# Current use of Family Planning, and Women's Status in Bangladesh <br> Hani A. Guend, MS MPHS PhD <br> Université du Québec, Institut National de la Recherche Scientifique, Canada 

## Introduction

Bangladesh fertility in one of the most studied cases in the developing world. This paper is work in progress hence a thorough review of the literature is left to future versions. I shall however, underscore the most important findings about fertility decline in Bangladesh that is most relevant to our purpose here. Even in a context of extreme poverty, a family planning program can lead to rapid fertility decline as Cleland and colleagues demonstrated for the case of Bangladesh. In this respect, Bangladesh stands in a stark contrast with other Muslim populations that enjoy higher standard of living. That said I take the space to lay down the theory and methods driving my research on Muslim fertility. This study is part of a research agenda that aims to achieve repetitive testing of the theory on Muslim fertility.

In his presidential address to the PAA, and later in a book, Arland Thornton (2005) developed a grand theory to explain the historical family change which begun in Northwestern Europe and spread elsewhere. This theory displays the desired characteristics Rupert Vance (1952) deemed necessary for a scientific demographic theory. Building upon Thornton's seminal ideas and Vance's methodological principles, analysts developed specific conceptual frameworks to analyze reproductive behavior in social settings located out of the original cradle of developmental idealism and readings
history sideways, but where this ideology of social change is advocated and times forcefully (see, for example, several studies posted on Thornton’s website dedicated to research on developmental idealism worldwide). In this vein, Guend (2004) developed a conceptual framework for the study of Muslim reproductive behavior.

The framework provides a narrative that shows how two major forces of social change in the Muslim world impact reproductive behavior. First, developmental idealism (DI) (Thornton 2005) was postulated as a major path to progress and implemented through policies that shaped the socio-economic landscapes in several Muslim countries. Second, under the impact of endogenous social forces but also as reactions to implementations of DI, Indigenous reformation movements emerged and contributed to changing social norms and beliefs in directions favorable to acceptance of FP as a fact of life. The causal paths of this large conceptual framework is discussed in more detail elsewhere and tested at the macro social level with countries as units of analysis (Guend 2007 IUSSP Seminar, forthcoming).

Pakistan and Bangladesh emerged as independent states from an original single nation. However, post independence Pakistan and Bangladesh followed paths of development that display notable differences with regard to DI and IR. Hence, the pertinence of a case-control approach to analyzing their experiences which provide almost a perfect natural experiment. Unfortunately, Pakistan’s DHS 2007 data lack the minimum number of variables suitable for comparison with Bangladesh's. So, I focus on the case of Bangladesh hoping the study gains in depth what it lost in breath. As
mentioned above, this analysis follows previous studies all aimed to test the conceptual framework for Muslim's fertility. It tests, at the micro level, hypothesis derived from the large conceptual framework.

## Conceptual Framework

I claim that change in peoples' worldviews is a trigger of processes behind driving the change in reproductive behavior with developmental idealism and Islamic reformism fueling the process. Woman's status and empowerment is a particularly powerful marker of social change along the line of developmental idealism. Hence the set of hypotheses: (1) women's empowerment leads to adoption of small ideal family size, and consequently to adoption of family planning; (2) adoption of family planning is the more effective, the more exposed to the tenets of developmental idealism; (3) net of other socioeconomic and background factors, women's empowerment and their values and beliefs are important determinant of practice of family planning.

Such a test requires an appropriate conceptual framework that links the macro theory to the empirical data. Simon's (1999) Dimensions of Variation in Attitudes to Reproductive Behavior provides such a framework. Although, it was initially designed for the study of the European population, it is readily adapted to a Muslim context. However, very few data are available to fully implement the model. Only the Turkish DHS provided a battery of questions on women values and beliefs that are adequate for such testing. BDHS 2004 provides only a few questions that can be stretched to derive proxies for women's status. The Dimensions of Variation in Attitudes to Reproductive

Behavior is readily adapted to the Muslim settings. I use the adapted framework as a theoretical construct to link the broad theory outlined above to the individual level of investigation and facilitate the interpretation of women's values, beliefs, and lifestyle in light of the larger conceptual framework.

Developmental Idealism is conceptualized as the vehicle of Individualism while traditional Islam marked by the Sufi Ethos is a match to Holism on the continuum Holism-Individualism as illustrated in figure 1. A traditional Muslim culture marked by the Sufi Ethos supports a holistic worldview which involves beliefs and values largely influenced by the Sufi (mystic) meanings and symbols. This conception sits on one end of the axis Holism-Individualism; on the other end, sits Developmental Idealism as it translates into a secular project of society consistently promoted since Bangladesh became an independent state.

As a corollary of these top-down social and political changes, one shall expect to find a polarization of values, beliefs, and lifestyles along the line of the axis HolismIndividualism in the realm of family ideals and FP. These poles reflect two opposite socio-cultural universes: modernism versus traditionalism. The two ideal-types that sit on the ends of the continuum Holism-Individualism are mitigated along the axis RelativismAbsolutism. The intersection of these two dimensions creates four moral universes identified as Fundamentalism, Moral Individualism, Pragmatism, and Conformism.

Figure 1 about here

Variables with potential explanatory power are identified by reference to this framework. Thornton's (2002) enumerates the dimensions of traditionalism and modernity; some of which can be tested using BDHS 2004 data such as family organized society, family solidarity, extended households, young and universal marriage, and low regard for women's rights and autonomy; as well as child marriage, and veils; as markers of traditionalism. Other dimensions associated with modern family are social structure that has non-familial elements, extensive individualism, many nuclear households, older and less universal marriage, and high regard for women's autonomy and rights, as well as family planning and low fertility.

Bangladesh is a family organized society where marriage is almost universal as illustrated by the high value of Coale's index of proportion married (0.851 in 2000), and early marriage is widespread. In such social settings, women's autonomy is likely to have important explanatory power for changes in reproductive behavior. In social systems characterized by widespread seclusion of women, the veil is of particular importance as a marker for women's autonomy, an important dimension dynamic of social change behind fertility decline.

## Data

I use a nationally representative sample of women in reproductive age (10 to 49 years) to model the associations of women's status with current use of family planning (FP) in Bangladesh. In BDHS 2004, the following questions are used to elicit the outcome variable: current use of family planning (FP). Respondents who knew at least one method
of FP are asked whether they had ever used the known methods. Then, they are probed further by asking them whether they ever used anything or tried in any way to delay or avoid getting pregnant. Bangladesh Demographic and Health Survey 2004 (BDHS 2004) sampled 11440 women representative of all women aged 10 to 49 years. BDHS 2004 is one in a series of DHS implemented in Bangladesh. The standard nature of these surveys and the widespread diffusion of the data and reports warrant skipping a detailed presentation of the survey.

## Methods

The statistical analyses described below account for the weighted, multistage, stratified cluster design of the sample. The women's questionnaire of the BDHS 2004 contains few but well targeted country specific questions susceptible to characterize women's autonomy and lifestyle well enough to allow testing the associations of women's status with their use of family planning. These country specific questions add to other generic questions which can be interpreted as markers of social change in the direction of Developmental Idealism. For example, age at marriage is usually used for its strictly demographic effect: reduction of periods of exposure to pregnancy. It can also be interpreted as a proxy to social change wherein early (child) marriage is a marker of traditionalism and mature marriage a marker of modernism.

In traditional Muslim societies women's seclusion is a social norm that plays in favor of high fertility. For one, secluded women's primary role in life is childbearing. For two, seclusion as a social system cannot function in a context of low fertility. Children,
and many of them, are active agents of such system. A mother relays on her children for many vital social functions when they are young and expects to gain some power by proxy once they become adults.

Change in women's status through employment and education, for example, necessarily breaches this system. I use the responses to the country specific questions about women's autonomy and empowerment in woman's questionnaire to define the variables that are markers of woman's status. These variables are then included in the statistical models along with appropriate controls.

## Multinomial logistic regressions

I fit a multinomial logistic regression to the data to model current use of family planning (FP). FP is modeled as a categorical outcome variable with categories: use of traditional methods of FP, use of modern methods, versus no use/folkloric methods only. The models include controls for demographic and socioeconomic variables; variables for nuptiality, fertility and reproductive behavior; as well as variables for exposure to the media and to promotion of family planning.

The explanatory variables describe the respondent's autonomy and, because of the way the question are designed, gender equality and women empowerment within the household. For all statistical analyses except PCA (Principal Components Analysis), I use STATA commands for survey data which take account of the survey design, and uses robust variance estimation that limits biases due to any eventual model misspecification. Because of the complex survey design, the multinomial logistic estimations are based on
the pseudo likelihood instead of the usual likelihood function. As a consequence, we cannot use the usual the likelihood ratio test for testing simultaneously several covariates. To get around this limitation, I use PCA to summarize the contents of the women's autonomy variables into four uncorrelated components which measure dimension of women's status.

I fit three models to the data. Model 1 does not include any of the woman's autonomy variables leaving this dimension to be captured by the usual generic variables such as education and occupation. Model 2 is a full model with all variables included individually. Model 3 includes the scores of the principal components analysis as new variables as dimensions of woman's status.

## Factors analysis of women's status

I implemented a factor analysis of the status variables for two reasons: methodological and substantial. The first is to overcome the methodological obstacle of not being able to apply statistical test to several variables simultaneously because of the complex survey design. The substantial reason has to do with the underlying theory of this investigation. I use principal components analysis hoping to squeeze out of the women status variables dimensions that are interpretable by reference to the adapted Simons' conceptual framework discussed above.

I used the survey weight in the PCA procedure and retained four components. The loading and then used to generate components scores for all respondents. Since each score is a combination of standardized variables, a new score is only possible if all
included variables have no missing values. This requirement resulted into limiting the number of variable used to eight out of thirteen available not collinear initial variables. The scoring coefficients of the principal components are presented in Appendix 1. .

## Description of Covariates

The explanatory variables are derived from the country specific questions about women's autonomy and lifestyle. There are sixteen such variables but I retained only thirteen for the analysis dropping those that are collinear. These variables are included in the models in two ways: (1) as single variables, and (2) transformed into four principal components. The PCA procedure required that I drop five more variables that have too many missing values in order to be able to create the four standardized scores. These independent scores summarize the content of the eight variables. The purpose is to be able to test the significance of a group of variables as an interpretable status dimension.

In the full model, all covariates are categorical except four variables.
Respondent's and partner's ages which are continuous on a scale of zero to seven that refers to 5-year age groups covering respondent's reproductive life span 10 to 50 years; and a scale of zero to nine that refers to five years age groups from 15 to 59 years and to 60 years and higher for the partners. Dummy variables are recoded in a way that facilitates according to the conceptual framework outlined in previous section, and more generally along the line of developmental idealism. Similarly both the number of children ever born and the number of children at first use are continuous integer variables.

Along with respondent's and partner's ages, I use the following variables to control for socioeconomic background: (1) respondent's and partner's education modeled as a 4-category variable for primary, secondary and higher with no education as reference category; (2) respondent and partner's occupations as 6-category variable. The categories are "household, domestic", "unskilled manual, agriculture employee, other", "skilled manual", "sales, agriculture-self employed", "professional, technical, managerial"; with "not working" as the reference category.

Three variables relate to the geographic context of the respondent: (1) region of actual residence is a 6-category variable for Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Sylhet with Barisal as reference category; (3) place of residence as a 4-category variable for "capital, large city" as reference category, "small city", "town", and "countryside"; and (4) childhood place of residence with the same categories as the latter.

Several variables account for the respondent's reproductive aspirations and behavior. Three 4-category variables express women’s ideal number of children, ideal number of boys and ideal number of girls. The number of children ever born and the number of living children at first use of FP are used as continuous that control for achieved fertility. Self reported of voluntary termination of pregnancy is reported as a dummy as "abortion". I recoded "age at first marriage" as a 4-category variable; each category corresponds to one quartile, with the first quartile that is less than 13 years as reference category.

The variable religion classifies respondent into three categories: Islam; Hinduism; Buddhism, Christianity and others; with the first as reference.

Several variables characterize women's exposure to the media in Bangladesh. First, the three generic DHS questions about frequency of reading newspapers and magazines, listening to the radio, and watching television are all maintained in the model. Four more dummy variables provide insight about the influence of the media, namely variables derived from asking the respondent whether she heard about FP in the radio, in television, or whether she read about it in the newspaper last month; and whether she was visited by a FP worker last six months.

Finally, for lack of better, I used the eight country specific questions to account for women's status and lifestyle. Each variable is a proxy for woman's autonomy and power, each account for who has the final say about one important dimension of a woman life: (1) her own healthcare, (2) purchase of large household items, (3) purchase of current items, (4) visit to her family and friends, (5) decide what to cook, (6) her frequency of shopping, (7) her frequency of traveling outside the village, and (8) whether she goes to the hospital or medical center alone. All eight variables are tested separately in the full model; then used to create four new totally independent variables through application of principal components analysis. The new four variables are then used as explanatory variables in model 3.

## Results and discussion

The full model (model 2) tests individually the associations of all variables with the outcome current use of family planning. The restricted model (model 1) ignores all together the dimensions of women's autonomy, while the parsimonious model (model 3) substitutes the eight woman's status variables by for uncorrelated variables which summarize their content. I present the full output of the multinomial logistic regression models in the appendices 1 to 3 , and summarize the results in table 2 . The table reports the odds ratios (OR) and the level of significance the p-value for all three models. The threshold for conclusiveness is $\mathrm{p}<.05$. However, the table shows also non-significant values for between models comparative purpose. I also estimated, but do not report, the design effect (DEFF) defined as the ratio of the variance of the coefficient our survey data yield to the variance derived under simple random sampling assumptions.

Tables 2 about here

## Descriptive Results

The scores for each component of the PCA of the variables about women's autonomy are displayed in table 1 . As mentioned the method section, the aim of PCA is to define four profiles hopefully easily interpretable on Simons’ adapted device. Reaching this goal requires more questions about women's values and beliefs similar to the battery of question provided in Turkey’s DHS 1993. For lack of better, we have to do with what we got.

Component 1 define the profile of a traditional woman well empowered within the household. She has the last say on the fundamental decisions such as her own
healthcare, large purchase for the household as well as on normal purchase. She also has some freedom to visit with family and friends. We can characterize this profile as one of a traditional woman in a well integrated family setting. Let's label this profile as conservative empowered.

Similarly, component 3 points to a woman who enjoy no power within the household except for the traditional role of providing for the family needs essentially putting food on the table. Her autonomy is limited to deciding what food to cook but not even have the autonomy to go shopping. Let's call this profile that of a conservative dominated.

On the opposite component 2 hints to a public woman who has no power within the household and little say on decision about her own healthcare, big and small purchases, neither on food to cook. However she enjoy a quite exceptional freedom of movement out of the family network such as going shopping, traveling out of the village and going alone to the hospital or the medical center. Let's label this profile as one of modern dominated.

Finally, component 4 hints to the least autonomous woman. Like her sister conservative dominated, her role is confined to preparing food and shopping for it. But, she does not enjoy any freedom of movement, not even visiting family and friends or going to hospital alone.

More on this later by reference to Simons construct later....
Table 1 about here

## Analytical results

Not surprisingly, the proxies for going to hospital alone and frequency of traveling outside the village are associated with some advantage in use of modern family planning but are not significant for traditional methods of FP. These two characteristic are very likely to improve access to contraception. What is surprising is the association of the proxy for last say on own healthcare with lower odds for using both modern and traditional methods of FP. The way these proxies are recoded means that the more a woman has the last say on her own healthcare the least she is likely to use modern as well as traditional methods of FP. The puzzle might be resolved when we look at this characteristic in association with other dimensions of lifestyle. Women who have the last say on their own healthcare score poorly on other autonomy variables such as frequency of travel, frequency of going shopping, and going to hospital alone. All three variables actually give opportunity to women to have access to counselling about FP, and supply of contraception. So, being a conservative empowered woman does not serve well the family planning.

Perhaps, the most significant finding of this study is about the role of family planning worker the use of modern, and also traditional, methods of FP. The highest odds of being a current user of FP are associated with self-reported visit by family planning worker in the last six months. This finding underscores the statement that family planning alone can curve fertility even within a context of poverty (Cleland et al.). Another aspect of Bangladesh’s data that I sensed in previous analysis of BDHS 1997, is the sharp
character of the significance of the family planning variables to a point that it makes the analyst doubt about the appropriateness of the data. I experienced this situation with BDHS 1997. The questions in BDHS 2004 are more detailed but they led to similar conclusions with a remarkable stability of the significant variables as can be seen from the three models and during the process of their construction.

More on variables significance later...
Table 2 about here

## Conclusion

The models uncover a strong characteristic of the shift to parity dependent fertility in Bangladesh. Except for regional disparities, all socio-economic variables do not matter for the current use of modern methods of family planning. Based on the analysis of BDHS 1997, Guend (2004) concluded: "With regard to the likelihood of using modern methods of FP, it does not matter how old is a woman in Bangladesh, how much education she and her husband have, what occupation she and her husband do, what is their religion or whether they live in urban or rural area. Moreover even how many children she has does not matter much as long as she has had a mature marriage. What does matter much is exposure to sources of knowledge about family planning, and husband's approval of its practice." This conclusion remains fundamentally true. But to put it within the theoretical framework outlined in the introduction, it is more the individual's experiences, beliefs, and exposure to promotion of FP that matter rather than some structural determinants. We can repeat with Cleland and colleagues that a well
crafted FP program is susceptible to drive fertility down even within a context of poverty (Cleland et al. 1993, 1994).

The most important policy recommendation that stems from this study has to do with the data. Indeed, there is a need for more values, beliefs and lifestyle variables to be included as country specific questions in DHS surveys. These types of variables are desperately needed to understanding the variations of reproductive behaviour of Muslim populations cross nations and cross subpopulations with countries.

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Figure 1. Dimensions of variation in attitudes to reproductive behavior adapted from Simmons (1999)


Table 1. Scores for Principal Components of Women's Status Variables, BDHS 2004

| Status variables | Pcomp1 | Pcomp2 | Pcomp3 | Pcomp4 |
| :--- | :--- | :--- | :--- | :--- |
| Last say on own healthcare | 0.3890 | -0.2051 | -0.0326 | -0.3511 |
| Last say on large purchases | 0.4717 | -0.2459 | -0.0184 | 0.0106 |
| Last say on daily purchases | 0.4532 | -0.2255 | 0.0160 | 0.1434 |
| Last say on visiting family and friends | 0.4520 | -0.2327 | 0.0192 | -0.0212 |
| Last say on food to cook | 0.2159 | 0.2865 | 0.7177 | 0.5409 |
| Frequency respondent goes shopping | 0.2196 | 0.3155 | -0.6650 | 0.5622 |
| Frequency respondent travels | 0.2361 | 0.5608 | 0.1414 | -0.4364 |
| Can go to hospital medical center alone | 0.2565 | 0.5444 | -0.1437 | -0.2380 |

Table 2. Multinomial logistic regression models, Bangladesh 2004
A summary table of the results

| Outcome | Odds Ratios and Level of Statistical Significance |  |  |
| :---: | :---: | :---: | :---: |
| Variables | Model 1 | Model 2 | Model 3 |
| Use traditional methods of family planning (reference: $n \mathrm{use}$ ) |  |  |  |
| Partner's age (5-year age group continous) | 1.19** | 1.19** | 1.19** |
| Town de facto place of residence (ref. capital/large city) | 1.49* | 1.46+ | 1.48* |
| Partner skilled manual (ref. not working, agri-self, household) | 0.60* | 0.64* | 0.63* |
| Listen to the radio at least once a week (ref. not at all) | $0.80+$ | 0.80+ | $0.80+$ |
| Visited by family planning worker last 6 months | 1.42** | 1.41** | 1.41** |
| Respondent religion is Hinduism (ref. Islam) | 1.50* | 1.50* | 1.50* |
| Respondent's ideal number of children is three children (ref. 0/1) | 0.74 | 0.60* | 0.60+ |
| Final say on own healthcare (modeled as continuous score var.) | na | 0.90** | na |
| Pricipal comoponent 1, score variable | na | na | 0.94* |
| Use modern methods of family planning (reference: no use) |  |  |  |
| Respondent's region is Rajshahi (ref. barisal) | 1.70** | 1.66** | 1.66** |
| Respondent's region is Sylhet (ref. barisal) | 0.64** | 0.65** | 0.65** |
| Respondent education : primary (ref. no education) | 0.79** | 0.79** | 0.79** |
| Respondent education : secondary (ref. no education) | 0.76** | 0.79* | 0.79* |
| Partner's education: higher (ref. no education) | 0.73* | 0.75* | 0.80* |
| Respondent's occupation: unskilled labor, agri-employee, other (ref.not working) | 1.65** | 1.66** | 1.64** |
| Number of living children at first use of fp | 1.07** | 1.08** | 1.08** |
| Ever had a voluntary abortion | 0.79** | 0.79** | 0.79** |
| Watch tv less than once a week, (ref. not at all) | 1.26* | 1.24+ | 1.25+ |
| Visited by family planning worker last 6 months | 2.14** | 2.12** | 2.11** |
| Respondent religion is Hinduism (ref. Islam) | 1.43** | 1.43** | 1.43** |
| Respondent religion is Buddhism or Christianity (ref. Islam) | 1.49* | 1.30 | 1.27 |
| Respondent's ideal number of children 2, (ref. 0/1) | 0.65* | 0.63* | 0.63* |
| Respondent's ideal number of children 3, (ref. 0/1) | 0.62* | 0.58* | 0.59* |
| Respondent's ideal number of children 4+, (ref. 0/1) | 0.60+ | 0.55* | 0.55* |
| Final say on own healthcare (modeled as continuous score var. ) | Na | 0.88** | na |
| Final say on food to cook (modeled as continuous score var. ) | na | 1.15** | na |
| Frequency of traveling (modeled as continuous score var.) | na | 1.08* | na |
| Go to hospital/med ctr alone (modeled as continuous score var.) | na | 1.06* | na |
| Pricipal comoponent 1, score variable | na | na | 1.01 |
| Pricipal comoponent 2, score variable | na | na | 1.15** |
| Pricipal comoponent 3, score variable | na | na | 1.12** |
| Pricipal comoponent 4, score variable | na | na | $1.06+$ |

APPENDIX 1. Multinomial Regression Model 1, Without Women’s Status Variables BDHS 2004

| rspfp3 | RRR | Std. Err. | t | $P>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TRADITIONAL |  |  |  |  |  |  |
| rspage | 1.061051 | . 0570590 | 1.10 | 0.272 | . 9542432 | 1.179814 |
| prtnrage | 1.190652 | . 0488499 | 4.25 | 0.000 | 1.098071 | 1.291038 |
| _Iv024_2 | . 898462 | . 1736586 | -0.55 | 0.580 | . 6136014 | 1.315567 |
| _Iv024_3 | 1.082729 | . 1900617 | 0.45 | 0.651 | . 7657923 | 1.530836 |
| _Iv024_4 | 1.374459 | . 2563469 | 1.71 | 0.090 | . 9513172 | 1.985813 |
| _Iv024_5 | 1.351069 | . 2458748 | 1.65 | 0.100 | . 9435079 | 1.934681 |
| _Iv024_6 | 1.040306 | . 2416355 | 0.17 | 0.865 | . 6578709 | 1.64506 |
| _Iv026_1 | 1.133424 | . 2437419 | 0.58 | 0.561 | . 741533 | 1.732426 |
| Iv026_2 | 1.486237 | . 2954040 | 1.99 | 0.048 | 1.004115 | 2.199848 |
| -Iv026_3 | 1.119208 | . 1937755 | 0.65 | 0.516 | . 7953552 | 1.574927 |
| -Iv103_1 | . 860567 | . 3999431 | -0.32 | 0.747 | . 344013 | 2.152754 |
| -Iv103_2 | 1.086711 | . 2587993 | 0.35 | 0.727 | . 6792958 | 1.738477 |
| -Iv103_3 | 1.183375 | . 2607219 | 0.76 | 0.446 | . 7662026 | 1.827685 |
| -Iv106_1 | 1.073713 | . 1233943 | 0.62 | 0.537 | . 8558897 | 1.346971 |
| -Iv106_2 | 1.033565 | . 1670222 | 0.20 | 0.838 | . 7514054 | 1.421677 |
| -Iv106_3 | 1.289044 | . 3612087 | 0.91 | 0.366 | . 7415999 | 2.240608 |
| -Iv701_1 | . 963414 | . 1379182 | -0.26 | 0.795 | . 7263598 | 1.277833 |
| _Iv701_2 | 1.225884 | . 1630519 | 1.53 | 0.127 | . 9429392 | 1.593732 |
| -Iv701_3 | . 988967 | . 1968022 | -0.06 | 0.956 | . 6678407 | 1.464503 |
| Irspocc_1 | 1.238719 | . 2466925 | 1.07 | 0.284 | . 8362433 | 1.834903 |
| -Irspocc_2 | 1.316960 | . 2851646 | 1.27 | 0.205 | . 8590917 | 2.018858 |
| -Irspocc_3 | . 949823 | . 2115609 | -0.23 | 0.817 | . 612059 | 1.473982 |
| _Irspocc_4 | . 901560 | . 1583870 | -0.59 | 0.556 | . 6374767 | 1.275042 |
| Irspocc_5 | . 651713 | . 2588263 | -1.08 | 0.282 | . 2976907 | 1.426748 |
| Iprtnrocc_1 | . 636200 | . 1458647 | -1.97 | 0.050 | . 4047086 | 1.000103 |
| Iprtnrocc_2 | 1.095587 | . 2443734 | 0.41 | 0.683 | . 7055494 | 1.701244 |
| Iprtnrocc_3 | . 599342 | . 1339824 | -2.29 | 0.023 | . 3855931 | . 9315796 |
| Iprtnrocc_4 | 1.078135 | . 2363799 | 0.34 | 0.732 | . 6995396 | 1.661627 |
| Iprtnrocc_5 | 1.181495 | . 3820028 | 0.52 | 0.607 | . 624307 | 2.235969 |
| v511 | 1.017050 | . 0190589 | 0.90 | 0.368 | . 9801342 | 1.055356 |
| v201 | 1.032407 | . 0317478 | 1.04 | 0.301 | . 9716328 | 1.096983 |
| v310 | . 982830 | . 0369314 | -0.46 | 0.645 | . 912602 | 1.058462 |
| rspabort | . 919313 | . 0822471 | -0.94 | 0.348 | . 7705587 | 1.096784 |
| _Iv157_1 | 1.098310 | . 1718557 | 0.60 | 0.550 | . 806591 | 1.495536 |
| -Iv157_2 | 1.044667 | . 2129894 | 0.21 | 0.831 | . 6986885 | 1.561968 |
| -Iv157_3 | . 983683 | . 2939269 | -0.06 | 0.956 | . 5455444 | 1.7737 |
| -IV158_1 | . 972047 | . 1455079 | -0.19 | 0.850 | . 7234784 | 1.306018 |
| _Iv158_2 | . 803584 | . 0997373 | -1.76 | 0.080 | . 6290493 | 1.026546 |
| -Iv158_3 | . 895262 | . 1344419 | -0.74 | 0.462 | . 6656997 | 1.203987 |
| -Iv159_1 | 1.095107 | . 1776237 | 0.56 | 0.576 | . 7952055 | 1.508111 |
| _Iv159_2 | 1.087720 | . 1294530 | 0.71 | 0.481 | . 8600867 | 1.375599 |
| _Iv159_3 | 1.009726 | . 1507956 | 0.06 | 0.948 | . 7520397 | 1.355708 |
| v384a | . 999563 | . 1278710 | -0.00 | 0.997 | . 7766008 | 1.286539 |
| v384b | . 937411 | . 1215961 | -0.50 | 0.619 | . 7257479 | 1.210806 |
| v384c | . 941727 | . 1653049 | -0.34 | 0.733 | . 6660723 | 1.331463 |
| $v 393$ | 1.417545 | . 1581256 | 3.13 | 0.002 | 1.137516 | 1.76651 |
| Irspreli_1 | 1.502069 | . 2920787 | 2.09 | 0.038 | 1.023475 | 2.204462 |
| Irspreli_2 | 1.287303 | . 3660316 | 0.89 | 0.376 | . 7345945 | 2.255869 |
| _Irspideal~2 | . 742667 | . 1887860 | -1.17 | 0.243 | . 4497653 | 1.226315 |
| Irspideal~3 | . 622244 | . 1639418 | -1.80 | 0.073 | . 3700074 | 1.04643 |
| _Irspideal~4 | . 485465 | . 2086199 | -1.68 | 0.094 | . 2079449 | 1.133362 |
| _Irspboys_1 | . 805659 | . 2337555 | -0.74 | 0.457 | . 4545137 | 1.428091 |
| -Irspboys_2 | . 831186 | . 2645908 | -0.58 | 0.562 | . 4435496 | 1.557595 |
| Irspboys_3 | 1.136473 | . 5354286 | 0.27 | 0.786 | . 4486172 | 2.879005 |
| Irspgrls_1 | 1.140638 | . 3103365 | 0.48 | 0.629 | . 6668464 | 1.951057 |
| Irspgrls_2 | 1.186000 | . 4707557 | 0.43 | 0.668 | . 5419791 | 2.595295 |
| _Irspgrls_3 | 2.191644 | 1.8660330 | 0.92 | 0.358 | . 4085381 | 11.75730 |

(Outcome rspfp3==never/folk is the comparison group)

APPENDIX 1 (Cont.). Multinomial Regression Model 1, Without Women's status Variables BDHS 2004

| rspfp3 | RRR | Std. Err. | t | $p>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MODERN |  |  |  |  |  |  |
| rspage | 1.022525 | . 0350504 | 0.65 | 0.517 | . 9556594 | 1.09407 |
| prtnrage | 1.011703 | . 0262634 | 0.45 | 0.655 | . 9611919 | 1.064869 |
| _Iv024_2 | 895810 | . 0935704 | -1.05 | 0.294 | . 7289812 | 1.100818 |
| -Iv024_3 | 1.043237 | . 0986869 | 0.45 | 0.655 | . 8656236 | 1.257295 |
| -Iv024_4 | 1.141403 | . 1218395 | 1.24 | 0.217 | . 9246466 | 1.408973 |
| -Iv024_5 | 1.697166 | . 1564341 | 5.74 | 0.000 | 1.414968 | 2.035646 |
| _Iv024_6 | . 639765 | . 0889602 | -3.21 | 0.002 | . 4862688 | . 8417149 |
| _Iv026_1 | . 796760 | . 1824581 | -0.99 | 0.322 | . 5071208 | 1.251824 |
| _Iv026_2 | 1.228543 | . 2207772 | 1.15 | 0.254 | . 8618091 | 1.751337 |
| -Iv026_3 | 853287 | . 1397723 | -0.97 | 0.334 | . 6176487 | 1.178824 |
| _Iv103_1 | 1.075187 | . 2730475 | 0.29 | 0.776 | . 6514596 | 1.77452 |
| -Iv103_2 | 1.116121 | . 179801 | 0.68 | 0.496 | . 8122305 | 1.533709 |
| -Iv103_3 | 1.007151 | . 1165416 | 0.06 | 0.951 | . 8015788 | 1.265443 |
| -Iv106_1 | . 787354 | . 0566532 | -3.32 | 0.001 | . 6831519 | . 9074505 |
| _Iv106_2 | . 755709 | . 0722009 | -2.93 | 0.004 | . 625881 | . 9124671 |
| _Iv106_3 | . 806134 | . 1440631 | -1.21 | 0.229 | . 566608 | 1.146915 |
| -Iv701_1 | . 897858 | . 068111 | -1.42 | 0.157 | . 7730511 | 1.042814 |
| -Iv701_2 | 849005 | . 0757367 | -1.83 | 0.068 | . 7119917 | 1.012385 |
| Iv701_3 | . 726309 | . 0924809 | -2.51 | 0.013 | . 5649638 | . 9337329 |
| Irspocc_1 | 1.133395 | . 1602099 | 0.89 | 0.377 | . 8575588 | 1.497954 |
| _Irspocc_2 | 1.649114 | . 2328583 | 3.54 | 0.001 | 1.24814 | 2.178903 |
| _Irspocc_3 | 1.061023 | . 1688298 | 0.37 | 0.710 | . 7751489 | 1.452328 |
| _Irspocc_4 | . 994667 | . 1047448 | -0.05 | 0.960 | . 8080668 | 1.224357 |
| Irspocc_5 | . 728224 | . 2069629 | -1.12 | 0.266 | . 4156713 | 1.275793 |
| Iprtnrocc_1 | . 849850 | . 1664696 | -0.83 | 0.407 | . 5774366 | 1.250779 |
| -Iprtnrocc_2 | 1.201862 | . 2342598 | 0.94 | 0.347 | . 8181729 | 1.765486 |
| -Iprtnrocc_3 | 856837 | . 1518466 | -0.87 | 0.384 | . 6040204 | 1.215472 |
| -Iprtnrocc_4 | 1.368208 | . 2496361 | 1.72 | 0.087 | . 9545924 | 1.961038 |
| _Iprtnrocc_5 | 1.377158 | . 329129 | 1.34 | 0.182 | . 8594234 | 2.206788 |
| v511 | 995657 | . 0123973 | -0.35 | 0.727 | . 9714962 | 1.020419 |
| v201 | 983683 | . 0225953 | -0.72 | 0.475 | 940099 | 1.029288 |
| v310 | 1.069325 | . 0265033 | 2.70 | 0.007 | 1.018294 | 1.122914 |
| rspabort | . 792740 | . 0439347 | -4.19 | 0.000 | . 7106303 | . 884337 |
| _Iv157_1 | 1.017643 | . 100871 | 0.18 | 0.860 | . 8368816 | 1.237449 |
| -Iv157_2 | 1.007370 | . 1339188 | 0.06 | 0.956 | . 7749645 | 1.309472 |
| _Iv157_3 | 1.107676 | . 237159 | 0.48 | 0.633 | . 7260388 | 1.689919 |
| _Iv158_1 | . 971858 | . 0941592 | -0.29 | 0.769 | . 8027629 | 1.176571 |
| -Iv158_2 | 917400 | . 0756091 | -1.05 | 0.297 | . 7797245 | 1.079385 |
| -Iv158_3 | 1.152677 | . 1195825 | 1.37 | 0.172 | . 9393266 | 1.414487 |
| -Iv159_1 | 1.260471 | . 145292 | 2.01 | 0.046 | 1. 004077 | 1.582336 |
| -Iv159_2 | 1.104050 | . 0911067 | 1.20 | 0.232 | . 9381716 | 1.299258 |
| -Iv159_3 | 1.215614 | . 1419365 | 1.67 | 0.096 | . 9654963 | 1.530527 |
| v384a | . 916741 | . 0716267 | -1.11 | 0.267 | . 7857789 | 1.06953 |
| v384b | 992364 | . 0904212 | -0.08 | 0.933 | . 8290841 | 1.1878 |
| v384c | 1.068805 | . 1394115 | 0.51 | 0.611 | . 8262958 | 1.382489 |
| v393 | 2.140242 | . 2190826 | 7.43 | 0.000 | 1.748856 | 2.619219 |
| Irspreli_1 | 1.434135 | . 1489969 | 3.47 | 0.001 | 1.168344 | 1.760393 |
| Irspreli_2 | 1.489970 | . 2526988 | 2.35 | 0.020 | 1.066248 | 2.082078 |
| Irspideal-2 | . 648549 | . 1198104 | -2.34 | 0.020 | . 4504582 | . 9337523 |
| Irspideal-3 | . 621849 | . 1264806 | -2.34 | 0.021 | . 4163027 | . 9288827 |
| _Irspideal-4 | 600516 | . 1716262 | -1.78 | 0.076 | . 3416982 | 1.055375 |
| _Irspboys_1 | 1.175632 | . 2399411 | 0.79 | 0.429 | . 7859495 | 1.758522 |
| _Irspboys_2 | 980405 | . 2171835 | -0.09 | 0.929 | . 6332794 | 1.517804 |
| _Irspboys_3 | 1.194666 | . 426565 | 0.50 | 0.619 | . 5906172 | 2.416501 |
| _Irspgrls_1 | 1.037339 | . 2079487 | 0.18 | 0.855 | . 6984838 | 1.540584 |
| -Irspgrls_2 | . 856529 | . 2187142 | -0.61 | 0.545 | . 5175463 | 1.417539 |
| -Irspgrls_3 | . 462112 | . 416768 | -0.86 | 0.393 | . 0779804 | 2.738475 |

(Outcome rspfp3==never/folk is the comparison group)

APPENDIX 2. Multinomial Regression Model 2, With Women’s Status Variables BDHS 2004

| rspfp3 | RRR | Std. Err. | t | $P>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TRADITIONAL |  |  |  |  |  |  |
| rspage | 1.061380 | . 0597055 | 1.06 | 0.291 | . 9498859 | 1.18596 |
| prtnrage | 1.190082 | . 0490104 | 4.23 | 0.000 | 1.097212 | 1.290814 |
| _Iv024_2 | . 912620 | . 1757998 | -0.47 | 0.636 | . 6240738 | 1.334579 |
| Iv024_3 | 1.063119 | . 1824714 | 0.36 | 0.722 | . 757733 | 1.491583 |
| Iv024_4 | 1.344554 | . 2476359 | 1.61 | 0.110 | . 934907 | 1.933695 |
| _Iv024_5 | 1.304201 | . 2311984 | 1.50 | 0.136 | . 9192876 | 1.850282 |
| Iv024_6 | 1.044721 | . 2457628 | 0.19 | 0.853 | . 6568039 | 1.661747 |
| Iv026_1 | 1.114341 | . 2360814 | 0.51 | 0.610 | . 7336534 | 1.692566 |
| Iv026_2 | 1.456700 | . 2853532 | 1.92 | 0.056 | . 9897466 | 2.143957 |
| Iv026_3 | 1.076031 | . 1783515 | 0.44 | 0.659 | . 7758979 | 1.492262 |
| Iv103_1 | . 873523 | . 425439 | -0.28 | 0.782 | . 3341654 | 2.283425 |
| _Iv103_2 | 1.056320 | . 2594938 | 0.22 | 0.824 | . 6505889 | 1.715082 |
| _Iv103_3 | 1.152322 | . 2577377 | 0.63 | 0.527 | . 7411855 | 1.791518 |
| Iv106_1 | 1.076160 | . 1247587 | 0.63 | 0.527 | . 8561386 | 1.352725 |
| _Iv106_2 | 1.024633 | . 1673937 | 0.15 | 0.882 | . 7423135 | 1.414326 |
| _Iv106_3 | 1.355465 | . 3801753 | 1.08 | 0.280 | . 7794102 | 2.357276 |
| _Iv701_1 | . 957249 | . 1388074 | -0.30 | 0.764 | . 7190812 | 1.274301 |
| _Iv701_2 | 1.249587 | . 1695000 | 1.64 | 0.102 | . 9561825 | 1.633022 |
| Iv701_3 | . 965417 | . 1903904 | -0.18 | 0.859 | . 654241 | 1.424598 |
| _Irspocc_1 | 1.268640 | . 2529895 | 1.19 | 0.234 | . 8559925 | 1.880213 |
| _Irspocc_2 | 1.301786 | . 3141991 | 1.09 | 0.276 | . 8085994 | 2.095781 |
| Irspocc_3 | . 896784 | . 2099534 | -0.47 | 0.642 | . 5650501 | 1.423276 |
| _Irspocc_4 | . 918338 | . 1667807 | -0.47 | 0.640 | . 641787 | 1.314056 |
| Irspocc_5 | . 626537 | . 2640805 | -1.11 | 0.269 | . 2727701 | 1.43912 |
| Iprtnrocc_1 | . 668940 | . 1600205 | -1.68 | 0.095 | . 4172718 | 1.072397 |
| Iprtnrocc_2 | 1.112058 | . 2553831 | 0.46 | 0.644 | . 7068962 | 1.749441 |
| Iprtnrocc_3 | . 634746 | . 1457739 | -1.98 | 0.049 | . 4034791 | . 998570 |
| Iprtnrocc_4 | 1.099637 | . 2532612 | 0.41 | 0.681 | . 6980853 | 1.732170 |
| Iprtnrocc_5 | 1.218589 | . 4012072 | 0.60 | 0.549 | . 6364333 | 2.333252 |
| v511 | 1.016384 | . 019456 | 0.85 | 0.397 | . 9787147 | 1.055504 |
| v201 | 1.024444 | . 0312741 | 0.79 | 0.430 | . 9645632 | 1.088042 |
| v310 | . 984771 | . 0368496 | -0.41 | 0.682 | . 9146877 | 1.060224 |
| rspabort | . 929521 | . 0836974 | -0.81 | 0.418 | . 7782272 | 1.110227 |
| _Iv157_1 | 1.153113 | . 1818359 | 0.90 | 0.367 | . 8448041 | 1.573938 |
| -Iv157_2 | 1.094468 | . 2288029 | 0.43 | 0.666 | . 724566 | 1.653211 |
| -Iv157_3 | 1.023746 | . 3133633 | 0.08 | 0.939 | . 5596529 | 1.872689 |
| -Iv158_1 | . 965028 | . 1455039 | -0.24 | 0.814 | . 7167186 | 1.299365 |
| -Iv158_2 | . 796239 | . 1002551 | -1.81 | 0.072 | . 6210953 | 1.020771 |
| _Iv158_3 | . 897412 | . 134815 | -0.72 | 0.472 | . 667225 | 1.207012 |
| -Iv159_1 | 1.092040 | . 1817762 | 0.53 | 0.597 | . 7863448 | 1.516575 |
| -Iv159_2 | 1.097652 | . 1344837 | 0.76 | 0.448 | . 8619563 | 1.397796 |
| _Iv159_3 | 1.031245 | . 1576732 | 0.20 | 0.841 | . 7627022 | 1.39434 |
| v384a | . 978127 | . 1254711 | -0.17 | 0.863 | . 7594215 | 1.259818 |
| v384b | . 955769 | . 1263365 | -0.34 | 0.733 | . 7363654 | 1.240544 |
| v384c | . 952940 | . 1708978 | -0.27 | 0.788 | . 6689635 | 1.357464 |
| v393 | 1.412608 | . 1533268 | 3.18 | 0.002 | 1.1403 | 1.749944 |
| Irspreli_1 | 1.502292 | . 3006566 | 2.03 | 0.043 | 1.012218 | 2.229641 |
| Irspreli_2 | 1.267315 | . 3826092 | 0.78 | 0.434 | . 6985554 | 2.299156 |
| Irspideal~2 | . 727687 | . 1857269 | -1.25 | 0.215 | . 4397992 | 1. 204022 |
| Irspideal~3 | . 599442 | . 1578942 | -1.94 | 0.054 | . 3564955 | 1.007952 |
| Irspideal~4 | . 455853 | . 1958959 | -1.83 | 0.069 | . 1952592 | 1. 064235 |
| _Irspboys_1 | . 782343 | . 2256929 | -0.85 | 0.396 | . 4428068 | 1.382231 |
| Irspboys_2 | . 788375 | . 2485988 | -0.75 | 0.452 | . 4231998 | 1.468655 |
| Irspboys_3 | 1.128651 | . 5292394 | 0.26 | 0.797 | . 4474836 | 2.846702 |
| Irspgrls_1 | 1.134961 | . 3076141 | 0.47 | 0.641 | . 6648875 | 1.937375 |
| Irspgrls_2 | 1.195973 | . 4764119 | 0.45 | 0.654 | . 5450083 | 2.624458 |
| Irspgrls_3 | 2.240863 | 1.877567 | 0.96 | 0.337 | . 4290336 | 11.70414 |
| dcdhlthca | . 903871 | . 0343858 | -2.66 | 0.009 | . 838513 | . 9743229 |
| lrgprchz | 1.002955 | . 0637847 | 0.05 | 0.963 | . 8846865 | 1.137034 |
| dlyprchz | . 926937 | . 0456416 | -1.54 | 0.125 | . 8411244 | 1.021504 |
| vztfamly | 1.019287 | . 0494761 | 0.39 | 0.694 | . 9262024 | 1.121728 |
| dlyfood | 1.010139 | . 0538377 | 0.19 | 0.850 | . 9093142 | 1.122143 |
| rspshop | . 971523 | . 0356157 | -0.79 | 0.432 | . 9037358 | 1.044394 |
| rsptravl | 1.051842 | . 0428047 | 1.24 | 0.216 | . 970692 | 1.139776 |
| goehsptl | 1.013771 | . 0476351 | 0.29 | 0.771 | . 9240146 | 1.112247 |

APPENDIX 2 (Cont.). Multinomial Regression Model 2, With Women's Status Variables BDHS 2004

| rspfp3 | RRR | Std. Err | t | $P>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MODERN |  |  |  |  |  |  |
| rspage | 1.009299 | . 0361115 | 0.26 | 0.796 | . 9405099 | 1.08312 |
| prtnrage | 1.001360 | . 0260241 | 0.05 | 0.958 | . 9513097 | 1.054043 |
| _Iv024_2 | . 882752 | . 0930907 | -1.18 | 0.238 | . 716937 | 1.086918 |
| -Iv024_3 | 1.045842 | . 0996892 | 0.47 | 0.639 | . 8665486 | 1.262233 |
| _Iv024_4 | 1.138947 | . 1220325 | 1.21 | 0.226 | . 921929 | 1.407049 |
| -Iv024_5 | 1.655547 | . 1538781 | 5.42 | 0.000 | 1.378165 | 1.988758 |
| Iv024_6 | . 650568 | . 0918922 | -3.04 | 0.003 | . 4923399 | . 8596472 |
| Iv026_1 | . 799766 | . 1825729 | -0.98 | 0.329 | . 5097549 | 1.25477 |
| _Iv026_2 | 1.217147 | . 21099 | 1.13 | 0.258 | . 864594 | 1.713461 |
| -Iv026_3 | . 844186 | . 1343269 | -1.06 | 0.289 | . 6167348 | 1.155522 |
| _Iv103_1 | 1.138241 | . 2794992 | 0.53 | 0.599 | . 7011888 | 1.84771 |
| _Iv103_2 | 1.086873 | . 1778537 | 0.51 | 0.611 | . 7869871 | 1.501032 |
| _Iv103_3 | . 991691 | . 1152565 | -0.07 | 0.943 | . 7884839 | 1.247268 |
| Iv106_1 | . 792433 | . 0602496 | -3.06 | 0.003 | . 6820496 | . 92068 |
| _Iv106_2 | . 793657 | . 076949 | -2.38 | 0.018 | . 6554784 | . 9609649 |
| _Iv106_3 | . 860271 | . 1569178 | -0.83 | 0.410 | . 6002656 | 1.232896 |
| _Iv701_1 | . 907606 | . 0713233 | -1.23 | 0.219 | . 7772551 | 1.059817 |
| Iv701_2 | . 869987 | . 0796358 | -1.52 | 0.130 | . 7262408 | 1.042185 |
| Iv701_3 | . 747605 | . 0971544 | -2.24 | 0.026 | . 5785258 | . 9660994 |
| Irspocc_1 | 1.115946 | . 1637328 | 0.75 | 0.456 | . 8354625 | 1.490594 |
| _Irspocc_2 | 1.654999 | . 2402263 | 3.47 | 0.001 | 1.242871 | 2.203785 |
| _Irspocc_3 | 1.008739 | . 1596298 | 0.05 | 0.956 | . 7382221 | 1.378385 |
| Irspocc_4 | . 982176 | . 1032242 | -0.17 | 0.864 | . 7982482 | 1.208483 |
| Irspocc_5 | . 701568 | . 2003654 | -1.24 | 0.216 | . 399356 | 1.232479 |
| Iprtnrocc_1 | . 865874 | . 1701576 | -0.73 | 0.465 | . 5875879 | 1.275958 |
| Iprtnrocc_2 | 1.209013 | . 2348398 | 0.98 | 0.330 | . 8241344 | 1.773633 |
| Iprtnrocc_3 | . 872356 | . 1543828 | -0.77 | 0.441 | . 6152577 | 1.236887 |
| Iprtnrocc_4 | 1.356534 | . 2501957 | 1.65 | 0.100 | . 9427527 | 1.951927 |
| Iprtnrocc_5 | 1.346185 | . 3269869 | 1.22 | 0.223 | . 8336422 | 2.17385 |
| v511 | . 998129 | . 0127408 | -0.15 | 0.884 | . 9733064 | 1.023585 |
| v201 | . 969882 | . 0219518 | -1.35 | 0.178 | . 9275255 | 1.014173 |
| v310 | 1.079541 | . 0266206 | 3.10 | 0.002 | 1.028277 | 1.13336 |
| rspabort | . 788945 | . 0447065 | -4.18 | 0.000 | . 705493 | . 8822674 |
| _Iv157_1 | 1.016998 | . 1017215 | 0.17 | 0.866 | . 8348684 | 1.23886 |
| _Iv157_2 | 1.018106 | . 1379839 | 0.13 | 0.895 | . 7792308 | 1.33021 |
| _Iv157_3 | 1.095592 | . 2395476 | 0.42 | 0.677 | . 7117118 | 1.686528 |
| Iv158_1 | . 944624 | . 0936124 | -0.57 | 0.566 | . 7768657 | 1.148607 |
| _Iv158_2 | . 901707 | . 0741819 | -1.26 | 0.210 | . 7666103 | 1.06061 |
| _Iv158_3 | 1.141410 | . 119258 | 1.27 | 0.207 | . 9287879 | 1.402705 |
| Iv159_1 | 1.240669 | . 1428889 | 1.87 | 0.063 | . 9884924 | 1.557179 |
| Iv159_2 | 1.070222 | . 0893513 | 0.81 | 0.417 | . 9076908 | 1.261857 |
| -Iv159_3 | 1.211609 | . 1444928 | 1.61 | 0.109 | . 9575882 | 1.533015 |
| v384a | . 926673 | . 0739963 | -0.95 | 0.341 | . 7916017 | 1.084792 |
| v384b | . 992827 | . 0897051 | -0.08 | 0.937 | . 8307217 | 1.186565 |
| v384c | 1.076612 | . 1400769 | 0.57 | 0.571 | . 8328697 | 1.391687 |
| v393 | 2.118227 | . 2240594 | 7.10 | 0.000 | 1.71925 | 2.609793 |
| Irspreli_1 | 1.431097 | . 1514296 | 3.39 | 0.001 | 1.161459 | 1.763332 |
| Irspreli_2 | 1.295012 | . 2441795 | 1.37 | 0.172 | . 8927167 | 1.878597 |
| Irspideal~2 | . 629626 | . 1191186 | -2.45 | 0.015 | . 4334891 | . 9145072 |
| Irspideal~3 | . 582478 | . 1208647 | -2.60 | 0.010 | . 3867984 | . 8771501 |
| Irspideal~4 | . 547799 | . 1591033 | -2.07 | 0.040 | . 3088591 | . 9715872 |
| _Irspboys_1 | 1.121694 | . 2344667 | 0.55 | 0.583 | . 7426267 | 1.694254 |
| Irspboys_2 | . 968612 | . 2173926 | -0.14 | 0.887 | . 6220759 | 1.508189 |
| Irspboys_3 | 1.187146 | . 4252605 | 0.48 | 0.633 | . 5855542 | 2.406806 |
| Irspgrls_1 | 1.053725 | . 2135305 | 0.26 | 0.797 | . 7064717 | 1.571664 |
| Irspgrls_2 | . 895306 | . 2292372 | -0.43 | 0.666 | . 5402365 | 1.483744 |
| Irspgrls_3 | . 497637 | . 4483268 | -0.77 | 0.440 | . 0841351 | 2.943387 |
| dcdhlthca | . 884283 | . 0246474 | -4.41 | 0.000 | . 8369681 | . 9342728 |
| lrgprchz | 1.030437 | . 0369793 | 0.84 | 0.405 | . 9600017 | 1.10604 |
| dlyprchz | . 995904 | . 0301521 | -0.14 | 0.892 | . 9381572 | 1.057205 |
| vztfamly | . 991667 | . 0351091 | -0.24 | 0.813 | . 9247625 | 1.063411 |
| dlyfood | 1.151836 | . 0428149 | 3.80 | 0.000 | 1.070388 | 1.239482 |
| rspshop | . 987081 | . 0250195 | -0.51 | 0.609 | . 9389329 | 1.037698 |
| rsptravl | 1.079222 | . 0319583 | 2.57 | 0.011 | 1.017976 | 1.144152 |
| goehsptl | 1.059537 | . 0285005 | 2.15 | 0.033 | 1.004773 | 1.117286 |

APPENDIX 3. Multinomial Regression Model 3, PCA scores for women's status BDHS 2004

| rspfp3 | RRR | Std. Err. | t | $P>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TRADITIONAL |  |  |  |  |  |  |
| rspage | 1.061927 | . 059492 | 1.07 | 0.285 | . 9508073 | 1.186034 |
| prtnrage | 1.191618 | . 0490589 | 4.26 | 0.000 | 1.098655 | 1.292448 |
| _Iv024_2 | . 907020 | . 1743255 | -0.51 | 0.612 | . 620778 | 1.325249 |
| Iv024_3 | 1.063656 | . 1820929 | 0.36 | 0.719 | . 7587782 | 1.491035 |
| _Iv024_4 | 1.328322 | . 2442497 | 1.54 | 0.124 | . 9241648 | 1.909225 |
| Iv024_5 | 1.305345 | . 2305584 | 1.51 | 0.133 | . 921266 | 1.849547 |
| Iv024_6 | 1.038882 | . 2449161 | 0.16 | 0.872 | . 6524799 | 1.654114 |
| Iv026_1 | 1.130982 | . 2369758 | 0.59 | 0.558 | . 7480345 | 1.709974 |
| Iv026_2 | 1.479199 | . 2869374 | 2.02 | 0.045 | 1.008826 | 2.168889 |
| Iv026_3 | 1.092405 | . 1799614 | 0.54 | 0.592 | . 7892774 | 1.511952 |
| _Iv103_1 | . 872405 | . 4195036 | -0.28 | 0.777 | . 3378323 | 2.252868 |
| _Iv103_2 | 1.052912 | . 2574461 | 0.21 | 0.833 | . 6499617 | 1.705675 |
| _Iv103_3 | 1.151803 | . 2579006 | 0.63 | 0.529 | . 7404977 | 1.791567 |
| _Iv106_1 | 1.076083 | . 1247491 | 0.63 | 0.528 | . 8560787 | 1.352627 |
| _Iv106_2 | 1.013872 | . 1644358 | 0.08 | 0.932 | . 7362346 | 1.396208 |
| -Iv106_3 | 1.324317 | . 3729261 | 1.00 | 0.320 | . 7598147 | 2.308215 |
| -Iv701_1 | . 960006 | . 1388492 | -0.28 | 0.778 | . 7216833 | 1.277032 |
| -Iv701_2 | 1.257666 | . 169315 | 1.70 | 0.090 | . 9643007 | 1.640281 |
| Iv701_3 | . 970936 | . 1913741 | -0.15 | 0.881 | . 6581216 | 1.432438 |
| _Irspocc_1 | 1.262895 | . 2492399 | 1.18 | 0.238 | . 8555889 | 1.8641 |
| _Irspocc_2 | 1.291260 | . 3107708 | 1.06 | 0.290 | . 8031493 | 2.076016 |
| _Irspocc_3 | . 900329 | . 2097391 | -0.45 | 0.653 | . 568583 | 1.425636 |
| _Irspocc_4 | . 916307 | . 1669741 | -0.48 | 0.632 | . 6395931 | 1.312739 |
| Irspocc_5 | . 634933 | . 2653094 | -1.09 | 0.278 | . 2784171 | 1.447974 |
| _Iprtnrocc_1 | . 662668 | . 1570495 | -1.74 | 0.084 | . 4151739 | 1.057702 |
| -Iprtnrocc_2 | 1.113259 | . 2547447 | 0.47 | 0.640 | . 7088072 | 1.748496 |
| _Iprtnrocc_3 | . 627251 | . 143621 | -2.04 | 0.043 | . 3992569 | . 9854408 |
| _Iprtnrocc_4 | 1.092937 | . 2508099 | 0.39 | 0.699 | . 6949695 | 1.718795 |
| _Iprtnrocc_5 | 1.221814 | . 4021002 | 0.61 | 0.543 | . 6382917 | 2.338789 |
| v511 | 1.016707 | . 019426 | 0.87 | 0.387 | . 9790936 | 1.055764 |
| v201 | 1.022337 | . 0309123 | 0.73 | 0.466 | . 9631321 | 1.085181 |
| v310 | . 985875 | . 0368816 | -0.38 | 0.704 | . 9157307 | 1.061393 |
| rspabort | . 931851 | . 084241 | -0.78 | 0.436 | . 7796273 | 1.113797 |
| _IV157_1 | 1.157614 | . 1817772 | 0.93 | 0.353 | . 8492135 | 1.578014 |
| -Iv157_2 | 1.096468 | . 2280003 | 0.44 | 0.658 | . 7274859 | 1.652598 |
| _Iv157_3 | 1.020870 | . 312133 | 0.07 | 0.946 | . 5584586 | 1.866165 |
| _Iv158_1 | . 970527 | . 1464859 | -0.20 | 0.843 | . 7205785 | 1.307175 |
| -Iv158_2 | . 798955 | . 0997476 | -1.80 | 0.074 | . 624523 | 1.022107 |
| _Iv158_3 | . 898192 | . 1351414 | -0.71 | 0.476 | . 6674983 | 1.208616 |
| _Iv159_1 | 1.098566 | . 1828218 | 0.56 | 0.573 | . 7911022 | 1.525527 |
| _Iv159_2 | 1.098745 | . 1335245 | 0.77 | 0.439 | . 8645106 | 1.396445 |
| -Iv159_3 | 1.037896 | . 1592184 | 0.24 | 0.809 | . 7668507 | 1.404743 |
| v384a | . 973773 | . 1254916 | -0.21 | 0.837 | . 7551545 | 1.255682 |
| v384b | . 955185 | . 1252361 | -0.35 | 0.727 | . 7374725 | 1.237169 |
| v384c | . 949168 | . 1709768 | -0.29 | 0.772 | . 6652703 | 1.354216 |
| v393 | 1.406158 | . 152106 | 3.15 | 0.002 | 1.135923 | 1.740681 |
| Irspreli_1 | 1.500404 | . 2987197 | 2.04 | 0.043 | 1.01302 | 2.222278 |
| Irspreli_2 | 1.237211 | . 3710203 | 0.71 | 0.479 | . 6846863 | 2.235609 |
| Irspideal~2 | . 728507 | . 1863177 | -1.24 | 0.217 | . 4398405 | 1.206625 |
| Irspideal~3 | . 600409 | . 1579786 | -1.94 | 0.054 | . 357271 | 1.009013 |
| _Irspideal~4 | . 460824 | . 1977224 | -1.81 | 0.073 | . 1976503 | 1.074415 |
| _Irspboys_1 | . 781134 | . 2274465 | -0.85 | 0.397 | . 439781 | 1.387442 |
| Irspboys_2 | . 789041 | . 2510743 | -0.74 | 0.457 | . 4211646 | 1.478246 |
| Irspboys_3 | 1.116566 | . 5198265 | 0.24 | 0.813 | . 4456324 | 2.797641 |
| Irspgrls_1 | 1.136520 | . 3096114 | 0.47 | 0.639 | . 6639833 | 1.945348 |
| Irspgrls_2 | 1.185215 | . 4744263 | 0.42 | 0.672 | . 538042 | 2.610826 |
| Irspgrls_3 | 2.266856 | 1.891455 | 0.98 | 0.328 | . 4370016 | 11.75885 |
| pcscore1 | . 937072 | . 0273304 | -2.23 | 0.027 | . 8846726 | . 9925745 |
| pcscore2 | 1.071670 | . 0451379 | 1.64 | 0.102 | . 9862151 | 1.164529 |
| pcscore3 | 1.040146 | . 050789 | 0.81 | 0.421 | . 9446181 | 1.145335 |
| pcscore4 | . 986676 | . 0510859 | -0.26 | 0.796 | . 8908637 | 1.092793 |

(Outcome rspfp3==never/folk is the comparison group)

APPENDIX 3 (Cont.). Multinomial Regression Model 3, PCA scores for women's status BDHS 2004

| rspfp3 | RRR | Std. Err. | t | $P>\|t\|$ | [95\% Conf. Interval] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MODERN |  |  |  |  |  |  |
| rspage | 1.007736 | . 035867 | 0.22 | 0.829 | . 9393997 | 1.081043 |
| prtnrage | 1.00293 | . 0260388 | 0.11 | 0.910 | . 9528504 | 1.055641 |
| _Iv024_2 | . 8773691 | . 0932801 | -1.23 | 0.220 | . 711353 | 1.08213 |
| Iv024_3 | 1.040487 | . 0996591 | 0.41 | 0.679 | . 8613265 | 1.256914 |
| Iv024_4 | 1.125261 | . 1205325 | 1.10 | 0.272 | . 9109054 | 1.39006 |
| Iv024_5 | 1.656387 | . 1544325 | 5.41 | 0.000 | 1.378081 | 1.990896 |
| Iv024_6 | . 6514929 | . 0916807 | -3.04 | 0.003 | . 493551 | . 8599778 |
| Iv026_1 | . 8134229 | . 1868978 | -0.90 | 0.370 | . 5169439 | 1.279939 |
| Iv026_2 | 1.233306 | . 2173545 | 1.19 | 0.236 | . 8710927 | 1.746134 |
| Iv026_3 | . 8560608 | . 1390062 | -0.96 | 0.340 | . 6214015 | 1.179334 |
| Iv103_1 | 1.127804 | . 2725926 | 0.50 | 0.619 | . 7000588 | 1.816908 |
| Iv103_2 | 1.074285 | . 1765316 | 0.44 | 0.663 | . 7768194 | 1.485659 |
| Iv103_3 | . 9867024 | . 1151895 | -0.11 | 0.909 | . 7837137 | 1.242267 |
| Iv106_1 | . 7917316 | . 0600214 | -3.08 | 0.002 | . 6817434 | . 9194646 |
| Iv106_2 | . 7845648 | . 0761062 | -2.50 | 0.013 | . 6479058 | . 9500483 |
| Iv106_3 | . 8440509 | . 1535474 | -0.93 | 0.353 | . 5895154 | 1.208487 |
| Iv701_1 | . 9103831 | . 0709982 | -1.20 | 0.230 | . 7805521 | 1.061809 |
| Iv701_2 | . 8735461 | . 0792863 | -1.49 | 0.138 | . 7303249 | 1.044854 |
| Iv701_3 | . 7497924 | . 0971292 | -2.22 | 0.027 | . 580691 | . 9681373 |
| Irspocc_1 | 1.109417 | . 1617451 | 0.71 | 0.477 | . 8320971 | 1.479161 |
| Irspocc_2 | 1.638667 | . 238875 | 3.39 | 0.001 | 1.229097 | 2.184718 |
| Irspocc_3 | 1.011035 | . 1574801 | 0.07 | 0.944 | . 7435393 | 1.374764 |
| Irspocc_4 | . 9851456 | . 1035574 | -0.14 | 0.887 | . 8006278 | 1.212189 |
| Irspocc_5 | . 6967175 | . 1964596 | -1.28 | 0.202 | . 3994356 | 1.215253 |
| Iprtnrocc_1 | . 8591233 | . 1674822 | -0.78 | 0.437 | . 5848155 | 1.262095 |
| Iprtnrocc_2 | 1.218713 | . 2354133 | 1.02 | 0.307 | . 8325114 | 1.784074 |
| Iprtnrocc_3 | . 8702893 | . 1536955 | -0.79 | 0.432 | . 6142481 | 1.233058 |
| _Iprtnrocc_4 | 1.355968 | . 2492262 | 1.66 | 0.099 | . 9435467 | 1.948659 |
| _Iprtnrocc_5 | 1.359984 | . 329254 | 1.27 | 0.206 | . 843514 | 2.19268 |
| v511 | . 9981082 | . 0125797 | -0.15 | 0.881 | . 9735951 | 1.023238 |
| v201 | . 9679417 | . 0220119 | -1.43 | 0.154 | . 9254734 | 1.012359 |
| v310 | 1.08076 | . 026659 | 3.15 | 0.002 | 1.029423 | 1.134658 |
| rspabort | . 7892422 | . 0447925 | -4.17 | 0.000 | . 7056373 | . 8827528 |
| _Iv157_1 | 1.021076 | . 1020065 | 0.21 | 0.835 | . 8384155 | 1.243532 |
| _Iv157_2 | 1.017639 | . 1375177 | 0.13 | 0.897 | . 7794819 | 1.328562 |
| _Iv157_3 | 1.096816 | . 24062 | 0.42 | 0.674 | . 7114766 | 1.690858 |
| _Iv158_1 | . 9477501 | . 0932337 | -0.55 | 0.586 | . 7805552 | 1.150758 |
| _Iv158_2 | . 9072364 | . 0744048 | -1.19 | 0.237 | . 7717009 | 1.066576 |
| Iv158_3 | 1.14164 | . 1192175 | 1.27 | 0.206 | . 9290786 | 1.402832 |
| Iv159_1 | 1.248636 | . 1436163 | 1.93 | 0.055 | . 9951391 | 1.566708 |
| Iv159_2 | 1.072317 | . 0886388 | 0.84 | 0.399 | . 9109539 | 1.262264 |
| _Iv159_3 | 1.217468 | . 1449737 | 1.65 | 0.100 | . 962558 | 1.539884 |
| v384a | . 922002 | . 0734978 | -1.02 | 0.310 | . 787823 | 1.079034 |
| v384b | . 9954372 | . 0898776 | -0.05 | 0.960 | . 8330104 | 1.189535 |
| v384c | 1.069299 | . 1378858 | 0.52 | 0.604 | . 8291063 | 1.379076 |
| v393 | 2.110345 | . 2232574 | 7.06 | 0.000 | 1.712801 | 2.600159 |
| Irspreli_1 | 1.427907 | . 1509175 | 3.37 | 0.001 | 1.15915 | 1.758978 |
| Irspreli_2 | 1.272028 | . 2369795 | 1.29 | 0.198 | . 8807798 | 1.837071 |
| Irspideal~2 | . 6331232 | . 1208639 | -2.39 | 0.018 | . 4344273 | . 9226976 |
| Irspideal~3 | . 5876186 | . 1228401 | -2.54 | 0.012 | . 3890237 | . 8875953 |
| Irspideal~4 | . 5539021 | . 1615322 | -2.03 | 0.044 | . 3115711 | . 9847113 |
| Irspboys_1 | 1.120022 | . 2365605 | 0.54 | 0.592 | . 7383354 | 1.699025 |
| Irspboys_2 | . 9642371 | . 2187386 | -0.16 | 0.873 | . 616324 | 1.508546 |
| Irspboys_3 | 1.189355 | . 42996 | 0.48 | 0.632 | . 5828532 | 2.426968 |
| Irspgrls_1 | 1.056467 | . 2174355 | 0.27 | 0.790 | . 7038934 | 1.585641 |
| Irspgrls_2 | . 8934962 | . 2331162 | -0.43 | 0.667 | . 5339996 | 1.495011 |
| Irspgrls_3 | 494438 | . 4392185 | -0.79 | 0.429 | . 0856973 | 2.852702 |
| pcscore1 | 1.012149 | . 0184263 | 0.66 | 0.508 | . 9764397 | 1.049163 |
| pcscore2 | 1.150816 | . 0334459 | 4.83 | 0.000 | 1.086686 | 1.218731 |
| pcscore3 | 1.117703 | . 0365859 | 3.40 | 0.001 | 1.047803 | 1.192267 |
| pcscore4 | 1.063684 | . 0367788 | 1.79 | 0.076 | . 9935409 | 1.138778 |

(Outcome rspfp3==never/folk is the comparison group)

