Interdisciplinary Journal of Research on Religion

The Impact of Church Attendance on the Decline in Female Happiness in the United States

G. Alexander Ross*

Professor
Institute for the Psychological Sciences
Arlington, Virginia

* gaross@ipsciences.edu

The Impact of Church Attendance on the Decline in Female Happiness in the United States

G. Alexander Ross

Professor
Institute for the Psychological Sciences
Arlington, Virginia

Abstract

Using the comprehensive data file of the General Social Survey for the years 1972–2008, I replicate the findings of Stevenson and Wolfers (2009) of a decline in self-reported happiness among women in the United States during the past three and a half decades. I then examine the impact of church attendance on this trend and find two principal effects: a direct effect, in which some of the decline in happiness among women is attributable to the drop in church attendance over the period, and a protective effect, in which women who attended church more regularly were less subject to the various forces that produced that decline.

"We all certainly desire to live happily," wrote St. Augustine of Hippo late in the fourth century (Augustine 1983). This is still true in the 21st century, though few of us examine happiness with Augustine's philosophical depth. We suppose that we are happier today than the people of the fourth century were, because we make the assumption that societal advances bring us more happiness. So it surprises us when, as social conditions improve, we do not become happier.

Such a finding serves as the basis for what two researchers have described as the "paradox of declining female happiness" in the United States (Stevenson and Wolfers 2009). Although objective indicators suggest that the past few decades have brought improvement to the lives of American women, Stevenson and Wolfers present a variety of measures of subjective well-being showing that over that time, "women's happiness has declined both absolutely and relative to men" (2009: 190).

Many economic and educational indicators demonstrate improved conditions for women relative to men. Wages, labor force participation, and occupational distribution among women over the past few decades have grown closer to levels that are characteristic of men (Blau 1998; Lee and Mather 2008). Educational outcomes have also improved dramatically for women; for example, by 1980, the number of women attending colleges had surpassed male attendance, and the trend has continued (Freeman 2004; Snyder, Dillow, and Hoffman 2009).

Yet these and other social changes have entailed costs as well as benefits. Women's greater participation in the economy and in education often conflicts with the traditional roles of wife and mother that remain attractive to women. These new expectations that women can "do it all" have resulted in increased stress and physical and emotional exhaustion (Soares, Grossi, and Sundin 2007). They have also introduced further ambiguity about the role of women in society and have often compromised the social integration of the families, communities, and associations to which women belong (Putnam 2000). This combination of uncertain expectations and weakened social ties has long been recognized as a threat to the well-being of the human person (Durkheim 1951).

A variable of considerable relevance to these social changes, one that Stevenson and Wolfers did not include in their analysis, is church attendance. Research has shown that American women are more likely than men to attend church regularly, suggesting that this is a more important activity in women's lives than it is in the lives of men. Regular church attendance offers protection against both the anomic and egoistic tendencies in modern society that can undermine one's sense of well-being. In this social context, traditional beliefs and values centered on transcendent truths are honored and reinforced, providing a source of meaning and purpose that helps churchgoers to face the stresses of everyday living and contributes to a positive evaluation of life. Although religious institutions have not been immune to the modernizing forces that have

undermined many traditional beliefs and practices, the more successful churches do appear to attract people because of their ability to satisfy this need for transcendent meaning (Stark and Smith 2010).

Regular attendance at a service of religious worship also provides opportunities to build social relationships around the common pursuit of subjectively important otherworldly goals. Church attendance inhibits social isolation, which, the literature shows, is a strong contributor to unhappiness (Baumeister and Leary 1995: 510). Membership and attendance at church functions offer women not only opportunities for interaction but also assistance in some of the responsibilities of child rearing. Furthermore, for Christians and those of some other faiths, the interpersonal contact facilitated by regular church attendance is not only with other people, but also with a loving God.

As we would expect, the literature does find that church attendance is positively associated with self-reported happiness (Green and Elliott 2010; Lewis and Cruise 2006; Stark and Meier 2008). Yet while attending church may offer some antidote to the harmful effects of social changes over the past few decades, church attendance itself appears to have declined in the United States over this period, although it might have stabilized in the last decade or two (Miller and Nakamura 1996; Presser and Chaves 2007). The simultaneous declines in church attendance and happiness among women suggests that there could be a significant association between the two.

The hypothesis guiding this research is that the decline in female happiness over the past three and a half decades is in part a result of the drop in regular church attendance, an activity that normally supports the meanings and purposes of people's lives, helping to sustain in them a positive and hopeful perspective. In this study, I will first seek to replicate the analysis of Stevenson and Wolfers that shows a decline in happiness among women over the past three and half decades. I will then examine church attendance as a factor that may help to account for this decline in women's happiness during this period.

METHODS

The data used in the present study are drawn from the comprehensive file of the General Social Survey (GSS) for the years 1972–2008 (Davis and Smith 2009). Stevenson and Wolfers used the same data source, although the latest year available at the time of their research was 2006.

While the literature contains a variety of measures of happiness (Diener 2000; Lewis and Cruise 2006), I measure happiness in this study with the GSS variable HAPPY, a simple three-category self-report of trait happiness, the same item that Stevenson and Wolfers used. The question is worded identically in all years of the GSS: "Taken all together, how would you say things are these days—would you

say that you are very happy, pretty happy, or not too happy?" For the purposes of this study, I reversed the original codes given to the answers, so "very happy" is coded as 3, "pretty happy" as 2, and "not too happy" as 1. This results in a simple ordinal measure in which higher values indicate greater self-reported happiness.

For time-series data, it is important to maintain stability in measurement in order to gauge actual change rather than variation in the measuring instrument. In the case of the variable HAPPY, some inadvertent measurement variation did occur in the GSS (Smith 1985, 1990). In all years other than 1972, a question on marital happiness (HAPMAR) preceded HAPPY. Furthermore, in every year other than 1972 and 1985, HAPPY was preceded by a five-item satisfaction scale. Testing done at the GSS found evidence that scores on personal happiness are significantly higher for married people when preceded by an item on marital happiness and significantly lower for all respondents when not preceded by the five-item satisfaction scale (Smith 1990). Following the advice of Smith and the procedure used by Stephenson and Wolfers (2008, 2009), I adjusted the data for these variations by modifying the GSS sampling weights in the dataset.[1]

I made two other adjustments to the dataset that followed the procedure of Stephenson and Wolfers. In 1982 and 1987, the GSS oversampled the black population; and in 2006 and 2008, interviews in Spanish were offered. In my dataset, I dropped the 1982 and 1987 black oversamples; I also dropped the 2006 and 2008 interviews that would have been excluded as a language problem had Spanish not been offered in those two years.

REPLICATION WITH ADDITIONAL DATA

To provide a baseline for evaluating the impact of church attendance, we will first examine the pattern of change in happiness among women and men in the GSS sample from 1972 to 2008. It is appropriate first to present this pattern graphically to give the reader a visual summary of the changes in happiness over the period studied. Figure 1 presents the trends in mean happiness score from 1972 to 2008 for women compared to men. The means are weighted as described above and so are adjusted for the various measurement issues discussed earlier.

---

[1] Stevenson and Wolfers provide on their personal websites the Stata code for this adjustment. I updated this code to Stata version 11 and used it to adjust the data. Unless indicated otherwise, these adjusted data are used throughout. A researcher might consider dropping the cases for the two problematic years rather than applying the adjustment procedure, but because this study is intended as a replication of Stevenson and Wolfers' research, I wanted to maintain as much comparability with their procedures as possible. Furthermore, the authors' adjustments appear sound, and it would be unfortunate to lose two years of the time series unnecessarily. Nevertheless, I made several tests in which I excluded the years 1972 and 1985 and found that while many of the coefficients declined very slightly, the results were consistent with the adjusted dataset including all years.

Figure 1: Change in Happiness Among U.S. Women and Men, 1972–2008

Source: Data from GSS, 1972–2008. Sample weighted as described in text.

With the exception of the addition of the 2008 GSS data, the numbers displayed in Figure 1 appear to coincide precisely with those constructed by Stevenson and Wolfers (2009: 197). For women, the general trend begins at a high level of general happiness, considerably above the level for men, but drops toward the end of the first decade of the survey. The variation over the following years reflects much the same pattern as that for the men and ends in 2008 close to its lowest level in the series. For men, the trend begins low and climbs to its highest point in 1988, in the middle of the series. From there, it decreases in an irregular pattern until, by the end of the series, it reaches a level near its series low, a level nearly identical to that for women. The entire period appears to have begun, therefore, with a clear advantage in happiness for women but ended with a marked decline in women's happiness to a level approximately equal to that of men.

To examine the change in happiness more precisely, I followed Stevenson and Wolfers in constructing two time-trend variables, where female_time = female × (year − 1972)/100 and male_time = male × (year − 1972)/100. These two time variables along with a dummy variable for sex (female) become the principal

independent variables in an ordered probit regression in which the standard errors are clustered by year of the survey. In addition to the simple model, I constructed a model that controls for the exogenous variables of age, race, and nativity and a model that controls for these exogenous variables plus a series of socioeconomic variables, including marital status, number of children, religion, region, employment status, real income, and educational attainment. Because of its wide acceptance in studies of religion in the United States, I used the religious traditions variable (RELTRAD) developed by Steensland and colleagues (2000) in place of the religious affiliation indicator employed by Stevenson and Wolfers. The results for these models are shown in Table 1. For readability, the coefficients for the controls are not included in the table; they are reported in full in the appendix to this article.

Table 1: Trends in Happiness, United States, 1972–2008, GSS

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Regression Coefficients	Ordered Probit (1)	Ordered Probit (2)	Ordered Probit (3)
Time trend for women	−0.318**	−0.268**	−0.259*
	0.091	*0.098*	*0.114*
Time trend for men	0.018	0.052	0.162
	0.087	*0.088*	*0.111*
Female indicator	0.091**	0.095**	0.173**
	0.021	*0.022*	*0.027*
Control Variables			
Age, race, foreign-born		✔	✔
Socioeconomic controls			✔

Note: $N = 42,401$ for models with full controls. GSS data cover the years 1972–2008. Robust standard errors are in italics, clustered by year. Exogenous control variables include indicators for ten-year age groups, for race (white, black, other), and for nativity (foreign-born = 1). Socioeconomic controls include the natural log of real family income, the natural log of real family income squared, and indicators for marital status (married, widowed, divorced, separated, never-married), number of children, religious tradition (black Protestant, evangelical Protestant, mainline Protestant, Catholic, Jewish, other, unaffiliated), region of residence (nine geographical regions), employment status (full-time, part-time, temporary layoff, unemployed, retired, in school, at home, other), and highest degree attained.
* $p < 0.05$; ** $p < 0.01$.

The ordered probit regression coefficients for all three models are consistent with Stevenson and Wolfers' findings of a decline in female happiness over the years since 1972. The significant negative coefficient for the time trend for women is sustained even with the addition of the statistical controls, confirming that self-reported happiness among women declined during the survey years. The coefficient for the time trend for men is nonsignificant in all three models. The significant positive coefficients for the female dummy variable in all three ordered probit models indicate a higher level of general happiness overall for women than for men.

While the trend in women's happiness is statistically significant, its substantive significance should also be explored. Stevenson and Wolfers offer assistance here by comparing the magnitude of the decline in women's happiness relative to men's happiness to the impact of a factor that is well known to produce changes in self-reported happiness: unemployment. Basing their comparison on an earlier study conducted by Wolfers (2003), they estimate that "the relative decline in the subjective well-being of US women over the past 35 years is roughly comparable to the effects of an 8½ percentage point rise in unemployment rates" (Stevenson and Wolfers 2009: 201). Substituting the coefficients displayed in Table 1 would reduce that estimate only slightly (to 8 percent). The change in happiness brought on by, for example, a rise in unemployment from 4 to 12 percent, is likely to be of considerable substantive significance and suggests that the decline in happiness among women displayed by these data is worthy of interest.

THE IMPACT OF CHURCH ATTENDANCE ON SELF-REPORTED HAPPINESS

Having replicated the findings of Stevenson and Wolfers with the 1972–2008 GSS, we now turn to an examination of the relevance of church attendance for this trend. As we stated above, the general hypothesis guiding this research is that the decline in female happiness over the past three and a half decades is in part a result of the drop in regular church attendance. More specifically, the research hypothesis is that when church attendance is statistically controlled for, the negative trend in female happiness should decrease in strength or disappear altogether.

For this hypothesis to be tenable, we ought first to have some assurance that (1) church attendance is positively associated with general happiness and (2) the frequency of attendance has declined over the past thirty-six years. In addition to the works cited earlier, the dataset indicates that both these criteria are met.

In the GSS, church attendance is measured with the question "How often do you attend religious services?" The question offers nine possible responses, from "never" to "more than once a week." To make the analysis less cumbersome, I

will usually use a recoded version of the variable, collapsed into four responses: less than once a year, once to several times a year, one to three times per month, and every week or more. As one can see from the distribution of this variable (broken down by sex) displayed in Table 2, the recoded variable yields four approximately equal-sized groups.

Table 2: Church Attendance by Sex, GSS, 1972–2008

	Church Attendance				
Respondent's Sex	Less Than Once a Year	Once to Several Times a Year	One to Three Times per Month	Every Week or More	Total
Male	28.3%	29.0%	20.0%	22.6%	100.0% 22,720
Female	20.8%	23.9%	23.0%	32.3%	100.0% 28,777
Total	24.1%	26.2%	21.7%	28.0%	100.0% 51,497

Source: GSS 1972–2008. Unweighted sample. Black oversamples and Spanish-only interviews excluded. $\chi^2(3) = 928.6$, $p < 0.001$; gamma = 0.1955, asymptotic standard error (A.S.E.) = 0.006.

It is worth noting that Table 2 shows, as expected, that women are more likely than men to attend church regularly. The table indicates that 32 percent of women report that they attend church at least every week compared to 23 percent for men. Adding to this category the next level of attendance, we see that church attendance is important enough to women that 55 percent of them report attending at least once a month compared to 43 percent for men.

A positive association of church attendance with happiness is illustrated in Table 3. For this table, the sample is again weighted to adjust for the variation over time in the original measurement of general happiness and the oversampling of blacks. The row percentages in the table show a significant positive relationship between frequency of church attendance and general happiness for both sexes. Among women, 43 percent of those who attend church at least weekly report being very happy. The percentage claiming to be very happy drops with each decrement in church attendance, reaching its lowest level of 29 percent for women who attend church less than once a year. Likewise, we see that 8 percent of women who attend church weekly or more report being not too happy. This

percentage who are not too happy reaches nearly 15 percent for women who rarely or never attend church.

Table 3: General Happiness by Church Attendance, Women and Men

Church Attendance	General Happiness, Women				General Happiness, Men			
	Not Too Happy	Pretty Happy	Very Happy	Total	Not Too Happy	Pretty Happy	Very Happy	Total
Less than once a year	14.8%	56.2%	29.1%	100.0% 5,336	14.8%	59.8%	25.5%	100.0% 5,585
Once or several times a year	11.4%	57.9%	30.7%	100.0% 6,302	11.2%	59.2%	29.6%	100.0% 6,014
1–3 times a month	9.9%	56.6%	33.6%	100.0% 5,963	9.0%	55.1%	35.9%	100.0% 4,197
Every week or more	8.4%	48.7%	42.9%	100.0% 8,620	7.1%	49.1%	43.8%	100.0% 4,904
Total	10.8%	54.2%	35.0%	100.0% 26,221	10.7%	56.1%	33.1%	100.0% 20,700

Source: GSS 1972–2008. Weighted sample. Women's table: $\chi^2(6) = 447.2$, $p < 0.001$; gamma = 0.17, A.S.E. = 0.008; Men's table: $\chi^2(6) = 522.9$, $p < 0.001$; gamma = 0.21, A.S.E. = 0.009.

The men in the sample display a similar pattern, with 44 percent of those with the highest attendance claiming to be very happy compared to just 26 percent of those at the lowest attendance level. Just 7 percent of men who attend church weekly report being not too happy compared to 15 percent for men who attend less than once a year. The relationship between church attendance and general happiness appears to be slightly stronger for men than for women (for men, gamma = 0.21; for women, gamma = 0.17).

Church attendance is, of course, not the only measure of religion associated with happiness, but further analysis of these data indicates that it is an especially salient factor. For example, frequency of prayer is a religious variable that might be expected to affect happiness positively. Measured by the GSS variable PRAY, it has a small positive but significant association with happiness (Spearman $R = 0.07$) and a large positive relationship with church attendance (Spearman $R = 0.52$).[2] To test the relative impact of prayer and church attendance on happiness, I performed a series of ordered probit regressions of happiness on prayer and church attendance, controlling for religious tradition (RELTRAD). For compa-

---

[2] I reversed the original GSS coding of PRAY so that higher values indicate more frequent prayer.

rability of the coefficients, I standardized the values of PRAY and ATTEND (naming the new variables "Z_PRAY" and "Z_ATTEND").

In the regression of happiness on Z_PRAY alone (with RELTRAD as a control), the coefficient for Z_PRAY was statistically significant, with β_{Z_PRAY} = 0.088 (standard error (S.E.) = 0.009, $p < 0.001$). However, when I added Z_ATTEND to Z_PRAY in the regression, the coefficient for Z_PRAY dropped to a very small and nonsignificant value of β_{Z_PRAY} = 0.002 (S. E. = 0.010, p = 0.839). When I reversed this process, in a regression of happiness on Z_ATTEND (with RELTRAD as a control), the coefficient for Z_ATTEND was much larger at β_{Z_ATTEND} = 0.174 (S. E. = 0.006, $p < 0.001$). In this case, however, when Z_PRAY was added to the regression, the coefficient for Z_ATTEND remained virtually unchanged at β_{Z_ATTEND} = 0.176 (S. E. = 0.010, $p < 0.001$).

What these results suggest is that church attendance captures virtually all the association between prayer and happiness but has an additional impact as well. If we take the frequency of prayer as a proxy for spiritual activity, then we might say that church attendance captures most of the positive association between spiritual activity and happiness but that there is something more involved in the link between church attendance and happiness than spirituality. That "something more" is very likely to be the social or communal aspect of regular church attendance. The coefficients above may even give us a basis for a rough approximation of the relative impact of the spiritual and social aspects of church attendance on happiness. The original coefficient for Z_PRAY is about half the size of the coefficient for Z_ATTEND when Z_ATTEND is added to the regression model, suggesting that the spiritual and communal aspects of church attendance are roughly equal in their impact on happiness.

A note of caution is worth being injected here, for what these data demonstrate is simply an association between church attendance and happiness, not a causal relationship. As in so much social research, what we find satisfying are causal hypotheses, but our research designs often give us little basis for specifying the direction or presence of such linkages among our measured variables. I will return to this issue in the discussion section.

The next step is to examine the change in church attendance over the thirty-six years of the GSS. Comparisons between measures of church attendance using interviews and measures based on self-report questionnaires or time-use diaries suggest that questions asked directly by an interviewer tend to elicit higher frequencies of attendance than do the other two techniques (Presser and Stinson 1998). Interviews are subject to a social desirability bias that leads respondents to inflate their reports of behaviors that are evaluated positively by their peers. As a result, the GSS might overstate the frequency of church attendance.

With time-series data on church attendance, however, we also encounter an issue with the stability of measurement over time. If the rate of misreporting

changes over time, not only will the average level of attendance be in error, but the trend itself also may be misleading. Unfortunately, unlike the measurement of general happiness discussed earlier, no clear adjustment procedure presents itself. What we can do, however, is to examine the trend in church attendance derived from the GSS data to see whether it is comparable to the results of studies that use methodologies that are less prone to social desirability bias.

Figure 2 presents the trends in church attendance by sex derived from the GSS data from 1972–2008. For this figure, I followed Presser and Chaves (2007) in recoding the original nine-point scale to approximate the probability of attending church during the week.[3] The *y*-axis gives an estimate of the mean probability that respondents would attend church during the week of the interview. Multiplied by 100, these probabilities can be interpreted as the estimated percentage of people attending church during the week.

Both sexes show a statistically significant decline in church attendance over the period of study ($p < 0.001$).[4] However, this trend is more steeply negative for women than for men, a difference that is visible in a careful inspection of Figure 2 and confirmed by a postestimation test of the difference between the coefficients for the male and female time trends on probability of attendance ($\chi^2(1) = 4.07$, $p = 0.044$).

Comparing the trends depicted in Figure 2 with research using techniques that are less subject to social desirability bias, we find that the overall level of attendance may be inflated in the GSS data but the trends appear to be compatible. Using time-use diaries as their data source, Presser and Stinson (1998) report a decline from 42 percent attending church in 1965 to 26 percent attending in 1994. This would be a linear decline of 0.55 percent per year. Our GSS data series does not begin until 1972, but it marks a decline from 48 percent (men and women combined) in 1972 to 39 percent in 1994, for a linear decline of 0.41 percent per year. In a later study using time-use diaries, Presser and Chaves (2007) report that after 1994, weekly church attendance stabilized at about 27–28 percent. Our GSS data series from 1994 forward (men and women combined) indicates that weekly attendance remained between 36 and 39 percent. Thus the GSS series gives estimates of church attendance that are higher than those from time-use diaries but displays trends that are reasonably similar.

---

[3] The recoding scheme is as follows: several times a week = 0.99, every week = 0.99, nearly every week = 0.85, two to three times a month = 0.58, about once a month = 0.23, several times a year = 0.05, about once or twice a year = 0.02, less than once a year = 0.01, and never = 0.

[4] An ordered probit regression of estimated probability of church attendance on the female and male time trends yielded the following coefficients: $\beta_{female} \times time = -0.815$ (S.E. = 0.122); $\beta_{male} \times time = -0.666$ (S.E. = 0.099).

**Figure 2: Estimates of the Probability of Church Attendance
During the Week, by Sex**
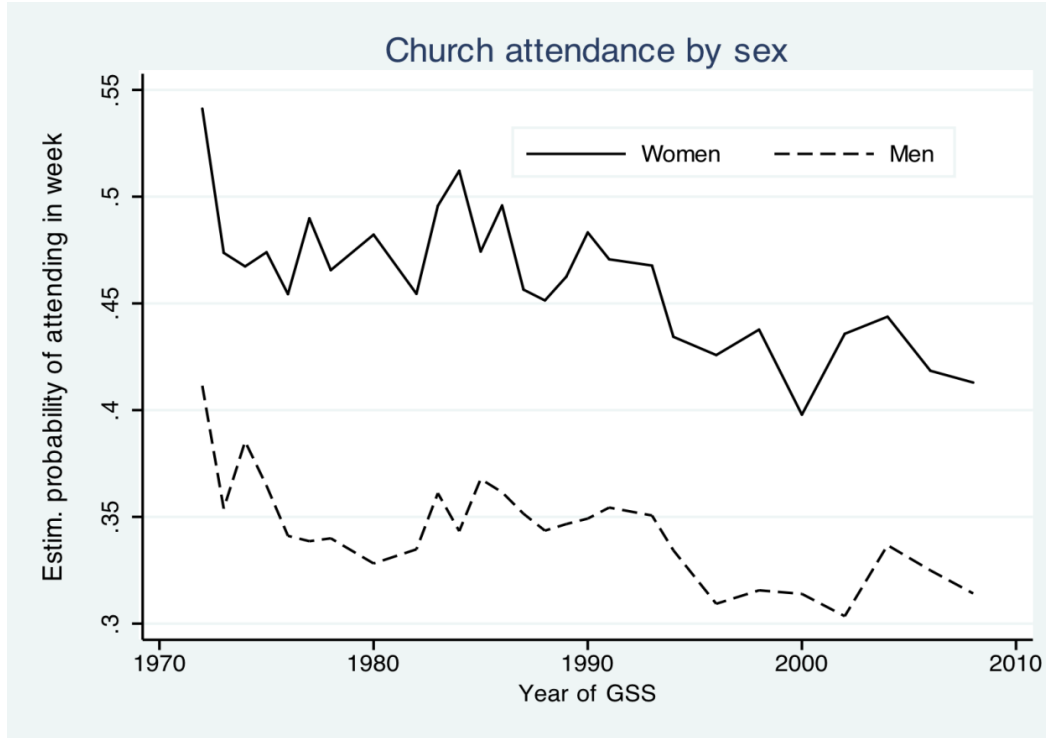
Source: Data from GSS, 1972–2008. Estimated probabilities based on a recoding of the responses to the question "How often do you attend religious services?" See footnote 3 for code definitions.

RESULTS

To test whether changes in church attendance can account for the decline in happiness among women, I added this variable to the previously constructed probit regressions as three dummy variables, with the lowest attendance level ("less than once a year") as the base. Level 1 of church attendance refers to the response "once to several times a year," level 2 to "one to three times per month," and level 3 to "every week or more." I also tested for interaction between attendance and sex by including interaction factors between the female indicator and the three highest levels of church attendance. The resulting interaction coefficients help to identify whether there are differences for males and females in the impact of church attendance on happiness. Table 4 presents the results of this analysis. (Again, the coefficients are reported in full in the appendix.)

Table 4: Trends in Happiness with Church Attendance as Added Control

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Regression Coefficients	Ordered Probit (1)	Ordered Probit (2)	Ordered Probit (3)
Time trend for women	−0.231*	−0.156	−0.174
	0.096	*0.104*	*0.118*
Time trend for men	0.106	0.154	0.229*
	0.097	*0.095*	*0.117*
Female indicator	0.128**	0.119**	0.204**
	0.034	*0.035*	*0.043*
Church Attendance			
Attendance level 1 (1 to several times a year)	0.141**	0.158**	0.111**
	0.018	*0.019*	*0.021*
Attendance level 2 (1 to 3 times a month)	0.294**	0.331**	0.251**
	0.024	*0.025*	*0.026*
Attendance level 3 (every week or more)	0.479**	0.487**	0.379**
	0.027	*0.028*	*0.027*
Interaction			
Attendance level 1 by female	−0.056	−0.055	−0.058
	0.031	*0.031*	*0.040*
Attendance level 2 by female	−0.128**	−0.107**	−0.108*
	0.037	*0.037*	*0.043*
Attendance level 3 by female	−0.114**	−0.094**	−0.068
	0.032	*0.033*	*0.036*
Control Variables			
Age, race, foreign-born		✔	✔
Socioeconomic controls			✔

Note: $N = 42,079$ for models with full controls. GSS data cover the years 1972–2008. Robust standard errors are in italics, clustered by year. See the note in Table 1 for descriptions of controls.

* $p < 0.05$; ** $p < 0.01$.

Column 1 in Table 4 reports the ordered probit regression coefficients for the model without controls. The first coefficient listed is for the time trend for women, and here we should note that it declines from the value we saw in Table 1 (from -0.318 to -0.231), but it remains significant at $p < 0.05$. However, with the addition of the exogenous controls (column 2), the coefficient declines below significance and remains nonsignificant with the addition of the socioeconomic controls (column 3). Let us review the rest of the table before returning to this finding.

The coefficients in the three models for the time trend for men are all positive and larger than they were in Table 1, but they remain statistically nonsignificant for two of the models. Only the model with full controls yields a marginally significant ($p = 0.050$) positive coefficient for the time trend for men. The addition of church attendance to the regression analysis therefore appears to lend only a small amount of support for the presence of a positive trend in general happiness for men. The female dummy variable, however, yields significant positive coefficients for all three models, indicating that even when we control for church attendance, women report higher levels of general happiness than men do.

The dummy variables for the three highest levels of church attendance all show significant positive coefficients on general happiness for all three models tested. Furthermore, as the level of attendance rises, the predicted level of happiness increases. Postestimation tests indicate that these increments in the coefficients are statistically significant at $p < 0.001$. Each increase in level of church attendance is associated with a higher level of general happiness.

Interaction effects between levels 2 and 3 of church attendance and the female dummy variable show significant negative coefficients, indicating that the increments in happiness for these two higher levels of attendance (one to three times a month and weekly or more often) are not as strong for females as for males. Nevertheless, postestimation tests indicate that even when the interaction is taken into account, each increment in attendance is significantly associated with an increase in happiness for women as well as for men ($p < 0.001$).

The key finding from Table 4 is the weakness in the negative trend in female happiness when we control for church attendance, a finding that supports the hypothesis that church attendance has played a role in the decline of female happiness. This weakness is especially clear when the control variables are included in the regression, for here the time trend for females fails to reach statistical significance. What this suggests is that the drop in church attendance accounts, at least in part, for the observed decline in female happiness from 1972 to 2008.

However, the fact that the coefficient for the time trend for women remains statistically significant in the model without controls prompts us to look more carefully at the impact of church attendance on the trend in happiness for women. While we know that controlling for church attendance reduces the size and

significance of the regression coefficient for the time trend for women, we do not know whether this reduction occurs at all levels of church attendance. In other words, there may be interaction between the time trend and church attendance such that there is a significant trend in general happiness at some levels of attendance.

To test for this interaction, Table 5 presents the original ordered probit regression model separately for each of the four levels of church attendance. In all four models displayed in Table 5, all exogenous and socioeconomic controls used in the earlier regression models are included. (Once more, the coefficients are reported in full in the appendix.)

Table 5: Trends in Happiness for Each of Four Levels of Church Attendance

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Regression Coefficients	Ordered Probit for Attendance Level 0	Ordered Probit for Attendance Level 1	Ordered Probit for Attendance Level 2	Ordered Probit for Attendance Level 3
	Less Than Once a Year	One to Several Times a Year	One to Three Times a Month	Weekly or More
Time trend for women	−0.446*	0.113	−0.286	−0.217
	0.189	*0.216*	*0.222*	*0.196*
Time trend for men	0.308	0.264*	0.095	0.144
	0.165	*0.122*	*0.198*	*0.228*
Female indicator	0.298**	0.121**	0.091	0.097*
	0.066	*0.045*	*0.065*	*0.049*
Control Variables				
Age, race, foreign-born	✔	✔	✔	✔
Socioeconomic controls	✔	✔	✔	✔

Note: $N = 9{,}975$ for attendance level 0; $N = 11{,}211$ for attendance level 1; $N = 9{,}154$ for attendance level 2; $N = 11{,}739$ for attendance level 3. GSS data cover the years 1972–2008. Robust standard errors are in italics, clustered by year. See the note in Table 1 for descriptions of controls.
* $p < 0.05$; ** $p < 0.01$.

Of the four coefficients for the time trend for women, only the one for the lowest attendance level—those who attend church less than once a year—is statistically significant. At −0.446, this negative coefficient is substantially stronger than the comparable coefficient of −0.259 from the fully controlled model for all women in Table 1. This suggests that for women, church attendance interacts with the time trend in general happiness; only women who attended church rarely or not at all display a significant decline in happiness over the thirty-six-year period.

All the coefficients for the time trend for men are positive, although only one—for those who attend church one to several times a year—was significant. However, it is important to note that for the group at the lowest level of church attendance, the difference in the trends for males and females is the largest that we find in this study ($\chi^2(1) = 7.37$, $p = 0.0066$). The difference in time trends for this group ($-0.446 - 0.308 = 0.754$) is nearly twice the size of the difference in the time trends reported in Table 1. Thus for those who attend church rarely or not at all, the decline in happiness among women is greatest both absolutely and relative to men.

Finally, in three of the four attendance groups, the female dummy variable maintains the significant positive sign that we saw in the earlier tables. This indicates that except for those who attend church one to three times a month, we can say that women had higher levels of general happiness than men throughout the period studied. However, this advantage for women appears to be strongest in the lowest attendance group. For those who attend church more regularly, being female appears to grant less of a bonus in happiness than for those who rarely or never attend church.

DISCUSSION

The results presented above reveal two means by which church attendance appears to have influenced the decline in women's happiness in the United States over the past three and half decades. The first of these, which could be called the direct effect, is a direct consequence of the decline in church attendance with its beneficial effects on happiness. If we assume that the positive association between regular church attendance and general happiness indicates that church attendance is a behavior that augments general happiness, then a reduction in attendance would be expected to reduce that happiness. In other words, the shift over time to lower attendance, a behavior that is associated with decreased general happiness, explains in part the decline in women's happiness from 1972 to 2008.

The second means that the analysis reveals might be called a protective effect. If one supposes that the changes that our society has experienced over the past few decades have had a net detrimental impact on women's happiness, the

analysis supports the conclusion that it is women who attend church who have been less susceptible to that impact. The decline in female happiness over the period studied appears to have been experienced most significantly by women who attend church rarely or not at all.

The reduction in the ordered probit regression coefficient for the time trend for women when church attendance was entered into the analysis (Table 4) illustrates the first of these two means. Without controls, the coefficient was reduced in size but remained statistically significant; with controls, the coefficients dropped to nonsignificance. The decline or disappearance of a statistical association when one controls for an intervening variable usually indicates that the intervening variable provides an interpretation of the original relationship (Rosenberg 1968). Here, church attendance is the intervening variable, and it interprets for us, in part, the process by which women experienced a decline in their level of general happiness over the past thirty-six years.

It does this only in part, however, for as Table 5 demonstrates, the time trend for women appears to remain statistically significant for one of the four major church attendance groups: those who rarely or never attend church. When we reexamine the original ordered probit regression separately for each of the four attendance groups, we find that although three of them maintained the negative sign found in the original table, only one sustained statistical significance. Furthermore, it was among these least-frequent attendees that the decline in happiness for women relative to men was greatest. The results therefore allow us to specify the subpopulation of women who experienced most dramatically the negative trend in general happiness: The women who attended church less than once a year displayed the greatest (and only statistically significant) decline in happiness over the three and half decades covered by the study.

In spite of the fact that church attendance declined for men as well as for women, the men exhibited no decline in happiness over the period studied. In fact, the signs of all the coefficients for the time trends for men are positive, and two are statistically significant. As Stevenson and Wolfers (2009) found, it was women and not men who exhibited a significant decline in self-reported happiness over those thirty-six years.

A question that arises with this finding is why, if church attendance is positively associated with happiness (apparently even more strongly for men than for women), the decline in attendance experienced by both sexes did not lead to a drop in happiness for men. Possible answers are suggested both by the analysis above and by other sources. First, estimations of the decline in church attendance show that women appear to have experienced a steeper decline in attendance over the past few decades than men have. If church attendance is a significant support for a positive sense of well-being, then the fact that women experienced a greater decline in attendance would lead us to expect a greater decline in their happiness.

Commonly observed sex differences in social behavior could also account for the different trend in happiness of women and men. Eagly (2000) summarizes these differences by citing the tendency of women to be drawn to more communal activities while men tend to engage in more agentic behaviors. When one considers the content of the activities associated with church attendance, they appear to be more closely identified with communal rather than agentic behavior and therefore might be expected to serve more immediately the psychological needs of women than of men. Finally, although role expectations for both men and women have changed over the past few decades, it could be argued that they have changed more dramatically for women. In the context of a greater sense of social disruption, perhaps women benefited more than men from the stabilizing influence of regular church attendance.

Although the purpose of the present study is to investigate the impact of church attendance on the decline in women's happiness, it is important to acknowledge that there are many factors that influence happiness. Nevertheless, even if we concentrate on the influence of one factor, caution needs to be exercised in speaking of causal relationships that are tested with time series data, such as have been used in this analysis. Ideally, the investigator would like to have full experimental control over his treatment groups, something that social scientists cannot hope to have for many of the variables they seek to examine. As good a source of data as the GSS is, the samples for each year of the survey do not even comprise the same individuals, although the GSS is now using panel designs for some of its samples. In these circumstances, if we wish to offer intellectually satisfying explanations of social phenomena, our best approach is to subject the statistical associations that we uncover to critical analysis with both statistical controls that check for spuriousness and sound theoretical reasoning.

For example, the positive association that has been found in other research between happiness and being married can be interpreted with either variable posited as the cause. On one hand, being married may increase the happiness of married couples; on the other hand, those who are happy may be more attractive as mates and therefore more likely to marry (Stevenson and Wolfers 2009). However, Baumeister (1995) observes that the studies that give evidence about the direction of causality have favored the former interpretation.

In the introductory section of this article, I presented theoretical reasons for positing church attendance as the cause of happiness: To the extent to which it provides a transcendent meaning to life and opportunities to form close personal ties, regular church attendance ought to increase a person's sense of well-being and satisfaction with life. In other circumstances, the causal direction may be reversed. For instance, an individual's unhappiness or depression may inhibit his or her desire to engage socially, or the person's cheerless disposition may lead others to discourage his or her attendance. In the absence of means to test this

causal hypothesis more rigorously, it is probably most reasonable to assume that the relationship between church attendance and happiness is bidirectional.

Finally, another limitation of the study resides in the conceptualization of happiness underlying the measurement used here and in other studies. St. Augustine (1983) tells us that to be happy, one must possess what one desires, but he adds that possessing what one desires, if that object is hurtful, cannot be called happiness. If we claim to be happy when we desire and obtain what is an apparent good but not a real good, can we truly be called happy? These are philosophical questions that cannot be solved by survey research, but they remind us that measures such as self-reported happiness must be interpreted with caution. We ought, after all, to be concerned with the true good of people and not merely with their subjective evaluation. Nevertheless, regarding the positive impact of church attendance on happiness, St. Augustine would not be surprised at our findings, for he taught that mankind's chief good is God, and "the happy life exists when that which is man's chief good is both loved and possessed."

REFERENCES

Augustine. 1983. "De Moribus Ecclesiae Catholicae," translated by Richard Stothert. In *A Select Library of the Nicene and Post-Nicene Fathers*, Volume 4: *St. Augustine: The Writings Against the Manichaeans and Against the Donatists*, edited by Philip Schaff, 41–63. Grand Rapids, MI: Wm. B. Eerdmans.

Baumeister, Roy F., and Mark R. Leary. 1995. "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation." *Psychological Bulletin* 117: 497–529.

Blau, Francine D. 1998. "Trends in the Well-Being of American Women, 1970–1995." *Journal of Economic Literature* 36: 112–165.

Davis, James A., and Tom W. Smith. 2009. "General Social Surveys, 1972–2008." Machine-readable data file. Chicago: National Opinion Research Center, producer; Storrs, CT: Roper Center for Public Opinion Research, University of Connecticut, distributor.

Diener, Ed. 2000. "Subjective Well-Being: The Science of Happiness and a Proposal for a National Index." *American Psychologist* 55: 34–43.

Durkheim, Emile. 1951. *Suicide: A Study of Sociology*, translated by John A. Spaulding and George Simpson. New York: Free Press.

Eagly, Alice H. 2000. "Gender, Sex, and Culture: Sex Differences and Gender Differences." In *Encyclopedia of Psychology*, Volume 2, edited by Alan E. Kazdin, 436–442. Washington, DC: American Psychological Association, Oxford University Press.

Freeman, Catherine E. 2004. *Trends in Educational Equity of Girls and Women: 2004* NCES 2005-016. Washington, DC: National Center for Education Statistics.

Green, Morgan, and Marta Elliott. 2010. "Religion, Health, and Psychological Well-Being." *Journal of Religion & Health* 49: 149–163.

Lee, Marlene A. and Mark Mather. 2008. "U.S. Labor Force Trends." *Population Bulletin* 63: 3–16.

Lewis, Christopher A., and Sharon M. Cruise. 2006. "Religion and Happiness: Consensus, Contradictions, Comments and Concerns." *Mental Health, Religion & Culture* 9: 213–225.

Miller, Alan S., and Takashi Nakamura. 1996. "On the Stability of Church Attendance Patterns During a Time of Demographic Change, 1965–1988." *Journal for the Scientific Study of Religion* 35: 275–284.

Presser, Stanley, and Mark Chaves. 2007. "Is Religious Service Attendance Declining?" *Journal for the Scientific Study of Religion* 46: 417–423

Presser, Stanley, and Linda Stinson. 1998. "Data Collection Mode and Social Desirability Bias in Self-Reported Religious Attendance." *American Sociological Review* 63: 137–145.

Putnam, Robert D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.

Rosenberg, Morris. 1968. *The Logic of Survey Analysis*. New York: Basic Books.

Smith, Tom W. 1985. "Unhappiness on the 1985 GSS: Confounding Change and Context." GSS Methodological Report No. 34. Chicago: National Opinion Research Center, University of Chicago. Available at http://publicdata.norc.org:41000/gss/DOCUMENTS/REPORTS/Methodological_Reports/MR034.pdf.

Smith, Tom W. 1990. "Timely Artifacts: A Review of Measurement Variation in the 1972–1989 GSS." Methodological Report No. 56. Chicago: National Opinion Research Center, University of Chicago. Available at http://publicdata.norc.org:41000/gss/DOCUMENTS/REPORTS/Methodological_Reports/MR056.pdf.

Snyder, Thomas D., Sally A. Dillow, and Charlene M. Hoffman. 2009. *Digest of Education Statistics 2008*. NCES 2009-020. Washington, DC: U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics.

Soares, J. J. F., G. Grossi, and Ö. Sundin. 2007. "Burnout Among Women: Associations with Demographic/Socio-Economic, Work, Life-Style and Health Factors." *Archives of Women's Mental Health* 10: 61–71.

Stark, Rodney, and Jared Meier. 2008. "Faith and Happiness." *Review of Religious Research* 50: 120–125.

Stark, Rodney, and Buster G. Smith. 2010. "Conversion to Latin American Protestantism and the Case for Religious Motivation." *Interdisciplinary Journal of Research on Religion* 6 (article 7): 1–17.

Steensland, Brian, Jerry Z. Park, Mark D. Regnerus, Lynn D. Robinson, W. Bradford Wilcox, and Robert D. Woodberry. 2000. "The Measure of American Religion: Toward Improving the State of the Art." *Social Forces* 79: 291–318.

Stevenson, Betsey, and Justin Wolfers. 2008. "Happiness Inequality in the United States." *Journal of Legal Studies*, 37(S2): S33–S79.

Stevenson, Betsey, and Justin Wolfers. 2009. "The Paradox of Declining Female Happiness." *American Economic Journal: Economic Policy* 1: 190–225

Wolfers, Justin. 2003. "Is Business Cycle Volatility Costly?: Evidence from Surveys of Subjective Well-Being." *International Finance* 6: 1–26.

Appendix: Probit Tables with All Coefficients Included

Table 1: Trends in Happiness, United States, 1972–2008, GSS; Ordered Probit Results for All Variables

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Independent Variable	Ordered Probit Model 1				Ordered Probit Model 2				Ordered Probit Model 3			
	Coef.	Std. Err.	z	P > |z|	Coef.	Std. Err.	z	P > |z|	Coef.	Std. Err.	z	P > |z|
Female_time	−0.318	0.091	−3.5	0.000	−0.268	0.098	−2.72	0.006	−0.259	0.114	−2.26	0.024
Male_time	0.018	0.087	0.21	0.837	0.052	0.088	0.59	0.554	0.162	0.111	1.47	0.143
Female	0.091	0.021	4.27	0.000	0.095	0.022	4.38	0.000	0.173	0.027	6.44	0.000
Race (base = white)												
Black					−0.401	0.023	−17.66	0.000	−0.246	0.044	−5.6	0.000
Other					−0.119	0.041	−2.87	0.004	−0.033	0.046	−0.72	0.469
Age (base = 18–29)												
30–39					0.101	0.018	5.57	0.000	−0.057	0.023	−2.47	0.013
40–49					0.081	0.016	5.1	0.000	−0.112	0.027	−4.15	0.000
50–59					0.107	0.023	4.75	0.000	−0.065	0.033	−1.98	0.047
60–69					0.200	0.022	9.25	0.000	0.118	0.036	3.26	0.001
70–79					0.183	0.023	7.97	0.000	0.233	0.045	5.13	0.000
80 and above					0.067	0.042	1.59	0.112	0.253	0.072	3.54	0.000
Foreign					−0.042	0.015	−2.69	0.007	−0.172	0.022	−7.81	0.000
Marital (base = married)												
Widowed									−0.561	0.025	−22.72	0.000
Divorced									−0.479	0.019	−25.73	0.000
Separated									−0.643	0.035	−18.54	0.000
Never marr.									−0.397	0.034	−11.69	0.000
Region (base = E. N. Cen.)												
N. Eng.									0.065	0.033	2.01	0.045
Mid Atl.									−0.046	0.021	−2.18	0.029
W. N. Cen.									0.055	0.021	2.64	0.008
S. Atl.									0.073	0.021	3.48	0.001

E. So. Cen.		0.134	0.023	5.71	0.000
W. So. Cen.		0.076	0.024	3.15	0.002
Mtn.			0.024	1.79	0.074
Pacif.		0.005	0.019	0.28	0.779
Reltrad (base = Ev. Prot.)					
Blk. Prot.		0.004	0.051	0.08	0.940
Mainline Prot.		0.010	0.017	0.61	0.544
Cath.		−0.059	0.016	−3.62	0.000
Jewish		−0.179	0.065	−2.74	0.006
Other		0.005	0.051	0.1	0.918
Unaffil.		−0.135	0.022	−6.2	0.000
Wrkstat (base = full-time)					
Wrk. part-time		−0.036	0.020	−1.79	0.073
Temp. not wrk.		−0.091	0.037	−2.48	0.013
Unempl.		−0.394	0.046	−8.62	0.000
Retired		0.029	0.031	0.93	0.353
School		0.134	0.036	3.76	0.000
Keep house		−0.033	0.025	−1.31	0.190
Other		−0.257	0.060	−4.3	0.000
Nat. log. realinc		−0.453	0.079	−5.73	0.000
Nat. log. realinc squared		0.031	0.004	7.7	0.000
Degree (base = h.s.)					
Less than h.s.		−0.077	0.018	−4.15	0.000
Jun. col.		0.068	0.030	2.28	0.023
Bachelor's		0.090	0.023	3.99	0.000
Graduate		0.101	0.029	3.49	0.000
Children (base = 0)					
1		−0.106	0.014	−7.45	0.000
2		−0.073	0.017	−4.37	0.000
3		−0.082	0.023	−3.56	0.000
4		−0.054	0.028	−1.92	0.055
5		−0.075	0.031	−2.4	0.016

**Table 4: Trends in Happiness with Church Attendance as Added Control;
Results for All Variables**

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Independent Variable	Ordered Probit Model 1				Ordered Probit Model 2				Ordered Probit Model 3			
	Coef.	Std. Err.	z	P > |z|	Coef.	Std. Err.	z	P > |z|	Coef.	Std. Err.	z	P > |z|
Female_time	−0.231	0.096	−2.4	0.016	−0.156	0.104	−1.51	0.132	−0.174	0.118	−1.47	0.141
Male_time	0.106	0.097	1.09	0.275	0.154	0.095	1.62	0.104	0.229	0.117	1.96	0.050
Female	0.128	0.034	3.79	0.000	0.119	0.035	3.37	0.001	0.204	0.043	4.78	0.000
Attend (base = never)												
1 to several times/yr.	0.141	0.018	7.74	0.000	0.158	0.019	8.26	0.000	0.111	0.021	5.22	0.000
1–3 times/month	0.294	0.024	12.08	0.000	0.331	0.025	13.35	0.000	0.251	0.026	9.76	0.000
Every wk. or more	0.479	0.027	17.49	0.000	0.487	0.028	17.51	0.000	0.379	0.027	14.07	0.000
Fem. by att4 interaction												
Fem. by lev. 1 attend.	−0.056	0.031	−1.82	0.068	−0.055	0.031	−1.77	0.077	−0.058	0.040	−1.46	0.144
Fem. by lev. 2 attend.	−0.128	0.037	−3.49	0.000	−0.107	0.037	−2.86	0.004	−0.108	0.043	−2.55	0.011
Fem. by lev. 3 attend.	−0.114	0.032	−3.57	0.000	−0.094	0.033	−2.82	0.005	−0.068	0.036	−1.9	0.057
Race (base = white)												
Black					−0.445	0.022	−20.45	0.000	−0.284	0.044	−6.53	0.000
Other					−0.129	0.046	−2.83	0.005	−0.055	0.049	−1.13	0.257
Age (base = 18–29)												
30–39					0.080	0.018	4.5	0.000	−0.063	0.023	−2.77	0.006
40–49					0.045	0.016	2.76	0.006	−0.129	0.026	−4.92	0.000
50–59					0.064	0.023	2.8	0.005	−0.087	0.032	−2.74	0.006
60–69					0.141	0.022	6.49	0.000	0.081	0.035	2.32	0.020
70–79					0.116	0.024	4.84	0.000	0.180	0.045	4.02	0.000
80 and above					0.020	0.041	0.49	0.626	0.206	0.071	2.91	0.004

Foreign		−0.069	0.018	−3.84	0.000	−0.186	0.024	−7.63	0.000
Marital (base = married)								
Widowed						−0.560	0.024	−23.22	0.000
Divorced						−0.445	0.019	−23.79	0.000
Separated						−0.621	0.034	−18.47	0.000
Never marr.						−0.383	0.033	−11.5	0.000
Region (base = E. N. Cen.)								
N. Eng.						0.082	0.033	2.46	0.014
Mid Atl.						−0.038	0.022	−1.73	0.083
W. N. Cen.						0.044	0.020	2.18	0.029
S. Atl.						0.069	0.021	3.27	0.001
E. So. Cen.						0.103	0.023	4.41	0.000
W. So. Cen.						0.057	0.025	2.32	0.020
Mtn.						0.053	0.025	2.17	0.030
Pacif.						0.033	0.019	1.74	0.081
Reltrad (base = Ev. Prot.)								
Blk. Prot.						0.087	0.045	1.92	0.055
Mainline Prot.						0.081	0.018	4.52	0.000
Cath.						0.115	0.020	5.79	0.000
Jewish						−0.027	0.064	−0.41	0.680
Other						0.032	0.047	0.69	0.491
Unaffil.						0.017	0.021	0.83	0.408
Wrkstat (base = full-time)								
Wrk. part-time						−0.057	0.020	−2.77	0.006
Temp. not wrk.						−0.081	0.037	−2.2	0.028
Unempl.						−0.384	0.044	−8.7	0.000
Retired						0.031	0.032	0.96	0.335
School						0.098	0.036	2.69	0.007
Keep house						−0.038	0.024	−1.56	0.119
Other						−0.252	0.061	−4.15	0.000

Nat. log. Realinc				−0.488	0.081	−6	0.000
Nat. log. Realinc squared				0.032	0.004	7.86	0.000
Degree (base = h.s.)							
Less than h.s.				−0.055	0.018	−3.03	0.002
Jun. col.				0.054	0.030	1.79	0.074
Bachelor's				0.060	0.022	2.69	0.007
Graduate				0.071	0.029	2.45	0.014
Children (base = 0)							
1				−0.105	0.016	−6.57	0.000
2				−0.087	0.017	−5.16	0.000
3				−0.101	0.023	−4.35	0.000
4				−0.071	0.028	−2.56	0.010
5				−0.096	0.030	−3.17	0.002

Table 5: Trends in Happiness for Each of Four Levels of Church Attendance; Results for All Variables

Dependent variable: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

Independent Variable	Ordered Probit for "Less Than Once a Year"			Ordered Probit for "One to Several Times a Year"			Ordered Probit for "One to Three Times a Month"			Ordered Probit for "Weekly or More"		
	Coef.	Std. Err.	$P > |z|$	Coef.	Std. Err.	$P > |z|$	Coef.	Std. Err.	$P > |z|$	Coef.	Std. Err.	$P > |z|$
Female_time	−0.446	0.189	0.018	0.113	0.216	0.602	−0.286	0.222	0.198	−0.217	0.196	0.267
Male_time	0.308	0.165	0.061	0.264	0.122	0.030	0.095	0.198	0.631	0.144	0.228	0.530
Female	0.298	0.066	0.000	0.121	0.045	0.007	0.091	0.065	0.158	0.097	0.049	0.049
Race (base = white)												
Black	−0.272	0.095	0.004	−0.259	0.064	0.000	−0.355	0.076	0.000	−0.279	0.054	0.000
Other	−0.032	0.050	0.526	0.017	0.074	0.819	0.041	0.070	0.562	−0.213	0.070	0.002
Age (base = 18–29)												
30–39	−0.111	0.038	0.004	0.017	0.034	0.613	−0.068	0.041	0.097	0.112	0.046	0.014
40–49	−0.186	0.041	0.000	−0.060	0.040	0.136	−0.170	0.041	0.000	0.004	0.044	0.933
50–59	−0.142	0.053	0.007	0.004	0.052	0.939	−0.090	0.059	0.127	−0.003	0.037	0.942
60–69	−0.048	0.068	0.474	0.123	0.066	0.060	0.142	0.070	0.044	0.196	0.040	0.000
70–79	0.092	0.093	0.321	0.197	0.097	0.042	0.261	0.087	0.003	0.278	0.064	0.000
80 and above	0.167	0.099	0.093	0.293	0.122	0.017	0.261	0.134	0.052	0.261	0.100	0.009
Foreign	−0.354	0.031	0.000	−0.265	0.041	0.000	−0.340	0.045	0.000	0.169	0.039	0.000
Marital (base = married)												
Widowed	−0.589	0.065	0.000	−0.573	0.059	0.000	−0.570	0.067	0.000	−0.536	0.042	0.000
Divorced	−0.428	0.043	0.000	−0.463	0.043	0.000	−0.432	0.046	0.000	−0.466	0.058	0.000
Separated	−0.571	0.068	0.000	−0.589	0.074	0.000	−0.650	0.069	0.000	−0.696	0.101	0.000
Never marr.	−0.421	0.034	0.000	−0.318	0.044	0.000	−0.390	0.046	0.000	−0.401	0.053	0.000
Region (base = E. N. Cen.)												
N. Eng.	0.038	0.053	0.478	0.087	0.062	0.158	−0.097	0.078	0.216	0.134	0.055	0.014
Mid Atl.	−0.118	0.049	0.017	−0.053	0.032	0.105	−0.137	0.052	0.008	0.000	0.041	0.997

W. N. Cen.	−0.019	0.033	0.573	−0.007	0.050	0.880	−0.120	0.051	0.018	0.082	0.039	0.038
S. Atl.	0.000	0.042	0.993	0.032	0.044	0.473	−0.032	0.051	0.532	0.101	0.043	0.018
E. So. Cen.	−0.010	0.038	0.786	0.149	0.069	0.032	−0.074	0.069	0.283	0.169	0.038	0.000
W. So. Cen.	−0.005	0.053	0.928	0.028	0.054	0.607	−0.094	0.056	0.094	0.105	0.050	0.037
Mtn.	0.050	0.047	0.289	0.004	0.047	0.927	−0.025	0.078	0.745	0.038	0.058	0.515
Pacif.	0.023	0.049	0.640	0.010	0.038	0.800	−0.099	0.066	0.131	0.062	0.051	0.227
Reltrad (base = Ev. Prot.)												
Blk. Prot.	0.120	0.123	0.328	−0.041	0.082	0.614	0.060	0.080	0.450	0.161	0.069	0.020
Mainline Prot.	0.065	0.041	0.111	−0.016	0.029	0.574	−0.028	0.036	0.443	0.186	0.032	0.000
Cath.	0.098	0.046	0.035	0.089	0.037	0.016	−0.080	0.041	0.052	0.162	0.035	0.000
Jewish	0.010	0.038	0.788	−0.051	0.073	0.491	−0.017	0.106	0.876	−0.050	0.185	0.788
Other	−0.133	0.112	0.236	−0.045	0.096	0.639	−0.066	0.120	0.582	0.133	0.063	0.035
Unaffil.	−0.063	0.105	0.547	−0.145	0.036	0.000	−0.020	0.048	0.668	0.152	0.049	0.002
Wrkstat (base =f ull-time)												
Wrk. part-time	−0.106	0.046	0.020	−0.090	0.042	0.032	−0.054	0.039	0.167	0.008	0.040	0.845
Temp. not wrk.	0.045	0.084	0.592	−0.211	0.063	0.001	−0.107	0.090	0.231	−0.040	0.099	0.690
Unempl.	−0.384	0.060	0.000	−0.429	0.074	0.000	−0.305	0.107	0.005	−0.415	0.106	0.000
Retired	0.083	0.051	0.103	0.061	0.074	0.411	0.046	0.061	0.450	−0.005	0.053	0.922
School	0.087	0.079	0.270	0.207	0.054	0.000	−0.041	0.096	0.672	0.119	0.074	0.110
Keep house	−0.126	0.042	0.003	−0.075	0.041	0.068	0.003	0.047	0.942	0.015	0.040	0.705
Other	−0.246	0.127	0.053	−0.300	0.104	0.004	−0.214	0.138	0.120	−0.250	0.098	0.010
Nat. log. Realinc	−0.530	0.131	0.000	−0.495	0.143	0.001	−0.426	0.143	0.003	−0.532	0.135	0.000
Nat. log. Realinc squared	0.035	0.007	0.000	0.033	0.008	0.000	0.030	0.008	0.000	0.034	0.007	0.000
Degree (base = h.s.)												
Less than h.s.	−0.014	0.037	0.703	−0.053	0.041	0.201	−0.104	0.044	0.019	−0.066	0.039	0.089
Jun. col.	−0.032	0.052	0.537	0.032	0.050	0.522	0.134	0.067	0.047	0.067	0.072	0.355
Bachelor's	0.026	0.045	0.570	0.098	0.043	0.023	0.064	0.032	0.046	0.059	0.040	0.142
Graduate	0.176	0.067	0.008	0.079	0.052	0.129	0.041	0.073	0.575	0.026	0.058	0.646
Children												

(base = 0)												
1	−0.063	0.032	0.050	−0.135	0.038	0.000	0.189	0.027	0.000	0.070	0.042	0.098
2	−0.032	0.028	0.255	−0.068	0.030	0.021	0.022	0.038	0.562	0.018	0.031	0.563
3	−0.122	0.055	0.027	−0.145	0.044	0.001	0.078	0.040	0.054	0.021	0.037	0.566
4	−0.028	0.071	0.693	−0.118	0.055	0.030	0.095	0.055	0.083	0.021	0.037	0.574
5	−0.162	0.062	0.009	−0.020	0.074	0.791	0.051	0.053	0.338	−0.001	0.039	0.977