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Does the effect of income on life satisfaction differ by different racial groups?

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In order to determine the different effects that income has on life satisfaction, this study uses a panel dataset is collected by the University of Michigan, institute for social research from ICPSR following around 3617 Americans' changing lives for the years 1986, 1989, 1994, 2002, and 2011(Waves I, II, III, IV, and V). Prior studies have found that income has a weak association with life satisfaction when comparing it among countries. However, there is a positive relationship between income and life satisfaction within a single country. This study aims to determine if life satisfaction is affected by income among different racial groups. The fixed effect and year-fixed effect suggest no significant difference in the effect of income by different racial groups on life satisfaction. Nevertheless, consistent with previous literature, the effect of income on life satisfaction has a positive and statistically significant effect on life satisfaction. In addition, this study also found that marriage has a positive relationship with happiness, while sleeplessness has a negative association with life satisfaction.

Income these days is seen as a source of happiness for most people. Countries such as Finland, Norway, Denmark, Iceland, and most of the Scandinavian countries are dubbed as the happiest places on earth. However, is that happiness because those countries are wealthy or is the other factors that can affect life satisfaction. Factors such as housing, income, employment, education, environment, civic engagement, health, and many more play a role in enjoying life. If we look at those countries without any econometrics analysis, it is clear that those countries are developed and wealthy. Among those factors that affect our happiness, income seems to have an essential role in society. The more income an individual earns, we think the more fulfilling life that individual lives. In this research paper, we are interested in testing that common intuition that society upholds.

Specifically, we want to explore the effect that income has on the happiness of Americans of different races. Do white people derive happiness from income? Moreover, how does that differ from non-white race individuals? Do they consider earning more income to be a source of happiness? We intend to run a regression on these different groups while controlling for age, marital status, and other factors and comparing the effects of the different racial groups.

I. Literature Review

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In 1974, Richard A. Easterlin published a seminal work that defined *happiness* as a subjective and inherent personal metric that each individual judges their wellbeing. His approach to measuring that inherent metric variable was to let each individual judge their happiness according to their standards. This method was ingenious since the differences in backgrounds of people are taken into account to measure happiness, the dependent variable. His main research question was why the happiness score in the United States and elsewhere had stayed constant, while income per capita has increased over the years. He explained that within countries, there is a positive causal relationship between income and happiness; however, when making comparisons among countries, that causal relationship does not hold.

In 2010, Easterlin published another work with Robson Morgan, Malgorzata Switek, and Fei Wang, focusing on China's subjective wellbeing and output per capita. Like the previous paper, they used a self-reported feeling of satisfaction with life as their dependent variable. The data they used included the years from 1990-2010, to which dates they emphasized since China had grown tremendously within those years. They concluded that there is no evidence of an increase in life satisfaction of the magnitude that might have been expected to result from an improvement in the level of per capita consumption. However, they did notice a U-shaped pattern that signified that decreasing life satisfaction was present in the bottom third of the income distribution and increasing life satisfaction in those in the top third throughout those years to be related to the U-shaped pattern of unemployment from 1990-2010.

Trovato, Becchetti, and Londono-Bedoya (2011) work on income, relational good, and happiness give us another look at the "Happiness-Income Paradox." Their work suggests that personal income has two main effects on happiness. The positive effect they explain is an effect derived from an individual's ranking within domestic income quintiles. The second effect they dedicated to the relationship between income and relational goods. Essentially, they defined relational goods as enjoying relationships with other people and time spent honing those relationships as opposed to time spent on earning more income. Their analysis suggests that the indirect impact of personal income on happiness through relational goods be negative. People who have spent more time having relationships with other people will tend to have spent less time earning money, and those people report they are happy, which creates a negative correlation. On the other hand, people who spent less time on relational goods but spent more time earning money also report their happiness based on their productivity and personal metrics, which is a positive correlation. Their overall conclusion was that while higher income is associated with higher self-declared happiness, its indirect effect is that it reduces the time dedicated to relational/social life, which is also a significant happiness driver.

Proto and Rustihini(2014) show that neuroticism affects the level of life satisfaction and modulates the relationship between income and life satisfaction in both the British Household Panel Survey and the German Socioeconomic Panel. The effect of income seems mediated mainly by personality traits. When the interaction between income and neuroticism is introduced, income does not have a significant effect on its own. Neuroticism increases the usually observed concavity of the relationship between income and life satisfaction. Individuals with higher neuroticism scores enjoy income more than those with a lower score if they are poorer; conversely, they enjoy income less if they are more affluent. Neve and Oswald (2012) reverse one of the famous questions of social science. It is an attempt to explore the influence not of income upon wellbeing but instead of wellbeing upon income. Their analysis suggests that wellbeing, including life satisfaction, also affects income by using sibling fixed effects.

In conclusion, looking at those studies cohesively, there seems to be an insignificant and weak relationship between income and life satisfaction, but that association is positive. In other words, as income changes, we expect happiness to change as well. Whether or not income by different racial groups plays a role in happiness is a different question that will be assessed in this research paper. We plan to control variables like Trovato, Becchetti, and Londono-Bedoya (2011), demographics, and human relational variables such as how often our friends visit. We will run fixed and year fixed effects for continuous life satisfaction variables and linear probability model, probit, and logit models for a binary value of life satisfaction to capture the relevant effects.

II. Data and Descriptive Statistics

This study uses a dataset collected by the University of Michigan, institute for social research, from ICPSR. The dataset is panel data that follows around 3617 Americans' changing lives for 1986, 1989, 1994, 2002, and 2011(Waves I, II, III, IV, and V). As the years progress from 1986, the number of respondents dwindles since some die out of old age and other factors. Also, some respondents, for some reason, decide not to continue the research. The respondents are of middle and older age groups from all United States household populations age 25 years and older exclusive residents of Alaska and Hawaii. The sample selection is computerized from the 1980 National Sample online sample listing database.

Several things to note about this dataset are that most of the survey questions require respondents to judge their present level of satisfaction, which explains why most variables would be binary or discrete data representing their answer. In addition, observations that are not followed in the coming years are reported as missing in STATA with the "In Applicable" label.

Table 1: Variable descriptions

Variable	Discription
CaseId	A continuous number for each individual who participated in the study
Wave	The number of years this data was collected
Visit	Number of times friends visit the respondent
Satisfaction	Discrete value from 1 to 5 , where lower number represents less satisfaction and higher number suggest higher satisfaction
Housework	Hours in a week that the respondent has done housework.
Drinks	Number of drinks the respondent's drinks in a week
SuperviseO~s	0-The respondent does not supervise others in the workplace 1-The respondent does supervise others in the workplace
Income	Weekly income that the respondent earns
Age	Number of years the respondent has lived
White	0-non-white individual 1-black individual
Black	0-non-black individual 1-black individual
AmerInd	0-non-American Indian individual

	1-American Indian individual
Asian	0-non-asian individual 1-asian individual
Hispanic	0-non-hispanic individual 1-hispanic individual
Male	0-non-male respondent 1-male respondent
Female	0-non-female respondent 1-female respondent
Satisfacti~y	0-if the value of "Satisfaction" is below 3 1-if the value of "Satisfaction" is 3 and above
Married	0-inidividual is not married at the time of the data collection 1-individual is married at the time of the data collection
Sleepless	0-individual is not sleepless in the past week 1-individual is sleepless in the past week
SelfEmployed	0-individual is not self-employed 1-individual is self-employed
PrivateEmp~e	0-individual is not private-employee 1-individual is private-employee
Government~e	0-individual is not government-employee 1-individual is government-employee
WhiteAmoun~d	Interaction term between income and White racial group
BlackAmoun~d	Interaction term between income and Black racial group
AmerIndAmo~d	Interaction term between income and American Indian racial group
AsianAmoun~d	Interaction term between income and Asian racial group
HispanAmou~d	Interaction term between income and Hispanic racial group
Religious	0-respondent is not religious 1-respondent is religious

Table 2 presents summary statistics for the final dataset. For different analyses, the satisfaction variable has a variable for discrete data and binary data. If the individual responded by showing that they were satisfied with life, the binary is 1, and if they were not, that variable is represented by 0. Interaction variables are also included in this table. Variables such as "WhiteAmountEarned" are an interaction term of the variable "White" and "Amount Earned." To run the necessary analysis of whether or not income affects happiness by race, We included interaction terms for each race. In addition, the variables "Visit," "Drinks," and "Houseworks" are reported in a weekly manner. For instance, for "Housework," if a person does housework 5 hr. per week, it is reported as 5. Similar reporting is also followed for the other two variables.

Table 2: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max

CaseId	18,085	1809	1044.17	1	3617
Wave	18,085	3	1.41425	1	5
Visit	11,873	1.21945	0.84121	0	2
Satisfaction	11,824	2.35453	1.09584	1	5
Housework	11,282	16.1557	13.898	0	100
Drinks	5,542	2.1522	1.86766	0.5	20
SuperviseO~s	4,177	0.42566	0.4945	0	1
Income	5,565	449.9	1281.03	0	76923
Age	12,174	57.9992	16.8331	25	103
White	12,184	0.67195	0.46952	0	1
Black	12,184	0.29711	0.457	0	1
AmerInd	12,184	0.01313	0.11384	0	1
Asian	12,184	0.00845	0.09156	0	1
Hispan	12,184	0.00936	0.09628	0	1
Male	12,184	0.36975	0.48276	0	1
Female	12,184	0.63025	0.48276	0	1
Satisfacti~y	11,824	0.93353	0.24912	0	1
Married	12,253	0.54256	0.49821	0	1
Sleepless	11,825	0.1277	0.33376	0	1
SelfEmployed	4,165	0.1611	0.36767	0	1
PrivateEmp~e	4,165	0.63241	0.48221	0	1
Government~e	4,165	0.20648	0.40483	0	1
WhiteAmoun~d	5,565	352.148	1250.75	0	76923
BlackAmoun~d	5,565	81.930	350.371154	0	17826.9231
AmerIndAmo~d	5,565	4.47	60.5428846	0	1923.07692
AsianAmoun~d	5,565	6.632	107.755385	0	4134.61538
HispanAmou~d	5,565	4.781	101.405769	0	5961.53846
Religious	11,853	0.88298	0.32145	0	1

III. Econometric Model and Results

In this econometric model, we will be testing the effect of income earned by different races on life satisfaction using panel data from ICPSR's "American's changing lives for the years 1986, 1989, 1994, 2002, and 2011(Waves I, II, III, IV, and V)." In order to capture that effect, we will be controlling for factors that other related literature has used. In addition, we will also be controlling for factors that are time-invariant (observed and unobserved) when running a fixed effect regression.

The identification strategy for estimating the causal effect of interest uses individual fixed effects and year fixed effects. This identification strategy is perfect for a panel dataset since it

allows us to control for unobserved and observed factors but does not vary over time or across individuals to eliminate omitted variables bias. The inclusion of time-fixed effects results in a more accurate and consistent coefficient since it does not attribute changes in the satisfaction from unobserved time-varying factors.

We have two different models for running different analyses for two different data types of the dependent variable. Models 1-5 use the variable "Satisfaction" as a discrete variable, where "Satisfaction" of 1 represents "Never Satisfied" and that Satisfaction factor increases until to the value of 5 with "Completely Satisfied." Models 6-8 use the variable "SatisfactionDummy" where a "Satisfaction" 2 and 1 are given a value of 0 and value three and above are given 1.

Model 1: Pooled OLS

$$Satisfaction_i = \beta_0 + \beta_1 LogIncome_i + \beta_2 White*LogIncome_i + \beta_3 Black*LogIncome_i + \beta_4 AmerInd*LogIncome_i + \beta_5 Hispanic*LogIncome_i + \beta_6 White_i + \beta_7 Black_i + \beta_8 AmerInd_i + \beta_9 Hispanic_i + u_i$$

Model 2: Pooled OLS with controls

$$Satisfaction_i = \beta_0 + \beta_1 LogIncome_i + \beta_2 White*LogIncome_i + \beta_3 Black*LogIncome_i + \beta_4 AmerInd*LogIncome_i + \beta_5 Hispanic*LogIncome_i + \beta_6 White_i + \beta_7 Black_i + \beta_8 AmerInd_i + \beta_9 Hispanic_i + \beta_{10} Housework_i + \beta_{11} Drinks_i + \beta_{12} SuperviseOthers_i + \beta_{13} Age_i + \beta_{14} Age_i^2 + \beta_{15} Married_i + \beta_{16} PrivateEmployee_i + \beta_{17} Gov.tEmployee_i + \beta_{18} Religious_i + \beta_{19} Friends'Visit_i + \beta_{20} Sleepless_i + \beta_{21} Male_i + u_i$$

Model 3: Individual/CaseId Fixed-Effects with Controls

$$Satisfaction_{i,t} = \beta_0 + \beta_1 LogIncome_{i,t} + \beta_2 White*LogIncome_{i,t} + \beta_3 Black*LogIncome_{i,t} + \beta_4 AmerInd*LogIncome_{i,t} + \beta_5 Hispanic*LogIncome_{i,t} + \beta_6 Housework_{i,t} + \beta_7 Drinks_{i,t} + \beta_8 SuperviseOthers_{i,t} + \beta_9 Age_{i,t} + \beta_{10} Age_i^2 + \beta_{11} Married_{i,t} + \beta_{12} PrivateEmployee_{i,t} + \beta_{13} Gov.tEmployee_{i,t} + \beta_{14} Religious_{i,t} + \beta_{15} Friends'Visit_{i,t} + \beta_{26} Sleepless_{i,t} + \alpha_i + u_{i,t}$$

Model 4: Individual/CaseId and Year Fixed-Effects with Controls

$$Satisfaction_{i,t} = \beta_0 + \beta_1 LogIncome_{i,t} + \beta_2 White*LogIncome_{i,t} + \beta_3 Black*LogIncome_{i,t} + \beta_4 AmerInd*LogIncome_{i,t} + \beta_5 Hispanic*LogIncome_{i,t} + \beta_6 Housework_{i,t} + \beta_7 Drinks_{i,t} + \beta_8 SuperviseOthers_{i,t} + \beta_9 Age_{i,t} + \beta_{10} Age_i^2 + \beta_{11} Married_{i,t} + \beta_{12} PrivateEmployee_{i,t} + \beta_{13} Gov.tEmployee_{i,t} + \beta_{14} Religious_{i,t} + \beta_{15} Friends'Visit_{i,t} + \beta_{26} Sleepless_{i,t} + \alpha_i + \delta_t + u_{i,t}$$

Model 5: Random Effects with controls

$$Satisfaction_i = \beta_0 + \beta_1 LogIncome_i + \beta_2 White*LogIncome_i + \beta_3 Black*LogIncome_i + \beta_4 AmerInd*LogIncome_i + \beta_5 Hispanic*LogIncome_i + \beta_6 White_i + \beta_7 Black_i +$$

$$\beta_8 AmerInd_i + \beta_9 Hispanic_i + \beta_{10} Housework_i + \beta_{11} Drinks_i + \beta_{12} SuperviseOthers_i + \beta_{13} Age_i + \beta_{14} Age_i^2 + \beta_{15} Married_i + \beta_{16} PrivateEmployee_i + \beta_{17} Gov.tEmployee_i + \beta_{18} Religious_i + \beta_{19} Friends'Visit_i + \beta_{20} Sleepless_i + \beta_{21} Male_i + \alpha_i + u_{i,t}$$

The marginal effect for Income and the race interaction terms:

$$\frac{dSatisfaction}{dLogIncome} = \beta_1 + \beta_2 * \text{White} + \beta_3 * \text{Black} + \beta_4 * \text{AmerInd} + \beta_5 * \text{Hispanic}$$

We expect that the marginal effect of income will have a positive sign. Since the typical nature of money is its ability to give people comfort in life, that comfort translated into the satisfaction of life. Thus, we expect satisfaction to increase with more income. However, different racial groups may have a different effect on an increase in satisfaction as income increases. This may be due to cultural differences. Thus, we expect those racial groups who are not culturally materialistic to have a negative effect since inherently; they do not believe that more income will have more satisfaction. Mainly, we expect the American Indian groups to have a negative marginal effect since their culture has a "gift economy" where status is given to individuals based on what they give to others instead of a commodity economy where status is given to those individuals who have the most.

Table 3: Regression Results

Dependent Variable: Satisfaction, 1- Never satisfied - 5- Completely Satisfied

Variables	Pooled OLS (1)	Pooled OLS (2)	CaseId FE (3)	CaseId & Year FE (4)	RE (5)
LogIncome	.0196 (.033678)	.1303 (.0567906)	.2081715 (.1290983)	.1789895*** (.108613)	.1175627** (.0564244)
White x LI	-.0104123 (.0339811)	-.1011 (.05699)	-.1775413 (.1293301)	-.1510261 (.1088238)	-.0898669 (.0565374)
Black x LI	-.0115 (.0346221)	-.1052 (.0578)	-.1379447 (.1301635)	-.1164223 (.109693)	-.090828 (.057178)
AmerInd x LI	.0327 (.0485962)	-.1003 (.0714876)	-.2847938** (.1300938)	-.2789353** (.1104345)	-.1290573* (.070939)
Hispan x LI	.0176 (.0480875)	-.0646 (.0782313)	-.1201124 (.1856011)	-.0904585 (.1715511)	-.0439343 (.0736417)
White	-.1585 (.1013867)	-.1138417 (.1756196)	-	-	-.1363345 (.2192086)
Black	-.3687* (.1037819)	-.2643593 (.1796648)	-	-	-.2826666 (.2225938)
Amer. Indian	-.43** (.1535962)	-.2245799 (.2408964)	-	-	-.2717795 (.2936726)
Hispanic	-.117 (.1695765)	-.042814 (.285612)	-	-	-.0261065 (.3050842)
Housework	-	.00306 (.0018)	.0026229 (.0021998)	.0029177 (.0021929)	.0030833* (.0017511)
Drinks	-	.0048154 (.0096983)	.0110551 (.019367)	.0092879 (.0192248)	.0047347 (.0097591)
Supervise Others	-	.0331252 (.0367434)	.0999217** (.057906)	.0761735 (.055537)	.0282764 (.036595)

Age	-	-.0420149** (.010436)	-.0720945*** (.0145582)	-.0540539*** (.017869)	-.0389303*** (.0098187)
Age Squared	-	.0005075*** (.0001064)	.000817*** (.0001538)	.0006832*** (.0001618)	.0004716*** (.0000991)
Married	-	.3351496*** (.0391595)	.2611398*** (.0742683)	.2502752*** (.072991)	.3144418*** (.0392495)
Priv. Employee	-	-.0264166 (.0522082)	-.0884868 (.0762787)	-.0814877 (.0752053)	-.0270697 (.052905)
Gov. Employee	-	-.0275393 (.0601271)	-.020738 (.0905239)	-.0235133 (.0919901)	-.0223815 (.062117)
Religious	-	.0839448* (.0463758)	-.0142814 (.0745083)	.0376822 (.0739001)	.1059248** (.0482375)
Friends Visits	-	.0761777*** (.0231244)	.0232786 (.0357547)	.019003 (.0354563)	.0678278** (.0223074)
Sleepless	-	-.313952*** (.0631945)	-.1700751* (.0892382)	-.1925571** (.0832538)	-.2850065*** (.0551071)
Male	-	.0153505 (.0419728)	-	-	-.0121364 (.0467558)
Constant	3.853*** (.1003433)	4.175*** (.3104161)	4.896461*** (.334145)	4.307*** (.5507)	4.195645*** (.3424331)
CaseId FE	No	No	Yes	Yes	No
Year FE	No	No	No	Yes	No
Observations	5,492	2180	2180	2180	2180
Marginal Effect					
White x LI	.0196 – (.0104123*W)	.1303 - .1011*(W)	.2081715 - .1775413*(W)	.1789895 - .1510261*(W)	.1175627 - .0898669*(W)
Black x LI	.0196 - (.0115*B)	.1303 - -.1052 *(B)	.2081715 - .1379447*(B)	.1789895 - .1164223*(B)	.1175627 - .090828*(B)
Amer. Ind x LI	.0196 + (.0327*A)	.1303 – .1003 *(A)	.2081715 - .2847938*(A)	.1789895 - .2789353*(A)	.1175627 - .1290573*(A)
Hispan x LI	.0196+ (.0176*H)	.1303 – .0646 *(H)	.2081715 - .1201124*(H)	.1789895 - .0904585*(H)	.1175627 - .0439343*(H)
SER	.9333	.8204	.4417	.429	.65
F-stat	8.21	12.39	11.54	8.42	-
Adjusted – R^2	0.0125	0.099	0.075	0.128	-
F-Statistics and Asymptotically Corrected p-value Test on Joint Hypothesis					
All Interaction terms = 0	.56	0.94	14.59***	10.77***	4.33
Race Variables = 0	14.2***	2.73**	-	-	9.51***

Robust standard error reported in parenthesis in OLS models, CaseId clustered standard errors are reported in FE models.

*Please Note: * p<0.1, ** p<0.05, *** p<0.01*

These two regression models found on table 3 column (1&2) overlook the panel aspect of the data and treats it as a cross-sectional data. The first model does not include the control variables and the result of the analysis reflect that, and in addition our variables of interest are not significant. For this regression, on average, the effect of 1% increase in income is associated with 0.000196 increase in satisfaction points, *ceteris paribus.* For the interaction terms, on average, the effect of

1% increase in income among White racial group relative to Asian racial group is an *extra* -0.000104 increase satisfaction points, *ceteris paribus*. Similarly, on average, the effect of 1% increase in income among Black racial group relative to Asian racial group is an *extra* -0.000115 increase in satisfaction points, *ceteris paribus*. However, that effects for these coefficients are statistically insignificant since the p-value is larger than the significance levels in the joint F-test shown in the table. In addition, the model contains a lot of omitted observed and unobserved variables that are not controlled for. Once we control for more variables in Model 2, we do get a better estimate of those effects, but the results are still statistically insignificant, and we are not using the right model for the panel dataset we have.

In this model (3) we are treating the data as a panel data and controlling for effects that are constant across individuals. These variables are unchanging individual characteristics such as sex, handiness, racial group and other factors, which allows us to estimate the effects of income on satisfaction while controlling for factors that are observed and unobserved. However, by interacting individual-invariant variable with individual-variant variable such Income and Racial group, we are able to estimate that effect for different racial groups even though Racial identity is a factor that does not change across individuals. For this regression, on average the effect of 1% increase in income is associated with 0.00208 increase in satisfaction point. For the interaction terms, on average, the effect of 1% increase in income among White racial group relative to Asian racial group is an *extra* -0.001775 increase satisfaction points, *ceteris paribus*. Similarly, on average, the effect of 1% increase in income among Black racial group relative to Asian racial group is an *extra* -0.00138 increase in satisfaction points, *ceteris paribus*. On average, the effect of 1% increase in income among American Indian racial group relative to Asian racial group is an *extra* -.002828 increase in satisfaction points, *ceteris paribus*. On average, the effect of 1% increase in income among Hispanic racial group relative to Asian racial group is an *extra* .001201 increase in satisfaction points, *ceteris paribus.* The only coefficient that is statistically significant at 5% significance level is for the racial group that identify as American Indian. All the other effects are statistically insignificant. The joint f-test of the interaction terms, on the other hand, is statically significant

In Model (4), in addition to individual fixed effects, I added year fixed effects to control for factors that vary from year to year. With such controls, the income coefficient is statistically significant at 1% significance level. Model 4 predicts that on average the effect of 1% increase in income is associated with 0.1789 increase in satisfaction point, *ceteris paribus*. In order to check if a random effect is able to capture the model better, I conducted Hausman test (see appendix) by creating Model 5. Because of a p-value that is lower than 5%, the fixed effects capture the model of this analysis more efficiently than a random effect. All the interaction terms except for American Indian racial group are statistically insignificant. Model (4) is my preferred model since it controls for factors that are observed and unobserved to estimate a more accurate and consistent marginal effects. Interestingly, the marginal effect of income on satisfaction for American Indian group is negative as expected and mentioned previously. Calculating the test power where the null hypothesis that the effect size has size of zero against alternative hypothesis that the extra -.00298 effect size leads to a statistical power of 100% for American Indian relative to Asian racial group. Other interaction terms also seem to have a statistical power of 100% for their respective racial groups relative to Asian racial group.

Model 6: Linear Probability Model

$$SatisfactionDummy_i = \beta_0 + \beta_1 LogIncome_i + \beta_2 White*LogIncome_i + \beta_3 Black*LogIncome_i + \beta_4 AmerInd*LogIncome_i + \beta_5 Hispanic*LogIncome_i + \ldots + \beta_{21} Male_i + u_i$$

From Model (6), we can infer that on average a 1 dollar increase in income is associated with a .00353 percentage point increase in the predicted probability of having satisfaction in life. But that effect is not statistically significant and cannot be interpreted casually. Model (6) further predicts that Among Black racial groups a 1 dollar change in income, on average ceteris paribus, is associated with .15531 percentage point change in the predicted probability that they have satisfaction in life. Similarly, we can also interpret the other coefficients directly since we are using OLS to estimate our coefficients. However, the reported marginal effects for Logit(Model(7)) and Probit (Mode 8) models are *marginal effects at means*, and it should be note that those numbers are not coefficients of the variables.

For Model (7), on average a 1 dollar increase in income, ceteris paribus, is associated with .05542 percentage point increase in the predicted probability of having satisfaction in life. Similarly, we can use the marginal effects at the means to interpret the interaction terms. On average, ceteris paribus, Among White racial group, a 1 dollar increase in income is associated with the increase in predicted probability of having satisfaction in life .42189 percentage point. These reported effects are statistically insignificant and should not be interpreted casually.

Table 4: Regression Results

Dependent Variable Binary: Satisfied – 1, Not Satisfied - 0

Variables	LPM (6)	Logit (7)	Probit (8)
Income	.0000353 (.0003915)	.0005542 (.1443801)	.0005992 (.0379174)
White x I	2.29e-06 (.0003888)	-	-
Black x I	.0015531 ** (.0012478)	-	-
AmerInd x I	-.0036778 (.0044324)	-	-
Hispan x I	-.0019716 (.0073375)	-	-
White	-.0368206 (.011479)	-.586507 (420.7796)	-.2201996 (74.66246)
Black	-.057816* (.0195317)	-.9992889 (6.142457)	-.9120656 (120.3568)
Amer. Indian	.009253** (.0214099)	-.9754534 (3.780284)	-.9586436 (34.44299)
Hispanic	-.1017801 (.0712395)	-.9764321 (3.877216)	-.970732 (7.566581)

Housework	.0000447 (.0004478)	.0000642 (.0037025)	.0000662 (.0010118)
Drinks	.0026876 (.0018425)	.0021097 (.121334)	.0024029 (.0345286)
Supervise Others	.0036384 (.0103654)	.0003921 (.02351)	.0001537 (.0076568)
Age	-.0003223 (.0026811)	-.000623 (.035866)	-.0007096 (.010349)
Age Squared	8.49e-06 (.0000279)	9.08e-06 (.0005231)	.0000103 (.0001493)
Married	.0440693*** (.0110678)	.036307 (2.021006)	.0399219 (.5460133)
Priv. Employee	.0141174 (.0148663)	.0102102 (.5820131)	.00992 (.1408995)
Gov. Employee	.0075424 (.0160902)	.0050946 (.2951592)	.0049319 (.0723571)
Religious	.012237 (.0124794)	.009351 (.5301849)	.0105498 (.1480284)
Friends Visits	.0148669 (.0059457)	.0102195 (.5876722)	.0115621 (.1658697)
Sleepless	-.0616231 ** (.0217679)	-.0301431 (1.733249)	-.0340207 (.4879598)
Male	.0088382 (.0111729)	.0056314 (.323726)	.0068678 (.0987551)
Constant	.917427*** (.0637647)	-	-
Observations	2199	2199	2199
Marginal Effects			
Income | White=1	.0003306** (.0003063)	.0042189 (33.23811)	.0031542 (5.127684)
Income | Black=1	.0015258** (.0012262)	8.23e-06 (.107053)	.0038844 (8.892109)
Income|AmerIndian=1	-.0033076 (.0044368)	-1.64e-07 (.0028401)	-.0005099 (2.545787)
Income | Hispan=1	-.0016173 (.007337)	-1.10e-08 (.6148251)	3.75e-06 (.4288847)
Robust standard error reported in parenthesis in OLS models, CaseId clustered standard errors are reported in FE models. *Please Note: * p<0.1, ** p<0.05, *** p<0.01*			

For Model (8), the estimation uses Probit regression model. Similar to the logit estimation, on average a 1 dollar increase in income, ceteris paribus, is associated with .05992 percentage point increase in the predicted probability of having satisfaction in life. As for interacting racial groups with income. On average, ceteris paribus, among White individuals, a 1 dollar increase in income is associated with an increase in the predicted probability of having satisfaction in life by an .31542 percentage point. However, those marginal effects at the means are not statistically insignificant and cannot be interpreted casually.

In comparison, income and its interactions seem to have significance in the linear probability model. However, the linear probability model provides us with an unbounded predicted probability that may exceed 0 and 1, which is not idea in terms of probability. Model (7) and Model(8) give us a more realistic predictions by providing a bounded predicted probability.

IV. Limitations

Although Model (4) addresses many issues that would result in an inconsistent and biased coefficient, there are endogeneity concerns that gives us a reason to not casually interpret those coefficients.

The reason for caution comes from the nature of the dataset. Because it is a survey data that is gathered by asking questions, it is likely that there was some recollection errors or measurement errors from the respondents. This is especially a concern since, it makes the coefficients inconsistent. For instance, one of the survey questions was, "How often in the past week were you sleepless at night?" Although that seems like a straightforward question, the respondent is being asked to recollect memories of when they were sleepless. Given values to such numbers is a little hard from a recollection standpoint. Similar concerns are presents in all the other variables that are continuous. Especially for income since we are not using administrative records, the chances of an individual giving the exact amount are less likely. Another concern I have with the data is truthfulness of the answers from the respondents. Some of the questions are a bit intrusive. For instance, the question, "In the past week, how often do your friends visit?" is a very intrusive question for some people since they may not really enjoy other people's company as much but to seem like they do have a lot of visits they may intentionally give a wrong number of visits. Such measurement errors are concerns for an inconsistent coefficient. However, some may argue that the if we assume the respondents behaved under the *classical measurement error,* our estimated coefficients are underestimated, in other words it causes attenuation bias. The real coefficients are going to be bigger than what we got and since we had statistical significance, the t-statistics is only going to get better, in other words it is still statistically significant.

Another concern of endogeneity is simultaneity or simultaneous causality bias. This is certainly an issue in the models since satisfaction with life may also affect income. For instance, Oswald and De Neve[2] show that adolescents and young adults who report higher life satisfaction or positive affect grow up to earn significantly higher levels of income later in life. The more an individual is satisfied with life, the more income they earn since being satisfied with life gives them that drive to earn more income through promotions or even getting hired for a job. That trait of being satisfied with life could mean the difference between getting a college degree or not. These decisions that are influenced by life satisfaction can in fact affect income. For that reason, the estimated coefficients are inconsistent and cannot be interpreted casually.

One way we can better estimate the effect of income on satisfaction is by including an instrument variable that can capture the effect of income. One example of such variable is using the exogenous variation in the timing of the 2008 economic stimulus tax rebate payments.[3] These rebates were a one-time, lump-sum payments that were worth about $1000 and those payments were sent to about 130 million households and could potentially be expected to have a pure income

[2] Jan-Emmanuel De Neve and Andrew Oswald (2012)
[3] Lachowska.M(2015)

effect. Since these rebates were disbursed using a random schedule of payment, the tax rebate program offers an attractive setting for identifying the effect of medium-sized income change. The fact that they were random payments also means that the rebate payments are also uncorrelated with the unobservable of the error terms, which will help us in finding a consistent and unbiased estimator. Then we can use surveys such as the Gallup-Healthways Daily Poll (GHDP) to get data on Satisfaction with life and 2008 tax rebates. We would regress income on tax rebates to capture the effect of income that is uncorrelated with the error term. Then regress satisfaction with the result we found to get a consistent and unbiased coefficient. However, the survey data may be measured with error, which in turn might attenuate the OLS estimate.

V. Comparison to Previous Literature

Proto and Rustihini(2014) find that income and life satisfaction are negatively correlated (-0.0933) and rather they conclude that neuroticism affects not just the level of life satisfaction but also modulates the relationship between income and life satisfaction. In other words, the effect of income seems largely mediated by personality traits. The income effect is only statistically significant when $p<0.1$. However, my analysis on Model (4) tells another story that income does have a positive correlation with life satisfaction, about 0.18, and it is statistically significant when $p<.001$. However, factors such as race do not seem to have significance except for American Indian relative to Asian racial group. But for reason mentioned above the coefficients may not be interpreted casually.

My results seems to be consistent with the work of Trovato, Becchetti, and Londono-Bedoya (2011) work on income, relational good and happiness give us another look on the "Happiness-Income Paradox". Although their results seem to have been small, they had a positive relationship between income and life satisfaction. Furthermore, their assessment that relational goods such as spending time with friends or being married seem to have a strong association with life satisfaction is also seen in my paper since the only statistically significant variable on model 1-5 was whether or not an individual was married. On model 4 we also see similarities on the variable "Friends Visit" and on Trovato, Becchetti, and Londono-Bedoya (2011) "Timereltives" both statistically significant indicators that "relational goods" has a strong association with life satisfaction. The difference between the models I developed and Trovato, Becchetti, and Londono-Bedoya (2011) is that "Race" was not a factor in their model.

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Appendix A: Previous Literature Appendix

Trovato, Becchetti, and Londono-Bedoya (2011)

	A	*B*	*C*	*D*	*E*	*F*	*G*
Eqincome	3.2E-10	6.7E-9	9.4E-09**	2.1E-10**	8.3E-09**		9.9E-09**
	(2.8E-10)	(3.0E-10)	(3.0E-09)	(1.0E-10)	(3.2E-09)		(3.2E-09)
$[Eqincome]^2$	-2.1E-17	-3.7E-17	-4.1E-17**	-3.9E-17	-4.3E-17**		-3.9E-17**
	(-2.0E-17)	(-2.9E-17)	(-2.1E-17)	(-2.0E-17)	(-2.0E-17)		(-1.8E-17)
Numsons	0.012**	0.011	0.003	-0.002	-0.009	-0.004	-0.013
	(0.005)	(0.006)	(0.006)	(0.007)	(0.008)	(0.007)	(0.009)
Single	0.033	0.003	-0.109**	-0.171**	-0.209**	-0.179**	-0.154**
	(0.03)	(0.034)	(0.038)	(0.046)	(0.05)	(0.049)	(0.053)
Married	0.566**	0.579**	0.356**	0.307**	0.243**	0.294**	0.236**
	(0.025)	(0.029)	(0.032)	(0.039)	(0.043)	(0.039)	(0.046)
Divorced	-0.122**	-0.12**	-0.317**	-0.373**	-0.363**	-0.31**	-0.294**
	(0.04)	(0.044)	(0.063)	(0.076)	(0.085)	(0.082)	(0.092)
Separed	-0.264**	-0.288**	-0.396**	-0.477**	-0.484**	-0.425**	-0.468**
	(0.056)	(0.065)	(0.071)	(0.092)	(0.097)	(0.095)	(0.102)
Efw					0.216**	-0.004	0.296**
					(0.077)	(0.024)	(0.084)
Timefriends							0.054**
							(0.015)
Timejob friends							0.014
							(0.011)
Timerelatives							0.054**
							(0.015)
Timereligious friends							0.114**
							(0.011)
Timesport friends							0.063**
							(0.012)
Obs.	86,980	73,766	52,798	39,795	34,364	34,363	28,235
$LR(p-value)$	.000	.000	.000	.000	.000	.000	.000

The dependent variable *Happy* takes discrete values and is based on self declared happiness (3 if very happy, 2 if quite happy, 1 if a few happy, 0 if not at all happy). The model is estimated with an ordered logit. Regressors legend: see section 4.1 in the paper. Country dummies are added to this regressors but omitted from the table for reasons of space.

Proto and Rustihini(2014)

Table 3

Life satisfaction, income and neuroticism in the UK and Germany. Panel data using an OLS estimator with individual random effects. Dependent variable is life satisfaction; all regressions include control for age, age^2, gender (omitted from the table). Income is in 10K USD, (standard errors clustered at individual levels are in brackets).

	Germany 1984–09 b/se	Germany 1984–09 b/se	UK 1996–08 b/se	UK 1996–08 b/se	UK 1996–08 b/se
Income	0.0225	−0.0933*	−0.0020	−0.0020	0.0116
	(0.0233)	(0.0541)	(0.0157)	(0.0047)	(0.0115)
Income^2	0.0022	0.0105**	0.0001		
	(0.0021)	(0.0051)	(0.0008)		
Neur*Inc	0.1287***	0.1453***	0.0864***	0.0434***	0.0505**
	(0.0379)	(0.0388)	(0.0286)	(0.0110)	(0.0234)
Neur*Inc^2	−0.0128***	−0.0139***	−0.0036**	−0.0016***	−0.0022*
	(0.0035)	(0.0036)	(0.0015)	(0.0004)	(0.0012)
Ext*Inc		0.0624			−0.0507*
		(0.0449)			(0.0301)
Ext*Inc^2		−0.0028			0.0025
		(0.0041)			(0.0016)
Cons*Inc		0.1648***			−0.0289
		(0.0524)			(0.0367)
Cons*Inc^2		−0.0130***			0.0015
		(0.0049)			(0.0020)
Open*Inc		−0.0463			0.0050
		(0.0428)			(0.0307)
Open*Inc^2		0.0044			−0.0003
		(0.0039)			(0.0017)
Agr*Inc		−0.0079			0.0399
		(0.0502)			(0.0370)
Agr*Inc^2		−0.0011			−0.0029
		(0.0046)			(0.0020)
Neuroticism	−1.2911***	−1.3320***	−2.2545***	−1.9095***	−1.9142***
	(0.0939)	(0.0954)	(0.1258)	(0.0852)	(0.1106)
Extraversion	0.2595***	0.0734	0.4035***	0.4683***	0.6540***
	(0.0383)	(0.1108)	(0.0648)	(0.0614)	(0.1357)
Conscientiousness	0.2688***	−0.1194	1.0748***	0.9551***	1.0532***
	(0.0487)	(0.1310)	(0.0750)	(0.0716)	(0.1605)
Openness	0.2385***	0.3357***	−0.1040	−0.1333**	−0.1444
	(0.0364)	(0.1056)	(0.0662)	(0.0649)	(0.1360)
Agreableness	0.4528***	0.5056***	0.6498***	0.6926***	0.5993***
	(0.0443)	(0.1260)	(0.0780)	(0.0747)	(0.1639)
Individual random effects	Yes	Yes	Yes	Yes	Yes
Wave effects	Yes	Yes	Yes	Yes	Yes
Region effects	Yes	Yes	Yes	Yes	Yes
Number of children	Yes	Yes	Yes	Yes	Yes
Marital status	Yes	Yes	No	Yes	Yes
Education	Yes	Yes	No	Yes	Yes
Employment status	Yes	Yes	No	Yes	Yes
Occupation type	Yes	Yes	No	Yes	Yes
Health status	Yes	Yes	No	Yes	Yes
Worked hours	Yes	Yes	Yes	Yes	No
Worked hours^2	Yes	Yes	Yes	Yes	No
N	177,562	177,562	90,026	88,961	91,085

* p-value < 0.1.
** p-value < 0.05.
*** p-value < 0.01.

Appendix B: STATA Do and log files

anlaysis.do

```
#delimit;    /* make it so the semicolon signals end of each line
                  because we can't see where the return is  */
set more 1;  /* makes it so stata does not stop at each screen of output */
drop _all ;  /* clear all the variables in memory, if any */
capture log close; /* close any open log files */

cd \\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop;

log using RAP.txt , text replace;
use FinalDataSet.dta;

sum;
if Satisfaction==6 Satisfaction==.;
if Satisfaction==7 Satisfaction==.;
gen SatisfactionDis = 1 if Satisfaction==5;
replace SatisfactionDis = 2 if Satisfaction==4;
replace SatisfactionDis = 3 if Satisfaction==3;
replace SatisfactionDis = 4 if Satisfaction==2;
replace SatisfactionDis = 5 if Satisfaction==1;
replace SatisfactionDis = . if Satisfaction==.;
replace AmountEarned = AmountEarned/52;
gen Year = 1986 if Wave==1;
replace Year = 1989 if Wave ==2;
replace Year = 1994 if Wave ==3;
replace Year = 2002 if Wave ==4;
replace Year = 2011 if Wave ==5;
replace Year = . if Satisfaction==.;
tab Year, gen(Yr);
sum Y*;

gen Age2 = Age*Age;
gen logIncome = ln(AmountEarned);
gen WhiteIncome = logIncome*White;
gen BlackIncome = logIncome*Black;
gen AmerIndIncome = logIncome*AmerInd;
gen AsianIncome = logIncome*Asian;
gen HispanIncome = logIncome*Hispan;

/*Pooled OLS*/
reg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome White Black AmerInd Hispan, robust;
ereturn list;
test WhiteIncome BlackIncome AmerIndIncome HispanIncome;
```

```
display  1-chi2(4,4*0.56);
test White Black AmerInd Hispan;
display  1-chi2(4,4*14.2);

global basevars Housework Drinks SuperviseOthers Age Age2 Married
PrivateEmployee GovernmentEmployee Religious Visit Sleepless;


/*Pooled OLS With Controls*/
reg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome White Black AmerInd Hispan $basevars Male, robust;
ereturn list;
test WhiteIncome BlackIncome AmerIndIncome HispanIncome;
display  1-chi2(4,4*.94);
test White Black AmerInd Hispan;
display  1-chi2(4,4*2.73);

test logIncome WhiteIncome BlackIncome AmerIndIncome HispanIncome;

/*CaseId Fixed Effects With Controls*/
xtset CaseId Year;
xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome  $basevars, fe vce(cluster CaseId);
ereturn list;
test WhiteIncome BlackIncome AmerIndIncome HispanIncome;
display  1-chi2(4,4*14.59);
/*CaseId and Year Fixed Effects With Controls*/
global yearvars Yr1 Yr2 Yr3 Yr4;
xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars $yearvars, fe vce(cluster CaseId);
power onemean 0 0.1789, n(2180);
power onemean 0 -.2789, n(2180);
power onemean 0 -.09045, n(2180);
power onemean 0 -.1164, n(2180);
power onemean 0 -.1510, n(2180);
ereturn list;
test WhiteIncome BlackIncome AmerIndIncome HispanIncome;
display  1-chi2(4,4*10.77);
* hausman test;
xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars, fe;
estimates store chair;
xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars, re;
estimates store stool;
hausman chair stool;

/*Random Effect*/
xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars $yearvars Male White Black AmerInd Hispan, re ;
ereturn list;
test WhiteIncome BlackIncome AmerIndIncome HispanIncome;
display  1-chi2(4,4*.431);
test White Black Hispan AmerInd;
display  1-chi2(4,4*9.51);
/*LMP*/
```

```
xtreg SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerInd#c.AmountEarned i.Hispan#c.AmountEarned
i.White i.Black i.AmerInd i.Hispan  $basevars i.Male, robust;
margins, dydx(*) atmeans;
margins, dydx(AmountEarned) at(White=1) atmeans;
margins, dydx(AmountEarned) at(Black=1) atmeans;
margins, dydx(AmountEarned) at(AmerInd=1) atmeans;
margins, dydx(AmountEarned) at(Hispan=1) atmeans;

global base Housework Drinks Age Age2 Visit Sleepless;
/*logit*/
xtlogit SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerInd#c.AmountEarned i.Hispan#c.AmountEarned
i.White i.Black i.AmerInd i.Hispan  $base i.Male i.SuperviseOthers i.Married
i.PrivateEmployee i.GovernmentEmployee i.Religious;
margins, dydx(*) atmeans;
margins, dydx(AmountEarned) at(White=1) atmeans;
margins, dydx(AmountEarned) at(Black=1) atmeans;
margins, dydx(AmountEarned) at(AmerInd=1) atmeans;
margins, dydx(AmountEarned) at(Hispan=1) atmeans;


/*probit*/
xtprobit SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerInd#c.AmountEarned i.Hispan#c.AmountEarned
i.White i.Black i.AmerInd i.Hispan  $base i.Male i.SuperviseOthers i.Married
i.PrivateEmployee i.GovernmentEmployee i.Religious;
margins, dydx(*) atmeans;
margins, dydx(AmountEarned) at(White=1) atmeans;
margins, dydx(AmountEarned) at(Black=1) atmeans;
margins, dydx(AmountEarned) at(AmerInd=1) atmeans;
margins, dydx(AmountEarned) at(Hispan=1) atmeans;

#delimit cr /* return the signal for end of each line to the default of
Carriage Return  */
```

analysis.txt(log file)

```
-------------------------------------------------------------------------------
----------------------
      name:  <unnamed>
       log:  \\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop\RAP.txt
  log type:  text
 opened on:  24 Dec 2020, 04:08:17

. use FinalDataSet.dta;
(Americans Changing Lives: Waves I, II, III, IV, and V, 1986, 1989, 1994,
2002, a)

. sum;

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

```
      CaseId |     18,085        1809    1044.167          1       3617
        Wave |     18,085           3    1.414253          1          5
       Visit |     11,873    1.219447    .8412073          0          2
Satisfaction |     11,824    2.354533    1.095839          1          7
   Housework |     11,282    16.15572    13.89799          0        100
-------------+--------------------------------------------------------
      Drinks |      5,542    2.152201     1.86766         .5         20
SuperviseO~s |      4,177    .4256644    .4945025          0          1
AmountEarned |      5,565    449.9621    1281.037          0   76923.08
         Age |     12,174    57.99918    16.83314         25        103
       White |     12,184    .6719468    .4695236          0          1
-------------+--------------------------------------------------------
       Black |     12,184     .297111    .4570046          0          1
     AmerInd |     12,184     .013132    .1138446          0          1
       Asian |     12,184    .0084537    .0915584          0          1
      Hispan |     12,184    .0093565    .0962795          0          1
        Male |     12,184    .3697472     .482756          0          1
-------------+--------------------------------------------------------
      Female |     12,184    .6302528     .482756          0          1
Satisfacti~y |     11,824     .933525     .249121          0          1
     Married |     12,253     .542561    .4982056          0          1
   Sleepless |     11,825    .1276956    .3337646          0          1
SelfEmployed |      4,165    .1611044    .3676714          0          1
-------------+--------------------------------------------------------
PrivateEmp~e |      4,165     .632413     .482206          0          1
Government~e |      4,165    .2064826    .4048294          0          1
WhiteAmoun~d |      5,565    352.1478    1250.763          0   76923.08
BlackAmoun~d |      5,565    81.93064    350.3707          0   17826.92
AmerIndAmo~d |      5,565    4.470005    60.54294          0   1923.077
-------------+--------------------------------------------------------
AsianAmoun~d |      5,565    6.632566    107.7555          0   4134.615
HispanAmou~d |      5,565    4.781022    101.4057          0   5961.539
   Religious |     11,853    .8829832    .3214539          0          1

. if Satisfaction==6 Satisfaction==.;

. if Satisfaction==7 Satisfaction==.;

. gen SatisfactionDis = 1 if Satisfaction==5;
(17,763 missing values generated)

. replace SatisfactionDis = 2 if Satisfaction==4;
(1,036 real changes made)

. replace SatisfactionDis = 3 if Satisfaction==3;
(3,353 real changes made)

. replace SatisfactionDis = 4 if Satisfaction==2;
(4,239 real changes made)

. replace SatisfactionDis = 5 if Satisfaction==1;
(2,752 real changes made)

. replace SatisfactionDis = . if Satisfaction==.;
(0 real changes made)

. replace AmountEarned = AmountEarned/52;
```

```
(5,543 real changes made)

. gen Year = 1986 if Wave==1;
(14,468 missing values generated)

. replace Year = 1989 if Wave ==2;
(3,617 real changes made)

. replace Year = 1994 if Wave ==3;
(3,617 real changes made)

. replace Year = 2002 if Wave ==4;
(3,617 real changes made)

. replace Year = 2011 if Wave ==5;
(3,617 real changes made)

. replace Year = . if Satisfaction==.;
(6,261 real changes made, 6,261 to missing)

. tab Year, gen(Yr);

       Year |      Freq.     Percent        Cum.
------------+-----------------------------------
       1986 |      3,592       30.38       30.38
       1989 |      2,867       24.25       54.63
       1994 |      2,372       20.06       74.69
       2002 |      1,681       14.22       88.90
       2011 |      1,312       11.10      100.00
------------+-----------------------------------
      Total |     11,824      100.00

. sum Y*;

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        Year |     11,824    1993.381    8.142064       1986       2011
         Yr1 |     11,824    .3037889    .4599121          0          1
         Yr2 |     11,824    .2424729     .428597          0          1
         Yr3 |     11,824    .2006089    .4004729          0          1
         Yr4 |     11,824    .1421685    .3492376          0          1
-------------+---------------------------------------------------------
         Yr5 |     11,824    .1109608    .3140968          0          1

. gen Age2 = Age*Age;
(5,911 missing values generated)

. gen logIncome = ln(AmountEarned);
(12,542 missing values generated)

. gen WhiteIncome = logIncome*White;
(12,542 missing values generated)

. gen BlackIncome = logIncome*Black;
(12,542 missing values generated)

. gen AmerIndIncome = logIncome*AmerInd;
```

```
(12,542 missing values generated)

. gen AsianIncome = logIncome*Asian;
(12,542 missing values generated)

. gen HispanIncome = logIncome*Hispan;
(12,542 missing values generated)

. /*Pooled OLS*/
> reg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome White Black Ame
> rInd Hispan, robust;

Linear regression                               Number of obs     =
5,492
                                                F(9, 5482)        =
8.21
                                                Prob > F          =
0.0000
                                                R-squared         =
0.0142
                                                Root MSE          =
.93364

------------------------------------------------------------------------------
             |               Robust
Satisfactio~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
    logIncome |   .0196015    .033678     0.58   0.561    -.0464208
.0856237
  WhiteIncome |  -.0104123   .0339811    -0.31   0.759    -.0770287
.0562041
  BlackIncome |  -.0115019   .0346221    -0.33   0.740     -.079375
.0563712
AmerIndIncome |   .0327358   .0485962     0.67   0.501    -.0625319
.1280036
 HispanIncome |   .0176263   .0480875     0.37   0.714    -.0766443
.1118969
        White |   -.158503   .1013867    -1.56   0.118    -.3572611
.0402552
        Black |  -.3687091   .1037819    -3.55   0.000    -.5721627   -
.1652554
      AmerInd |  -.4301869   .1535962    -2.80   0.005    -.7312964   -
.1290775
       Hispan |  -.1171618   .1695765    -0.69   0.490     -.449599
.2152755
        _cons |   3.852692   .1003433    38.40   0.000      3.65598
4.049405
------------------------------------------------------------------------------

. ereturn list;

scalars:
```

```
                  e(N) =  5492
               e(df_m) =  9
               e(df_r) =  5482
                  e(F) =  8.214645417841725
                e(r2) =  .0141994008824589
               e(rmse) =  .9336393427439565
                e(mss) =  68.83007810687013
                e(rss) =  4778.56303915477
               e(r2_a) =  .0125809759659944
                 e(ll) =  -7410.697368226053
               e(ll_0) =  -7449.968400167791
               e(rank) =  10

macros:
            e(cmdline) : "regress SatisfactionDis logIncome WhiteIncome
BlackIncome AmerIndInc.."
              e(title) : "Linear regression"
          e(marginsok) : "XB default"
                e(vce) : "robust"
             e(depvar) : "SatisfactionDis"
                e(cmd) : "regress"
         e(properties) : "b V"
            e(predict) : "regres_p"
              e(model) : "ols"
          e(estat_cmd) : "regress_estat"
            e(vcetype) : "Robust"

matrices:
                  e(b) :  1 x 10
                  e(V) :  10 x 10
       e(V_modelbased) :  10 x 10

functions:
             e(sample)

. test WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  WhiteIncome = 0
 ( 2)  BlackIncome = 0
 ( 3)  AmerIndIncome = 0
 ( 4)  HispanIncome = 0

       F(  4,  5482) =    0.56
            Prob > F =    0.6883

. display  1-chi2(4,4*0.56);
.69171316

. test White Black AmerInd Hispan;

 ( 1)  White = 0
 ( 2)  Black = 0
 ( 3)  AmerInd = 0
 ( 4)  Hispan = 0

       F(  4,  5482) =   14.20
            Prob > F =    0.0000
```

```
. display  1-chi2(4,4*14.2);
1.363e-11

. global basevars Housework Drinks SuperviseOthers Age Age2 Married
PrivateEmployee GovernmentEmpl
> oyee Religious Visit Sleepless;

. /*Pooled OLS With Controls*/
> reg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome White Black Ame
> rInd Hispan $basevars Male, robust;

Linear regression                               Number of obs     =
2,180
                                                F(21, 2158)       =
12.39
                                                Prob > F          =
0.0000
                                                R-squared         =
0.1077
                                                Root MSE          =
.8204

------------------------------------------------------------------------------
-------
                   |               Robust
   SatisfactionDis |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
-------
         logIncome |   .1303735   .0567906     2.30   0.022     .0190036
.2417434
       WhiteIncome |  -.1011041   .0569906    -1.77   0.076    -.2128663
.0106581
       BlackIncome |   -.105202   .0578218    -1.82   0.069    -.2185942
.0081901
     AmerIndIncome |  -.1002985   .0714876    -1.40   0.161    -.2404902
.0398933
      HispanIncome |  -.0645801   .0782313    -0.83   0.409    -.2179967
.0888365
             White |  -.1138417   .1756196    -0.65   0.517    -.4582431
.2305596
             Black |  -.2643593   .1796648    -1.47   0.141    -.6166935
.087975
          AmerInd |  -.2245799   .2408964    -0.93   0.351    -.6969931
.2478333
           Hispan |   -.042814    .285612    -0.15   0.881    -.6029175
.5172895
         Housework |   .0030607   .0018818     1.63   0.104    -.0006295
.006751
           Drinks |   .0048154   .0096983     0.50   0.620    -.0142036
.0238343
   SuperviseOthers |   .0331252   .0367434     0.90   0.367    -.0389309
.1051812
              Age |  -.0420149    .010436    -4.03   0.000    -.0624806   -
.0215492
```

```
             Age2 |   .0005075   .0001064     4.77   0.000     .0002987
.0007162
          Married |   .3351496   .0391595     8.56   0.000     .2583553
.4119439
   PrivateEmployee |  -.0264166   .0522082    -0.51   0.613    -.1288003
.075967
GovernmentEmployee |  -.0275393   .0601271    -0.46   0.647    -.1454524
.0903738
         Religious |   .0839448   .0463758     1.81   0.070    -.0070011
.1748907
             Visit |   .0761777   .0231244     3.29   0.001     .0308293
.1215261
         Sleepless |   -.313952   .0631945    -4.97   0.000    -.4378806   -
.1900235
              Male |   .0153505   .0419728     0.37   0.715    -.0669609
.0976618
             _cons |   4.175325   .3104161    13.45   0.000     3.566579
4.784071
------------------------------------------------------------------------------
-------

. ereturn list;

scalars:
                  e(N) =  2180
               e(df_m) =  21
               e(df_r) =  2158
                  e(F) =  12.39451622377639
                 e(r2) =  .107728360658537
               e(rmse) =  .8203964546062554
                e(mss) =  175.3605713967204
                e(rss) =  1452.442639612449
               e(r2_a) =  .099045457773379
                 e(ll) =  -2650.660809471606
               e(ll_0) =  -2774.904093615046
               e(rank) =  22

macros:
            e(cmdline) : "regress SatisfactionDis logIncome WhiteIncome
BlackIncome AmerIndInc.."
              e(title) : "Linear regression"
          e(marginsok) : "XB default"
                e(vce) : "robust"
            e(depvar) : "SatisfactionDis"
                e(cmd) : "regress"
         e(properties) : "b V"
            e(predict) : "regres_p"
              e(model) : "ols"
          e(estat_cmd) : "regress_estat"
            e(vcetype) : "Robust"

matrices:
                  e(b) :  1 x 22
                  e(V) :  22 x 22
       e(V_modelbased) :  22 x 22

functions:
```

```
             e(sample)

. test WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  WhiteIncome = 0
 ( 2)  BlackIncome = 0
 ( 3)  AmerIndIncome = 0
 ( 4)  HispanIncome = 0

       F(  4,  2158) =    0.94
            Prob > F =    0.4387

. display  1-chi2(4,4*.94);
.4394595

. test White Black AmerInd Hispan;

 ( 1)  White = 0
 ( 2)  Black = 0
 ( 3)  AmerInd = 0
 ( 4)  Hispan = 0

       F(  4,  2158) =    2.73
            Prob > F =    0.0277

. display  1-chi2(4,4*2.73);
.02747797

. test logIncome WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  logIncome = 0
 ( 2)  WhiteIncome = 0
 ( 3)  BlackIncome = 0
 ( 4)  AmerIndIncome = 0
 ( 5)  HispanIncome = 0

       F(  5,  2158) =    5.21
            Prob > F =    0.0001

. /*CaseId Fixed Effects With Controls*/
> xtset CaseId Year;
       panel variable:  CaseId (unbalanced)
        time variable:  Year, 1986 to 2011, but with gaps
                delta:  1 unit

. xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome  $basevars, f
> e vce(cluster CaseId);

Fixed-effects (within) regression               Number of obs     =
2,180
Group variable: CaseId                          Number of groups  =
1,232

R-sq:                                           Obs per group:
     within  = 0.0821                                         min =
1
```

```
     between = 0.0683                                        avg =
1.8
     overall = 0.0807                                        max =
5

                                                F(16,1231)        =
11.54
corr(u_i, Xb)  = -0.0563                        Prob > F          =
0.0000

                                    (Std. Err. adjusted for 1,232 clusters in
CaseId)
------------------------------------------------------------------------------
                   |               Robust
   SatisfactionDis |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
         logIncome |   .2081715   .1290983     1.61   0.107    -.0451055
.4614485
       WhiteIncome |  -.1775413   .1293301    -1.37   0.170     -.431273
.0761904
       BlackIncome |  -.1379447   .1301635    -1.06   0.289    -.3933115
.1174221
     AmerIndIncome |  -.2847938   .1300938    -2.19   0.029     -.540024   -
.0295636
      HispanIncome |  -.1201124   .1856011    -0.65   0.518    -.4842418
.2440171
         Housework |   .0026229   .0021998     1.19   0.233    -.0016929
.0069386
            Drinks |   .0110551    .019367     0.57   0.568    -.0269409
.0490511
   SuperviseOthers |   .0999217    .057906     1.73   0.085    -.0136836
.2135269
               Age |  -.0720945   .0145582    -4.95   0.000    -.1006561   -
.0435329
              Age2 |    .000817   .0001538     5.31   0.000     .0005154
.0011187
           Married |   .2611398   .0742683     3.52   0.000     .1154334
.4068462
   PrivateEmployee |  -.0884868   .0762787    -1.16   0.246    -.2381375
.0611639
GovernmentEmployee |   -.020738   .0905239    -0.23   0.819    -.1983362
.1568602
         Religious |  -.0142814   .0745083    -0.19   0.848    -.1604587
.1318959
             Visit |   .0232786   .0357547     0.65   0.515    -.0468682
.0934255
         Sleepless |  -.1700751   .0892382    -1.91   0.057     -.345151
.0050008
             _cons |   4.896461    .334145    14.65   0.000     4.240904
5.552018
-------------------+----------------------------------------------------------
           sigma_u |  .77339088
           sigma_e |   .6729878
```

```
              rho |  .56908397   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-------

. ereturn list;

scalars:
               e(r2_w) =  .0820936628148256
               e(rank) =  16
               e(Tbar) =  1.769480519480519
               e(Tcon) =  0
              e(g_min) =  1
              e(g_avg) =  1.769480519480519
              e(g_max) =  5
                e(N_g) =  1232
            e(sigma_u) =  .7733908816032327
               e(corr) =  -.0563276514530532
               e(r2_o) =  .0807222947018226
               e(r2_b) =  .0683355334121689
            e(sigma_e) =  .6729878031992014
              e(sigma) =  1.025205364306056
                e(rho) =  .5690839730627035
                  e(p) =  2.05817839666e-28
               e(df_m) =  15
               e(df_b) =  16
                  e(F) =  11.54433458646627
               e(ll_0) =  -1397.089518292655
                 e(ll) =  -1303.720202465692
                e(tss) =  1627.803211009169
               e(df_a) =  1231
               e(r2_a) =  .0753037869965348
                e(rss) =  422.1145275935547
                e(mss) =  37.75213907311104
               e(rmse) =  .4417605091872422
                 e(r2) =  .0820936628148256
               e(df_r) =  1231
                  e(N) =  2180
            e(N_clust) =  1232

macros:
            e(cmdline) : "xtreg SatisfactionDis logIncome WhiteIncome
BlackIncome AmerIndIncom.."
                e(cmd) : "xtreg"
       e(marginsnotok) : "E U UE SCore STDP XBU"
            e(predict) : "xtrefe_p"
              e(model) : "fe"
                e(vce) : "cluster"
               e(ivar) : "CaseId"
             e(depvar) : "SatisfactionDis"
         e(properties) : "b V"
            e(vcetype) : "Robust"
           e(clustvar) : "CaseId"

matrices:
                  e(b) :  1 x 17
                  e(V) :  17 x 17
       e(V_modelbased) :  17 x 17
```

```
functions:
             e(sample)

. test WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  WhiteIncome = 0
 ( 2)  BlackIncome = 0
 ( 3)  AmerIndIncome = 0
 ( 4)  HispanIncome = 0

       F(  4,  1231) =   14.59
            Prob > F =    0.0000

. display  1-chi2(4,4*14.59);
6.412e-12

. /*CaseId and Year Fixed Effects With Controls*/
> global yearvars Yr1 Yr2 Yr3 Yr4;

. xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars $ye
> arvars, fe vce(cluster CaseId);
note: Yr4 omitted because of collinearity

Fixed-effects (within) regression               Number of obs     =
2,180
Group variable: CaseId                          Number of groups  =
1,232

R-sq:                                           Obs per group:
     within  = 0.1351                                         min =
1
     between = 0.0885                                         avg =
1.8
     overall = 0.1052                                         max =
5

                                                F(19,1231)        =
8.42
corr(u_i, Xb)  = -0.0754                        Prob > F          =
0.0000

                                    (Std. Err. adjusted for 1,232 clusters in
CaseId)
------------------------------------------------------------------------------
-------
                   |               Robust
   SatisfactionDis |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
-------
         logIncome |   .1789895    .108613     1.65   0.100    -.0340976
.3920765
       WhiteIncome |  -.1510261   .1088238    -1.39   0.165    -.3645267
.0624745
```

```
       BlackIncome |  -.1164223    .109693    -1.06   0.289    -.3316281
.0987835
     AmerIndIncome |  -.2789353   .1104345    -2.53   0.012    -.4955961   -
.0622746
      HispanIncome |  -.0904585   .1715511    -0.53   0.598    -.4270234
.2461063
         Housework |   .0029177   .0021929     1.33   0.184    -.0013846
.00722
            Drinks |   .0092879   .0192248     0.48   0.629    -.0284291
.0470048
   SuperviseOthers |   .0761735    .055537     1.37   0.170    -.0327842
.1851312
               Age |  -.0540539    .017869    -3.03   0.003     -.089111   -
.0189968
              Age2 |   .0006832   .0001618     4.22   0.000     .0003659
.0010006
           Married |   .2502752    .072991     3.43   0.001     .1070748
.3934756
   PrivateEmployee |  -.0814877   .0752053    -1.08   0.279    -.2290325
.0660572
GovernmentEmployee |  -.0235133   .0919901    -0.26   0.798    -.2039882
.1569615
         Religious |   .0376822   .0739001     0.51   0.610     -.107302
.1826663
             Visit |    .019003   .0354563     0.54   0.592    -.0505584
.0885645
         Sleepless |  -.1925571   .0832538    -2.31   0.021     -.355892   -
.0292221
               Yr1 |   .1839655   .1248938     1.47   0.141    -.0610626
.4289937
               Yr2 |  -.3094398   .1320008    -2.34   0.019    -.5684113   -
.0504684
               Yr3 |  -.0401025   .0901822    -0.44   0.657    -.2170304
.1368253
               Yr4 |          0  (omitted)
             _cons |   4.307223   .5506717     7.82   0.000     3.226864
5.387582
-------------------+----------------------------------------------------------
-------
           sigma_u |  .76611363
           sigma_e |  .65432832
               rho |  .57821316   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-------

. power onemean 0 0.1789, n(2180);

Estimated power for a one-sample mean test
t test
Ho: m = m0  versus  Ha: m != m0

Study parameters:

        alpha =    0.0500
            N =     2,180
        delta =    0.1789
           m0 =    0.0000
```

```
           ma =    0.1789
           sd =    1.0000

Estimated power:

        power =    1.0000

. power onemean 0 -.2789, n(2180);

Estimated power for a one-sample mean test
t test
Ho: m = m0  versus  Ha: m != m0

Study parameters:

        alpha =    0.0500
            N =     2,180
        delta =   -0.2789
           m0 =    0.0000
           ma =   -0.2789
           sd =    1.0000

Estimated power:

        power =    1.0000

. power onemean 0 -.09045, n(2180);

Estimated power for a one-sample mean test
t test
Ho: m = m0  versus  Ha: m != m0

Study parameters:

        alpha =    0.0500
            N =     2,180
        delta =   -0.0905
           m0 =    0.0000
           ma =   -0.0905
           sd =    1.0000

Estimated power:

        power =    0.9881

. power onemean 0 -.1164, n(2180);

Estimated power for a one-sample mean test
t test
Ho: m = m0  versus  Ha: m != m0

Study parameters:

        alpha =    0.0500
            N =     2,180
        delta =   -0.1164
           m0 =    0.0000
```

```
           ma =   -0.1164
           sd =    1.0000

Estimated power:

        power =    0.9997

. power onemean 0 -.1510, n(2180);

Estimated power for a one-sample mean test
t test
Ho: m = m0  versus  Ha: m != m0

Study parameters:

        alpha =    0.0500
            N =     2,180
        delta =   -0.1510
           m0 =    0.0000
           ma =   -0.1510
           sd =    1.0000

Estimated power:

        power =    1.0000

. ereturn list;

scalars:
               e(r2_w) =  .1350814294857213
               e(rank) =  19
               e(Tbar) =  1.769480519480519
               e(Tcon) =  0
              e(g_min) =  1
              e(g_avg) =  1.769480519480519
              e(g_max) =  5
                e(N_g) =  1232
            e(sigma_u) =  .7661136306654502
               e(corr) =  -.075385796059158
               e(r2_o) =  .1052119576543626
               e(r2_b) =  .0884982703167194
            e(sigma_e) =  .6543283230282839
              e(sigma) =  1.007509627451969
                e(rho) =  .5782131562642313
                  e(p) =  1.20267822743e-22
               e(df_m) =  18
               e(df_b) =  19
                  e(F) =  8.415162437991494
               e(ll_0) =  -1397.089518292655
                 e(ll) =  -1238.908811361965
                e(tss) =  1627.803211009169
               e(df_a) =  1231
               e(r2_a) =  .1274733494673087
                e(rss) =  397.7472199604988
                e(mss) =  62.11944670616691
               e(rmse) =  .429117969168379
                 e(r2) =  .1350814294857213
```

```
               e(df_r) =  1231
                  e(N) =  2180
            e(N_clust) =  1232

macros:
            e(cmdline) : "xtreg SatisfactionDis logIncome WhiteIncome
BlackIncome AmerIndIncom.."
                e(cmd) : "xtreg"
       e(marginsnotok) : "E U UE SCore STDP XBU"
            e(predict) : "xtrefe_p"
              e(model) : "fe"
                e(vce) : "cluster"
               e(ivar) : "CaseId"
             e(depvar) : "SatisfactionDis"
         e(properties) : "b V"
            e(vcetype) : "Robust"
           e(clustvar) : "CaseId"

matrices:
                  e(b) :  1 x 21
                  e(V) :  21 x 21
       e(V_modelbased) :  21 x 21

functions:
             e(sample)

. test WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  WhiteIncome = 0
 ( 2)  BlackIncome = 0
 ( 3)  AmerIndIncome = 0
 ( 4)  HispanIncome = 0

       F(  4,  1231) =   10.77
            Prob > F =    0.0000

. display  1-chi2(4,4*10.77);
9.960e-09

. * hausman test;
. xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars, fe
> ;

Fixed-effects (within) regression               Number of obs     =
2,180
Group variable: CaseId                          Number of groups  =
1,232

R-sq:                                           Obs per group:
     within  = 0.0821                                         min =
1
     between = 0.0683                                         avg =
1.8
     overall = 0.0807                                         max =
5
```

```
                                                F(16,932)         =
5.21
corr(u_i, Xb)  = -0.0563                        Prob > F          =
0.0000

------------------------------------------------------------------------------
-------
   SatisfactionDis |      Coef.   Std. Err.      t    P>|t|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
-------
         logIncome |   .2081715   .1249479     1.67   0.096    -.0370404
.4533834
       WhiteIncome |  -.1775413   .1250523    -1.42   0.156     -.422958
.0678753
       BlackIncome |  -.1379447   .1259352    -1.10   0.274    -.3850942
.1092048
     AmerIndIncome |  -.2847938    .142054    -2.00   0.045    -.5635765   -
.0060111
      HispanIncome |  -.1201124   .1490861    -0.81   0.421    -.4126958
.1724711
         Housework |   .0026229   .0025622     1.02   0.306    -.0024054
.0076511
            Drinks |   .0110551   .0178624     0.62   0.536        -.024
.0461102
   SuperviseOthers |   .0999217    .053983     1.85   0.064    -.0060206
.2058639
               Age |  -.0720945   .0142531    -5.06   0.000    -.1000664   -
.0441226
              Age2 |    .000817    .000149     5.48   0.000     .0005247
.0011094
           Married |   .2611398   .0694289     3.76   0.000     .1248847
.397395
   PrivateEmployee |  -.0884868   .0799036    -1.11   0.268    -.2452986
.068325
GovernmentEmployee |   -.020738   .0990894    -0.21   0.834    -.2152021
.1737261
         Religious |  -.0142814   .0792219    -0.18   0.857    -.1697553
.1411926
             Visit |   .0232786   .0347621     0.67   0.503    -.0449425
.0914997
         Sleepless |  -.1700751      .0809    -2.10   0.036    -.3288424   -
.0113078
             _cons |   4.896461   .3562686    13.74   0.000     4.197279
5.595643
-------------------+----------------------------------------------------------
-------
           sigma_u |  .77339088
           sigma_e |   .6729878
               rho |  .56908397   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-------
F test that all u_i=0: F(1231, 932) = 1.86                     Prob > F =
0.0000

. estimates store chair;
```

```
. xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars, re
> ;

Random-effects GLS regression                   Number of obs     =
2,180
Group variable: CaseId                          Number of groups  =
1,232

R-sq:                                           Obs per group:
     within  = 0.0666                                         min =
1
     between = 0.1042                                         avg =
1.8
     overall = 0.1017                                         max =
5

                                                Wald chi2(16)     =
215.70
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =
0.0000

------------------------------------------------------------------------------
-------
   SatisfactionDis |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
-------
         logIncome |   .1357089   .0571679     2.37   0.018     .0236619
.2477559
       WhiteIncome |  -.1084057   .0573748    -1.89   0.059    -.2208583
.0040469
       BlackIncome |  -.1004219     .05803    -1.73   0.084    -.2141586
.0133148
     AmerIndIncome |  -.1340072   .0713148    -1.88   0.060    -.2737816
.0057672
      HispanIncome |  -.0827098   .0700857    -1.18   0.238    -.2200753
.0546558
         Housework |   .0028286   .0016783     1.69   0.092    -.0004607
.006118
            Drinks |   .0060624   .0096587     0.63   0.530    -.0128683
.0249931
   SuperviseOthers |   .0451005   .0368111     1.23   0.221     -.027048
.1172489
               Age |  -.0474737   .0095265    -4.98   0.000    -.0661452   -
.0288021
              Age2 |   .0005659   .0000976     5.80   0.000     .0003745
.0007572
           Married |   .3410065   .0388447     8.78   0.000     .2648723
.4171407
   PrivateEmployee |  -.0414922   .0537048    -0.77   0.440    -.1467517
.0637673
GovernmentEmployee |    -.03051   .0628099    -0.49   0.627    -.1536151
.0925951
         Religious |   .0669205   .0476563     1.40   0.160    -.0264841
.160325
```

```
             Visit |   .0758887   .0224972     3.37   0.001     .0317951
.1199824
         Sleepless |  -.2709296   .0559896    -4.84   0.000    -.3806673    -
.161192
             _cons |   4.169344    .234422    17.79   0.000     3.709885
4.628802
-------------------+----------------------------------------------------------
-------
           sigma_u |  .49306655
           sigma_e |   .6729878
               rho |  .34928897   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-------

. estimates store stool;

. hausman chair stool;

Note: the rank of the differenced variance matrix (15) does not equal the
number of coefficients
        being tested (16); be sure this is what you expect, or there may be
problems computing the
        test.  Examine the output of your estimators for anything unexpected
and possibly consider
        scaling your variables so that the coefficients are on a similar
scale.

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     chair        stool        Difference          S.E.
-------------+------------------------------------------------------------
-
   logIncome |    .2081715     .1357089        .0724626        .1111027
 WhiteIncome |   -.1775413    -.1084057       -.0691356        .1111134
 BlackIncome |   -.1379447    -.1004219       -.0375228        .1117685
AmerIndInc~e |   -.2847938    -.1340072       -.1507866        .1228557
HispanIncome |   -.1201124    -.0827098       -.0374026        .1315852
   Housework |    .0026229     .0028286       -.0002058         .001936
      Drinks |    .0110551     .0060624        .0049927        .0150258
SuperviseO~s |    .0999217     .0451005        .0548212        .0394855
         Age |   -.0720945    -.0474737       -.0246208        .0106017
        Age2 |     .000817     .0005659        .0002512        .0001125
     Married |    .2611398     .3410065       -.0798666        .0575453
PrivateEmp~e |   -.0884868    -.0414922       -.0469946         .059164
Government~e |    -.020738      -.03051         .009772        .0766396
   Religious |   -.0142814     .0669205       -.0812019         .063285
       Visit |    .0232786     .0758887       -.0526101        .0265006
   Sleepless |   -.1700751    -.2709296        .1008545         .058395
------------------------------------------------------------------------------
-
                           b = consistent under Ho and Ha; obtained from
xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from
xtreg

    Test:  Ho:  difference in coefficients not systematic
```

```
                chi2(15) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =       27.70
              Prob>chi2 =      0.0235

. /*Random Effect*/
> xtreg SatisfactionDis logIncome WhiteIncome BlackIncome AmerIndIncome
HispanIncome $basevars $ye
> arvars Male White Black AmerInd Hispan, re ;

Random-effects GLS regression                   Number of obs     =
2,180
Group variable: CaseId                          Number of groups  =
1,232

R-sq:                                           Obs per group:
     within  = 0.1212                                         min =
1
     between = 0.1284                                         avg =
1.8
     overall = 0.1338                                         max =
5

                                                Wald chi2(25)     =
315.45
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =
0.0000

------------------------------------------------------------------------------
-------
   SatisfactionDis |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------------+----------------------------------------------------------
-------
         logIncome |   .1175627   .0564244     2.08   0.037     .0069729
.2281526
       WhiteIncome |  -.0898669   .0565374    -1.59   0.112    -.2006781
.0209443
       BlackIncome |   -.090828    .057178    -1.59   0.112    -.2028948
.0212389
     AmerIndIncome |  -.1290573    .070939    -1.82   0.069    -.2680951
.0099805
      HispanIncome |  -.0439343   .0736417    -0.60   0.551    -.1882694
.1004009
         Housework |   .0030833   .0017511     1.76   0.078    -.0003488
.0065155
            Drinks |   .0047347   .0097591     0.49   0.628    -.0143927
.0238621
   SuperviseOthers |   .0282764    .036595     0.77   0.440    -.0434486
.1000014
               Age |  -.0389303   .0098187    -3.96   0.000    -.0581745   -
.0196861
              Age2 |   .0004716   .0000991     4.76   0.000     .0002774
.0006659
           Married |   .3144418   .0392495     8.01   0.000     .2375143
.3913694
   PrivateEmployee |  -.0270697    .052905    -0.51   0.609    -.1307615
.0766222
```

```
GovernmentEmployee |  -.0223815    .062117    -0.36   0.719    -.1441287
.0993656
         Religious |   .1059248   .0482375     2.20   0.028     .0113809
.2004686
             Visit |   .0678278   .0223074     3.04   0.002     .0241061
.1115495
         Sleepless |  -.2850065   .0551071    -5.17   0.000    -.3930145   -
.1769986
               Yr1 |   .0605436    .065044     0.93   0.352    -.0669404
.1880275
               Yr2 |   -.421995   .0770738    -5.48   0.000    -.5730569   -
.2709331
               Yr3 |  -.1205919   .0705409    -1.71   0.087    -.2588495
.0176657
               Yr4 |  -.0626782   .0553771    -1.13   0.258    -.1712153
.0458589
              Male |  -.0121364   .0467558    -0.26   0.795     -.103776
.0795032
             White |  -.1363345   .2192086    -0.62   0.534    -.5659755
.2933065
             Black |  -.2826666   .2225938    -1.27   0.204    -.7189425
.1536092
          AmerInd |  -.2717795   .2936726    -0.93   0.355    -.8473671
.3038082
           Hispan |  -.0261065   .3050842    -0.09   0.932    -.6240605
.5718476
            _cons |   4.195645   .3424331    12.25   0.000     3.524489
4.866802
-------------------+-----------------------------------------------------------
-------
           sigma_u |  .49967748
           sigma_e |  .65432832
               rho |  .36835211   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-------

. ereturn list;

scalars:
                e(rank) =  26
                e(df_m) =  25
                e(chi2) =  315.4510427472302
                   e(p) =  4.70949112124e-52
            e(sigma_u) =  .499677481477355
            e(sigma_e) =  .6543283230282839
              e(sigma) =  .8233001517141599
                e(rho) =  .3683521125652288
               e(rmse) =  .6515843488108198
                  e(N) =  2180
               e(Tbar) =  1.383544209028973
               e(Tcon) =  0
                e(N_g) =  1232
              e(g_min) =  1
              e(g_avg) =  1.769480519480519
              e(g_max) =  5
           e(thta_min) =  .2052372131039532
            e(thta_5) =  .2052372131039532
```

```
            e(thta_50) =  .2052372131039532
            e(thta_95) =  .4522206424820365
               e(r2_w) =  .1211817903976
               e(r2_b) =  .1283767654742257
               e(r2_o) =  .1337960539378369
           e(thta_max) =  .4946531023550678

macros:
            e(cmdline) : "xtreg SatisfactionDis logIncome WhiteIncome
BlackIncome AmerIndIncom.."
                e(cmd) : "xtreg"
       e(marginsnotok) : "E U UE SCore STDP XBU"
            e(predict) : "xtrere_p"
              e(model) : "re"
               e(ivar) : "CaseId"
                e(vce) : "conventional"
             e(depvar) : "SatisfactionDis"
           e(chi2type) : "Wald"
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 26
                  e(V) :  26 x 26
              e(theta) :  1 x 5
               e(VCEf) :  26 x 26
                 e(bf) :  1 x 26

functions:
             e(sample)

. test WhiteIncome BlackIncome AmerIndIncome HispanIncome;

 ( 1)  WhiteIncome = 0
 ( 2)  BlackIncome = 0
 ( 3)  AmerIndIncome = 0
 ( 4)  HispanIncome = 0

           chi2(  4) =    4.31
         Prob > chi2 =    0.3663

. display  1-chi2(4,4*.431);
.78635352

. test White Black Hispan AmerInd;

 ( 1)  White = 0
 ( 2)  Black = 0
 ( 3)  Hispan = 0
 ( 4)  AmerInd = 0

           chi2(  4) =    9.51
         Prob > chi2 =    0.0495

. display  1-chi2(4,4*9.51);
1.099e-07

. /*LMP*/
```

```
> xtreg SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerInd#c
> .AmountEarned i.Hispan#c.AmountEarned i.White i.Black i.AmerInd i.Hispan
$basevars i.Male, robu
> st;

Random-effects GLS regression                   Number of obs     =
2,199
Group variable: CaseId                          Number of groups  =
1,237

R-sq:                                           Obs per group:
     within  = 0.0075                                         min =
1
     between = 0.0460                                         avg =
1.8
     overall = 0.0333                                         max =
5

                                                Wald chi2(21)     =
61.05
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =
0.0000

                                    (Std. Err. adjusted for 1,237 clusters
in CaseId)
------------------------------------------------------------------------------
-----------
                        |               Robust
     SatisfactionDummy |      Coef.   Std. Err.      z    P>|z|     [95%
Conf. Interval]
------------------------+-----------------------------------------------------
-----------
          AmountEarned |   .0000353   .0003915     0.09   0.928     -.000732
.0008027
                        |
  White#c.AmountEarned |
                   1  |   2.29e-06   .0003888     0.01   0.995    -.0007598
.0007643
                        |
  Black#c.AmountEarned |
                   1  |   .0015531   .0012478     1.24   0.213    -.0008926
.0039988
                        |
AmerInd#c.AmountEarned |
                   1  |  -.0036778   .0044324    -0.83   0.407    -.0123652
.0050096
                        |
 Hispan#c.AmountEarned |
                   1  |  -.0019716   .0073375    -0.27   0.788    -.0163529
.0124097
                        |
              1.White |  -.0368206    .011479    -3.21   0.001     -.059319
-.0143221
              1.Black |   -.057816   .0195317    -2.96   0.003    -.0960974
-.0195347
```

```
             1.AmerInd |    .009253   .0214099     0.43   0.666    -.0327097
.0512157
              1.Hispan |  -.1017801   .0712395    -1.43   0.153     -.241407
.0378467
             Housework |   .0000447   .0004478     0.10   0.920    -.0008329
.0009223
                Drinks |   .0026876   .0018425     1.46   0.145    -.0009236
.0062988
       SuperviseOthers |   .0036384   .0103654     0.35   0.726    -.0166774
.0239541
                   Age |  -.0003223   .0026811    -0.12   0.904    -.0055773
.0049326
                  Age2 |   8.49e-06   .0000279     0.30   0.761    -.0000463
.0000632
               Married |   .0440693   .0110678     3.98   0.000     .0223767
.0657618
       PrivateEmployee |   .0141174   .0148663     0.95   0.342      -.01502
.0432548
    GovernmentEmployee |   .0075424   .0160902     0.47   0.639    -.0239938
.0390785
             Religious |    .012237   .0124794     0.98   0.327    -.0122221
.0366961
                 Visit |   .0148669   .0059457     2.50   0.012     .0032136
.0265202
             Sleepless |  -.0616231   .0217679    -2.83   0.005    -.1042874
-.0189588
                1.Male |   .0088382   .0111729     0.79   0.429    -.0130603
.0307368
                 _cons |    .917427   .0637647    14.39   0.000     .7924504
1.042404
-----------------------+------------------------------------------------------
-----------
               sigma_u |  .09708416
               sigma_e |  .18653315
                   rho |  .21314665   (fraction of variance due to u_i)
------------------------------------------------------------------------------
-----------

. margins, dydx(*) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : Robust

Expression   : Linear prediction, predict()
dy/dx w.r.t. : AmountEarned 1.White 1.Black 1.AmerInd 1.Hispan Housework
Drinks SuperviseOthers
               Age Age2 Married PrivateEmployee GovernmentEmployee Religious
Visit Sleepless
               1.Male
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
```

```
                0.Hispan        =    .9877217 (mean)
                1.Hispan        =    .0122783 (mean)
                Housework       =    13.00182 (mean)
                Drinks          =    2.347658 (mean)
                SuperviseO~s    =     .482492 (mean)
                Age             =    45.67121 (mean)
                Age2            =    2242.623 (mean)
                Married         =    .5952706 (mean)
                PrivateEmp~e    =    .6539336 (mean)
                Government~e    =    .2078217 (mean)
                Religious       =    .8053661 (mean)
                Visit           =     1.27467 (mean)
                Sleepless       =    .1091405 (mean)
                0.Male          =    .4974989 (mean)
                1.Male          =    .5025011 (mean)

------------------------------------------------------------------------------
-------
                    |            Delta-method
                    |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
--------------------+---------------------------------------------------------
-------
      AmountEarned |     .00033   .0002924     1.13   0.259    -.0002431
.0009032
           1.White |   -.036796   .0100397    -3.67   0.000    -.0564734   -
.0171186
           1.Black |  -.0411271   .0143724    -2.86   0.004    -.0692965   -
.0129577
         1.AmerInd |  -.0302667   .0563424    -0.54   0.591    -.1406958
.0801624
          1.Hispan |  -.1229655   .0870019    -1.41   0.158     -.293486
.047555
         Housework |   .0000447   .0004478     0.10   0.920    -.0008329
.0009223
            Drinks |   .0026876   .0018425     1.46   0.145    -.0009236
.0062988
   SuperviseOthers |   .0036384   .0103654     0.35   0.726    -.0166774
.0239541
               Age |  -.0003223   .0026811    -0.12   0.904    -.0055773
.0049326
              Age2 |   8.49e-06   .0000279     0.30   0.761    -.0000463
.0000632
           Married |   .0440693   .0110678     3.98   0.000     .0223767
.0657618
   PrivateEmployee |   .0141174   .0148663     0.95   0.342      -.01502
.0432548
GovernmentEmployee |   .0075424   .0160902     0.47   0.639    -.0239938
.0390785
         Religious |    .012237   .0124794     0.98   0.327    -.0122221
.0366961
             Visit |   .0148669   .0059457     2.50   0.012     .0032136
.0265202
         Sleepless |  -.0616231   .0217679    -2.83   0.005    -.1042874   -
.0189588
            1.Male |   .0088382   .0111729     0.79   0.429    -.0130603
.0307368
```

```
------------------------------------------------------------------------------
-------
Note: dy/dx for factor levels is the discrete change from the base level.

. margins, dydx(AmountEarned) at(White=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : Robust

Expression   : Linear prediction, predict()
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               White           =           1
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               SuperviseO~s    =     .482492 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Married         =    .5952706 (mean)
               PrivateEmp~e    =    .6539336 (mean)
               Government~e    =    .2078217 (mean)
               Religious       =    .8053661 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |   .0003306   .0003063     1.08   0.280    -.0002697
.000931
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(Black=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : Robust

Expression   : Linear prediction, predict()
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
```

```
                Black           =           1
                0.AmerInd       =    .9890859 (mean)
                1.AmerInd       =    .0109141 (mean)
                0.Hispan        =    .9877217 (mean)
                1.Hispan        =    .0122783 (mean)
                Housework       =    13.00182 (mean)
                Drinks          =    2.347658 (mean)
                SuperviseO~s    =     .482492 (mean)
                Age             =    45.67121 (mean)
                Age2            =    2242.623 (mean)
                Married         =    .5952706 (mean)
                PrivateEmp~e    =    .6539336 (mean)
                Government~e    =    .2078217 (mean)
                Religious       =    .8053661 (mean)
                Visit           =     1.27467 (mean)
                Sleepless       =    .1091405 (mean)
                0.Male          =    .4974989 (mean)
                1.Male          =    .5025011 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |   .0015258   .0012262     1.24   0.213    -.0008775
.003929
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(AmerInd=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : Robust

Expression   : Linear prediction, predict()
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               AmerInd         =           1
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               SuperviseO~s    =     .482492 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Married         =    .5952706 (mean)
               PrivateEmp~e    =    .6539336 (mean)
               Government~e    =    .2078217 (mean)
               Religious       =    .8053661 (mean)
               Visit           =     1.27467 (mean)
```

```
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |  -.0033076   .0044368    -0.75   0.456    -.0120036
.0053883
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(Hispan=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : Robust

Expression   : Linear prediction, predict()
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               Hispan          =           1
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               SuperviseO~s    =     .482492 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Married         =    .5952706 (mean)
               PrivateEmp~e    =    .6539336 (mean)
               Government~e    =    .2078217 (mean)
               Religious       =    .8053661 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |  -.0016173    .007337    -0.22   0.826    -.0159975
.0127629
------------------------------------------------------------------------------
-
```

```
. global base Housework Drinks Age Age2 Visit Sleepless;

. /*logit*/
> xtlogit SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerInd
> #c.AmountEarned i.Hispan#c.AmountEarned i.White i.Black i.AmerInd i.Hispan
$base i.Male i.Super
> viseOthers i.Married i.PrivateEmployee i.GovernmentEmployee i.Religious;

Fitting comparison model:

Iteration 0:   log likelihood = -403.70045
Iteration 1:   log likelihood = -382.09984
Iteration 2:   log likelihood = -370.17132
Iteration 3:   log likelihood = -369.79806
Iteration 4:   log likelihood = -369.76992
Iteration 5:   log likelihood = -369.76357
Iteration 6:   log likelihood = -369.76203
Iteration 7:   log likelihood = -369.76171
Iteration 8:   log likelihood = -369.76164
Iteration 9:   log likelihood = -369.76163

Fitting full model:

tau =  0.0     log likelihood = -369.76163
tau =  0.1     log likelihood = -369.28727
tau =  0.2     log likelihood = -369.08978
tau =  0.3     log likelihood = -369.42016

Iteration 0:   log likelihood = -369.08978
Iteration 1:   log likelihood = -368.90005
Iteration 2:   log likelihood = -366.70718
Iteration 3:   log likelihood =  -366.6473
Iteration 4:   log likelihood = -366.56517
Iteration 5:   log likelihood = -366.56386
Iteration 6:   log likelihood = -366.56386

Random-effects logistic regression              Number of obs     =
2,199
Group variable: CaseId                          Number of groups  =
1,237

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =
1
                                                              avg =
1.8
                                                              max =
5

Integration method: mvaghermite                 Integration pts.  =
12

                                                Wald chi2(19)     =
.
```

```
Log likelihood  = -366.56386                     Prob > chi2       =
.

------------------------------------------------------------------------------
-----------
     SatisfactionDummy |      Coef.   Std. Err.      z    P>|z|     [95%
Conf. Interval]
-----------------------+------------------------------------------------------
-----------
          AmountEarned |   .0082679   699.4149     0.00   1.000     -1370.82
1370.836
                       |
  White#c.AmountEarned |
                   1   |   .0065121   699.4149     0.00   1.000    -1370.821
1370.834
                       |
  Black#c.AmountEarned |
                   1   |   .0386666   699.4149     0.00   1.000    -1370.789
1370.867
                       |
AmerInd#c.AmountEarned |
                   1   |  -.0628298   699.4149    -0.00   1.000    -1370.891
1370.765
                       |
 Hispan#c.AmountEarned |
                   1   |  -.0348485   699.4149    -0.00   1.000    -1370.863
1370.793
                       |
               1.White |  -17.84759    11123.7    -0.00   0.999     -21819.9
21784.21
               1.Black |  -18.17784    11123.7    -0.00   0.999    -21820.23
21783.88
             1.AmerInd |  -16.90237    11123.7    -0.00   0.999    -21818.96
21785.15
              1.Hispan |  -18.83588    11123.7    -0.00   0.999    -21820.89
21783.22
             Housework |   .0024157   .0120615     0.20   0.841    -.0212245
.0260559
                Drinks |    .079419   .0730212     1.09   0.277    -.0636999
.222538
                   Age |  -.0234524   .0651602    -0.36   0.719     -.151164
.1042592
                  Age2 |   .0003417   .0006726     0.51   0.611    -.0009766
.0016599
                 Visit |   .3847079   .1479219     2.60   0.009     .0947862
.6746295
             Sleepless |  -1.134725   .2881381    -3.94   0.000    -1.699465
-.5699842
                1.Male |   .2116623   .2840391     0.75   0.456    -.3450441
.7683688
                       |
       SuperviseOthers |
                   Yes |   .0147642   .2497912     0.06   0.953    -.4748175
.5043459
             1.Married |    1.20189   .2706409     4.44   0.000     .6714434
1.732336
```

```
     1.PrivateEmployee |   .3655533   .3448061     1.06   0.289    -.3102542
1.041361
  1.GovernmentEmployee |    .201293   .4004364     0.50   0.615    -.5835479
.9861339
           1.Religious |   .3234444   .3207431     1.01   0.313    -.3052005
.9520894
                 _cons |   20.09922    11123.7     0.00   0.999    -21781.96
21822.15
----------------------+----------------------------------------------------
-----------
             /lnsig2u |   .4276609   .5399638                     -.6306487
1.48597
----------------------+----------------------------------------------------
-----------
               sigma_u |   1.238413    .334349                      .7295522
2.102202
                   rho |   .3179548   .1170963                      .1392544
.5732498
------------------------------------------------------------------------------
-----------
LR test of rho=0: chibar2(01) = 6.40                  Prob >= chibar2 =
0.006

. margins, dydx(*) atmeans;

Conditional marginal effects                      Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned 1.White 1.Black 1.AmerInd 1.Hispan Housework
Drinks Age Age2 Visit
               Sleepless 1.Male 1.SuperviseOthers 1.Married 1.PrivateEmployee
               1.GovernmentEmployee 1.Religious
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
               1.Supervis~s    =     .482492 (mean)
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
```

```
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
---------
                     |            Delta-method
                     |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
---------------------+--------------------------------------------------------
---------
        AmountEarned |   .0005542   .1443747     0.00   0.997     -.282415
.2835234
           1.White |  -.5865071   420.7804    -0.00   0.999     -825.301
824.128
           1.Black |  -.9992889   6.142478    -0.16   0.871    -13.03832
11.03975
         1.AmerInd |  -.9754534   3.780292    -0.26   0.796    -8.384689
6.433782
          1.Hispan |  -.9764321   3.877225    -0.25   0.801    -8.575653
6.622788
         Housework |   .0000642   .0037035     0.02   0.986    -.0071946
.0073229
            Drinks |   .0021097   .1213355     0.02   0.986    -.2357035
.2399229
               Age |   -.000623   .0358663    -0.02   0.986    -.0709197
.0696737
              Age2 |   9.08e-06   .0005231     0.02   0.986    -.0010161
.0010343
             Visit |   .0102195    .587682     0.02   0.986    -1.141616
1.162055
         Sleepless |  -.0301431   1.733275    -0.02   0.986      -3.4273
3.367014
            1.Male |   .0056314   .3237267     0.02   0.986    -.6288612
.640124
                   |
     SuperviseOthers |
               Yes  |   .0003921   .0235043     0.02   0.987    -.0456755
.0464597
         1.Married |    .036307   2.021006     0.02   0.986    -3.924792
3.997406
   1.PrivateEmployee |   .0102102   .5820131     0.02   0.986    -1.130515
1.150935
1.GovernmentEmployee |   .0050946   .2951592     0.02   0.986    -.5734068
.5835959
        1.Religious |    .009351   .5301849     0.02   0.986    -1.029792
1.048494
------------------------------------------------------------------------------
---------
Note: dy/dx for factor levels is the discrete change from the base level.

. margins, dydx(AmountEarned) at(White=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM
```

```
Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               White           =           1
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
               1.Supervis~s    =     .482492 (mean)
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
AmountEarned |   .0042189    33.2382     0.00   1.000    -65.14145
65.14989
------------------------------------------------------------------------------

. margins, dydx(AmountEarned) at(Black=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               Black           =           1
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
```

```
                1.Hispan        =    .0122783 (mean)
                Housework       =    13.00182 (mean)
                Drinks          =    2.347658 (mean)
                Age             =    45.67121 (mean)
                Age2            =    2242.623 (mean)
                Visit           =     1.27467 (mean)
                Sleepless       =    .1091405 (mean)
                0.Male          =    .4974989 (mean)
                1.Male          =    .5025011 (mean)
                0.Supervis~s    =     .517508 (mean)
                1.Supervis~s    =     .482492 (mean)
                0.Married       =    .4047294 (mean)
                1.Married       =    .5952706 (mean)
                0.PrivateE~e    =    .3460664 (mean)
                1.PrivateE~e    =    .6539336 (mean)
                0.Governme~e    =    .7921783 (mean)
                1.Governme~e    =    .2078217 (mean)
                0.Religious     =    .1946339 (mean)
                1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |   8.23e-06   .1070528     0.00   1.000    -.2098114
.2098279
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(AmerInd=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               AmerInd         =           1
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
```

```
               1.Supervis~s    =     .482492 (mean)
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
AmountEarned |  -1.64e-07   .0028401    -0.00   1.000    -.0055667
.0055663
------------------------------------------------------------------------------

. margins, dydx(AmountEarned) at(Hispan=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               Hispan          =           1
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
               1.Supervis~s    =     .482492 (mean)
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)
```

```
------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |  -1.10e-08   .6148169    -0.00   1.000    -1.205019
1.205019
------------------------------------------------------------------------------
-

. /*probit*/
> xtprobit SatisfactionDummy c.AmountEarned i.White#c.AmountEarned
i.Black#c.AmountEarned i.AmerIn
> d#c.AmountEarned i.Hispan#c.AmountEarned i.White i.Black i.AmerInd i.Hispan
$base i.Male i.Supe
> rviseOthers i.Married i.PrivateEmployee i.GovernmentEmployee i.Religious;

Fitting comparison model:

Iteration 0:   log likelihood = -403.70045
Iteration 1:   log likelihood = -371.52582
Iteration 2:   log likelihood = -369.30801
Iteration 3:   log likelihood = -369.13405
Iteration 4:   log likelihood = -369.11909
Iteration 5:   log likelihood = -369.11767
Iteration 6:   log likelihood = -369.11755
Iteration 7:   log likelihood = -369.11752

Fitting full model:

rho =  0.0     log likelihood = -369.11752
rho =  0.1     log likelihood = -368.88772
rho =  0.2     log likelihood = -372.92991

Iteration 0:   log likelihood = -368.88772
Iteration 1:   log likelihood = -366.28634
Iteration 2:   log likelihood = -366.08912
Iteration 3:   log likelihood = -366.06139
Iteration 4:   log likelihood = -366.00331
Iteration 5:   log likelihood = -366.00276
Iteration 6:   log likelihood = -366.00276

Random-effects probit regression               Number of obs     =
2,199
Group variable: CaseId                         Number of groups  =
1,237

Random effects u_i ~ Gaussian                  Obs per group:
                                                              min =
1
                                                              avg =
1.8
                                                              max =
5
```

```
Integration method: mvaghermite                 Integration pts.  =
12

                                                Wald chi2(21)     =
46.29
Log likelihood  = -366.00276                    Prob > chi2       =
0.0012

------------------------------------------------------------------------------
     SatisfactionDummy |      Coef.   Std. Err.      z    P>|z|     [95%
Conf. Interval]
-----------------------+------------------------------------------------------
          AmountEarned |  -.0022823   79.94904    -0.00   1.000    -156.6995
156.695
                       |
  White#c.AmountEarned |
                     1 |   .0095435   79.94904     0.00   1.000    -156.6877
156.7068
                       |
  Black#c.AmountEarned |
                     1 |    .025028   79.94905     0.00   1.000    -156.6722
156.7223
                       |
AmerInd#c.AmountEarned |
                     1 |  -.0281271   79.94906    -0.00   1.000    -156.7254
156.6692
                       |
 Hispan#c.AmountEarned |
                     1 |  -.0095367   79.94906    -0.00   1.000    -156.7068
156.6877
                       |
               1.White |   -5.05608   1479.593    -0.00   0.997    -2905.005
2894.893
               1.Black |  -5.236495   1479.593    -0.00   0.997    -2905.186
2894.713
             1.AmerInd |  -4.581467   1479.593    -0.00   0.998    -2904.531
2895.368
              1.Hispan |  -5.568992   1479.593    -0.00   0.997    -2905.518
2894.38
             Housework |   .0011158   .0059118     0.19   0.850     -.010471
.0127027
                Drinks |   .0405211   .0367217     1.10   0.270    -.0314521
.1124943
                   Age |  -.0119665   .0318246    -0.38   0.707    -.0743416
.0504085
                  Age2 |    .000174   .0003269     0.53   0.594    -.0004666
.0008147
                 Visit |   .1949757   .0743099     2.62   0.009     .0493309
.3406204
             Sleepless |  -.5737055   .1505637    -3.81   0.000    -.8688048
-.2786061
                1.Male |   .1156484   .1408388     0.82   0.412    -.1603905
.3916873
                       |
       SuperviseOthers |
```

```
                  Yes  |   .0025919   .1236646     0.02   0.983    -.2397863
.2449701
            1.Married  |   .6011059    .135912     4.42   0.000     .3347233
.8674886
     1.PrivateEmployee |   .1606302   .1732684     0.93   0.354    -.1789697
.5002301
  1.GovernmentEmployee |   .0865192   .2013912     0.43   0.667    -.3082003
.4812387
           1.Religious |   .1642287   .1589916     1.03   0.302    -.1473891
.4758464
                 _cons |   6.345023   1479.593     0.00   0.997    -2893.605
2906.295
-----------------------+------------------------------------------------------
-----------
             /lnsig2u |  -.9172748   .5738573                     -2.042015
.2074649
-----------------------+------------------------------------------------------
-----------
              sigma_u |   .6321444   .1813804                      .3602319
1.109304
                  rho |   .2855135   .1170643                      .1148618
.551681
------------------------------------------------------------------------------
-----------
LR test of rho=0: chibar2(01) = 6.23                  Prob >= chibar2 =
0.006

. margins, dydx(*) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned 1.White 1.Black 1.AmerInd 1.Hispan Housework
Drinks Age Age2 Visit
               Sleepless 1.Male 1.SuperviseOthers 1.Married 1.PrivateEmployee
               1.GovernmentEmployee 1.Religious
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
               1.Supervis~s    =     .482492 (mean)
```

```
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
AmountEarned |   .0005992    .037918     0.02   0.987    -.0737186   .0749171
     1.White |  -.2201996    74.6625    -0.00   0.998     -146.556    146.1156
     1.Black |  -.9120655   120.3569    -0.01   0.994    -236.8072    234.9831
   1.AmerInd |  -.9586436     34.443    -0.03   0.978    -68.46569    66.5484
    1.Hispan |   -.970732   7.566585    -0.13   0.898    -15.80097    13.8595
   Housework |   .0000662   .0010118     0.07   0.948     -.001917   .0020493
      Drinks |   .0024029   .0345291     0.07   0.945    -.0652729   .0700787
         Age |  -.0007096    .010349    -0.07   0.945    -.0209933   .0195741
        Age2 |   .0000103   .0001493     0.07   0.945    -.0002823   .0003029
       Visit |   .0115621   .1658705     0.07   0.944    -.3135382   .3366623
   Sleepless |  -.0340207   .4879882    -0.07   0.944    -.9904601   .9224186
      1.Male |   .0068678   .0987551     0.07   0.945    -.1866886   .2004243
             |
SuperviseOthers |
         Yes |   .0001537   .0076568     0.02   0.984    -.0148533   .0151607
   1.Married |   .0399219   .5460133     0.07   0.942    -1.030245   1.110088
1.PrivateEmployee |     .00992   .1408995     0.07   0.944     -.266238   .2860779
1.GovernmentEmployee |   .0049319   .0723571     0.07   0.946    -.1368854   .1467492
  1.Religious |   .0105498   .1480284     0.07   0.943    -.2795804   .3006801
------------------------------------------------------------------------------
Note: dy/dx for factor levels is the discrete change from the base level.

. margins, dydx(AmountEarned) at(White=1) atmeans;
```

```
Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               White           =           1
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               0.AmerInd       =    .9890859 (mean)
               1.AmerInd       =    .0109141 (mean)
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
               Sleepless       =    .1091405 (mean)
               0.Male          =    .4974989 (mean)
               1.Male          =    .5025011 (mean)
               0.Supervis~s    =     .517508 (mean)
               1.Supervis~s    =     .482492 (mean)
               0.Married       =    .4047294 (mean)
               1.Married       =    .5952706 (mean)
               0.PrivateE~e    =    .3460664 (mean)
               1.PrivateE~e    =    .6539336 (mean)
               0.Governme~e    =    .7921783 (mean)
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
AmountEarned |   .0031542   5.127689     0.00   1.000    -10.04693
10.05324
------------------------------------------------------------------------------

. margins, dydx(AmountEarned) at(Black=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
```

```
                Black           =           1
                0.AmerInd       =    .9890859 (mean)
                1.AmerInd       =    .0109141 (mean)
                0.Hispan        =    .9877217 (mean)
                1.Hispan        =    .0122783 (mean)
                Housework       =    13.00182 (mean)
                Drinks          =    2.347658 (mean)
                Age             =    45.67121 (mean)
                Age2            =    2242.623 (mean)
                Visit           =     1.27467 (mean)
                Sleepless       =    .1091405 (mean)
                0.Male          =    .4974989 (mean)
                1.Male          =    .5025011 (mean)
                0.Supervis~s    =     .517508 (mean)
                1.Supervis~s    =     .482492 (mean)
                0.Married       =    .4047294 (mean)
                1.Married       =    .5952706 (mean)
                0.PrivateE~e    =    .3460664 (mean)
                1.PrivateE~e    =    .6539336 (mean)
                0.Governme~e    =    .7921783 (mean)
                1.Governme~e    =    .2078217 (mean)
                0.Religious     =    .1946339 (mean)
                1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |   .0038844   8.892111     0.00   1.000    -17.42433
17.4321
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(AmerInd=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
               0.White         =    .2610277 (mean)
               1.White         =    .7389723 (mean)
               0.Black         =    .7698954 (mean)
               1.Black         =    .2301046 (mean)
               AmerInd         =           1
               0.Hispan        =    .9877217 (mean)
               1.Hispan        =    .0122783 (mean)
               Housework       =    13.00182 (mean)
               Drinks          =    2.347658 (mean)
               Age             =    45.67121 (mean)
               Age2            =    2242.623 (mean)
               Visit           =     1.27467 (mean)
```

```
                Sleepless       =    .1091405 (mean)
                0.Male          =    .4974989 (mean)
                1.Male          =    .5025011 (mean)
                0.Supervis~s    =     .517508 (mean)
                1.Supervis~s    =     .482492 (mean)
                0.Married       =    .4047294 (mean)
                1.Married       =    .5952706 (mean)
                0.PrivateE~e    =    .3460664 (mean)
                1.PrivateE~e    =    .6539336 (mean)
                0.Governme~e    =    .7921783 (mean)
                1.Governme~e    =    .2078217 (mean)
                0.Religious     =    .1946339 (mean)
                1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |  -.0005099   2.545789    -0.00   1.000    -4.990165
4.989145
------------------------------------------------------------------------------
-

. margins, dydx(AmountEarned) at(Hispan=1) atmeans;

Conditional marginal effects                    Number of obs     =
2,199
Model VCE    : OIM

Expression   : Pr(SatisfactionDummy=1), predict(pr)
dy/dx w.r.t. : AmountEarned
at           : AmountEarned    =    10.74552 (mean)
                0.White        =    .2610277 (mean)
                1.White        =    .7389723 (mean)
                0.Black        =    .7698954 (mean)
                1.Black        =    .2301046 (mean)
                0.AmerInd      =    .9890859 (mean)
                1.AmerInd      =    .0109141 (mean)
                Hispan         =           1
                Housework      =    13.00182 (mean)
                Drinks         =    2.347658 (mean)
                Age            =    45.67121 (mean)
                Age2           =    2242.623 (mean)
                Visit          =     1.27467 (mean)
                Sleepless      =    .1091405 (mean)
                0.Male         =    .4974989 (mean)
                1.Male         =    .5025011 (mean)
                0.Supervis~s   =     .517508 (mean)
                1.Supervis~s   =     .482492 (mean)
                0.Married      =    .4047294 (mean)
                1.Married      =    .5952706 (mean)
                0.PrivateE~e   =    .3460664 (mean)
                1.PrivateE~e   =    .6539336 (mean)
                0.Governme~e   =    .7921783 (mean)
```

```
               1.Governme~e    =    .2078217 (mean)
               0.Religious     =    .1946339 (mean)
               1.Religious     =    .8053661 (mean)

------------------------------------------------------------------------------
-
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-------------+----------------------------------------------------------------
-
AmountEarned |   3.75e-06   .4288849     0.00   1.000    -.8405952
.8406028
------------------------------------------------------------------------------
-

. #delimit cr /* return the signal for end of each line to the default of
Carriage Return  */
delimiter now cr
.
end of do-file

. exit, clear
```

cleaning.do

```
#delimit;    /* make it so the semicolon signals end of each line
                  because we can't see where the return is  */
set more 1;  /* makes it so stata does not stop at each screen of output */
drop _all ;  /* clear all the variables in memory, if any */
capture log close; /* close any open log files */

cd \\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop;

log using RAP4.txt , text replace;
use dataset1.dta;
replace V1 = . if (V1 <= -6 );
rename V1 CaseId;

replace V103 = . if (V103 <= -6 );
gen Male1 = 1 if V103==1;
replace Male1 = 0 if V103==2;
replace Male1 = . if V103==.;
gen Female1 = 1 if V103==2;
replace Female1 = 0 if V103==1;
replace Female1 = . if V103==.;


replace V104 = . if (V104 <= -6 );
gen Age1 = V104;
gen Age2 = Age1+3;
gen Age3 = Age2+5;
gen Age4 = Age3+8;
gen Age5 = Age4+9;
```

```
replace V221 = . if (V221 <= -6 );
rename V221 Visit1;
replace Visit1=0 if Visit1==6;
replace Visit1=0.25 if Visit1==4;
replace Visit1=0.75 if Visit1==3;
replace Visit1=0 if Visit1==5;
replace Visit1=1 if Visit1==2;
replace Visit1=2 if Visit1==1;

replace V301 = . if (V301 <= -6 );
rename V301 Satisfaction1;
gen SatisfactionDummy1=1 if Satisfaction1<=3;
replace SatisfactionDummy1=0 if Satisfaction1>3;
replace SatisfactionDummy1=. if Satisfaction1==.;

replace V401 = . if (V401 <= -6 );
gen Married1 = 1 if V401==1;
replace Married1 = 0 if V401!=1;
replace Married1 = . if V401==.;

replace V825 = . if (V825 <= -6 );
rename V825 Housework1;

replace V948 = . if (V948 <= -6 );
rename V948 Drinks1;

replace V1005 = . if (V1005 <= -6 );
gen Sleepless1=0 if V1005<3;
replace Sleepless1=1 if V1005==3;
replace Sleepless1=. if V1005==.;

replace V1114 = . if (V1114 <= -6 );
gen SelfEmployed1 = 1 if V1114==1;
replace SelfEmployed1 = 0 if V1114>1;
replace SelfEmployed1 = . if V1114==.;

gen PrivateEmployee1 = 1 if V1114==2;
replace PrivateEmployee1 = 0 if V1114!=2;
replace PrivateEmployee1 = . if V1114==.;

gen GovernmentEmployee1 = 1 if V1114==3;
replace GovernmentEmployee1 = 0 if V1114!=3;
replace GovernmentEmployee1 = . if V1114==.;


replace V1115 = . if (V1115 <= -6 );
rename V1115 SuperviseOthers1;
replace SuperviseOthers1=0 if SuperviseOthers1==5;

replace V1117 = . if (V1117 <= -6 );
rename V1117 AmountEarned1;
replace AmountEarned1 = AmountEarned1/52;

replace V1612 = . if (V1612 <= -6 );
gen Religious1 = 1 if V1612 < 3;
```

```
replace Religious1 = 0 if V1612 > 2;
replace Religious1 =. if V1612 ==.;


replace V2000 = . if (V2000 <= -6 );

replace V2004 = . if (V2004 <= -6 );
gen White1 = 1 if V2004==1;
gen Black1 = 1 if V2004==2;
gen AmerInd1 = 1 if V2004==3;
gen Asian1 = 1 if V2004==4;
gen Hispan1 = 1 if V2004==5;



replace White1 = 0 if V2004!=1;
replace White1 = . if V2004==.;
replace Black1 = 0 if V2004!=2;
replace Black1 = . if V2004==.;
replace AmerInd1 = 0 if V2004!=3;
replace AmerInd1 = . if V2004==.;
replace Asian1 = 0 if V2004!=4;
replace Asian1 = . if V2004==.;
replace Hispan1 = 0 if V2004!=5;
replace Hispan1 = . if V2004==.;

gen WhiteAmountEarned1= White1*AmountEarned1;
gen BlackAmountEarned1= Black1*AmountEarned1;
gen AmerIndAmountEarned1= AmerInd1*AmountEarned1;
gen AsianAmountEarned1= Asian1*AmountEarned1;
gen HispanAmountEarned1= Hispan1*AmountEarned1;

gen White2 = 1 if V2004==1;
gen Black2 = 1 if V2004==2;
gen AmerInd2 = 1 if V2004==3;
gen Asian2 = 1 if V2004==4;
gen Hispan2 = 1 if V2004==5;

replace White2 = 0 if V2004!=1;
replace White2 = . if V2004==.;
replace Black2 = 0 if V2004!=2;
replace Black2 = . if V2004==.;
replace AmerInd2 = 0 if V2004!=3;
replace AmerInd2 = . if V2004==.;
replace Asian2 = 0 if V2004!=4;
replace Asian2 = . if V2004==.;
replace Hispan2 = 0 if V2004!=5;
replace Hispan2 = . if V2004==.;



gen White3 = 1 if V2004==1;
gen Black3 = 1 if V2004==2;
gen AmerInd3 = 1 if V2004==3;
gen Asian3 = 1 if V2004==4;
gen Hispan3 = 1 if V2004==5;
```

```
replace White3 = 0 if V2004!=1;
replace White3 = . if V2004==.;
replace Black3 = 0 if V2004!=2;
replace Black3 = . if V2004==.;
replace AmerInd3 = 0 if V2004!=3;
replace AmerInd3 = . if V2004==.;
replace Asian3 = 0 if V2004!=4;
replace Asian3 = . if V2004==.;
replace Hispan3 = 0 if V2004!=5;
replace Hispan3 = . if V2004==.;



gen White4 = 1 if V2004==1;
gen Black4 = 1 if V2004==2;
gen AmerInd4 = 1 if V2004==3;
gen Asian4 = 1 if V2004==4;
gen Hispan4 = 1 if V2004==5;

replace White4 = 0 if V2004!=1;
replace White4 = . if V2004==.;
replace Black4 = 0 if V2004!=2;
replace Black4 = . if V2004==.;
replace AmerInd4 = 0 if V2004!=3;
replace AmerInd4 = . if V2004==.;
replace Asian4 = 0 if V2004!=4;
replace Asian4 = . if V2004==.;
replace Hispan4 = 0 if V2004!=5;
replace Hispan4 = . if V2004==.;


gen White5 = 1 if V2004==1;
gen Black5 = 1 if V2004==2;
gen AmerInd5 = 1 if V2004==3;
gen Asian5 = 1 if V2004==4;
gen Hispan5 = 1 if V2004==5;

replace White5 = 0 if V2004!=1;
replace White5 = . if V2004==.;
replace Black5 = 0 if V2004!=2;
replace Black5 = . if V2004==.;
replace AmerInd5 = 0 if V2004!=3;
replace AmerInd5 = . if V2004==.;
replace Asian5 = 0 if V2004!=4;
replace Asian5 = . if V2004==.;
replace Hispan5 = 0 if V2004!=5;
replace Hispan5 = . if V2004==.;


replace V4103 = . if (V4103 <= -6 );
gen Male2 = 1 if V4103==1;
replace Male2 = 0 if V4103==2;
replace Male2 = . if V4103==.;
gen Female2 = 1 if V4103==2;
replace Female2 = 0 if V4103==1;
replace Female2 = . if V4103==.;
replace Age2 = . if Female2==.;
```

```
replace Age2 = . if Male2==.;
replace White2 = . if V4103==.;
replace Black2 = . if V4103==.;
replace Hispan2 = . if V4103==.;
replace AmerInd2 = . if V4103==.;
replace Asian2 = . if V4103==.;


replace V4311 = . if (V4311 <= -6 );
rename V4311 Visit2;
replace Visit2=0 if Visit2==6;
replace Visit2=0.25 if Visit2==4;
replace Visit2=0.75 if Visit2==3;
replace Visit2=0 if Visit2==5;
replace Visit2=1 if Visit2==2;
replace Visit2=2 if Visit2==1;

replace V4320 = . if (V4320 <= -6 );
rename V4320 Satisfaction2;
gen SatisfactionDummy2=1 if Satisfaction2<=4;
replace SatisfactionDummy2=0 if Satisfaction2>4;
replace SatisfactionDummy2=. if Satisfaction2==.;


replace V4401 = . if (V4401 <= -6 );
gen Married2 = 1 if V4401==1;
replace Married2 = 0 if V4401!=1;
replace Married2 = . if V4401==.;

replace V4825 = . if (V4825 <= -6 );
rename V4825 Housework2;


replace V4946 = . if (V4946 <= -6 );
rename V4946 Drinks2;


replace V5003 = . if (V5003 <= -6 );
gen Sleepless2=0 if V5003<3;
replace Sleepless2=1 if V5003==3;
replace Sleepless2=. if V5003==.;


replace V5120 = . if (V5120 <= -6 );
gen SelfEmployed2 = 1 if V5120==1;
replace SelfEmployed2 = 0 if V5120>1;
replace SelfEmployed2 = . if V5120==.;

gen PrivateEmployee2 = 1 if V5120==2;
replace PrivateEmployee2 = 0 if V5120!=2;
replace PrivateEmployee2 = . if V5120==.;

gen GovernmentEmployee2 = 1 if V5120==3;
replace GovernmentEmployee2 = 0 if V5120!=3;
replace GovernmentEmployee2 = . if V5120==.;
```

```
replace V5121 = . if (V5121 <= -6 );
rename V5121 SuperviseOthers2;
replace SuperviseOthers2=0 if SuperviseOthers2==5;


replace V5123 = . if (V5123 <= -6 );
rename V5123 AmountEarned2;
replace AmountEarned2 = AmountEarned2/52;

gen WhiteAmountEarned2= White2*AmountEarned2;
gen BlackAmountEarned2= Black2*AmountEarned2;
gen AmerIndAmountEarned2= AmerInd2*AmountEarned2;
gen AsianAmountEarned2= Asian2*AmountEarned2;
gen HispanAmountEarned2= Hispan2*AmountEarned2;

replace V5609 = . if (V5609 <= -6 );
gen Religious2 = 1 if V5609 < 3;
replace Religious2 = 0 if V5609 > 2;
replace Religious2 =. if V5609 ==.;


replace V10018 = . if (V10018 <= -6 );
gen Male3 = 1 if V10018==1;
replace Male3 = 0 if V10018==2;
replace Male3 = . if V10018==.;
gen Female3 = 1 if V10018==2;
replace Female3 = 0 if V10018==1;
replace Female3 = . if V10018==.;
replace Age3 = . if Female3==.;
replace Age3 = . if Male3==.;
replace White3 = . if V10018==.;
replace Black3 = . if V10018==.;
replace Hispan3 = . if V10018==.;
replace AmerInd3 = . if V10018==.;
replace Asian3 = . if V10018==.;


replace V10099 = . if (V10099 <= -6 );
rename V10099 Visit3;
replace Visit3=0 if Visit3==6;
replace Visit3=0.25 if Visit3==4;
replace Visit3=0.75 if Visit3==3;
replace Visit3=0 if Visit3==5;
replace Visit3=1 if Visit3==2;
replace Visit3=2 if Visit3==1;

replace V10105 = . if (V10105 <= -6 );
rename V10105 Satisfaction3;
gen SatisfactionDummy3=1 if Satisfaction3<=4;
replace SatisfactionDummy3=0 if Satisfaction3>4;
replace SatisfactionDummy3=. if Satisfaction3==.;


replace V10119 = . if (V10119 <= -6 );
gen Married3 = 1 if V10119==1;
replace Married3 = 0 if V10119!=1;
replace Married3 = . if V10119==.;
```

```
replace V10216 = . if (V10216 <= -6 );
rename V10216 Housework3;


replace V10275 = . if (V10275 <= -6 );
rename V10275 Drinks3;

replace V10285 = . if (V10285 <= -6 );
gen Sleepless3=0 if V10285<3;
replace Sleepless3=1 if V10285==3;
replace Sleepless3=. if V10285==.;



replace V10329 = . if (V10329 <= -6 );
gen SelfEmployed3 = 1 if V10329==1;
replace SelfEmployed3 = 0 if V10329>1;
replace SelfEmployed3 = . if V10329==.;

gen PrivateEmployee3 = 1 if V10329==2;
replace PrivateEmployee3 = 0 if V10329!=2;
replace PrivateEmployee3 = . if V10329==.;

gen GovernmentEmployee3 = 1 if V10329==3;
replace GovernmentEmployee3 = 0 if V10329!=3;
replace GovernmentEmployee3 = . if V10329==.;



replace V10330 = . if (V10330 <= -6 );
rename V10330 SuperviseOthers3;
replace SuperviseOthers3=0 if SuperviseOthers3==5;

replace V10334 = . if (V10334 <= -6 );
rename  V10334 AmountEarned3;
replace AmountEarned3 = AmountEarned3/52;
gen WhiteAmountEarned3= White3*AmountEarned3;
gen BlackAmountEarned3= Black3*AmountEarned3;
gen AmerIndAmountEarned3= AmerInd3*AmountEarned3;
gen AsianAmountEarned3= Asian3*AmountEarned3;
gen HispanAmountEarned3= Hispan3*AmountEarned3;


replace V10450 = . if (V10450 <= -6 );
gen Religious3 = 1 if V10450 < 3;
replace Religious3 = 0 if V10450 > 2;
replace Religious3 =. if V10450 ==.;


replace V12021 = . if (V12021 <= -6 );
gen Male4 = 1 if V12021==1;
replace Male4 = 0 if V12021==2;
replace Male4 = . if V12021==.;
gen Female4 = 1 if V12021==2;
replace Female4 = 0 if V12021==1;
```

```
replace Female4 = . if V12021==.;
replace Age4 = . if Female4==.;
replace Age4 = . if Male4==.;
replace White4 = . if V12021==.;
replace Black4 = . if V12021==.;
replace Hispan4 = . if V12021==.;
replace AmerInd4 = . if V12021==.;
replace Asian4 = . if V12021==.;


replace V12130 = . if (V12130 <= -6 );
rename V12130 Visit4;
replace Visit4=0 if Visit4==6;
replace Visit4=0.25 if Visit4==4;
replace Visit4=0.75 if Visit4==3;
replace Visit4=0 if Visit4==5;
replace Visit4=1 if Visit4==2;
replace Visit4=2 if Visit4==1;

replace V12135 = . if (V12135 <= -6 );
rename V12135 Satisfaction4;
gen SatisfactionDummy4=1 if Satisfaction4<=3;
replace SatisfactionDummy4=0 if Satisfaction4>3;
replace SatisfactionDummy4=. if Satisfaction4==.;


replace V12147 = . if (V12147 <= -6 );
gen Married4 = 1 if V12147==1;
replace Married4 = 0 if V12147!=1;
replace Married4 = . if V12147==.;


replace V12224 = . if (V12224 <= -6.0 );
rename V12224 Housework4;


replace V12245 = . if (V12245 <= -6.0 );
rename V12245 Drinks4;

replace V12327 = . if (V12327 <= -6 );
gen Sleepless4=0 if V12327<3;
replace Sleepless4=1 if V12327==3;
replace Sleepless4=. if V12327==.;


replace V12380 = . if (V12380 <= -6 );
gen SelfEmployed4 = 1 if V12380==1;
replace SelfEmployed4 = 0 if V12380>1;
replace SelfEmployed4 = . if V12380==.;

gen PrivateEmployee4 = 1 if V12380==2;
replace PrivateEmployee4 = 0 if V12380!=2;
replace PrivateEmployee4 = . if V12380==.;

gen GovernmentEmployee4 = 1 if V12380==3;
replace GovernmentEmployee4 = 0 if V12380!=3;
replace GovernmentEmployee4 = . if V12380==.;
```

```
replace V12381 = . if (V12381 <= -6 );
rename V12381 SuperviseOthers4;
replace SuperviseOthers4=0 if SuperviseOthers4==5;


replace V12383 = . if (V12383 <= -6 );
rename  V12383 AmountEarned4;
replace AmountEarned4 = AmountEarned4/52;
gen WhiteAmountEarned4= White4*AmountEarned4;
gen BlackAmountEarned4= Black4*AmountEarned4;
gen AmerIndAmountEarned4= AmerInd4*AmountEarned4;
gen AsianAmountEarned4= Asian4*AmountEarned4;
gen HispanAmountEarned4= Hispan4*AmountEarned4;


replace V12554 = . if (V12554 <= -6 );
gen Religious4 = 1 if V12554 < 3;
replace Religious4 = 0 if V12554 > 2;
replace Religious4 =. if V12554 ==.;



replace V15101 = . if (V15101 <= -6 );
gen Male5 = 1 if V15101==1;
replace Male5 = 0 if V15101==2;
replace Male5 = . if V15101==.;
gen Female5 = 1 if V15101==2;
replace Female5 = 0 if V15101==1;
replace Female5 = . if V15101==.;
replace Age5 = . if Female5==.;
replace Age5 = . if Male5==.;
replace White5 = . if V15101==.;
replace Black5 = . if V15101==.;
replace Hispan5 = . if V15101==.;
replace AmerInd5 = . if V15101==.;
replace Asian5 = . if V15101==.;


replace V15195 = . if (V15195 <= -6 );
rename V15195 Visit5;
replace Visit5=0 if Visit5==6;
replace Visit5=0.25 if Visit5==4;
replace Visit5=0.75 if Visit5==3;
replace Visit5=0 if Visit5==5;
replace Visit5=1 if Visit5==2;
replace Visit5=2 if Visit5==1;

replace V15301 = . if (V15301 <= -6 );
rename V15301 Satisfaction5;
gen SatisfactionDummy5=1 if Satisfaction5<=3;
replace SatisfactionDummy5=0 if Satisfaction5>3;
replace SatisfactionDummy5=. if Satisfaction5==.;
```

```
replace V15401 = . if (V15401 <= -6 );
gen Married5 = 1 if V15401==1;
replace Married5 = 0 if V15401!=1;
replace Married5 = . if V15401==.;


replace V15751 = . if (V15751 <= -6.0 );
rename V15751 Housework5;


replace V15848 = . if (V15848 <= -6.0 );
rename V15848 Drinks5;


replace V16003 = . if (V16003 <= -6 );
gen Sleepless5=0 if V16003<3;
replace Sleepless5=1 if V16003==3;
replace Sleepless5=. if V16003==.;

replace V16118 = . if (V16118 <= -6 );
gen SelfEmployed5 = 1 if V16118==1;
replace SelfEmployed5 = 0 if V16118>1;
replace SelfEmployed5 = . if V16118==.;

gen PrivateEmployee5 = 1 if V16118==2;
replace PrivateEmployee5 = 0 if V16118!=2;
replace PrivateEmployee5 = . if V16118==.;

gen GovernmentEmployee5 = 1 if V16118==3;
replace GovernmentEmployee5 = 0 if V16118!=3;
replace GovernmentEmployee5 = . if V16118==.;



replace V16119 = . if (V16119 <= -6 );
rename V16119 SuperviseOthers5;
replace SuperviseOthers5=0 if SuperviseOthers5==5;


replace V16124 = . if (V16124 <= -6 );
rename  V16124 AmountEarned5;
replace AmountEarned5 = AmountEarned5/52;
gen WhiteAmountEarned5= White5*AmountEarned5;
gen BlackAmountEarned5= Black5*AmountEarned5;
gen AmerIndAmountEarned5= AmerInd5*AmountEarned5;
gen AsianAmountEarned5= Asian5*AmountEarned5;
gen HispanAmountEarned5= Hispan5*AmountEarned5;

replace V16403 = . if (V16403 <= -6 );
gen Religious5 = 1 if V16403 < 3;
replace Religious5 = 0 if V16403 > 2;
replace Religious5 =. if V16403 ==.;
```

```
reshape long Satisfaction AmountEarned Black BlackAmountEarned White
WhiteAmountEarned Hispan HispanAmountEarned AmerInd AmerIndAmountEarned
AsianAmountEarned Asian Sleepless SelfEmployed PrivateEmployee
GovernmentEmployee SuperviseOthers Religious Visit Male Female
SatisfactionDummy Drinks Housework Married Age, i(CaseId) j(Wave);

drop V103 V104 V401 V1005 V1114 V1612 V2000 V2004 V4103 V4401 V5003 V5120
V5609 V10018 V10119 V10285 V10329 V10450 V12021 V12147 V12327 V12380 V12554
V15101 V15401 V16003 V16118 V16403;
#delimit cr /* return the signal for end of each line to the default of
Carriage Return  */
```

cleaning.txt(log file)

```
-------------------------------------------------------------------------------
-----------------------------------------------
      name:  <unnamed>
       log:  \\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop\RAP4.txt
  log type:  text
 opened on:  21 Dec 2020, 19:38:07

. use dataset1.dta;
(Americans Changing Lives: Waves I, II, III, IV, and V, 1986, 1989, 1994,
2002, a)

. replace V1 = . if (V1 <= -6 );
(0 real changes made)

. rename V1 CaseId;

. replace V103 = . if (V103 <= -6 );
(0 real changes made)

. gen Male1 = 1 if V103==1;
(2,259 missing values generated)

. replace Male1 = 0 if V103==2;
(2,259 real changes made)

. replace Male1 = . if V103==.;
(0 real changes made)

. gen Female1 = 1 if V103==2;
(1,358 missing values generated)

. replace Female1 = 0 if V103==1;
(1,358 real changes made)

. replace Female1 = . if V103==.;
(0 real changes made)

. replace V104 = . if (V104 <= -6 );
(0 real changes made)
```

```
. gen Age1 = V104;
(3 missing values generated)

. gen Age2 = Age1+3;
(3 missing values generated)

. gen Age3 = Age2+5;
(3 missing values generated)

. gen Age4 = Age3+8;
(3 missing values generated)

. gen Age5 = Age4+9;
(3 missing values generated)

. replace V221 = . if (V221 <= -6 );
(0 real changes made)

. rename V221 Visit1;

.  replace Visit1=0 if Visit1==6;
(176 real changes made)

. replace Visit1=0.25 if Visit1==4;
variable Visit1 was int now float
(502 real changes made)

. replace Visit1=0.75 if Visit1==3;
(585 real changes made)

. replace Visit1=0 if Visit1==5;
(375 real changes made)

. replace Visit1=1 if Visit1==2;
(914 real changes made)

. replace Visit1=2 if Visit1==1;
(1,976 real changes made)

. replace V301 = . if (V301 <= -6 );
(0 real changes made)

. rename V301 Satisfaction1;

. gen SatisfactionDummy1=1 if Satisfaction1<=3;
(316 missing values generated)

. replace SatisfactionDummy1=0 if Satisfaction1>3;
(316 real changes made)

. replace SatisfactionDummy1=. if Satisfaction1==.;
(25 real changes made, 25 to missing)

. replace V401 = . if (V401 <= -6 );
(0 real changes made)
```

```
. gen Married1 = 1 if V401==1;
(1,641 missing values generated)

. replace Married1 = 0 if V401!=1;
(1,641 real changes made)

. replace Married1 = . if V401==.;
(0 real changes made)

. replace V825 = . if (V825 <= -6 );
(0 real changes made)

. rename V825 Housework1;

. replace V948 = . if (V948 <= -6 );
(1,855 real changes made, 1,855 to missing)

. rename V948 Drinks1;

. replace V1005 = . if (V1005 <= -6 );
(0 real changes made)

. gen Sleepless1=0 if V1005<3;
(525 missing values generated)

. replace Sleepless1=1 if V1005==3;
(493 real changes made)

. replace Sleepless1=. if V1005==.;
(0 real changes made)

. replace V1114 = . if (V1114 <= -6 );
(0 real changes made)

. gen SelfEmployed1 = 1 if V1114==1;
(3,326 missing values generated)

. replace SelfEmployed1 = 0 if V1114>1;
(3,326 real changes made)

.  replace SelfEmployed1 = . if V1114==.;
(1,753 real changes made, 1,753 to missing)

.  gen PrivateEmployee1 = 1 if V1114==2;
(2,436 missing values generated)

. replace PrivateEmployee1 = 0 if V1114!=2;
(2,436 real changes made)

.  replace PrivateEmployee1 = . if V1114==.;
(1,753 real changes made, 1,753 to missing)

.  gen GovernmentEmployee1 = 1 if V1114==3;
(3,225 missing values generated)

. replace GovernmentEmployee1 = 0 if V1114!=3;
(3,225 real changes made)
```

```
.  replace GovernmentEmployee1 = . if V1114==.;
(1,753 real changes made, 1,753 to missing)

. replace V1115 = . if (V1115 <= -6 );
(0 real changes made)

. rename V1115 SuperviseOthers1;

. replace SuperviseOthers1=0 if SuperviseOthers1==5;
(1,063 real changes made)

. replace V1117 = . if (V1117 <= -6 );
(0 real changes made)

. rename V1117 AmountEarned1;

. replace AmountEarned1 = AmountEarned1/52;
variable AmountEarned1 was long now double
(1,692 real changes made)

. replace V1612 = . if (V1612 <= -6 );
(0 real changes made)

. gen Religious1 = 1 if V1612 < 3;
(461 missing values generated)

. replace Religious1 = 0 if V1612 > 2;
(461 real changes made)

. replace Religious1 =. if V1612 ==.;
(0 real changes made)

. replace V2000 = . if (V2000 <= -6 );
(0 real changes made)

. replace V2004 = . if (V2004 <= -6 );
(0 real changes made)

. gen White1 = 1 if V2004==1;
(1,294 missing values generated)

. gen Black1 = 1 if V2004==2;
(2,443 missing values generated)

. gen AmerInd1 = 1 if V2004==3;
(3,570 missing values generated)

. gen Asian1 = 1 if V2004==4;
(3,587 missing values generated)

. gen Hispan1 = 1 if V2004==5;
(3,574 missing values generated)

. replace White1 = 0 if V2004!=1;
(1,294 real changes made)
```

```
. replace White1 = . if V2004==.;
(0 real changes made)

. replace Black1 = 0 if V2004!=2;
(2,443 real changes made)

. replace Black1 = . if V2004==.;
(0 real changes made)

. replace AmerInd1 = 0 if V2004!=3;
(3,570 real changes made)

. replace AmerInd1 = . if V2004==.;
(0 real changes made)

. replace Asian1 = 0 if V2004!=4;
(3,587 real changes made)

. replace Asian1 = . if V2004==.;
(0 real changes made)

. replace Hispan1 = 0 if V2004!=5;
(3,574 real changes made)

. replace Hispan1 = . if V2004==.;
(0 real changes made)

. gen WhiteAmountEarned1= White1*AmountEarned1;
(1,911 missing values generated)

. gen BlackAmountEarned1= Black1*AmountEarned1;
(1,911 missing values generated)

. gen AmerIndAmountEarned1= AmerInd1*AmountEarned1;
(1,911 missing values generated)

. gen AsianAmountEarned1= Asian1*AmountEarned1;
(1,911 missing values generated)

. gen HispanAmountEarned1= Hispan1*AmountEarned1;
(1,911 missing values generated)

. gen White2 = 1 if V2004==1;
(1,294 missing values generated)

. gen Black2 = 1 if V2004==2;
(2,443 missing values generated)

. gen AmerInd2 = 1 if V2004==3;
(3,570 missing values generated)

. gen Asian2 = 1 if V2004==4;
(3,587 missing values generated)

. gen Hispan2 = 1 if V2004==5;
(3,574 missing values generated)
```

```
. replace White2 = 0 if V2004!=1;
(1,294 real changes made)

. replace White2 = . if V2004==.;
(0 real changes made)

. replace Black2 = 0 if V2004!=2;
(2,443 real changes made)

. replace Black2 = . if V2004==.;
(0 real changes made)

. replace AmerInd2 = 0 if V2004!=3;
(3,570 real changes made)

. replace AmerInd2 = . if V2004==.;
(0 real changes made)

. replace Asian2 = 0 if V2004!=4;
(3,587 real changes made)

. replace Asian2 = . if V2004==.;
(0 real changes made)

. replace Hispan2 = 0 if V2004!=5;
(3,574 real changes made)

. replace Hispan2 = . if V2004==.;
(0 real changes made)

. gen White3 = 1 if V2004==1;
(1,294 missing values generated)

. gen Black3 = 1 if V2004==2;
(2,443 missing values generated)

. gen AmerInd3 = 1 if V2004==3;
(3,570 missing values generated)

. gen Asian3 = 1 if V2004==4;
(3,587 missing values generated)

. gen Hispan3 = 1 if V2004==5;
(3,574 missing values generated)

. replace White3 = 0 if V2004!=1;
(1,294 real changes made)

. replace White3 = . if V2004==.;
(0 real changes made)

. replace Black3 = 0 if V2004!=2;
(2,443 real changes made)

. replace Black3 = . if V2004==.;
(0 real changes made)
```

```
. replace AmerInd3 = 0 if V2004!=3;
(3,570 real changes made)

. replace AmerInd3 = . if V2004==.;
(0 real changes made)

. replace Asian3 = 0 if V2004!=4;
(3,587 real changes made)

. replace Asian3 = . if V2004==.;
(0 real changes made)

. replace Hispan3 = 0 if V2004!=5;
(3,574 real changes made)

. replace Hispan3 = . if V2004==.;
(0 real changes made)

. gen White4 = 1 if V2004==1;
(1,294 missing values generated)

. gen Black4 = 1 if V2004==2;
(2,443 missing values generated)

. gen AmerInd4 = 1 if V2004==3;
(3,570 missing values generated)

. gen Asian4 = 1 if V2004==4;
(3,587 missing values generated)

. gen Hispan4 = 1 if V2004==5;
(3,574 missing values generated)

. replace White4 = 0 if V2004!=1;
(1,294 real changes made)

. replace White4 = . if V2004==.;
(0 real changes made)

. replace Black4 = 0 if V2004!=2;
(2,443 real changes made)

. replace Black4 = . if V2004==.;
(0 real changes made)

. replace AmerInd4 = 0 if V2004!=3;
(3,570 real changes made)

. replace AmerInd4 = . if V2004==.;
(0 real changes made)

. replace Asian4 = 0 if V2004!=4;
(3,587 real changes made)

. replace Asian4 = . if V2004==.;
(0 real changes made)
```

```
. replace Hispan4 = 0 if V2004!=5;
(3,574 real changes made)

. replace Hispan4 = . if V2004==.;
(0 real changes made)

. gen White5 = 1 if V2004==1;
(1,294 missing values generated)

. gen Black5 = 1 if V2004==2;
(2,443 missing values generated)

. gen AmerInd5 = 1 if V2004==3;
(3,570 missing values generated)

. gen Asian5 = 1 if V2004==4;
(3,587 missing values generated)

. gen Hispan5 = 1 if V2004==5;
(3,574 missing values generated)

. replace White5 = 0 if V2004!=1;
(1,294 real changes made)

. replace White5 = . if V2004==.;
(0 real changes made)

. replace Black5 = 0 if V2004!=2;
(2,443 real changes made)

. replace Black5 = . if V2004==.;
(0 real changes made)

. replace AmerInd5 = 0 if V2004!=3;
(3,570 real changes made)

. replace AmerInd5 = . if V2004==.;
(0 real changes made)

. replace Asian5 = 0 if V2004!=4;
(3,587 real changes made)

. replace Asian5 = . if V2004==.;
(0 real changes made)

. replace Hispan5 = 0 if V2004!=5;
(3,574 real changes made)

. replace Hispan5 = . if V2004==.;
(0 real changes made)

. replace V4103 = . if (V4103 <= -6 );
(0 real changes made)

. gen Male2 = 1 if V4103==1;
(2,579 missing values generated)
```

```
. replace Male2 = 0 if V4103==2;
(1,829 real changes made)

. replace Male2 = . if V4103==.;
(0 real changes made)

. gen Female2 = 1 if V4103==2;
(1,788 missing values generated)

. replace Female2 = 0 if V4103==1;
(1,038 real changes made)

. replace Female2 = . if V4103==.;
(0 real changes made)

. replace Age2 = . if Female2==.;
(749 real changes made, 749 to missing)

. replace Age2 = . if Male2==.;
(0 real changes made)

. replace White2 = . if V4103==.;
(750 real changes made, 750 to missing)

. replace Black2 = . if V4103==.;
(750 real changes made, 750 to missing)

. replace Hispan2 = . if V4103==.;
(750 real changes made, 750 to missing)

. replace AmerInd2 = . if V4103==.;
(750 real changes made, 750 to missing)

. replace Asian2 = . if V4103==.;
(750 real changes made, 750 to missing)

. replace V4311 = . if (V4311 <= -6 );
(0 real changes made)

. rename V4311 Visit2;

.  replace Visit2=0 if Visit2==6;
(149 real changes made)

. replace Visit2=0.25 if Visit2==4;
variable Visit2 was int now float
(389 real changes made)

. replace Visit2=0.75 if Visit2==3;
(495 real changes made)

. replace Visit2=0 if Visit2==5;
(267 real changes made)

. replace Visit2=1 if Visit2==2;
(794 real changes made)
```

```
. replace Visit2=2 if Visit2==1;
(1,566 real changes made)

. replace V4320 = . if (V4320 <= -6 );
(0 real changes made)

. rename V4320 Satisfaction2;

. gen SatisfactionDummy2=1 if Satisfaction2<=4;
(1,026 missing values generated)

. replace SatisfactionDummy2=0 if Satisfaction2>4;
(1,026 real changes made)

. replace SatisfactionDummy2=. if Satisfaction2==.;
(750 real changes made, 750 to missing)

. replace V4401 = . if (V4401 <= -6 );
(0 real changes made)

. gen Married2 = 1 if V4401==1;
(2,044 missing values generated)

. replace Married2 = 0 if V4401!=1;
(2,044 real changes made)

. replace Married2 = . if V4401==.;
(750 real changes made, 750 to missing)

. replace V4825 = . if (V4825 <= -6 );
(0 real changes made)

. rename V4825 Housework2;

. replace V4946 = . if (V4946 <= -6 );
(0 real changes made)

. rename V4946 Drinks2;

. replace V5003 = . if (V5003 <= -6 );
(0 real changes made)

. gen Sleepless2=0 if V5003<3;
(1,081 missing values generated)

. replace Sleepless2=1 if V5003==3;
(316 real changes made)

. replace Sleepless2=. if V5003==.;
(0 real changes made)

. replace V5120 = . if (V5120 <= -6 );
(0 real changes made)

. gen SelfEmployed2 = 1 if V5120==1;
(3,555 missing values generated)
```

```
. replace SelfEmployed2 = 0 if V5120>1;
(3,555 real changes made)

.  replace SelfEmployed2 = . if V5120==.;
(3,164 real changes made, 3,164 to missing)

.  gen PrivateEmployee2 = 1 if V5120==2;
(3,305 missing values generated)

. replace PrivateEmployee2 = 0 if V5120!=2;
(3,305 real changes made)

.  replace PrivateEmployee2 = . if V5120==.;
(3,164 real changes made, 3,164 to missing)

.  gen GovernmentEmployee2 = 1 if V5120==3;
(3,538 missing values generated)

. replace GovernmentEmployee2 = 0 if V5120!=3;
(3,538 real changes made)

.  replace GovernmentEmployee2 = . if V5120==.;
(3,164 real changes made, 3,164 to missing)

. replace V5121 = . if (V5121 <= -6 );
(0 real changes made)

. rename V5121 SuperviseOthers2;

. replace SuperviseOthers2=0 if SuperviseOthers2==5;
(273 real changes made)

. replace V5123 = . if (V5123 <= -6 );
(0 real changes made)

. rename V5123 AmountEarned2;

. replace AmountEarned2 = AmountEarned2/52;
variable AmountEarned2 was long now double
(1,386 real changes made)

. gen WhiteAmountEarned2= White2*AmountEarned2;
(2,231 missing values generated)

. gen BlackAmountEarned2= Black2*AmountEarned2;
(2,231 missing values generated)

. gen AmerIndAmountEarned2= AmerInd2*AmountEarned2;
(2,231 missing values generated)

. gen AsianAmountEarned2= Asian2*AmountEarned2;
(2,231 missing values generated)

. gen HispanAmountEarned2= Hispan2*AmountEarned2;
(2,231 missing values generated)

. replace V5609 = . if (V5609 <= -6 );
```

```
(0 real changes made)

. gen Religious2 = 1 if V5609 < 3;
(1,071 missing values generated)

. replace Religious2 = 0 if V5609 > 2;
(1,071 real changes made)

. replace Religious2 =. if V5609 ==.;
(755 real changes made, 755 to missing)

. replace V10018 = . if (V10018 <= -6 );
(0 real changes made)

. gen Male3 = 1 if V10018==1;
(2,700 missing values generated)

. replace Male3 = 0 if V10018==2;
(1,595 real changes made)

. replace Male3 = . if V10018==.;
(0 real changes made)

. gen Female3 = 1 if V10018==2;
(2,022 missing values generated)

. replace Female3 = 0 if V10018==1;
(917 real changes made)

. replace Female3 = . if V10018==.;
(0 real changes made)

. replace Age3 = . if Female3==.;
(1,105 real changes made, 1,105 to missing)

. replace Age3 = . if Male3==.;
(0 real changes made)

. replace White3 = . if V10018==.;
(1,105 real changes made, 1,105 to missing)

. replace Black3 = . if V10018==.;
(1,105 real changes made, 1,105 to missing)

. replace Hispan3 = . if V10018==.;
(1,105 real changes made, 1,105 to missing)

. replace AmerInd3 = . if V10018==.;
(1,105 real changes made, 1,105 to missing)

. replace Asian3 = . if V10018==.;
(1,105 real changes made, 1,105 to missing)

. replace V10099 = . if (V10099 <= -6 );
(0 real changes made)

. rename V10099 Visit3;
```

```
.  replace Visit3=0 if Visit3==6;
(116 real changes made)

. replace Visit3=0.25 if Visit3==4;
variable Visit3 was int now float
(370 real changes made)

. replace Visit3=0.75 if Visit3==3;
(544 real changes made)

. replace Visit3=0 if Visit3==5;
(194 real changes made)

. replace Visit3=1 if Visit3==2;
(584 real changes made)

. replace Visit3=2 if Visit3==1;
(1,162 real changes made)

. replace V10105 = . if (V10105 <= -6 );
(0 real changes made)

. rename V10105 Satisfaction3;

. gen SatisfactionDummy3=1 if Satisfaction3<=4;
(1,292 missing values generated)

. replace SatisfactionDummy3=0 if Satisfaction3>4;
(1,292 real changes made)

. replace SatisfactionDummy3=. if Satisfaction3==.;
(1,245 real changes made, 1,245 to missing)

. replace V10119 = . if (V10119 <= -6 );
(0 real changes made)

. gen Married3 = 1 if V10119==1;
(2,220 missing values generated)

. replace Married3 = 0 if V10119!=1;
(2,220 real changes made)

. replace Married3 = . if V10119==.;
(1,059 real changes made, 1,059 to missing)

. replace V10216 = . if (V10216 <= -6 );
(0 real changes made)

. rename V10216 Housework3;

. replace V10275 = . if (V10275 <= -6 );
(0 real changes made)

. rename V10275 Drinks3;

. replace V10285 = . if (V10285 <= -6 );
```

```
(0 real changes made)

. gen Sleepless3=0 if V10285<3;
(1,539 missing values generated)

. replace Sleepless3=1 if V10285==3;
(312 real changes made)

. replace Sleepless3=. if V10285==.;
(0 real changes made)

. replace V10329 = . if (V10329 <= -6 );
(0 real changes made)

. gen SelfEmployed3 = 1 if V10329==1;
(3,566 missing values generated)

. replace SelfEmployed3 = 0 if V10329>1;
(3,566 real changes made)

.  replace SelfEmployed3 = . if V10329==.;
(3,220 real changes made, 3,220 to missing)

.  gen PrivateEmployee3 = 1 if V10329==2;
(3,352 missing values generated)

. replace PrivateEmployee3 = 0 if V10329!=2;
(3,352 real changes made)

.  replace PrivateEmployee3 = . if V10329==.;
(3,220 real changes made, 3,220 to missing)

.  gen GovernmentEmployee3 = 1 if V10329==3;
(3,536 missing values generated)

. replace GovernmentEmployee3 = 0 if V10329!=3;
(3,536 real changes made)

.  replace GovernmentEmployee3 = . if V10329==.;
(3,220 real changes made, 3,220 to missing)

. replace V10330 = . if (V10330 <= -6 );
(0 real changes made)

. rename V10330 SuperviseOthers3;

. replace SuperviseOthers3=0 if SuperviseOthers3==5;
(243 real changes made)

. replace V10334 = . if (V10334 <= -6 );
(0 real changes made)

. rename  V10334 AmountEarned3;

. replace AmountEarned3 = AmountEarned3/52;
variable AmountEarned3 was long now double
(1,147 real changes made)
```

```
. gen WhiteAmountEarned3= White3*AmountEarned3;
(2,470 missing values generated)

. gen BlackAmountEarned3= Black3*AmountEarned3;
(2,470 missing values generated)

. gen AmerIndAmountEarned3= AmerInd3*AmountEarned3;
(2,470 missing values generated)

. gen AsianAmountEarned3= Asian3*AmountEarned3;
(2,470 missing values generated)

. gen HispanAmountEarned3= Hispan3*AmountEarned3;
(2,470 missing values generated)

. replace V10450 = . if (V10450 <= -6 );
(0 real changes made)

. gen Religious3 = 1 if V10450 < 3;
(1,501 missing values generated)

. replace Religious3 = 0 if V10450 > 2;
(1,501 real changes made)

. replace Religious3 =. if V10450 ==.;
(1,230 real changes made, 1,230 to missing)

. replace V12021 = . if (V12021 <= -6 );
(0 real changes made)

. gen Male4 = 1 if V12021==1;
(2,967 missing values generated)

. replace Male4 = 0 if V12021==2;
(1,111 real changes made)

. replace Male4 = . if V12021==.;
(0 real changes made)

. gen Female4 = 1 if V12021==2;
(2,506 missing values generated)

. replace Female4 = 0 if V12021==1;
(650 real changes made)

. replace Female4 = . if V12021==.;
(0 real changes made)

. replace Age4 = . if Female4==.;
(1,854 real changes made, 1,854 to missing)

. replace Age4 = . if Male4==.;
(0 real changes made)

. replace White4 = . if V12021==.;
(1,856 real changes made, 1,856 to missing)
```

```
. replace Black4 = . if V12021==.;
(1,856 real changes made, 1,856 to missing)

. replace Hispan4 = . if V12021==.;
(1,856 real changes made, 1,856 to missing)

. replace AmerInd4 = . if V12021==.;
(1,856 real changes made, 1,856 to missing)

. replace Asian4 = . if V12021==.;
(1,856 real changes made, 1,856 to missing)

. replace V12130 = . if (V12130 <= -6 );
(0 real changes made)

. rename V12130 Visit4;

. replace Visit4=0 if Visit4==6;
(54 real changes made)

. replace Visit4=0.25 if Visit4==4;
variable Visit4 was int now float
(246 real changes made)

. replace Visit4=0.75 if Visit4==3;
(370 real changes made)

. replace Visit4=0 if Visit4==5;
(144 real changes made)

. replace Visit4=1 if Visit4==2;
(441 real changes made)

. replace Visit4=2 if Visit4==1;
(874 real changes made)

.  replace V12135 = . if (V12135 <= -6 );
(0 real changes made)

. rename V12135 Satisfaction4;

. gen SatisfactionDummy4=1 if Satisfaction4<=3;
(2,032 missing values generated)

. replace SatisfactionDummy4=0 if Satisfaction4>3;
(2,032 real changes made)

. replace SatisfactionDummy4=. if Satisfaction4==.;
(1,936 real changes made, 1,936 to missing)

. replace V12147 = . if (V12147 <= -6 );
(0 real changes made)

. gen Married4 = 1 if V12147==1;
(2,643 missing values generated)
```

```
. replace Married4 = 0 if V12147!=1;
(2,643 real changes made)

. replace Married4 = . if V12147==.;
(1,833 real changes made, 1,833 to missing)

. replace V12224 = . if (V12224 <= -6.0 );
(0 real changes made)

. rename V12224 Housework4;

. replace V12245 = . if (V12245 <= -6.0 );
(0 real changes made)

. rename V12245 Drinks4;

. replace V12327 = . if (V12327 <= -6 );
(0 real changes made)

. gen Sleepless4=0 if V12327<3;
(2,152 missing values generated)

. replace Sleepless4=1 if V12327==3;
(217 real changes made)

. replace Sleepless4=. if V12327==.;
(0 real changes made)

. replace V12380 = . if (V12380 <= -6 );
(0 real changes made)

. gen SelfEmployed4 = 1 if V12380==1;
(3,468 missing values generated)

. replace SelfEmployed4 = 0 if V12380>1;
(3,468 real changes made)

.  replace SelfEmployed4 = . if V12380==.;
(2,761 real changes made, 2,761 to missing)

.  gen PrivateEmployee4 = 1 if V12380==2;
(3,092 missing values generated)

. replace PrivateEmployee4 = 0 if V12380!=2;
(3,092 real changes made)

.  replace PrivateEmployee4 = . if V12380==.;
(2,761 real changes made, 2,761 to missing)

.  gen GovernmentEmployee4 = 1 if V12380==3;
(3,435 missing values generated)

. replace GovernmentEmployee4 = 0 if V12380!=3;
(3,435 real changes made)

.  replace GovernmentEmployee4 = . if V12380==.;
(2,761 real changes made, 2,761 to missing)
```

```
. replace V12381 = . if (V12381 <= -6 );
(0 real changes made)

. rename V12381 SuperviseOthers4;

. replace SuperviseOthers4=0 if SuperviseOthers4==5;
(467 real changes made)

. replace V12383 = . if (V12383 <= -6 );
(0 real changes made)

. rename  V12383 AmountEarned4;

. replace AmountEarned4 = AmountEarned4/52;
variable AmountEarned4 was long now double
(771 real changes made)

. gen WhiteAmountEarned4= White4*AmountEarned4;
(2,841 missing values generated)

. gen BlackAmountEarned4= Black4*AmountEarned4;
(2,841 missing values generated)

. gen AmerIndAmountEarned4= AmerInd4*AmountEarned4;
(2,841 missing values generated)

. gen AsianAmountEarned4= Asian4*AmountEarned4;
(2,841 missing values generated)

. gen HispanAmountEarned4= Hispan4*AmountEarned4;
(2,841 missing values generated)

. replace V12554 = . if (V12554 <= -6 );
(0 real changes made)

. gen Religious4 = 1 if V12554 < 3;
(2,116 missing values generated)

. replace Religious4 = 0 if V12554 > 2;
(2,116 real changes made)

. replace Religious4 =. if V12554 ==.;
(1,942 real changes made, 1,942 to missing)

. replace V15101 = . if (V15101 <= -6 );
(0 real changes made)

. gen Male5 = 1 if V15101==1;
(3,075 missing values generated)

. replace Male5 = 0 if V15101==2;
(885 real changes made)

. replace Male5 = . if V15101==.;
(0 real changes made)
```

```
. gen Female5 = 1 if V15101==2;
(2,732 missing values generated)

. replace Female5 = 0 if V15101==1;
(542 real changes made)

. replace Female5 = . if V15101==.;
(0 real changes made)

. replace Age5 = . if Female5==.;
(2,188 real changes made, 2,188 to missing)

. replace Age5 = . if Male5==.;
(0 real changes made)

. replace White5 = . if V15101==.;
(2,190 real changes made, 2,190 to missing)

. replace Black5 = . if V15101==.;
(2,190 real changes made, 2,190 to missing)

. replace Hispan5 = . if V15101==.;
(2,190 real changes made, 2,190 to missing)

. replace AmerInd5 = . if V15101==.;
(2,190 real changes made, 2,190 to missing)

. replace Asian5 = . if V15101==.;
(2,190 real changes made, 2,190 to missing)

. replace V15195 = . if (V15195 <= -6 );
(0 real changes made)

. rename V15195 Visit5;

. replace Visit5=0 if Visit5==6;
(69 real changes made)

. replace Visit5=0.25 if Visit5==4;
variable Visit5 was int now float
(230 real changes made)

. replace Visit5=0.75 if Visit5==3;
(289 real changes made)

. replace Visit5=0 if Visit5==5;
(143 real changes made)

. replace Visit5=1 if Visit5==2;
(282 real changes made)

. replace Visit5=2 if Visit5==1;
(588 real changes made)

. replace V15301 = . if (V15301 <= -6 );
(0 real changes made)
```

```
. rename V15301 Satisfaction5;

. gen SatisfactionDummy5=1 if Satisfaction5<=3;
(2,381 missing values generated)

. replace SatisfactionDummy5=0 if Satisfaction5>3;
(2,381 real changes made)

. replace SatisfactionDummy5=. if Satisfaction5==.;
(2,305 real changes made, 2,305 to missing)

. replace V15401 = . if (V15401 <= -6 );
(0 real changes made)

. gen Married5 = 1 if V15401==1;
(2,889 missing values generated)

. replace Married5 = 0 if V15401!=1;
(2,889 real changes made)

. replace Married5 = . if V15401==.;
(2,190 real changes made, 2,190 to missing)

. replace V15751 = . if (V15751 <= -6.0 );
(0 real changes made)

. rename V15751 Housework5;

. replace V15848 = . if (V15848 <= -6.0 );
(0 real changes made)

. rename V15848 Drinks5;

. replace V16003 = . if (V16003 <= -6 );
(0 real changes made)

. gen Sleepless5=0 if V16003<3;
(2,473 missing values generated)

. replace Sleepless5=1 if V16003==3;
(172 real changes made)

. replace Sleepless5=. if V16003==.;
(0 real changes made)

. replace V16118 = . if (V16118 <= -6 );
(0 real changes made)

. gen SelfEmployed5 = 1 if V16118==1;
(3,499 missing values generated)

. replace SelfEmployed5 = 0 if V16118>1;
(3,499 real changes made)

.  replace SelfEmployed5 = . if V16118==.;
(3,022 real changes made, 3,022 to missing)
```

```
.  gen PrivateEmployee5 = 1 if V16118==2;
(3,266 missing values generated)

. replace PrivateEmployee5 = 0 if V16118!=2;
(3,266 real changes made)

.  replace PrivateEmployee5 = . if V16118==.;
(3,022 real changes made, 3,022 to missing)

.  gen GovernmentEmployee5 = 1 if V16118==3;
(3,491 missing values generated)

. replace GovernmentEmployee5 = 0 if V16118!=3;
(3,491 real changes made)

.  replace GovernmentEmployee5 = . if V16118==.;
(3,022 real changes made, 3,022 to missing)

. replace V16119 = . if (V16119 <= -6 );
(0 real changes made)

. rename V16119 SuperviseOthers5;

. replace SuperviseOthers5=0 if SuperviseOthers5==5;
(353 real changes made)

. replace V16124 = . if (V16124 <= -6 );
(0 real changes made)

. rename  V16124 AmountEarned5;

. replace AmountEarned5 = AmountEarned5/52;
variable AmountEarned5 was long now double
(547 real changes made)

. gen WhiteAmountEarned5= White5*AmountEarned5;
(3,067 missing values generated)

. gen BlackAmountEarned5= Black5*AmountEarned5;
(3,067 missing values generated)

. gen AmerIndAmountEarned5= AmerInd5*AmountEarned5;
(3,067 missing values generated)

. gen AsianAmountEarned5= Asian5*AmountEarned5;
(3,067 missing values generated)

. gen HispanAmountEarned5= Hispan5*AmountEarned5;
(3,067 missing values generated)

. replace V16403 = . if (V16403 <= -6 );
(0 real changes made)

. gen Religious5 = 1 if V16403 < 3;
(2,470 missing values generated)

. replace Religious5 = 0 if V16403 > 2;
```

```
(2,470 real changes made)

. replace Religious5 =. if V16403 ==.;
(2,305 real changes made, 2,305 to missing)

. reshape long Satisfaction AmountEarned Black BlackAmountEarned White
WhiteAmountEarned Hispan HispanAmountEarned AmerInd A
> merIndAmountEarned AsianAmountEarned Asian Sleepless SelfEmployed
PrivateEmployee GovernmentEmployee SuperviseOthers Relig
> ious Visit Male Female SatisfactionDummy Drinks Housework Married Age,
i(CaseId) j(Wave);
(note: j = 1 2 3 4 5)

Data                               wide   ->   long
-----------------------------------------------------------------------------
Number of obs.                     3617   ->   18085
Number of variables                 159   ->      56
j variable (5 values)                    ->   Wave
xij variables:
Satisfaction1 Satisfaction2 ... Satisfaction5->Satisfaction
AmountEarned1 AmountEarned2 ... AmountEarned5->AmountEarned
              Black1 Black2 ... Black5   ->   Black
BlackAmountEarned1 BlackAmountEarned2 ... BlackAmountEarned5-
>BlackAmountEarned
              White1 White2 ... White5   ->   White
WhiteAmountEarned1 WhiteAmountEarned2 ... WhiteAmountEarned5-
>WhiteAmountEarned
           Hispan1 Hispan2 ... Hispan5   ->   Hispan
HispanAmountEarned1 HispanAmountEarned2 ... HispanAmountEarned5-
>HispanAmountEarned
         AmerInd1 AmerInd2 ... AmerInd5   ->   AmerInd
AmerIndAmountEarned1 AmerIndAmountEarned2 ... AmerIndAmountEarned5-
>AmerIndAmountEarned
AsianAmountEarned1 AsianAmountEarned2 ... AsianAmountEarned5-
>AsianAmountEarned
              Asian1 Asian2 ... Asian5   ->   Asian
   Sleepless1 Sleepless2 ... Sleepless5   ->   Sleepless
SelfEmployed1 SelfEmployed2 ... SelfEmployed5->SelfEmployed
PrivateEmployee1 PrivateEmployee2 ... PrivateEmployee5->PrivateEmployee
GovernmentEmployee1 GovernmentEmployee2 ... GovernmentEmployee5-
>GovernmentEmployee
SuperviseOthers1 SuperviseOthers2 ... SuperviseOthers5->SuperviseOthers
   Religious1 Religious2 ... Religious5   ->   Religious
              Visit1 Visit2 ... Visit5   ->   Visit
                 Male1 Male2 ... Male5   ->   Male
           Female1 Female2 ... Female5   ->   Female
SatisfactionDummy1 SatisfactionDummy2 ... SatisfactionDummy5-
>SatisfactionDummy
           Drinks1 Drinks2 ... Drinks5   ->   Drinks
   Housework1 Housework2 ... Housework5   ->   Housework
         Married1 Married2 ... Married5   ->   Married
                     Age1 Age2 ... Age5   ->   Age
-----------------------------------------------------------------------------

. drop V103 V104 V401 V1005 V1114 V1612 V2000 V2004 V4103 V4401 V5003 V5120
V5609 V10018 V10119 V10285 V10329 V10450 V12021
> V12147 V12327 V12380 V12554 V15101 V15401 V16003 V16118 V16403;
```

```
. #delimit cr /* return the signal for end of each line to the default of
Carriage Return  */
delimiter now cr
.
end of do-file

. save "\\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop\FinalDataSet.dta",
replace
file \\apporto.com\dfs\DVD\Users\namulat_dvd\Desktop\FinalDataSet.dta saved

. exit, clear
```