	842	894	94.18
w2q131a	6	894	0.67
w2q131b	7	894	0.78
w2q131c	8	894	0.89
w2q131d	9	894	1.01
w2q131e	9	894	1.01
w2q131f	8	894	0.89
w2q131g	10	894	1.12
w2q131h	5	894	0.56
w2q131i	6	894	0.67
w2q132_1	664	894	74.27
w2q132_2	636	894	71.14
w2q132_3	889	894	99.44
w2q132_4	784	894	87.7
w2q132_5	771	894	86.24
w2q132_6	763	894	85.35
w2q132_7	705	894	78.86
w2q132_8	659	894	73.71
w2q132_9	853	894	95.41
w2q132_10	816	894	91.28
w2q133a	32	894	3.58
w2q133b	35	894	3.91
w2q133c	156	894	17.45
w2q133d	197	894	22.04
w2q133e	247	894	27.63
w2q133f	340	894	38.03
w2q133g	26	894	2.91
w2q133h	213	894	23.83
w2q133i	147	894	16.44
w2q133j	117	894	13.09
w2q133k	75	894	8.39
w2q133l	194	894	21.7
w2q133m	362	894	40.49
w2q133n	530	894	59.28

w2q133o	521	894	58.28
w2q134_1	680	894	76.06
w2q134_2	705	894	78.86
w2q134_3	819	894	91.61
w2q134_4	776	894	86.8
w2q134_5	786	894	87.92
w2q134_6	886	894	99.11
w2q134_7	894	894	100
w2q134_8	731	894	81.77
w2q134_9	798	894	89.26
w2q134_10	853	894	95.41
w2q134_11	880	894	98.43
w2q134_12	861	894	96.31
w2q135a	7	894	0.78
w2q135b	7	894	0.78
w2q135c	7	894	0.78
w2q135d	9	894	1.01
w2q135e	11	894	1.23
w2q135f	8	894	0.89
w2q135g	7	894	0.78
w2q135h	6	894	0.67
w2q135i	10	894	1.12
w2q135j	10	894	1.12
w2q135k	7	894	0.78
w2q135l	5	894	0.56
w2q136	9	894	1.01
w2q137	726	894	81.21
w2q138	828	894	92.62
w2q139	826	894	92.39
w2q140	782	894	87.47
w2q141	784	894	87.7
w2q142	783	894	87.58
w2q143	785	894	87.81
w2q144	784	894	87.7
w2q145	782	894	87.47
w2q146a	731	894	81.77
w2q146b	736	894	82.33
w2q146c	736	894	82.33
w2q146d	738	894	82.55
w2q146e	735	894	82.21
w2q146f	737	894	82.44

w2q146g	736	894	82.33
w2q146h	733	894	81.99
w2q146i	738	894	82.55
w2q146j	739	894	82.66
w2q147 t v~b	726	894	81.21
w2q148a	739	894	82.66
w2q148b	780	894	87.25
w2q148c	791	894	88.48
w2q149	174	894	19.46
w2q150	176	894	19.69
w2q151	8	894	0.89
w2q152	9	894	1.01
w2q153	8	894	0.89
w2q154	11	894	1.23
w2q155	8	894	0.89
w2q156	21	894	2.35
w2q157a	92	894	10.29
w2q157b	154	894	17.23
w2q157c	105	894	11.74
w2q157d	259	894	28.97
w2q157e	318	894	35.57
w2q157f	342	894	38.26
w2q158a	71	894	7.94
w2q158b	79	894	8.84
w2q158c	96	894	10.74
w2q158d	93	894	10.4
w2q159	40	894	4.47
w2q160a	158	894	17.67
w2q160b	264	894	29.53
w2q160c	240	894	26.85
w2q160d	368	894	41.16
w2q160e	384	894	42.95
w2q160f	388	894	43.4
w2q161a	138	894	15.44
w2q161b	158	894	17.67
w2q161c	172	894	19.24
w2q161d	175	894	19.57
gcendiv	0	894	0
gcenreg	0	894	0
geduc1	0	894	0
geduc2	0	894	0

gemploy~2010	0	894	0
gmethod_ty~2	0	894	0
gmilesaway	8	894	0.89
gmilesaway2	8	894	0.89
gmsaname	0	894	0
gresponden~2	0	894	0
gruca	11	894	1.23
gruca_i	0	894	0
gzipcode	7	894	0.78
gzipstate	0	894	0
w1gender	0	894	0
w1sex	0	894	0
w2age	0	894	0
w2audite	8	894	0.89
w2audite_i	0	894	0
w2bistigma	559	894	62.53
w2bistigma_i	556	894	62.19
w2cohort	0	894	0
w2connecte~s	26	894	2.91
w2connecte~i	0	894	0
w2dudit	23	894	2.57
w2dudit_i	0	894	0
w2everyday	26	894	2.91
w2everyday_i	0	894	0
w2feltstigma	8	894	0.89
w2feltstig~i	0	894	0
w2gender	0	894	0
w2idcentral	10	894	1.12
w2idcentra~i	0	894	0
w2internal~d	12	894	1.34
w2internal~i	0	894	0
w2kessler6	12	894	1.34
w2kessler6_i	0	894	0
w2sexminid	8	894	0.89
w2sexualid	0	894	0
w2socialwb	29	894	3.24
w2socialwb_i	0	894	0
w2socsupport	24	894	2.68
w2socsuppo~m	12	894	1.34
w2socsup~m_i	0	894	0
w2socsuppo~r	15	894	1.68

w2socsup~r_i	0	894	0
w2socsup~t_i	0	894	0
w2socsuppo~o	14	894	1.57
w2socsup~o_i	0	894	0

Appendix 7: Missing values for each variable in Wave 3 dataset.

Variable	Missing	Total	Percent Missing
studyid	0	707	0
wave3_weight	0	707	0
w3q01	9	707	1.27
w3q02	35	707	4.95
w3q03	26	707	3.68
w3q04	10	707	1.41
w3q05	9	707	1.27
w3q06	10	707	1.41
w3q07	11	707	1.56
w3q08	10	707	1.41
w3q09	9	707	1.27
w3q10	13	707	1.84
w3q11	14	707	1.98
w3q12	13	707	1.84
w3q13	14	707	1.98
w3q14	14	707	1.98
w3q15	14	707	1.98
w3q16	13	707	1.84
w3q17	15	707	2.12
w3q18	13	707	1.84
w3q19a	15	707	2.12
w3q19b	17	707	2.4
w3q19c	20	707	2.83
w3q19d	16	707	2.26
w3q20	12	707	1.7
w3q21	12	707	1.7
w3q21_v_verb	0	707	0
w3q22_1	523	707	73.97
w3q22_2	314	707	44.41
w3q22_3	690	707	97.6
w3q22_4	689	707	97.45
w3q22_5	539	707	76.24
w3q23a	15	707	2.12

w3q23b	17	707	2.4
w3q23c	21	707	2.97
w3q23d	20	707	2.83
w3q24	13	707	1.84
w3q25	14	707	1.98
w3q26	13	707	1.84
w3q27	14	707	1.98
w3q28	12	707	1.7
w3q29a	14	707	1.98
w3q29b	15	707	2.12
w3q29c	14	707	1.98
w3q29d	15	707	2.12
w3q29e	13	707	1.84
w3q29f	13	707	1.84
w3q30	11	707	1.56
w3q31	12	707	1.7
w3q32	14	707	1.98
w3q33	15	707	2.12
w3q34	18	707	2.55
w3q35	13	707	1.84
w3q36	10	707	1.41
w3q37	15	707	2.12
w3q38	303	707	42.86
w3q39	299	707	42.29
w3q40	300	707	42.43
w3q40b_v_v~b	0	707	0
w3q41	300	707	42.43
w3q42	301	707	42.57
w3q43a	303	707	42.86
w3q43b	302	707	42.72
w3q43c	314	707	44.41
w3q43d	302	707	42.72
w3q44	299	707	42.29
w3q45	299	707	42.29
w3q46	302	707	42.72
w3q47	14	707	1.98
w3q48	13	707	1.84
w3q49	12	707	1.7
w3q50_1	656	707	92.79
w3q50_2	392	707	55.45
w3q50_3	648	707	91.65

w3q50_4	595	707	84.16
w3q50_5	702	707	99.29
w3q50_6	659	707	93.21
w3q50_7	693	707	98.02
w3q50_8	655	707	92.64
w3q50_9	629	707	88.97
w3q50_10	701	707	99.15
w3q50_11	702	707	99.29
w3q50_12	707	707	100
w3q50_13	683	707	96.61
w3q50_v_verb	0	707	0
w3q51	428	707	60.54
w3q52_1	581	707	82.18
w3q52_2	523	707	73.97
w3q52_3	674	707	95.33
w3q52_4	691	707	97.74
w3q52_5	695	707	98.3
w3q52_v_verb	0	707	0
w3q53	425	707	60.11
w3q54	426	707	60.25
w3q55	14	707	1.98
w3q56	16	707	2.26
w3q57	13	707	1.84
w3q58	71	707	10.04
w3q59	69	707	9.76
w3q60	89	707	12.59
w3q61_1	586	707	82.89
w3q61_2	595	707	84.16
w3q61_3	684	707	96.75
w3q61_4	703	707	99.43
w3q61_5	702	707	99.29
w3q61_6	704	707	99.58
w3q61_7	700	707	99.01
w3q61_8	665	707	94.06
w3q61_9	700	707	99.01
w3q61_10	696	707	98.44
w3q61_11	674	707	95.33
w3q61_12	669	707	94.63
w3q61_13	633	707	89.53
w3q61_14	698	707	98.73
w3q61_15	692	707	97.88

w3q61_16	661	707	93.49
w3q61_17	700	707	99.01
w3q61_18	697	707	98.59
w3q61_19	701	707	99.15
w3q61_20	698	707	98.73
w3q61_21	684	707	96.75
w3q61_22	683	707	96.61
w3q61_23	593	707	83.88
w3q61_24	689	707	97.45
w3q62	15	707	2.12
w3q63	14	707	1.98
w3q64a	16	707	2.26
w3q64b	13	707	1.84
w3q64c	13	707	1.84
w3q64d	12	707	1.7
w3q64e	12	707	1.7
w3q64f	12	707	1.7
w3q65	12	707	1.7
w3q66	12	707	1.7
w3q67	13	707	1.84
w3q68	34	707	4.81
w3q69	13	707	1.84
w3q70	13	707	1.84
w3q71	12	707	1.7
w3q72	13	707	1.84
w3q73	14	707	1.98
w3q74	13	707	1.84
w3q75	15	707	2.12
w3q76	13	707	1.84
w3q77	13	707	1.84
w3q78	15	707	2.12
w3q79	12	707	1.7
w3q80	13	707	1.84
w3q81	17	707	2.4
w3q82	17	707	2.4
w3q83	18	707	2.55
w3q84	18	707	2.55
w3q85	693	707	98.02
w3q86	17	707	2.4
w3q87a	25	707	3.54
w3q87b	27	707	3.82

w3q87c	128	707	18.1
w3q87d	75	707	10.61
w3q88	13	707	1.84
w3q89	15	707	2.12
w3q90	13	707	1.84
w3q91	14	707	1.98
w3q92	12	707	1.7
w3q93	12	707	1.7
w3q94	14	707	1.98
w3q95	13	707	1.84
w3q96	12	707	1.7
w3q97	12	707	1.7
w3q98a	12	707	1.7
w3q98b	12	707	1.7
w3q98c	15	707	2.12
w3q98d	15	707	2.12
w3q98e	20	707	2.83
w3q99	14	707	1.98
w3q100i_1	683	707	96.61
w3q100i_2	625	707	88.4
w3q101	13	707	1.84
w3q102	693	707	98.02
w3q103	693	707	98.02
w3q104	15	707	2.12
w3q105	616	707	87.13
w3q106	616	707	87.13
w3q107a	13	707	1.84
w3q107b	13	707	1.84
w3q107c	14	707	1.98
w3q107d	14	707	1.98
w3q107e	14	707	1.98
w3q107f	14	707	1.98
w3q107g	13	707	1.84
w3q107h	14	707	1.98
w3q108_1	667	707	94.34
w3q108_2	616	707	87.13
w3q108_3	704	707	99.58
w3q108_4	672	707	95.05
w3q108_5	677	707	95.76
w3q108_6	677	707	95.76
w3q108_7	621	707	87.84

w3q108_8	637	707	90.1
w3q108_9	691	707	97.74
w3q108_10	685	707	96.89
w3q109	18	707	2.55
w3q110	15	707	2.12
w3q111_1	679	707	96.04
w3q111_2	683	707	96.61
w3q111_3	707	707	100
w3q111_4	700	707	99.01
w3q111_5	695	707	98.3
w3q111_6	692	707	97.88
w3q111_7	687	707	97.17
w3q111_8	693	707	98.02
w3q111_9	701	707	99.15
w3q111_10	695	707	98.3
w3q112	15	707	2.12
w3q113_1	702	707	99.29
w3q113_2	706	707	99.86
w3q113_3	707	707	100
w3q113_4	704	707	99.58
w3q113_5	707	707	100
w3q113_6	696	707	98.44
w3q113_7	705	707	99.72
w3q113_8	707	707	100
w3q113_9	707	707	100
w3q113_10	706	707	99.86
w3q114a	16	707	2.26
w3q114b	17	707	2.4
w3q114c	16	707	2.26
w3q114d	17	707	2.4
w3q114e	14	707	1.98
w3q114f	15	707	2.12
w3q114g	16	707	2.26
w3q114h	14	707	1.98
w3q114i	17	707	2.4
w3q114j	18	707	2.55
w3q114k	14	707	1.98
w3q115_1	636	707	89.96
w3q115_2	638	707	90.24
w3q115_3	704	707	99.58
w3q115_4	683	707	96.61

w3q115_5	684	707	96.75
w3q115_6	637	707	90.1
w3q115_7	646	707	91.37
w3q115_8	668	707	94.48
w3q115_9	695	707	98.3
w3q115_10	666	707	94.2
w3q116_none	162	707	22.91
w3q116a	12	707	1.7
w3q116b	18	707	2.55
w3q117_none	212	707	29.99
w3q117a	14	707	1.98
w3q117b	13	707	1.84
w3q117c	13	707	1.84
w3q117d	14	707	1.98
w3q117e	16	707	2.26
w3q118	279	707	39.46
w3q119	538	707	76.1
w3q120	556	707	78.64
w3q121	545	707	77.09
w3q122	549	707	77.65
w3q123	14	707	1.98
w3q124	15	707	2.12
w3q125_1	701	707	99.15
w3q125_2	698	707	98.73
w3q125_3	707	707	100
w3q125_4	701	707	99.15
w3q125_5	698	707	98.73
w3q125_6	702	707	99.29
w3q125_7	703	707	99.43
w3q125_8	703	707	99.43
w3q125_9	707	707	100
w3q125_10	706	707	99.86
w3q126a	11	707	1.56
w3q126b	13	707	1.84
w3q126c	11	707	1.56
w3q126d	11	707	1.56
w3q126e	13	707	1.84
w3q126f	13	707	1.84
w3q126g	12	707	1.7
w3q126h	11	707	1.56
w3q126i	12	707	1.7

w3q127_1	544	707	76.94
w3q127_2	509	707	71.99
w3q127_3	702	707	99.29
w3q127_4	623	707	88.12
w3q127_5	628	707	88.83
w3q127_6	614	707	86.85
w3q127_7	569	707	80.48
w3q127_8	539	707	76.24
w3q127_9	675	707	95.47
w3q127_10	654	707	92.5
w3q128a	35	707	4.95
w3q128b	44	707	6.22
w3q128c	138	707	19.52
w3q128d	173	707	24.47
w3q128e	226	707	31.97
w3q128f	292	707	41.3
w3q128g	37	707	5.23
w3q128h	161	707	22.77
w3q128i	141	707	19.94
w3q128j	126	707	17.82
w3q128k	71	707	10.04
w3q128l	165	707	23.34
w3q128m	305	707	43.14
w3q128n	410	707	57.99
w3q128o	423	707	59.83
w3q129a	14	707	1.98
w3q129b	13	707	1.84
w3q129c	16	707	2.26
w3q129d	16	707	2.26
w3q129e	14	707	1.98
w3q129f	15	707	2.12
w3q129g	15	707	2.12
w3q129h	15	707	2.12
w3q129i	16	707	2.26
w3q129j	14	707	1.98
w3q129k	15	707	2.12
w3q129l	14	707	1.98
w3q130	14	707	1.98
w3q131	13	707	1.84
w3q132	15	707	2.12
w3q133	15	707	2.12

w3q134	14	707	1.98
w3q135a	13	707	1.84
w3q135b	16	707	2.26
w3q135c	14	707	1.98
w3q135d	13	707	1.84
w3q135e	14	707	1.98
w3q135f	13	707	1.84
w3q135g	16	707	2.26
w3q135h	12	707	1.7
w3q135i	19	707	2.69
w3q135j	14	707	1.98
w3q135k	12	707	1.7
w3q136_1	299	707	42.29
w3q136_2	390	707	55.16
w3q136_3	371	707	52.48
w3q136_4	408	707	57.71
w3q136_v v~b	0	707	0
w3q137	15	707	2.12
w3q138	13	707	1.84
w3q139	13	707	1.84
w3q140a	75	707	10.61
w3q140b	127	707	17.96
w3q140c	91	707	12.87
w3q140d	186	707	26.31
w3q140e	225	707	31.82
w3q140f	248	707	35.08
w3q141a	65	707	9.19
w3q141b	75	707	10.61
w3q141c	82	707	11.6
w3q141d	86	707	12.16
w3q142	11	707	1.56
w3q143a	131	707	18.53
w3q143b	203	707	28.71
w3q143c	203	707	28.71
w3q143d	274	707	38.76
w3q143e	289	707	40.88
w3q143f	298	707	42.15
w3q144a	136	707	19.24
w3q144b	147	707	20.79
w3q144c	167	707	23.62
w3q144d	162	707	22.91

w3sexminid	6	707	0.85
w3sexualid	0	707	0
gcendiv	0	707	0
gcenreg	0	707	0
geduc1	0	707	0
geduc2	0	707	0
gemploy~2010	0	707	0
gmethod_ty~3	0	707	0
gmilesaway	6	707	0.85
gmilesaway2	6	707	0.85
gmsaname	0	707	0
gp1	50	707	7.07
gp2	500	707	70.72
grace	0	707	0
gresponden~3	0	707	0
gruca	9	707	1.27
gruca_i	0	707	0
gsurvey	0	707	0
gzipcode	6	707	0.85
gzipstate	0	707	0
inwave3	0	707	0
nopoliceco~t	366	707	51.77
screen_race	0	707	0
w1sex	0	707	0
w3age	0	707	0
w3audite	14	707	1.98
w3audite_i	0	707	0
w3cohort	0	707	0
w3connecte~s	29	707	4.1
w3connecte~i	0	707	0
w3dudit	24	707	3.39
w3dudit_i	0	707	0
w3everyday	19	707	2.69
w3everyday_i	0	707	0
w3feltstigma	15	707	2.12
w3feltstig~i	0	707	0
w3gender	0	707	0
w3idcentral	18	707	2.55
w3idcentra~i	0	707	0
w3internal~d	15	707	2.12
w3internal~i	0	707	0

w3kessler6	18	707	2.55
w3kessler6_i	0	707	0
w3socialwb	29	707	4.1
w3socialwb_i	0	707	0
w3socsupport	25	707	3.54
w3socsuppo~m	17	707	2.4
w3socsup~m_i	0	707	0
w3socsuppo~r	21	707	2.97
w3socsup~r_i	0	707	0
w3socsup~t_i	0	707	0
w3socsuppo~o	16	707	2.26
w3socsup~o_i	0	707	0

Appendix 8. Creating an analysis plan and regression analysis using point-and-click method in SPSS

1) Click on Analyze -> Complex Samples -> Prepare for Analysis

The screenshot shows the IBM SPSS Statistics Data Editor interface. The 'Analyze' menu is open, and the path 'Complex Samples' > 'Prepare for Analysis...' is highlighted. The background data table has columns 'studyid' and 'weight'.

	studyid	weight
1	157125328	
2	163878251	
3	155860234	
4	157678815	2
5	164363377	
6	155369853	2
7	155826890	1
8	160179405	
9	163686571	2
10	157474822	1
11	155824900	2
12	155275816	
13	157474840	1
14	155278335	
15	153142234	
16	159331586	
17	154699315	1
18	159891111	
19	156551103	2
20	152460457	
21	165466607	
22	152590758	
23	155040392	2
24	163980284	
25	165468496	2
26	162893284	2
27	154987889	.45
28	155726618	.96
29	152766436	.58
30	162053472	.26

- 2) When the “Analysis Preparation Wizard” window appears, make sure that “Create a plan file” is selected and then click on “Next”

Analysis Preparation Wizard

Welcome to the Analysis Preparation Wizard

The Analysis Preparation Wizard helps you describe your complex sample and choose an estimation method. You will be asked to provide sample weights and other information needed for accurate estimation of standard errors.

Your selections will be saved to a plan file that you can use in any of the analysis procedures in the Complex Samples Option.

What would you like to do?

☒ Create a plan file

Choose this option if you have ~~sample data but have not created a~~ plan file.

File:

☐ Edit a plan file

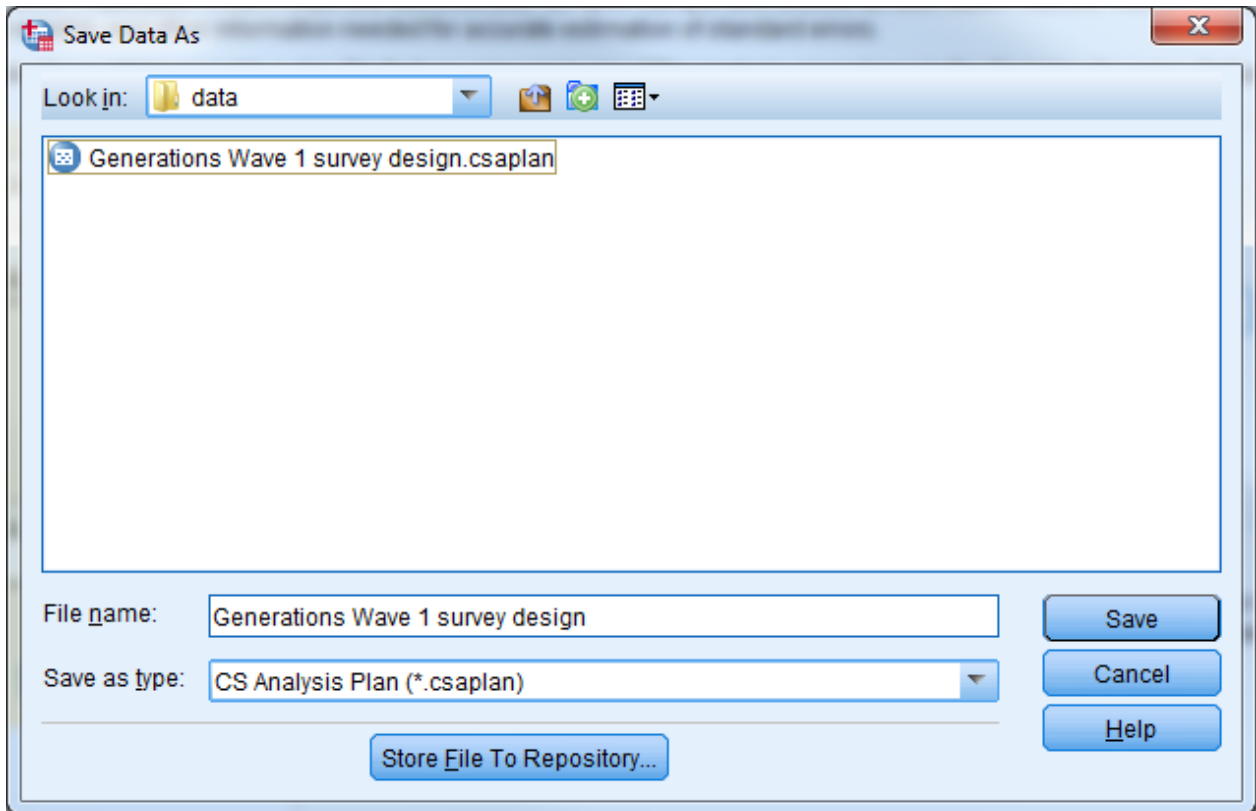
Choose this option if you want to add, remove, or modify stages of an existing plan.

File:

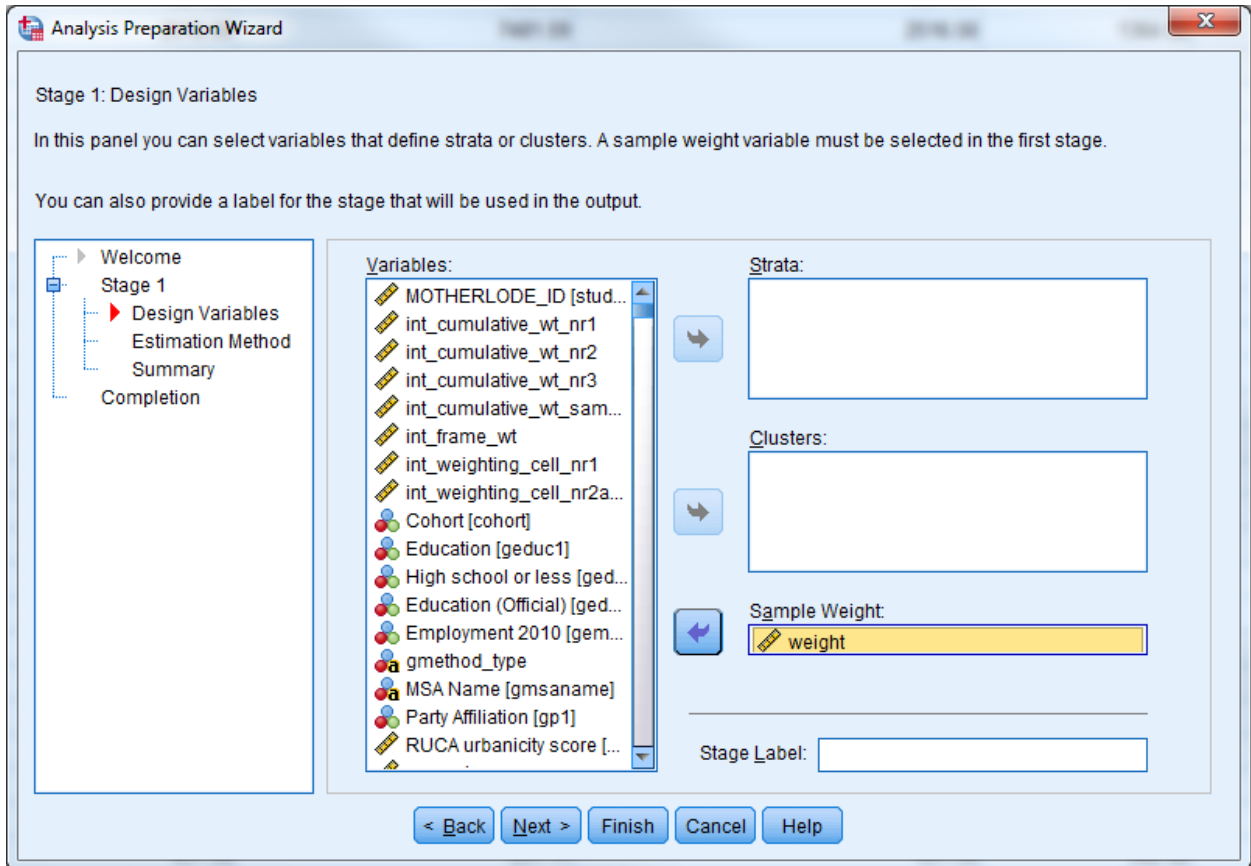
i If you already have a plan file you can skip the Analysis Preparation Wizard and go directly to any of the analysis procedures in the Complex Samples Option to analyze your sample.

< Back Next > Finish Cancel Help

- 3) You will be creating a file (a .csaplan file) that contains the survey design information, which SPSS will use in its statistical modeling. For now, you just need to enter a name for this file. I named mine “Generations Wave 1 survey design”. Click “Save” after entering a name.

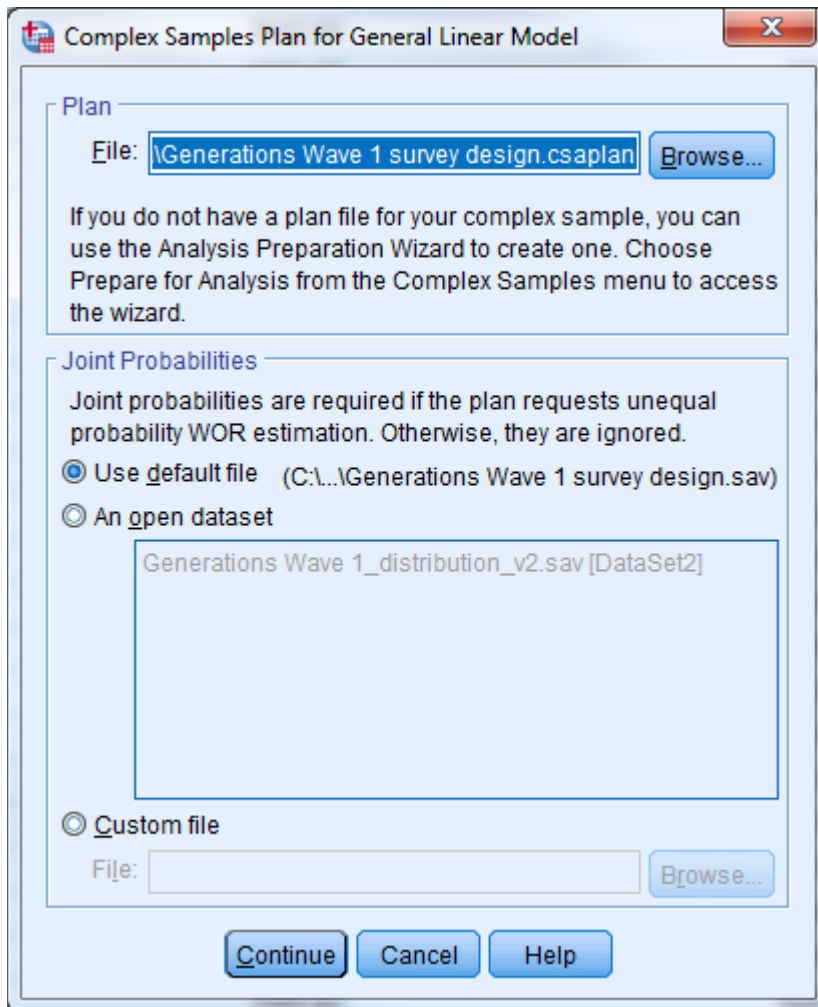


- 4) A window called “Analysis Preparation Wizard” should appear. Here you will specify the weighting variable, by moving the “weight” variable into “Sample Weight”. Then you hit “Finish”:

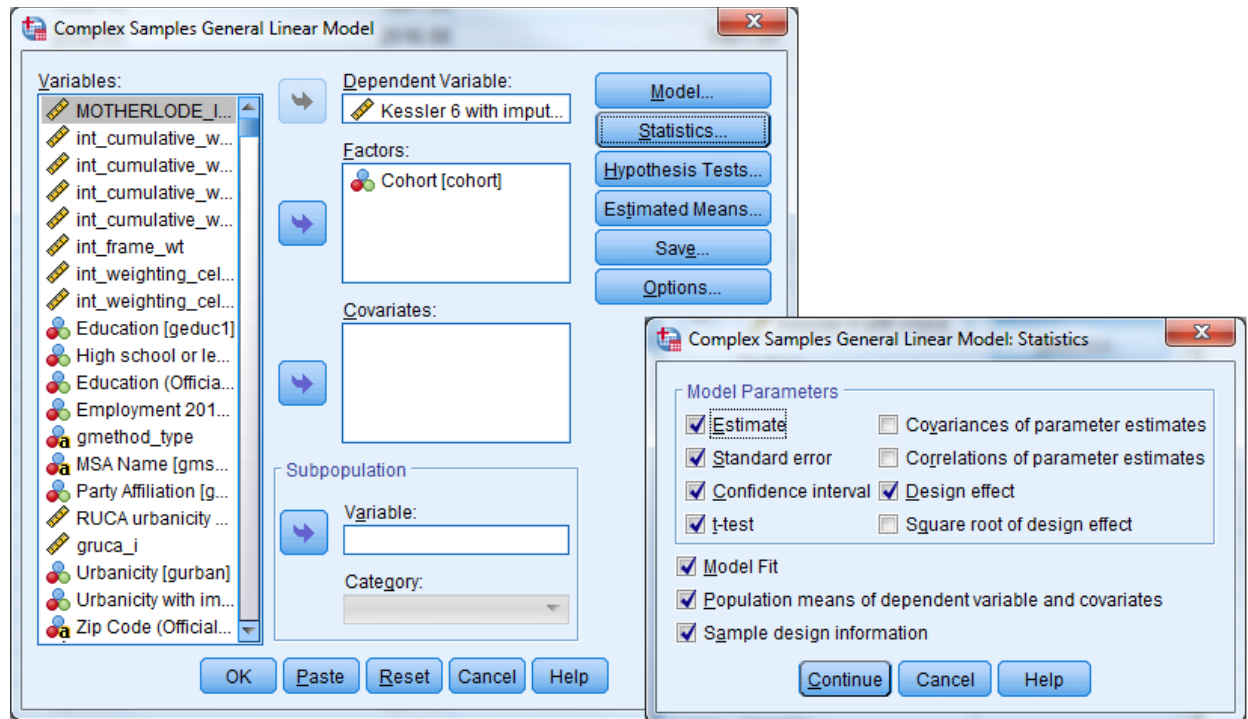


- 5) The survey design file has now been created. You can reuse it whenever you need to do a weighted analysis with this dataset.
- 6) Only the procedures listed under “Complex Design” can use this survey design file, so you are limited in the analyses available.

- 7) Let's do a linear regression. First select Complex Samples > General Linear Model. A new window will appear called "Complex Samples Plan for General Linear Model". In the "Plan" section of this window, you should see the survey design file that we just created. If you later reopen SPSS after shutting down, you'll need to Browse to find this file again (or just create it again, it's so easy). If the survey design file is specified, hit "Continue".



- 8) Enter regression variables as you normally would. Remember that "Factors" is for categorical predictors (last group will be the reference) and "Covariates" is for continuous predictors. You can also specify a subpopulation filtering variable as well. Also, click on "Statistics" and then select "Estimate", "Standard Error", "Confidence Interval", and "t-test", for standard regression output. Then click "Ok" when ready to run.



- 9) In the output, you should see new output like new tables called “Sample Design Information” and “Factor Information”, with columns that use the word “Weighted”. This will let you know that SPSS is using the survey design information in the statistical model.

Sample Design Information

		N
Unweighted Cases	Valid	1331
	Invalid	14
	Total	1345
Population Size		1326.795
Stage 1	Strata	1
	Units	1331
Sampling Design Degrees of Freedom		1330

Variable Information

		Mean
Dependent Variable	Kessler 6 with imputation	14.66

Factor Information

		Weighted Count	Weighted Percent
Cohort	Younger	805.159	60.7%
	Middle	281.642	21.2%
	Older	239.993	18.1%
Population Size		1326.795	100.0%

10) The regression parameter estimates table will look familiar, but may have an extra column called “Design Effect”, which will be filled if the option is chosen.

Parameter Estimates^a

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test			Design Effect
			Lower	Upper	t	df	Sig.	
(Intercept)	11.345	.255	10.845	11.845	44.496	1330.000	.000	.
[cohort=1]	4.726	.363	4.014	5.437	13.029	1330.000	.000	.
[cohort=2]	2.112	.471	1.188	3.037	4.482	1330.000	.000	.
[cohort=3]	.000 ^b

a. Model: Kessler 6 with imputation = (Intercept) + cohort

b. Set to zero because this parameter is redundant.