

THE CLASS OF 1957 IN THEIR MID-60S: A FIRST LOOK¹

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¹ This research uses data from the Wisconsin Longitudinal Study (WLS) of the University of Wisconsin-Madison. Since 1991, the WLS has been supported principally by the National Institute on Aging (AG-9775 and AG-21079), with additional support from the Vilas Estate Trust, the National Science Foundation, the Spencer Foundation, and the Graduate School of the University of Wisconsin-Madison. A public use file of data from the Wisconsin Longitudinal Study is available from the Wisconsin Longitudinal Study, University of Wisconsin-Madison, 1180 Observatory Drive, Madison, Wisconsin 53706 and at <http://www.ssc.wisc.edu/~wls/data/>. The opinions expressed herein are those of the authors. We thank Linda Jordan, Joe Savard, Jeremy Iverson, and Rachel Krause for research and technical support.

Preface

This paper presents the results from the latest round of data collection for the nearly 50 year-old Wisconsin Longitudinal Study (WLS).² The results primarily update the lives of the graduates since our last interviews with them in 1993. Thus, those who are new to WLS should also read the report on the overview and findings from our previous round of interviews and surveys.³ The findings presented in this report are the results of a collaboration of a research team that over time has involved many hundreds of researchers, students and interviewers. However, our most important collaboration has been with our WLS participants. Over the years, we have not only maintained ties with most of the surviving respondents of the original class of '57 sample, we have also talked with their siblings, their spouses and their sibling's spouses. We are extremely grateful for their time, energy, and continued enthusiasm for this project.

² Wisconsin Longitudinal Study (WLS) [graduates] Version 11.0 Preliminary Release: 2004. [machine-readable data file] / Hauser, Robert M; Hauser, Taissa S. [principal investigators]. Madison, WI: University of Wisconsin-Madison, WLS. [distributor]; <<http://www.ssc.wisc.edu/~wls/documentation/>>

³ Hauser, Robert M., Carr, Deborah, Hauser, Taissa S., Hayes, Jeffrey , Kreckler, Margaret, Kuo, Hsiang-Hui Daphne, Magee, William , Presti, John , Shinberg, Diane, Sweeney, Megan , Thompson-Colon, Theresa, Uhrig, S.C. Noah, Warren, John Robert. Revised April 1994. "The Class of 1957 after 35 Years: Overview and Preliminary Findings." Madison: University of Wisconsin-Madison. (<http://www.ssc.wisc.edu/cde/cdewp/93-17.pdf>)

Abstract

The Wisconsin Longitudinal Study (WLS) is a long-term study of more than 10,000 women and men who graduated from Wisconsin high schools in 1957 and who now have been followed for 47 years, to ages 64-65. We briefly describe the contents of our 2003-2005 round of interviews and surveys, the process of our data collection, and our research questions. Using preliminary data we update the lives of the graduates and their families. We cover a broad array of topics with an emphasis on family life, economic status, work, retirement, health care, mental and physical health and well-being, social participation, and end of life plans.

THE CLASS OF 1957 IN THEIR MID-60S: A FIRST LOOK

Overview and History

The Wisconsin Longitudinal Study (WLS) is a long-term study of a random sample of men and women who graduated from Wisconsin high schools in 1957. Begun as a study of graduates' plans for education after high school, the WLS has now been following the lives of its participants for nearly 5 decades. The questions asked of participants have shifted far away from post-high school plans to include broad array of topics, but the study has maintained an interest in the life-long consequences of social background and adolescent experiences. The first two rounds of longitudinal survey data were collected from graduates and their parents in 1964 and 1975. Those data provide a full record of social background, high school curriculum, youthful aspirations and social influences, schooling, military service, family formation, labor market experiences, and social participation. These early survey data were supplemented by earnings of parents from state tax records, academic ability test scores and rank in high school class, and characteristics of high schools and colleges, employers, industries, and communities of residence. In 1977, we surveyed a randomly selected sample of approximately 2000 of the graduates' sisters and brothers. Asking the siblings the same questions we asked the graduates allowed us to study how a common social background influences life events. In 1992-93 the WLS returned to the field, adding a mail survey in addition to a new wave of telephone interviews. Along with interviewing the original graduates we expanded the sibling sample. Nearly 5000 siblings participated in telephone and mail surveys, carried out mainly in 1994. The 1992-94 round of interviews updated our measures of marital status, child-rearing, education, labor force participation, jobs and occupations, social participation, and future aspirations and plans among graduates and

siblings. Content was expanded to include psychological well-being, mental and physical health, wealth, household economic transfers, and social comparisons and exchange relationships with parents, siblings, and children.

In the 2004 wave of the WLS, items have been divided between telephone and mail surveys; as in 1992-94, a few items appear in both instruments to check reliability or to experiment with alternative item wording.⁴ The division of content between the telephone and mail instruments is based on the complexity of branching structures, the need to bound queries with prior information, and various aspects of item format. Telephone interviews used computer-assisted (CATI) technology. Information essential to bounded segments of the telephone interview, such as name of the employer at the last interview and rosters of children's and siblings' names, were transferred from files of the 1992-94 interviews and entered in the interview schedule database. Excepting this essential information, in keeping with our established confidentiality policy, interviewers knew nothing about respondents.

The content of the main graduate telephone survey for the 2004 wave covers:

- An update of education received from the previous wave;
- An update of marital history from the previous wave;
- An enumeration of children, and a screen for non-normative children;
- An update on the status of parents, questions on parents health and parent relationship;
- An update of household composition and member disability status;

⁴ A note about dates: The most recent round of the WLS graduate interviews was in the field from July of 2003 through June 2005. In order to avoid the cumbersome notation 2003-2005, this paper will refer to the year of this study as 2004. Similarly, the 1992-1994 wave of WLS will simply be referred to as 1993.

- A health section covering self-reported health, the Health Utilities Index, reports of specific conditions, a disability screener and questions on care received;
- Detailed employment history since last interview, including information on current or last job characteristics;
- Information on pensions;
- Retirement attitudes,
- Detailed information on income, assets and intergenerational transfers;
- Information on types of health insurance, characteristics of plans and changes to plans in the past 12 months;
- Usual source of medical care (type and location of current and past providers);
- Volunteer activity;
- Alcohol history,
- Religious preference and attendance and spouses' preference;
- Internet use;
- A lifetime history of significant depression; and symptoms of worst depressive episode and duration between episodes;
- Psychological well-being (in a very small subsample);
- End of life preparations and reactions to loss of parent or spouse;
- At various points throughout the interview: a series of short cognitive exercises, assessing letter/category fluency, similarities, immediate and delayed recall, and digit ordering.

The companion mail survey includes sections on:

- Physical and emotional health, symptoms, chronic conditions, activity, medical services received, and family health history, smoking, sleep behavior, alcohol use;
- Social background
- Values & attitudes (masculinity scale, personality characteristics, optimism, mattering, social identities, and psychological well-being)
- Work & family (subjective social standing, importance of job characteristics, conflict between work and family, job conditions)
- Dealing with problems (dealing with family crises, aging parents, problems with the law, handling stress, serious life events, and coping style)
- Religion & spirituality
- Current psychological states {Depression/depressive symptoms, hostility, anger, anxiety, current psychological well-being)
- Social relationships including care giving and receiving; parental treatment while growing up;
- Patient – physician relationship: communication, trust and decision-making;
- Health system perceptions & experience, difficulties and delays in obtaining health care;
- Use of health services –covered and not covered by insurance, and out of pocket prescription and medical service costs;
- Use of long term care insurance;
- Perceptions about future health, disability and death;
- Marriage;
- Social and civic participation, volunteering and internet use.

As in the 1993 WLS surveys, the University of Wisconsin Survey Center (UWSC) carried out survey operations and coding. Each phase of survey operations –from tracing through coding–was carried out separately for 10 randomly selected replicate sub-samples within each major component of the design (graduates, siblings, and their spouses). The replicate structure enabled the investigators to monitor the success of field operations early in the data collection process and to smooth the balance of easier and more difficult interviews across the field period. It also permitted them to vary survey content over time among well-defined random subsamples of participants. Pretests of survey procedures were conducted with individuals who are part of the population from which the WLS was drawn, but not part of the WLS graduate sample. Using information from high school reunion booklets, a sufficient number of non-sample individuals were located for early pretest activities.

Graduates received a letter describing the upcoming study and inviting their participation. They were also directed to a public web-site describing the study. All instruments and operations were cleared by the Institutional Review Board at the University of Wisconsin-Madison. Consent was obtained by telephone at the start of the interview. Participants were assured of confidentiality and informed that the study had obtained a certificate of confidentiality from the Federal Government. In addition participants were asked if the interview could be recorded. Recordings are available for the vast majority of telephone interviews, and they have been invaluable for quality assurance purposes. Almost 85 percent of living graduates participated in the telephone phase of the 2004 surveys. After successful completion of the telephone portion of the interview, participants were sent the 50-page self-administered mail questionnaire with two crisp five-dollar bills clipped to the front page. Those who did not return their questionnaire in a timely fashion received up to two more mailings and one, final telephone contact to encourage them to mail back their questionnaires. Among these participants,

88 percent completed the mail instrument. At the end of the field period, some reluctant participants were mailed copies of a compact disk, Billboard Magazine's Greatest Hits of 1957, and that token gift was successful in increasing the final response rate. Also, after all other field operations were completed, mail questionnaires were sent to all individuals who had declined to participate in the telephone interviews, and they were completed by almost 40 percent of the telephone non-participants. Those instruments included updates of key demographic information.

Sample and Response Rates

The WLS sample is broadly representative of white, non-Hispanic American men and women who have completed at least a high school education. Among Americans aged 65 in 2004, approximately 66 percent were non-Hispanic white persons who completed at least 12 years of schooling. Some strata of American society are not well represented. The WLS sample is mainly of German, English, Irish, Scandinavian, Polish, or Czech ancestry. It is estimated that about 75 percent of Wisconsin youth graduated from high school in the late 1950s – everyone in the primary WLS sample graduated from high school. Minorities are not well-represented: there is only a handful of African American, Hispanic, or Asian persons in the sample. About 19 percent of the WLS sample is of farm origin, and that is consistent with national estimates of persons of farm origin in cohorts born in the late 1930s.

Our survey instruments have been extremely well received by the graduates and their family members. Figure 1 shows the response rates for each round of the survey through the 2004 graduate telephone survey.

Wisconsin Longitudinal Study Sample Flow: 1957-2006

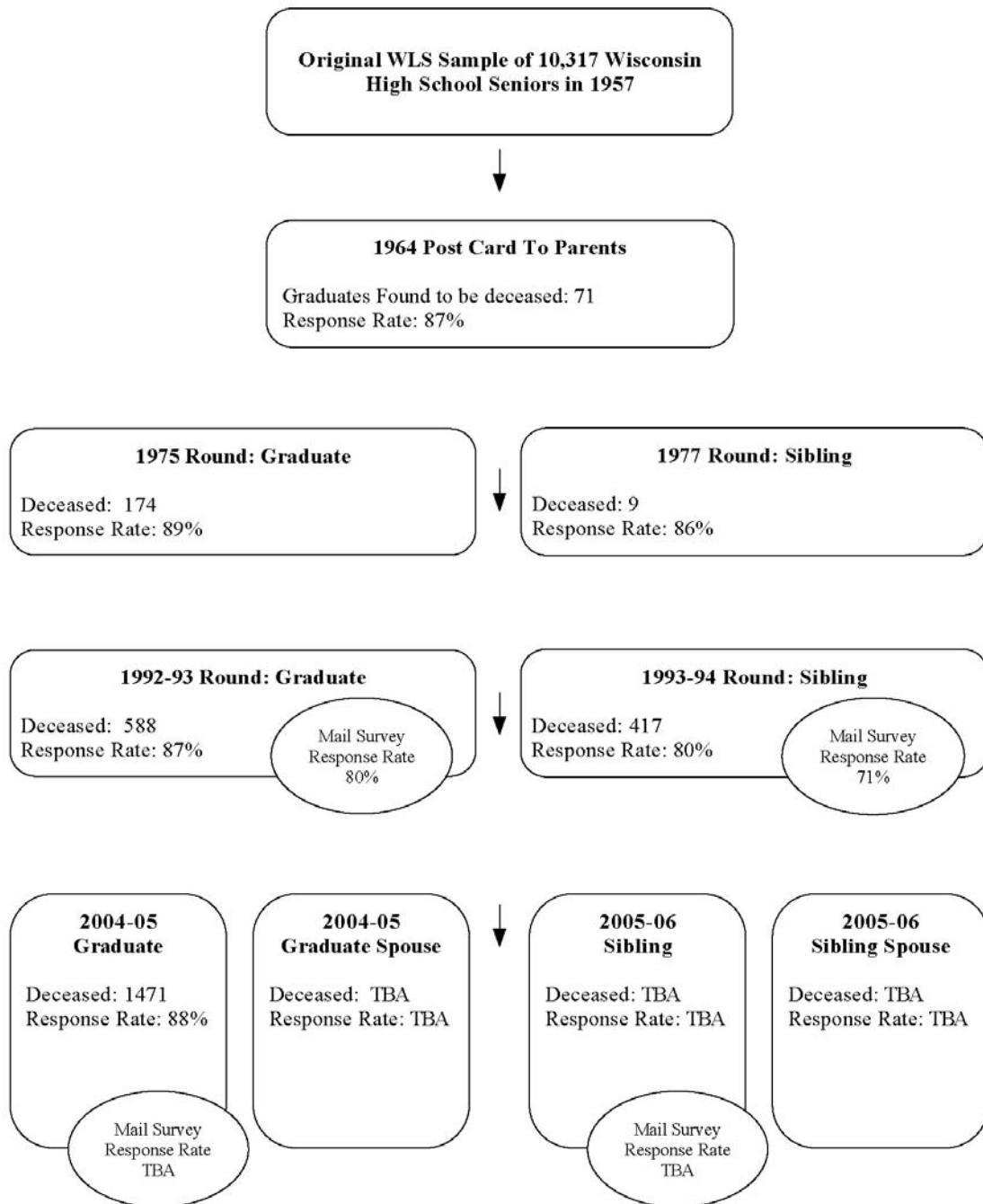


Figure 1: Sample Flow 1957-2006

Research Overview

Our research agenda focuses on a set of processes – the accumulation of experiences and outcomes across the life course during the last half of the 20th century and the beginning of the 21st century. It addresses a broad array of questions through a set of interrelated research projects about the life course of WLS participants. The defining features of the enterprise are the facts that we have already observed this cohort for almost half a century and that we can invest in additional observations – social, economic, behavioral, and biomedical – for decades to come.

Our work seeks the answers to many questions. How will the large cohorts now reaching midlife pass through the remaining decades of their lives? Which women and men will be “healthy, wealthy, and wise,” and which will be less fortunate in their later years? What affects access to and use of medical care among the near elderly? How does the quality of life among the elderly depend on conditions and experiences in childhood, youth, and midlife? How do the effects of social origins and academic success play out in later life? What are the cumulative effects of job characteristics and working conditions? What vocational or social activities lead to better cognitive and psychological functioning among the aging? How do life trajectories affect brain structure and activation? When and how do the near elderly begin to prepare for their own deaths? How – and for how long – are the lives of parents disrupted by disability or death among their own children? How do family structure and history affect the transition to retirement?

We also use the WLS to investigate the process of collecting data. Most participants gave permission to record their entire telephone interview while a smaller proportion agreed to record only

the questions on cognition. The audio files allow us to learn more about the interactions between participants and interviewers. We may also use this information as an additional measure of cognitive functioning. Because we collect information through telephone interviews and mail instruments we are able to test for method effects on some of our measures, including psychological well-being and self-rated general health. While the WLS is a *study*, and not primarily a data-collection service, data from the WLS are thoroughly cleaned and documented, and – without violating the privacy and confidentiality of research participants – they are available to qualified researchers beyond core project investigators.

Graduate Mortality -- Elizabeth Rainwater

Death has claimed a modest fraction of the class of 1957 (12.6 percent) [livgrad], but most members of the class are alive and well. Between 1957 and 2004, we know that 738 male and 465 female graduates have died. We were able to locate and obtain date of death for almost all of these individuals and to learn cause of death for 294 men and 335 women in the National Death Index.⁵ The major causes of death are cancers (41 percent of female death and 45 percent of male deaths), diseases of the circulatory system, e.g., heart disease and stroke (33 percent of female deaths and 27 percent of male deaths), and injuries (ten percent of male deaths, eight percent of female deaths).

Preliminary analyses have been performed on differential mortality of graduates. We have educational attainment information from 1993, 1975, or 1964 for 1100 of the 1203 graduates who have

⁵ Special security procedures are in place to maintain the confidentiality of information about specific dates and causes of death.

died. Twelve percent of graduates with only a high school education and 11 percent of those with some college have died, while 10 percent of those with a bachelor's degree and only 7 percent of those with more than a bachelor's have died [liv92, rb003red, edelrs, edeqyr, hidg64] .

Residential Characteristics -- Carol Roan

The most commonly asked question regarding the Wisconsin Class of 1957 is “How many of the graduates are still living in Wisconsin?” At every wave of the WLS, roughly 70 percent of graduates were then living in Wisconsin. This holds true for the most recent round as well. The next highest states of residence are Minnesota (4 percent), and Florida, California, Illinois, and Arizona (roughly 3 percent each). [GA020RE] Participants in the WLS live in each of the 50 states as well as the District of Columbia and eight foreign countries. However, a majority (56 percent) of the graduates have lived in Wisconsin at every wave of the study.

Families: Marriage and Children -- Shlomit Bornstein and Carol Roan

Marriage

At age sixty-five, 79 percent of the graduates are currently married. Sixty-three percent of graduates remain in their first marriages, which on average started just over 40 years ago. However, the length of participants' first marriage stretches between one month and 49 years. [gc004re, gc041re, ga06rey, ga016rem]. Ninety-four percent of male graduates and 97 percent of female graduates who

were in the first marriage at the time of the 1993 survey were still in that marriage at the time of the 2004 survey. Death of a spouse was the main reason that first marriages ended in the past decade. Three percent of men who were in their first marriage in 1993 and ten percent of the women had experienced the death of their spouse by 2004. [gc004re, rc004re, sexrsp]. By 2004, 19 percent of participants had been married more than once. A small proportion of 1957 graduates found new love in the last 10 years. Among the 17 percent of graduates who were not currently married in 1993, 15 percent were married by 2004 [gc001re, rc001re].

The average length of marriage among all married graduates, not just those in their first marriage, is 37 years. Fewer than five percent of graduates have been married for less than 11 years. Among all graduates, five percent of both men and women who are currently married wed their current spouse when they were fifty or older [gc006re]. Excepting an increase in the proportion of graduates who became widows or widowers, the marital history of the sixty-five year old graduates has remained remarkably similar to what it was when they were fifty-four years old. As shown in Figure 2, roughly four percent of male and female graduates have never married. The vast majority of graduates, (85 percent of men 72 percent of women) are currently married. A decade ago only one percent of men and four percent of women were widowed compared to three percent of men and 12 percent of women by 2004. Differences between men and women reflect the common age pattern of husbands being slightly older than their wives, as well as the higher mortality of men.

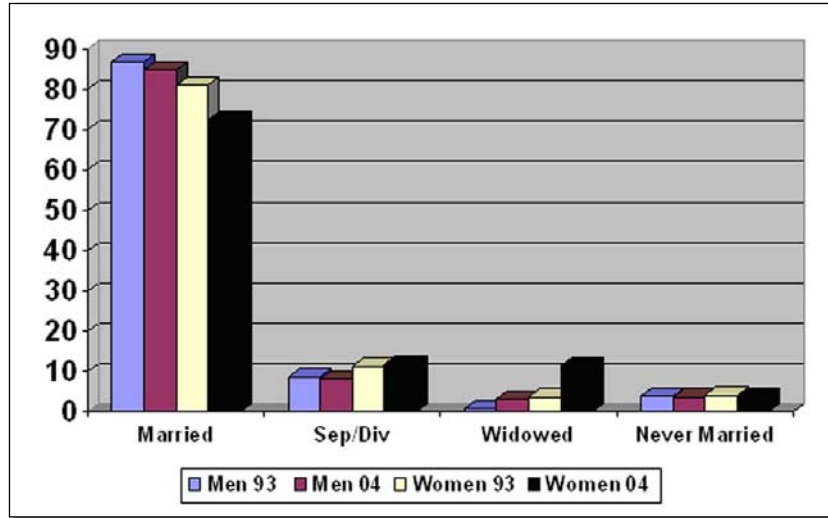


Figure 2: Participants Marital Status 1993 and 2004

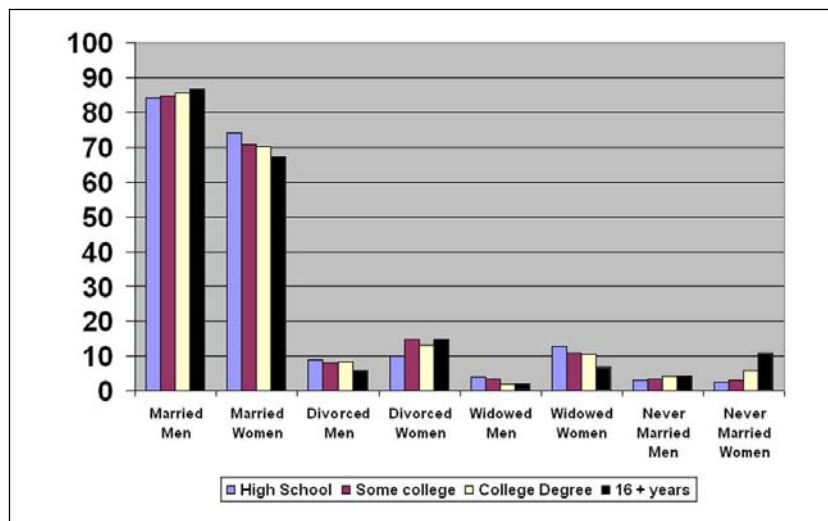


Figure 3: 2004 Marital Status by Education and Gender

There are some differences in the effects of education on marital status by gender. (See Figure 3). The relationship between education and being married is positive for men but negative for women. That is men with more education are more likely to be married than men with less education;

but women with more education are less likely to be married. The effect of having a post-graduate degree on being never married for women is especially large among this cohort of women.

Keeping in mind that the majority of the graduates have been married for more than 40 years, it is not surprising that almost all married participants (98 percent) say that they and their spouses share “somewhat similar” (40 percent) or “very similar” (58 percent) views in terms of their outlook on life. Unlike 1993 when women were slightly more likely than men to report sharing very similar views with their spouse, no gender differences were found in 2004. Post-college educated men and women are most likely to report sharing very similar views with their spouses (68 percent) while high school educated men and women are least likely to do so (55 percent) [gc039re by gb103red, gc001re, ga001re]. In terms of closeness to spouse, 83 percent reported being “very close,” and 15 percent reported being “somewhat close” [gc040re]. The results were similar for men and women and across education groups although post-graduate women report very similar views slightly more often (87 percent) than other women (83 percent) [gc040re by gb103red, gc001re, ga001re]. Because the graduates’ spouses were also asked if they shared views when it comes to outlook on life and how close they felt to their spouse, we can compare the spouses’ perceptions. Figure 4 shows that there is high agreement between husbands and wives on whether or not they share similar views. Ninety-five percent of couples report sharing “very similar” or “somewhat similar views.” Within the WLS sample there are very few couples that “agree to disagree.” Only 11 couples report having views that are either “not at all similar views” or “not very similar.”

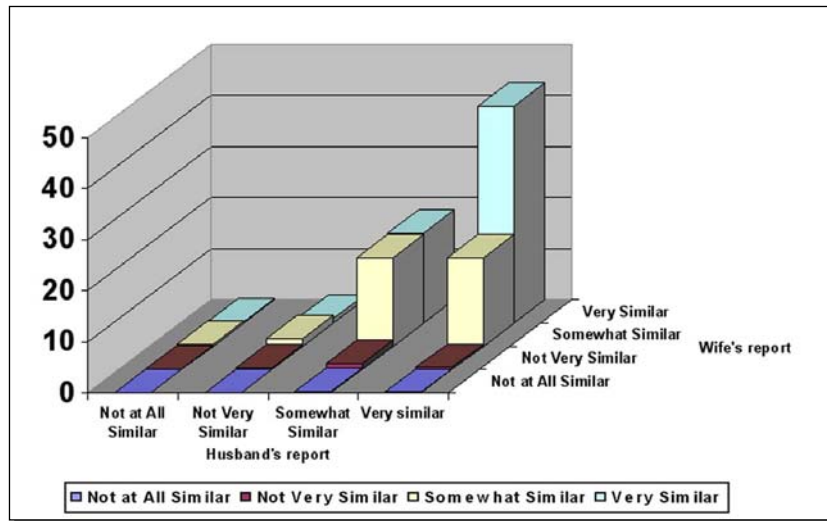


Figure 4: Comparison of Husbands' and Wives' Reports on Sharing Similar Views

In the mail questionnaire, graduates were asked a series of questions regarding their relationship with their spouse. Nearly ninety percent of married graduates feel at least “somewhat satisfied” with the day to day support and encouragement provided by their spouse, with the amount of consideration shown by their spouse, with the ways decisions are made in the marriage, and by their spouse's overall personality. A somewhat smaller proportion of graduates (83 percent) are satisfied with the way disagreements are settled and with the quality of their spouse’s listening to them [ic008rer - ic013rer]. Men are very satisfied in higher proportion than women with their spouse's overall personality and are more satisfied or very satisfied with most aspects of marital relations [ic008rer - ic013rer, ga001re]. Wives (24 percent) are more likely to report household chores as being somewhat or very unfair to them than are husbands (three percent). Nonetheless, when asked how often they had an open disagreement about household tasks wives were no more likely than husbands to report such conflicts more than once per month (13 percent), and wives were more likely than husbands to report never having a disagreement about household tasks (51 percent versus 41

percent). A similar proportion of graduates reported having at least monthly disagreements about money (12 percent), spending time together (12 percent) and sex (10 percent). However, women are more likely to report never having an open disagreement regarding sex (70 percent) than are men (58 percent).

Children

Not only are the members of the class of 1957 strongly committed to marriage, but also to their children. The majority of graduates have either two or three children (53 percent), while approximately one-third have four or more children [gd001kd]. Seven percent of participants report having no children and six percent have only one child.

Contact between graduate and selected child

A sample of the graduates were asked about frequency of contact with a randomly selected child. As shown in Figure 5, when the randomly selected child lived separately from the graduate, most participants had contact with the selected child in person, by letter or by phone at least once per week (67 percent). [gj045sk]. Female graduates report more frequent contact with their selected child than male graduates. Men are more likely to report of several times per month or less and women are more likely to report contact of at least once/week or more.

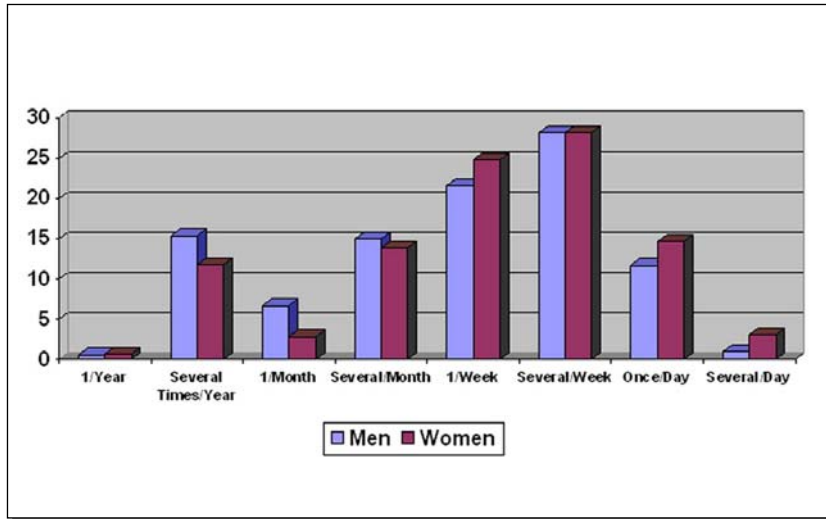


Figure 5: Frequency of Contact with Randomly Selected Child by Sex of Graduate

Similarity in Views and Comparisons Between Graduate and Selected Child

In both 1993 and 2004 we asked participants to compare themselves to the randomly selected child, when they were the same age as that child at the time of the survey.⁶ Consistent with the 1993 findings, more than half of graduates (56 percent in 1993; 58 percent in 2004) agreed that their child had done better than them in terms of education [gj049sk]. However, in 2004 most graduates reported upward mobility for their children in work (55 percent) [gj050sk] and finances (57 percent) [gj051sk] as well. This reflects a shift from 1993, when less than half felt that their children had done better in terms of work (47 percent) [rj050sk] and finances (45 percent) [rj051sk]. This change could be due to the somewhat higher proportions of selected children who have obtained post-graduate education by 2004 (13 percent, up from 9 percent) [rd010sk, gd010sk]. Only a small proportion of graduates feel that their children are actually doing worse in terms of

⁶ In 1993, the median age of the selected child was 26, while in 2004, the median age was thirty-nine [gd014sk, rd014sk]. Note that the age difference is greater than 11 years. This is due to differences in sample composition.

education (11 percent) or work (13 percent), but one out of five graduates report that their children are worse off financially. These findings are similar to those in 1993. Gender differences in mobility were found within the 2003 data. Comparisons by the gender of the graduate and the randomly selected child are graphed in the figures below.

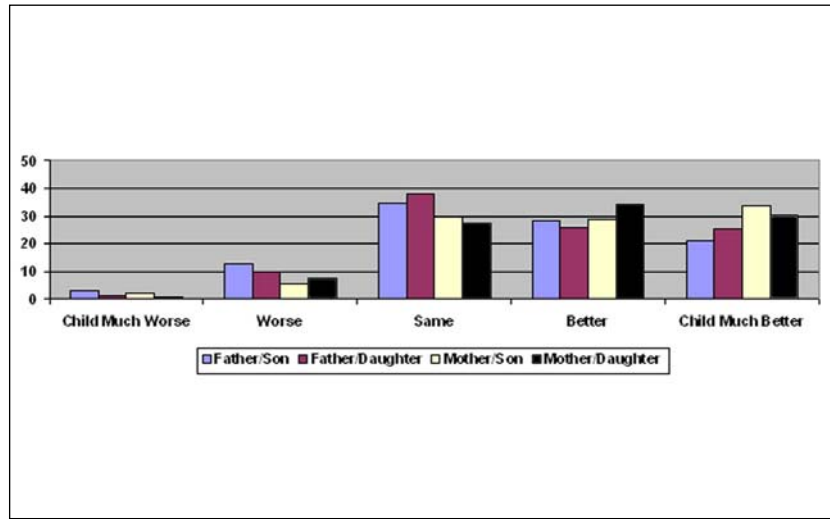


Figure 6: How the Selected Child is doing in Education Relative to the Graduate

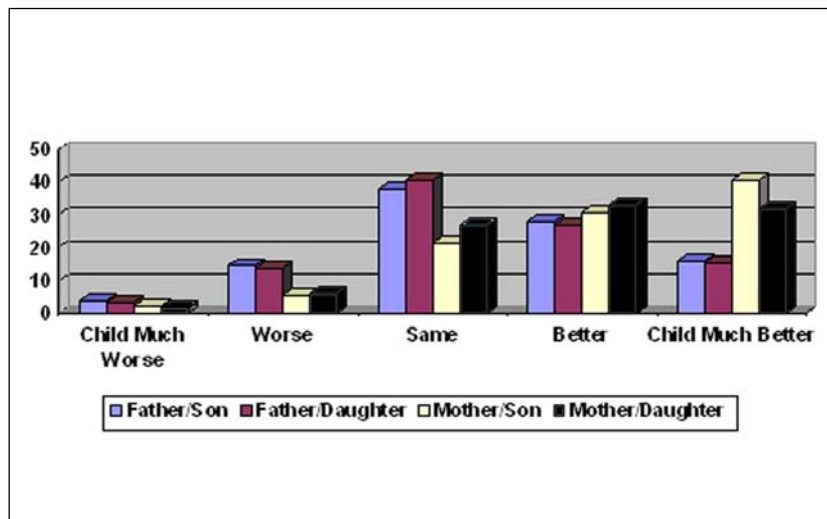


Figure 7: How the Selected Child is doing in Work Relative to the Graduate

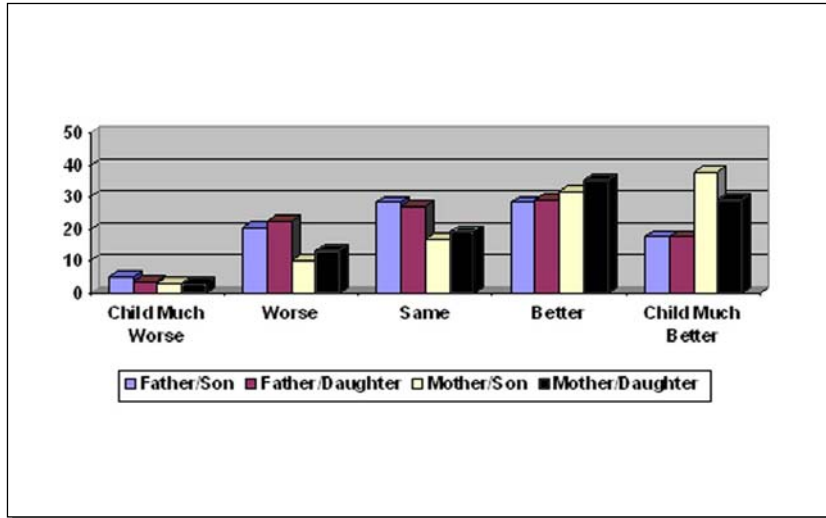


Figure 8: How the Selected Child is Doing Financially Relative to the Graduate

Compared to fathers, mothers feel that their child is better off than they were both in terms of work and financially. There are no meaningful differences by gender of the selected child except that mothers whose randomly selected child is a son are more likely to report that he is much better off than mothers whose randomly selected child is a daughter.

Similarity of outlook with selected child and closeness to selected child

Most graduates feel close to their selected child and share a similar outlook on life. While a small minority of graduates (seven percent) report that their outlook on life is not at all similar to that of their selected child, 93 percent report having at least a somewhat similar outlook on life [gj047sk]. More than 95 percent feel at least somewhat close to their selected child [gj048sk]. Women report feeling closer to their child than do men (75 percent and 64 percent feel very close, respectively) [gj048sk, ga001re].

Non-normative Parenting – David Merrill, Heather Doescher

A number of questions were asked in the 2004 survey in an effort to identify parents who have a child with either a developmental disability or a long-term serious mental illness. Most data on parents with children with disabilities come from convenience or snowball samples. Thus, the WLS provides a unique opportunity to examine the impact of raising a child with a disability on a group of parents who are more representative of the general population.

Specifically, a participant experienced non-normative parenting if he or she had a child who either had a developmental disability (such as autism, mental retardation, cerebral palsy, etc.) or a long-term, serious mental illness (limited to bipolar disorder or schizophrenia). Once a participant was identified as having a child with one of these two types of disabilities, he or she was asked to complete an additional set of questions that asked about the experience of raising such a child.

We collected information about the participants' experiences raising their children from 239 parents [GD355 = 1] (three percent of all WLS participants) identified as having a child with a disability. The actual number of WLS participants with such children was higher, but we restricted our questions to parents who have had contact with their child at least one time in the last year.

Of these parents, 52 percent [use GD339_X to create new variable with count] had a child with a mental illness and 48 percent had a child with a developmental disability. Fully 88 percent of these children were biological children and 12 percent were adopted [based on d100s – only biological and

adopted children included in nonnorm sample]. For children without a developmental disability or mental illness, 92 percent are biologically related to the participant. [GD004xx]

Among the parents who reported a child with a mental illness, 59 percent were women and the remaining 41 percent were men [GA001RE]. However, among the parents who have a child with a developmental disability, 53 percent of the participants were women and 47 percent were men. These proportions may be compared to 46 percent men and 54 percent women among all participants in this round of data collection. The gender disparity among participants reporting a child with a mental illness is one of the many issues to investigate with these data; one possibility is that men were more reluctant to report that their child had a serious mental illness.

Parents of nonnormative children do not differ from parents of normative children in terms of marital history. Specifically these parents are no more likely to have been married more than once than parents who have not experienced nonnormative parenting. [GC002RE] However, there are some differences in current marital status among the different types of parents. Ten percent of parents who have not raised a child with a developmental disability or a mental illness are currently divorced compared to only five percent of parents who have a child with a developmental disability and 14 percent of those who have a child with a mental illness. Parents of nonnormative children have slightly more children than parents without nonnormative children. Parents with a mentally ill child had an average of 3.7 children and those with a developmentally disabled child had an average of 3.9 children compared to an average of 3.1 children for normative families [GD001KD]. One reason for this difference is that, the more children there are in a family, the greater is the chance that at least one of them will have a mental illness.

The demands of parenting an adult child with a mental or physical disability may influence parents' decisions on whether to work. Such children potentially may demand more of their parents' time, resulting in less work hours, or they may require more financial support, resulting in more work hours. The scope of this report does not allow for a thorough investigation of this relationship but we can examine married couples' current working status by whether or not one of their children is disabled. Figure 9 below shows the joint working status of currently married couples by whether or not the WLS respondent has had a nonnormative parenting experience.⁷ In terms of current working status, parents of non-normative children resemble all parents. However, couples who have an adult child with a developmental disability are more likely to both be working than the other two groups of parents. [GF002JS] [GC014SP]

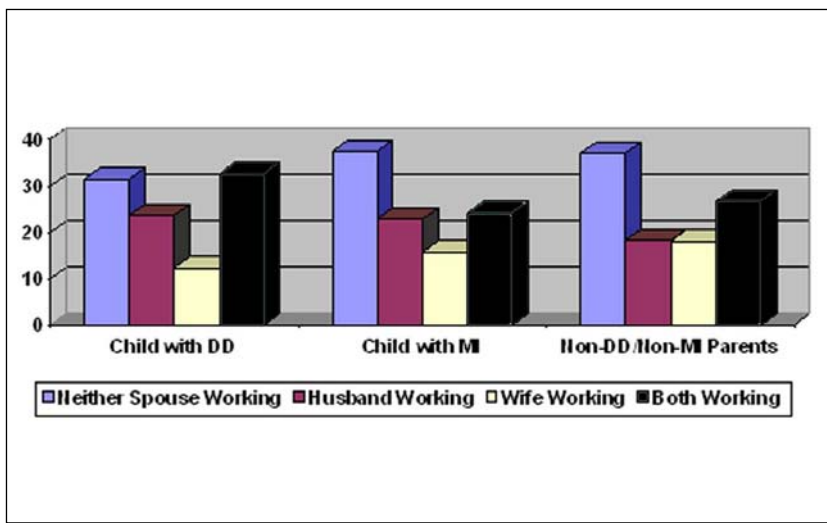


Figure 9: Parental Working Status by Non-Normative Parenting Status for currently married couples

⁷ Although most of the married couples will be the child's parents, in a few cases the respondent may have remarried. This analysis does not take that into account.

Ninety-one percent of the children with a developmental disability have never been married, compared to 56 percent of children with a mental illness [GD0090X]. When examining non-disabled children of WLS participants, the picture is quite different. Only 18 percent of the children have never been married. Among children with disabilities who have been married at least once, 67 percent are currently married, 10 percent are currently divorced, and the remaining children are either separated or widowed. [GD009xx]

The living situation of children with developmental disabilities or mental illness is varied. Among children with developmental disabilities, 42 percent live with the participant or another family member, 30 percent live independently, 25 percent live in a group home or institution, and 3 percent live in some other situation. For children with a mental illness, 18 percent live with the participant or another family member, 68 percent live independently, 3 percent live in a group home or institution, and 8 percent live in some other situation [GH090].

Fully 88 percent of the children with a developmental disability need help with at least one daily living activity, compared to 60 percent of the children with a mental illness [GH034, GH040, GH046, GH052, GH058, GH064, GH070, GH076, GH082]. While 62 percent of the children with a developmental disability and 42 percent of children with a mental illness currently work, only 40 percent of the children with a developmental disability and 36 percent of children with a mental illness work at a job that does not have special support programs (such as a job coach). [GH015] In contrast, 90 percent of the non-disabled children are currently working. [GD016xx]

Only a small percentage of WLS graduates felt socially isolated as a result of their child's

behavior. The majority of parents of both types of children reported feeling not at all socially isolated (79 percent of parents of children with mental illness and 73 percent of parents of children with developmental disabilities) [GH115]. Only 11 percent of participants with a child with a developmental disability and 10 percent of participants with a child with mental illness participated in support groups [GH130].

Parents and Parents-in-Law - Megan Andrew and Elizabeth Rainwater

Mortality and Health of Parents

There are several sources of information about parental mortality, including the 1994 and 2004 sibling interviews, the 2004 graduate interview, and information from the National Death Index (NDI).⁸ Based on the reports of the graduates, a significant minority, 25 percent, of participants have at least one parent living at the time of the 2004 interview [ge050ma, ge062fa] compared to 64 percent at the time of the 1993 interview. Five percent of the fathers and 22 percent of the mothers of the 1957 graduates were still alive [ge050ma ge062fa] as of the time of the 2004 interview. Only two percent of graduates had two living parents, and 75 percent had lost both parents. Among fathers, the median age at death was 76; for mothers it was 81 [ge063fa, ge064fab, ge051ma, ge052mab].

Forty-six percent of all maternal mortality and 22 percent of paternal mortality occurred after the 1993 interview (ge52mab, ge064fab). If a parent was alive in 1993 (4696 mothers and 2134 fathers), the graduate was asked to assess their health (re050ma, re062fa). As you can see in the table

⁸ Footnote: The NDI information on parental death was not available at the time of this draft. Therefore, only information provided by graduates appears here.

below, there was a monotonic increase in the proportion of parents who have died since then as health status decreases (re053mab, re065fab, ge050ma, ge062fa).

Graduate's assessment of parent's health in 1993	Percent of MOTHERS deceased by 2004	Percent of FATHERS deceased by 2004
Excellent	41	64
Good	52	74
Fair	73	86
Poor	89	96
Very Poor	96	99

Table 1: Health of Parents in 1993 by Mortality Status 2004

In the majority of cases where both parents were living (approximately 96 percent), the parents remained married to each other [ge074pab]. Since the 1992 interview, the health of living parents has declined overall from generally good health to fair health. Despite health declines since 1993, approximately 64 percent and 67 percent of living mothers and fathers, respectively, remained in their own homes at the time of the 2004 interview [ge054mab, ge066fac]. Another 26 percent of surviving mothers resided in nursing homes or assisted living centers; 23 percent of living fathers resided in nursing homes or assisted living centers. Despite the decline in health among parents between 1992 and 2003, few parents reside with any of their children. Although many people welcome their parents into their home as their health fails, the length of time they usually live together is relatively brief. Thus we only observe people who are currently living with their parent rather than those who have ever lived with their adult parent. Only about six percent of fathers reside with the participant or

another child, and only seven percent of mothers reside with the participant or another child. Similar to reports in 1993, female participants are more likely to live with a parent than male participants [ga001ra, ge054mab, ge066fac]. However, the gender difference in the proportion of participants living with a parent is small. There appears to be no relationship between the participant's educational level and whether a parent resides in a child's home [gb103red, ge054mab, ge066fac]. Among participants who do not live with their mother, the mean distance between the participant's home and that of his or her mother is approximately 369 miles and the median distance is 35 miles. For fathers the average distance is 463 miles with a median of 50 miles. [ga001ra, ge055mac, ge067fad]. That is, a few parents live at great distances from the graduates, while most live within 35 to 50 miles.

In 2004, the majority of participants feel at least somewhat close with their mothers, regardless of gender or education [ge061mab, ga001re, gb103red]. About 60 percent of participants report they are very close with their mothers; an additional 32 percent feel somewhat close with their mothers [ge061mab]. This level of closeness is reflected in the similarity in outlook participants have with their mothers. Approximately 25 percent of participants feel they have a very similar outlook with their mothers and another 60 percent feel they have a somewhat similar outlook [ge060mab]. It appears that participants maintain similarly close ties with their fathers: 55 percent report they are very close with their father and another 31 percent report they are somewhat close with their father [ge073fab]. Compared to reports in the 1993 survey, then, male participants in particular seem to have developed closer relationships with aged parents, or else the parents of participants who had a closer relationship were more likely to live longer. Like that of mothers' outlook, the outlook of fathers appears to be generally similar to that of participants. About 26 percent of participants feel they have

a very similar outlook with their father and another 53 percent report they have a somewhat similar outlook [ge072fab].

Success in education, work, and finances provides an interesting point of comparison between participants and their parents. If the parent lived to the current age of the graduate, the graduate was asked to compare their success in education, work and finances with that of their same-age, same-gender parent. Generally, participants feel they have done better or much better than their same-gender parent at the same age. Participants who had a bachelor's degree or higher, not surprisingly, are more likely to report they have done much better than their parents in terms of education [gb103red, ge077pad]. There was no apparent difference by gender. Similar to education, a large majority reported they had done better or much better than their parents in terms of work (74 percent) and finances (80 percent) when their parents were the same age as they are now, and participants with a bachelor's degree or higher were more likely to report they were much better off in terms of both work and finances, though in this instance the mean difference was negligible [gb103red, ge079pad, ge078pad]. Overall, participants appear to be doing better than their parents at the same age, particularly those participants who have a bachelor's degree or higher. Indeed, two percent or fewer of participants felt they had done worse or much worse than their parents in education, work, or finances [ge077pad, ge079pad, ge078pad]. These are similar to participant reports in the 1993 survey.

Mortality of Parents-In-Law

Information on death of the graduates' parents-in-law comes from both the graduate interview and the spouse interview. Among currently married participants, it appears that mortality for in-laws

is similar to that of parents. Because of the tendency of women to marry slightly older men, the proportion of married participants who have a living parent-in-law differs markedly between men and women. Thirty percent of male graduates have a living parent-in-law compared to 14 percent of female graduates. [ge080mi, ge085fi] Moreover, married participants are more likely to have a surviving mother-in-law (32 percent of men; 17 percent of women) than a surviving father-in-law (11 percent of men; four percent of women). Only one percent of females and six percent of males report that both of their in-laws are alive. The median age at death for the married participants' parents-in-law is 80 years for mothers and 74 years for fathers (ae152mab; ae164mab)

Households - Megan Andrew

Not surprisingly, the number of household members has significantly decreased among graduates from about 2.6 persons to 1.6 persons since 1993 [re001he, ge001he]. Approximately 11 percent of married graduates have more than the expected 2 persons in the household – the graduate and the graduate's spouse – while 24 percent of unmarried graduates have more than the expected 1 person per household [gc001re, ge001he]. Among married graduates with more than 2 persons in the household, additional household members are typically sons (42 percent), and their average age is 32 years [gc001re, ge00403-ge00412, ge00503-ge00512]. Daughters accounted for another 23 percent of all additional household members among married graduates, and their average age is 31 years [gc001re, ge00403-ge00412, ge00503-ge00512]. The presence of adult children in the household mirrors other research on the transition to adulthood, which cites the growing phenomenon of adult children returning to the nest after having previously left for work or school. Grandchildren represent

another 15 percent of all additional household members of married graduates [gc001re, ge00403-ge00412, ge00503-ge00512].

Among currently married participants, about 10 percent report a child is living with them. Among unmarried participants, a similar portion report a child is living with them (~11 percent). Among currently married participants, about two percent have grandchildren living with them. Among unmarried participants, about six percent have grandchildren living with them. Overall, about three percent of participants report a grandchild is living with them. Unmarried participants are much more likely to have grandchildren living with them than married participants.

Post-1993 Education - Megan Andrew

In terms of education, little has changed since 1993. Only about two percent of graduates were enrolled in a regular school in 2004. Formal education ended for 98 percent of graduates before 2004 [gb103red]. Of the ninety-one graduates who attained additional education since 1993, 71 percent were women. Women and men who had a college degree in 1993 were more likely to have continued their education [rb003red, gb103red]. Women who remained in the same marriage since 1993 were more likely to have attained additional education since 1993, though this pattern did not hold for men [gc108re]. Among married men who attained additional education, 46 percent of spouses were working. Among married women who attained additional education, approximately 25 percent of spouses were working while 30 percent were retired [gc014sp, gc015sp].

The majority of men (69 percent) who attained additional education since 1993 had also retired at least once between 1993 and 2004 and were either currently retired or retired but currently working. For women, only about 54 percent who had attained additional education since 1993 had also retired at least once since 1993. Among women, those who had never retired and were currently employed were just as likely as women who had retired and were not currently employed to have attained additional education [gf013jsc, gf014jsc].

The adolescent academic ability of both men and women exhibited a strong relationship with educational attainment since 1993. Men who attained additional education since the last interview had a significantly higher mean percentile test scores than men who did not (73 mean percentile score versus 54 mean percentile score); similarly, women who attained additional education had an average percentile score of 71 compared to 54 for women who did not. Thus, both men and women who had higher test scores were more likely to obtain additional education since the last interview [iqhmq].

Past and Current Employment (Erin Ruel and Jeong Hwa Ho)

Some of the WLS graduates have spent the majority of their career working in the same job while others have held multiple jobs between 1975 and 2004. Among those who have only worked for one employer between 1975 and 2004 (29 percent of men and 25 percent of women) the mean length of employment is 34 years for men and 26 years for women. That is, many individuals had begun to work for that employer before 1975. As shown in Figure 10, it is more common for the graduates to have had two to four employers (59 percent for both men and women). (jhh:tnes7505)

Additionally, nearly half of the men in the sample (47 percent) and one-fifth of the women had a job that lasted for at least 25 years. [es25yrt:jhho]

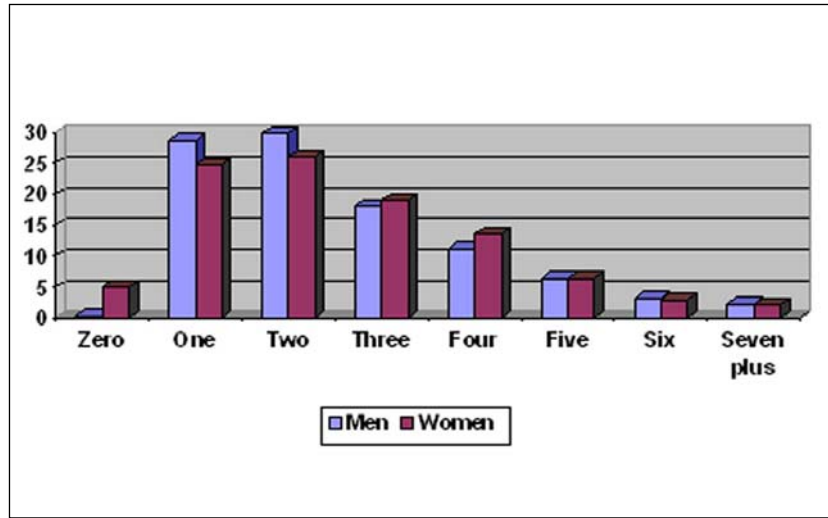


Figure 10: Number of Employers 1975-2004

A current question of interest is whether married couples make joint retirement decisions. Although this report will not examine the reasons and exact timing of retirement decisions, we can examine the joint working status of our currently married graduates and their spouses, that is, whether husband, wife, or both are working or retired. Figure 11 shows the distribution of joint working status by gender of the graduate.

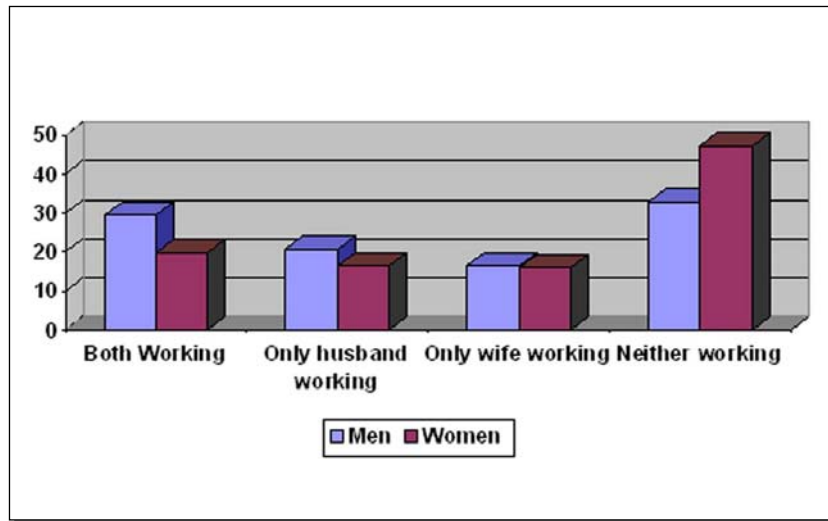


Figure 11: Joint Working Status of Married Couples

Among both married male and female graduates the most common situation is for both partners to be out of the work force. The difference in joint working status reflects differences in age patterns of marriage. Female graduates are more likely to be married to older spouses than male graduates. Thus males report more dual working couples than females (30 percent versus 20 percent); and females report more non-working couples than males (47 percent versus 33 percent). In addition to asking whether or not they were currently working, graduates were also asked if they had ever retired. The same pattern of differences by gender of graduate is shown in the answers to this question. If the graduate is retired and not currently working [gf014jsc=4], eighty-eight percent of male spouses also have retired from a previous job and 53 percent of female spouses are retired. If the graduate is currently working and has never retired [gf014jsc=1], 49 percent of male spouses and 60 percent of female spouses are currently working.

Retirement - Jim Raymo, Luke Piefer, Jeong Hwa Ho

In 1993, when the graduates were about age 54, it is not surprising that very few of them defined themselves as retired (7 percent) or partly retired (5 percent) [rw022red]. More than ten years later, the proportions of “completely” retired and partly retired graduates have increased to 50 percent and 23 percent [gt112re], respectively. The proportion of non-retired men is the same as it is for women – about 27 percent. However, 53 percent of women report being completely retired compared to 47 percent of men, with the difference reflecting the higher prevalence of partial-retirement among men.

The prevalence of partial retirement largely reflects the fact that 14 percent of graduates who had worked since the 1993 interview reported that they had retired from a job during that time but were nonetheless employed at the time of the 2004 interview. As noted above, men were more likely to report this experience – about 18 percent of them, as compared to about 11 percent of the women. About 44 percent of graduates were employed in 2004 [gf002js].

These results are remarkably consistent with responses in 1993, indicating that more than one-third of the graduates (41 percent of men and 33 percent of women) expressed a desire to still be working ten years after that interview, with about 23 percent hoping to work part-time [rw001re]. Interestingly, among those graduates who said they were absolutely certain they would be working full-time after the age of 65 [rw029ref], 30 percent considered themselves completely retired in 2004, and another 22 percent considered themselves partly retired [gt112re].

Naturally, similar trends in retirement were apparent among graduates’ spouses. Whereas only seven percent were retired and four percent were partly retired in 1993 (with over 80 percent of these

being husbands, who are typically older than their wives) [rw024sp], a full 42 percent of spouses were retired in 2004 [gc015sp]. Because only 42 percent were actually working at the time of the interview [gc014sp], that number is probably a conservative estimate. Thirty-one percent of men reported that their wives had retired, while 53 percent of women reported the same about their husbands.

When employed graduates were asked at what age they wish to stop working [gt113re], about 23 percent (28 percent of women and 19 percent of men) indicated that they wished to stop working by age sixty-five or younger. Another 17 percent said they never wanted to stop working, with men slightly more likely than women to report wanting to work indefinitely.

In 1993, more than 60 percent of men and women believed that their standard of living would be about the same after retirement, and only about one in twenty thought that it would improve [rw030ree]. However, 34 percent of graduates said that their standard of living would decrease either somewhat or a lot. Non-retired women were somewhat less optimistic about their financial futures than their male counterparts, with 36 percent of women and 32 percent of men expecting a decline in standard of living. Although we had only a small pool of retired persons for comparison at the time of the 1993 survey, their reports essentially mirrored those of their non-retired counterparts. Close to two-thirds of graduates who were already retired and not working said that their standard of living had remained about the same since they retired [rw032ree], with the remaining 39 percent evenly split between those whose standard of living had improved and those for whom it had decreased.

However, it is very likely that the graduates who had already retired in 1993 were generally those who could most easily afford to stop working – the 2004 data offer a much richer opportunity to explore retirement experiences. Only 11 percent of graduates who were retired in 2004 reported a decline in their standard of living, while 23 percent reported an improvement [gt120re]. College

graduates were the least likely to feel that their standard of living had declined after retirement. Many of those who expected their standard of living to decline after retirement [rw030ree] did not find this to be the case if they were retired in 2004, when 82 percent of retirees who had expected a decline reported that their standard of living was the same as or better than it was before retiring. It should be noted that those who had retired may still represent a biased sample of graduates; among non-retired, married graduates whose spouses had also not yet retired, 32 percent expected their standard of living to get worse after their eventual retirement, and almost all the rest (64 percent) thought it would stay about the same [gt115re]. Differences by education are small, but graduates without a college degree were somewhat more likely to expect a decline in their standard of living.

Finally, we found that just three percent of married graduates felt their relationship with their spouse had gotten worse after retirement, whereas 33 percent reported an improvement in relations with their spouse [gt121re]. It also appears that post-retirement changes in standard of living are related to changes in the quality of marital relations. Among those who felt their standard of living improved after retirement, 52 percent report a better relationship with their spouse whereas only about 30 percent of those whose standard of living stayed the same or got worse report better spousal relations.

Job Characteristics, and Job Satisfaction – Erin Ruel, Carl Frederick, Rob Warren, Reiping Huang

A substantial body of research has documented the concentration of women into occupations that offer fewer rewards, are less protective, and are located at lower levels of organizations. These

kinds of inequalities were present in both 1993 and 2004, and many of them persist even when we limit our attention to women who work full-time and who hold nominally high-level positions. After 1993 the story became more complicated as many graduates retired; many of these retirees subsequently returned to paid work. Whereas in 1993 it made sense to simply compare (1) all men to all women and (2) men who worked full-time to women who worked full-time, in 2004 it became possible to also compare (1) graduates who were employed in 2004 and who had never retired (33 percent of male graduates and 37 percent of female graduates), (2) graduates who retired since 1993 but were employed in 2004 (18 percent of male graduates and 12 percent of female graduates), and (3) graduates who retired since 1993 but were not employed in 2004 (49 percent of male graduates and 51 percent of female graduates). Next we examine differences over time and by gender of several job characteristics including private pension coverage, health insurance coverage, job authority and organizational responsibility, working conditions, and finally job satisfaction for each of the three groups above.

Full versus part-time work

In 1993 about 26 percent of women worked part-time on their current or most recent job compared with only four percent of men [rf032jce]. In 2004, among graduates who were currently employed and who had never retired, 45 percent of women worked part-time compared to 28 percent of men [gf032jce, sort by sexrsp, where gf013jsc=0 and gf002js=1]. Not surprisingly, retirees who return to the labor market are more likely to work part-time. Among graduates who retired between 1993 and 2004 but who were employed in 2004, 79 percent of women worked part-time compared to 72 percent of men [gf032jce, sort by sexrsp, where gf013jsc=1 and gf002js=1]. Among graduates who

retired between 1993 and 2004 and did not resume working, 11 percent of men and 34 percent of women worked part-time at the jobs they held before retiring.

Pension and health insurance coverage

In 1993, men were more likely than women to be covered by a private pension plan through their current or most recent employer (73 percent compared to 62 percent) [rf026jcd], and men were also more likely than women to be covered by health insurance (83 percent versus 69 percent) [rf027jcd]. In 2004, never-retired men and women were less likely to be covered by a private pension plan or health insurance through their current employer than completely retired men and women were through their last employer. Fifty-three percent of never-retired men were covered by a private pension plan compared to 73 percent of completely retired men, and 57 percent of never-retired women were covered by a private pension plan compared to 63 percent of completely retired women. Sixty-three percent of never-retired men were covered by health insurance compared to 81 percent of completely retired men, and 62 percent of never-retired women were covered by a private pension plan compared to 71 percent of completely retired women [gf026jcd and gf027jcd, sort by sexrsp, where gf013jsc=0 and gf002js=1 or where gf013jsc=1 and gf002js=0]. As would be expected from the greater likelihood of being a part time worker, of graduates who retired between 1993 and 2004 but were employed in 2004, 22 percent of the men and 24 percent of the women were covered by an employer sponsored pension plan, and 27 percent of both men and women were covered by health insurance.

There appears to be little in the way of gender differences in pension and health coverage between the currently working men and women who never retired. However, when we limit the analysis to men and women who work full time and have never retired, only 62 percent of men have

pension coverage compared to 73 percent of women, and only 74 percent of men have health coverage compared to 82 percent of women [gf032jce=1].

Size of employer

In 1993, women were somewhat more likely to be employed in smaller and less protective firms, defined as one hundred employees or less (64 percent of women versus 58 percent of men). This difference declined by 2004 for the never retired group (80 percent of women versus 76 percent of men), but not for the completely retired (65 percent of women versus 50 percent of men) [select if gf071jcd \leq 4 or gf070jcd \leq 100,]. This gender difference is reversed in 2004 for the post-retirement workers (77 percent of women versus 86 percent of men) and for the full-time never retired group (62 percent of women versus 72 percent of men).

The proportion of workers employed in smaller firms who lack pension or health insurance coverage is substantial. The percentage of these workers who had private pension plans fell from 46 percent in 1993 [select if rg025jjc <4, [rf026jcd] to 42 percent in 2004 [select if gf071jcd \leq 4 or gf070jcd \leq 100, gf026jcd]. Likewise, the percentage of workers in smaller firms who had health insurance coverage fell from 59 percent in 1993 [rf027jcd] to 51 percent in 2004 [select if gf071jcd \leq 4 or gf070jcd \leq 100, gf027jcd]. By comparison, pension and health insurance benefits are more widely available to employees in larger firms. The percentage of these workers who had private pension plans fell from 94 percent in 1993 to 83 percent in 2004; the percentage of workers in larger firms who had health insurance coverage fell from 91 percent in 1993 to 87 percent in 2004. There were no substantial gender differences in pension and health coverage for employees of small or large firms; however, there is a difference between currently working and retired graduates. Graduates who were

completely retired in 2004 had greater coverage in their last job than do the never retired graduates (68 percent for complete retirees versus 55 percent for never retired).

Gender differences in work authority

Gender differences emerge when we examine the authority and organizational responsibility associated with either the graduates' current job, most recent job, or the job that they first retired from. Men consistently hold positions with more authority and this has persisted since 1993. In 2004, 36 percent of men had the authority to hire or fire others [gg028jjf] and 38 percent could set or influence others' rate of pay. [gg029jjf] In contrast, only 15 percent of women had these types of authority. These percentages did not change when we limited our investigation to full-time workers [gf032jcf=1], nor were there any substantial differences between the never retired, post retirement workers and completely retired groups.

In 1993, 61 percent of all men and 43 percent of all women were in supervisory positions. In 2004, 56 percent of male and 33 percent of female graduates held supervisory positions, a decline of five and ten percent respectively. This decline is located among the never retired men of whom, on average, 48 percent hold supervisory positions compared to post retirement workers and complete retirees of whom, on average, 60 percent held supervisory positions. For female graduates, the decline is located among the never retired (31 percent) and complete retirees (33 percent) compared to the post retirement workers (44 percent) [rg030jjf gg030jjf].

What happens when we turn the tables and look at which graduates have their work supervised by someone else? In 1993, 72 percent of men and 80 percent of women were supervised at work. In

2004, the gender differences disappear for the post retirement workers and the completely retired: over 80 percent of all men and women were supervised on their current or most recent jobs in 2004.

[gg031jff] Among never retired workers, however, more women (72 percent) than men (66 percent) are supervised, although the never retired persons are less likely to be supervised than the other two groups.

As in 1993, men are still more likely than women to have the ability to decide when to come to work and when they can leave either officially or unofficially (62 percent versus 45 percent respectively). This gender difference remains in 2004 in all employment status groups: for the never retired; 70 percent of men versus 47 percent of women for the post retirement workers; 56 percent of men versus 47 percent of women; for the completely retired; 51 percent of men versus 34 percent of women had the ability to come and go to work on a flexible schedule [rg042jff gg042jff].

Working conditions

How have job content and working conditions changed for the graduates? The proportion of graduates whose current or most recent job always or frequently required intense concentration dropped from 89 percent in 1993 to 82 percent in 2004. [rg047jcc gg047jcc]. On average, slightly less of the never retired group always or frequently required intense concentration on their current job (74 percent of men and 80 percent of women). In 1993, 73 percent of graduates always or frequently worked under the pressure of time. In 2004, 46 percent of never retired men and 49 percent of never retired women always or frequently worked under the pressure of time. These proportions are 20 percent higher among those graduates who have retired and gone back to work. [rg048jcc gg048jcc sort by sexrsp, gf013jsc, and gf002js] In 2004, slightly more women than men reported that their job

always or frequently required lots of physical effort (31 percent versus 29 percent). There were no significant differences among women, but 27 percent of never retired men, 28 percent of those who returned to work and 31 percent of completely retired men have jobs that always or frequently required lots of physical effort. These numbers are down slightly from roughly a third of all graduates in 1993. [rg046jjc gg046jjc sort by sexrsp, gf013jsc, and gf002js]

Gender differences occur in other job characteristics as well. Men were still more likely than women to get dirty while doing their jobs (51 versus 38 percent). These figures dropped since 1993 when the percentages were 53 and 47, respectively. [rg053jj gg053jj sort by sexrsp, gf013jsc, and gf002js] In 2004 men were twice as likely as women to be exposed to hazardous conditions while at work (46 versus 22 percent). Among men, 41 percent of never retired graduates were exposed to hazardous conditions compared to 46 percent of retired graduates who went back to work and 53 percent of those who have completely retired. [gg054jj sort by sexrsp, gf013jsc, and gf002js]

Job satisfaction

One constant that has persisted over time, across levels of education, retirement status, and between the genders is that about 90 percent of the graduates are satisfied with their jobs. In 1993, just over half of the graduates were *very* satisfied with their jobs. In 2004, that figure rose to 58 percent for women and 62 percent for men. Less than two percent of all graduates were very dissatisfied with their jobs in either 1993 or 2004. [rg044jj gg044jj]

Pensions - Kamil Sicinski and Elizabeth Rainwater

Almost 55 percent of the WLS graduates are already completely retired [gf014jsc]. Among those that are still in the labor force, 28 percent do not plan to retire at all. Of those planning retirement, 58 percent prepare to stop working within 3 years and 74 percent within 5 years [gt113re].

While 80 percent of graduates report having retirement savings, either in the form of traditional pensions or in plans such as 401(k)s or IRAs, men are significantly more likely to have them than women (88 and 73 percent, respectively) [gt101re]. However, the difference disappears at the household level, with 91 percent of households having some kind of private retirement savings [gt101re, gt101sp]. Also, graduates having a college degree or above are more likely (88 percent) to have a private retirement plan than those with a high school degree or some college (77 percent).

Among the graduates who have retirement plans, employer provided pensions are most commonly reported (63 percent of men and 55 percent of women) [gt102re], followed by IRAs (44 percent of men and 48 percent of women) [gt103re] and 401(k)s (37 percent of men and 28 percent of women) [gt104re]. Thirty percent of graduates reported having annuities or other retirement plans [gt105re, gt106re]. While more than half of the graduates already started receiving retirement benefits (63 percent of men and 48 percent of women), a sizable majority (66 percent) [gt107re,gt108re] has kept at least some plans untouched. Thirty percent of graduates reported that they could start receiving retirement benefits at any time [gt109re], and among those who provided a specific eligibility age, the median age of eligibility was 62 years.

Some graduates were asked more specific questions about the way in which they elected to receive benefits.⁹ Among them, 87 percent chose lifelong payments at a constant level and only 5 percent reported that all the benefits will end before death [gt122re]. Furthermore, most married graduates reported that at least some of the benefits would continue after their death, though men (86 percent) were more likely to choose this option than women (62 percent) [gt123re]. In fact, the law requires that unless you have a written waiver from your spouse or you have been married for less than one year, pensions from private employers must be distributed such that a surviving spouse will continue to receive benefits after the death of the employee.¹⁰ Given the greater likelihood that wives will outlive their husbands, it makes sense that fewer wives than husbands chose to have their benefits continue after their death. However, the 14 percent of married men who report not having this benefit is somewhat surprising. They may be misreporting their actual coverage, a proportion of them may fall under government pensions that are not subject to ERISA, or they may actually have a signed waiver from their wife.

Access to Health Care - Kathryn Flynn and Alexandra Wright

Health insurance

When health insurance coverage from all sources is considered, we find that the vast majority of graduates (94 percent) have access to health insurance, a proportion that has not changed significantly from 1993 to 2004 [rs010re, rs011re, rs012re, rs013re, rs015re, gshhirec]. However, 40 percent of graduates are now covered by Medicare, the federal government's health insurance program

⁹ These questions regarding benefits were only asked of a sample of our participants.

¹⁰ These laws are part of the Employee Retirement Income Security Act of 1974 (ERISA) and the Retirement Equity Act of 1984.

targeted primarily to people over the age of 65 (either alone or in combination with private/public insurance) [gshhirec]. As a group, 13 percent of graduates either have no health insurance or rely on public sources only (Medicare, Medicaid, or Military) [gspborec, gshhirec]. Both in 1993 and 2004, approximately half of the women interviewed reported receiving health insurance through their own employment; however, the proportion covered through their husbands' insurance has declined from 68 percent to 31 percent [rs011re, gs011re]. This is very likely due to the increased number of husbands who have reached the age of Medicare eligibility.

Changing health insurance plans is a common occurrence in the WLS. 64 percent of graduates over the age of 65 (insured or uninsured) report changing health insurance in the last year [gsinsrec], a finding not surprising given that 65 is the age most participants are first eligible for Medicare. However, even among those under 65, 19 percent report a plan change within the past 12 months [gsinsrec].

Health care providers

The majority of graduates (94 percent) report having one place that they usually go when they are sick or need advice about their health [gsusrec], and most (93 percent) also have one person they consider their usual health care provider [gsu51rec]. During the last year, seven percent changed the usual place they go to for health care [gsuplrec], while nearly ten percent changed their usual provider in the last year [gsuprrec]. The major reasons cited for changing the usual place of care include the participant moving (25 percent); the usual provider no longer being available (e.g. the usual provider died or retired) (24 percent); or the participant changing insurance plans (18 percent). Quality of care was cited by nine percent of participants making a change as being the primary reason for changing

their usual place of care. Consistent with this pattern, the major reasons participants gave for changing their usual provider in the previous 12 months included the provider no longer being available (38 percent), the graduate moving (21 percent), or changing insurance plans (12 percent), while six percent of participants cited the quality of care as their primary reason for changing providers [gsu29re, gsu70re].

Experiences with health care

Over 90 percent of graduates visited a doctor or other health care provider in the last year [ixhi01re]. Both in 1993 and 2004, approximately ten percent of sample members spent at least one night in the hospital last year [mx008rer, ix008rer]. Additionally, 15 percent had at least one visit to an emergency room [ixhi09re] and 16 percent had outpatient surgery (not including dental care) [ixhi12re]. On the whole, sample members are satisfied with the health care they receive. Over 66 percent reported that the overall quality of the care and services they receive was either excellent or very good [ixha30re].

Nearly 77 percent of men and 82 percent of women take at least one prescription drug every day [ixhi20re], and more than 20 percent take 5 or more prescriptions each day. Though women are more likely than men to be taking prescription drugs, the number of prescription drugs taken daily is similar across genders. Five percent of men and 7 percent of women report taking less medication than prescribed or having delayed filling a prescription because of the cost [ixhi18re]. In 1993, the majority of both men (70 percent) and women (60 percent) spent no days in bed due to illness or injury [mx007rer]. Even though the cohort is a decade older, 76 percent of men and 69 percent of women reported no days spent in bed due to illness or injury in 2004 [ix007rer]. This may in part be due to

how hard WLS graduates work to stay healthy; 77 percent of men and 87 percent of women agreed that they work hard to stay healthy [ixha15re].

Work Family Balance, Values and Attitudes - Peter Hoonakker, Heejeong Choi, and Pascale Carayon

Work family Balance

In 1993, men and women were equally distracted from their work by family problems. Fifteen percent of never-retired graduates who are currently working reported family worries or problems that distracted them from their work [my004rer]. In 2004, among WLS participants who were still working and not retired, this percentage has decreased to 11 percent. Men are significantly more distracted by family problems or worries than women (15 percent versus 8 percent) [iy004rer].

If family responsibilities consume most of women's time, then it appears that work takes up most of men's time and energy. In 1993, 45 percent of men said that their jobs reduce the amount of time they can spend with their families; however, only 33 percent of women agreed with that statement [my009rer]. These numbers have increased by 2004 when 46 percent of the graduates report that their jobs reduce the amount of time they can spend with the family [iy009rer]. As in 1993, work takes up significantly more time of men's time and energy (50 percent) than women's (42 percent).

Men also are more likely than women to take the pressures of the "breadwinner" role to heart; in 1993, 44 percent of never retired currently working men but only 26 percent of comparable women agreed that family responsibilities make them work harder on the job [my016rer]. In 2004, these percentages remain largely unchanged. Forty-five percent of the men and 26 percent of the women agreed with this statement. [iy016rer].

Support from the family may alleviate some of men's job pressures; however, in 1993, 62 percent of men agreed that they can devote a lot of time to their job because of the support they get on the home front, while only 52 percent of women expressed the same opinion [my017rer]. In 2004 support from the home front is equally or even more important: 50 percent of the women and 66 percent of the men agree that they can devote a lot of time to their job because of the support they get on the home front [iy017rer].

Despite the fact that work responsibilities are often difficult to balance with family activities, in 1993, the majority of working men and women (69 percent) said that they would still work to make a living even if they did not have to [my018rer]. In 2004, the percentage of graduates who said that they would still work to make a living even if they didn't have to increased to 76 percent. However, in 2004 significantly more men (80 percent) than women (72 percent) say that they would continue working if they did not have to work for a living [iy018rer]. This increase makes sense given that we are comparing graduates who had continued to work between the two interviews, when many of them were eligible to receive social security or other retirement benefits for the first time. Sixty-two percent of graduates who in 1993 said they would not be working if they didn't have to had completely retired

by 2004 compared to only 43 percent of those who said they would continue to work even if they didn't have to.

Work Values

In both 1993 and 2004 graduates were asked to compare the importance of specific job characteristics relative to the importance of high pay. Table 2 reports the percent of currently employed, never-retired respondents who ranked the specific characteristic as "much more important than high pay." Perhaps stemming from men's feelings of having more financial responsibility to their families compared to women (as reported above), men are less likely to rate these other job characteristics as being more important than high pay than are women. The percentage saying that each of these characteristics was more important than high pay has diminished considerably over time especially among men. This suggests that as WLS participants reach the retirement years, the more immediate reward of high pay is more important than other job characteristics.

Having a job that provides health insurance and having a job that provides a pension plan were ranked much more important than high pay more often than any other characteristic in both years. Roughly half of currently employed women ranked having health insurance as more important than high pay in both 1993 and 2004. However, just 40 percent of men said health insurance was more important than pay in 1993 and only 25 percent in 2004. Working people were least concerned about getting dirty on the job and having other people regard their job highly.

Percent of Never-Retired Currently Employed Graduates Saying Characteristic is Much More Important than High Pay				
	1993 Much More Important		2004 Much More Important	
	Men	Women	Men	Women
Having a job that provides health insurance	40	51	25	49
Having a job that provides a pension plan	41	50	22	41
Being able to do different things rather than the same things over and over	29	36	20	21
Having a low risk of losing your job	24	32	13	25
Being able to work without frequent checking by a supervisor	22	27	17	22
Having the opportunity to get on-the-job training	18	25	9	14
Being able to decide what time to come to work and when to leave	9	12	7	9
Having a large number of paid vacation days	8	12	NA ¹¹	-
Having a job that other people regard highly	7	11	5	7
Being able to avoid getting dirty on the job	2	6	2	3

Table 2: Importance of Job Characteristic Relative to High Pay: 1993 and 2004

Work -family life complementarity

In 2004, participants were asked how their work life and family life influences each other. Many graduates see their work and home lives as complementary. For example, 42 percent of never-retired, currently employed graduates agree that “The things I do at work help me deal with personal and practical issues at home” [ig305rer] and 45 percent feel that “The skills I use on my job are useful for things I have to do at home.” [ig310rer] Sixty percent of women but only 50 percent of men agree

¹¹ The importance of having a large number of paid vacation days was not ascertained in 2004.

that, “The things I do at work make me a more interesting person at home” [ig306rer]. In general, graduates with more years of education are more likely to report that work improves their lives at home. WLS graduates also report that satisfying home lives improve their work: 69 percent of the graduates agree with the statement: “The love and respect I get at home make me feel confident about myself at work” [ig308rer].

Ladder of social standing

The graduates were asked to place themselves on a ladder representing where they stand, compared with all other people in America [ig301rer]. Figure 12 shows where men put themselves on the distribution and Figure 13 shows how women scored themselves. Within categories of education, men place themselves slightly higher on the ladder than women. There also is a strong relationship between level of education and where individuals place themselves relative to others. Among men, the modal category for those who have less than a college degree is seven while for those who have a college degree or higher their modal category is eight. For women, the modal category is only seven for those with a four-year degree and eight for a post-graduate degree.

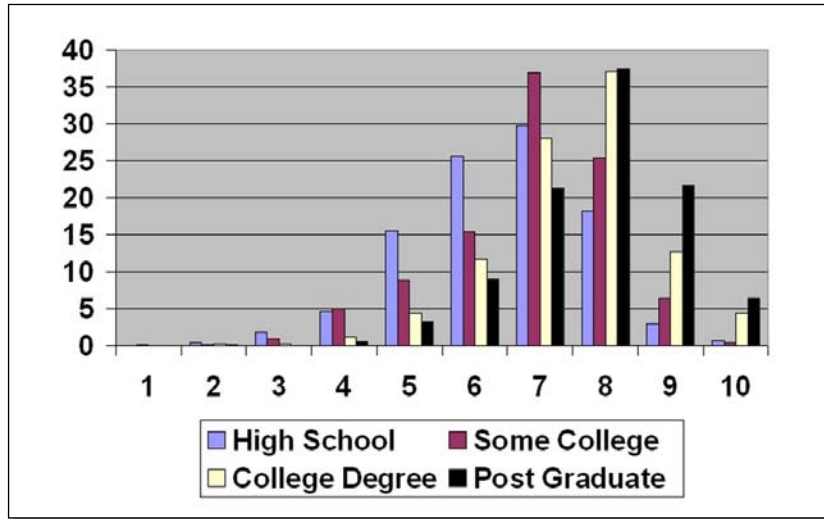


Figure 12: Ladder of Social Standing by Education: Men

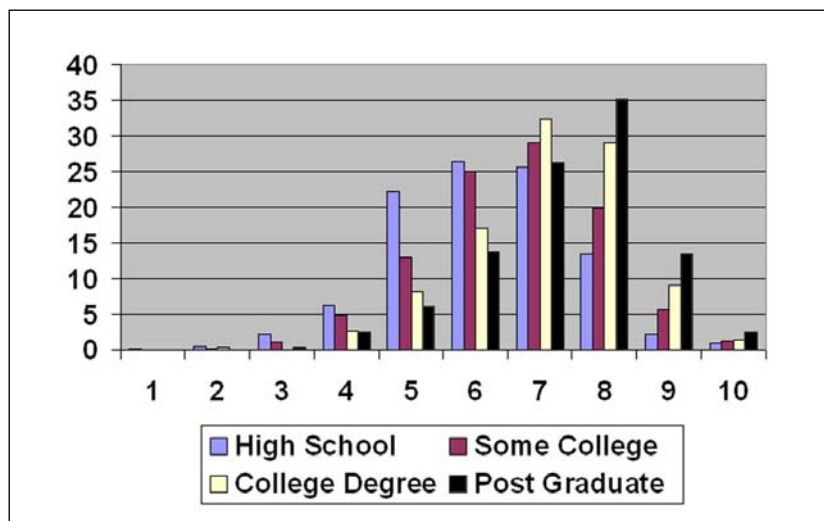


Figure 13: Ladder of Social Standing by Education: Women

Income - Kamil Sicinski and Elizabeth Rainwater

In 1993, the primary finding from the income data was that there was a marked wage disparity between men and women. For full-time workers (those working 35 hours per week or more) in 1993,

the real median annual wage and salary earnings for women were 53 percent of men's earnings (\$29,200 versus \$54,900 in 2004 dollars) [rp001re, selected if rf032jce=1]. For full-time workers in 2004, the median annual wage and salary income is \$48,000 for men and \$30,000 for women [gp202re, selected if gf032jce=1]. Thus, among graduates still in the labor force in 2004 the wage gap declined, with women earning only 37 percent less than men. This effect is due to the decrease in real earnings of men over the last decade, coupled with no change in the real earnings of women. Interestingly, this picture does not change much if we limit the sample to people who have never retired from their primary job – the median income of men in this group is \$50,000, while for women it remains at \$30,000.

For part-time workers (those working less than 35 hours per week) in 1993, the real median earnings of female graduates were less than half those of male graduates (\$13,000 and \$33,300, respectively) [rp001re, selected if rf032jce=2]. For part-time workers in 2004, the median annual wage and salary income is \$10,000 for women and \$13,000 for men [gp202re, selected if gf032jce=2]. Again, we see a sharp decline in the real earnings of men and relative stability of real earnings among women. However, among these workers retirement status is important. Men who retired previously and proceeded to pursue part-time employment earned \$11,000 at the median compared to \$23,000 for those who have never retired. For women the difference is much less pronounced (\$8,800 versus \$11,000).

There are indications that wages and salaries now account for a smaller proportion of a graduate's total personal income, even for full-time workers. In 1993, wage and salary income accounted for approximately 90 percent of a graduate's reported total personal income among full-

time workers and 78 percent of total income among part-time workers [rg019jjc, rp015ree, rf032jce]. In 2004, wages and salaries account for 77 percent of reported total personal income for full-time workers and 46 percent of total income for part-time workers. The most common non-wage sources of income were Social Security (with 77 percent of graduates reporting income from this source), interest and dividends (62 percent reporting this type of income), and non-Social Security retirement plans (44 percent) [gp205re, gp209re, gp214rp]. Among those graduates receiving Social Security income, men report a median annual income of \$14,400 and women report a median annual income of \$8,040 [gp205re, gp208rec]. Among graduates receiving non-Social Security retirement income, men report a median annual income twice as large as the median reported by women (\$24,000 and \$12,000 respectively) [gp209re, gp211re]. Interest and dividend income is collected for the graduate and spouse (if married) together. Although female graduates report less interest and dividend income than male graduates (\$2,000 versus \$3,000), these differences are *not* significant once marital status is taken into account [gp214rp, gp215rp, gc001re].

Full- or part-time status does not vary by educational attainment with roughly half of the working graduates choosing part-time employment (gf032jc, gb103red). However, median annual wages and salaries show significant differences by education. The median annual reported wage and salary income for graduates with a high school diploma was \$20,000. For those with some college, the median was \$24,000. The median for those with a bachelor's was \$35,000, compared to \$40,000 for those with more than a bachelor's (gp202re, gb103red). Predictably, this trend carries over into Social Security income. The median annual Social Security income received by graduates with a high school diploma was \$10,392, compared to \$11,460 for those with some college, \$12,720 for those with a bachelor's degree, and \$14,400 for those with more than a bachelor's (gp208rec, gb103red). As

shown in Table 3, when these figures are broken down by gender and education, the picture is more complex (gp202re, gb103red, sexrsp). Two facts are noteworthy. First, men with post-secondary education receive less in wages and salaries than those with a bachelor’s degree. Second, Social Security benefits rise sharply for women who continued their education beyond college.

Education	Wages/Salaries		Social Security	
	Men	Women	Men	Women
High School	25000	16000	14400	7662
Some College	30000	20000	14958	8214
Bachelor's Degree	54500	18000	15600	8760
More Than Bachelor's	50000	30000	15348	11352

Table 3: Median Income by Level of Education and Gender

When asked how satisfied they were with their present financial situation, 64 percent of graduates reported being “completely” or “very satisfied,” 30 percent reported being “somewhat satisfied” and the remaining 6 percent were “not very” or “not at all satisfied” [gp226re]. The fraction of “completely” satisfied reports exhibit a following retirement status. It is highest for people who never worked (44 percent), followed by full retirees (30 percent), partial retirees (22 percent) and lowest for those who never retired (19 percent). When asked how difficult it was to meet monthly payments, 72 percent responded that it was “not at all” difficult, 11 percent reported that it is “slightly” difficult, 14 percent reported that it is “somewhat” difficult, and only three percent reported that it is “very” or “extremely” difficult to meet these payments [gp227re]. Again, graduates who retired completely reported less difficulty meeting their financial obligations than those who remained employed.

Assets - Kamil Sicinski and Elizabeth Rainwater

The vast majority of graduates (93 percent) own their own homes, while only six percent are renting [gr020rp]. Homeowners report a median home value of \$175,000 [gr021rp], up from \$118,000 in 1993. While there was almost no change in the home ownership rate in the sample over the last decade, at present, 65 percent of houses do not carry mortgages [gr022rp], compared to only 40 percent in 1993. Almost five percent of graduates settled in a retirement community [gr051RP], while only two percent report living in a mobile home.

Since 1993 the fraction of graduates reporting that they own a business or a farm declined from 23 to 18 percent [gr028rp]. The median selling price for businesses was \$200,000, but almost 20 percent of owners stated that their business had no financial value [gr029rp]. Only 22 percent of owners are still paying off business loans, down from 33 percent in 1993 [gr030rp]. About a third of the graduates also reported owning some other real estate with a median value of \$125,000 [gr024rp, gr025rp].

Most of the financial investments in the sample are concentrated in retirement plans that accumulate an account balance, such as IRAs, 401(k)s or profit sharing plans. Seventy-eight percent of households have such savings with a median balance of \$145,000 [gr060rp, gr061rp]. Additionally, 57 percent of graduates have stock market investments amounting to \$80,000 at the median [gr066rp,gr067rp]. About 40 percent also purchased certificates of deposit or saving bonds with a median investment of \$20,000 [gr064rp, gr065rp]. Almost everyone in the sample had a bank account

(checking, saving or money market fund) [gt062rp]. About nine percent of graduates maintained a balance of less than \$1,000 in these accounts; among those who had more the median balance was \$15,000 [gt063rp]. Only 16 percent of households had assets not covered by one of the above categories.

Preliminary measures (based on direct reports only, with no imputations for missing components) indicate that net worth of the median WLS household increased from \$190,000 to \$327,000 in real terms over the last decade [gt100rpc]. This measure, while biased downward, is already considerably higher than for a roughly comparable sample from the 2002 release of the Health and Retirement Study (\$274,000). The change in net worth was not uniform for all graduates. For those in the first centile of the wealth distribution it grew 53 percent, for those at the median 79 percent and it more than doubled for households in the top 20 percent of the distribution. Putting it differently, the wealthier one was in 1993, the more their wealth grew by 2004. It is also interesting to note that the share of housing wealth in net worth fell from 46 percent to 40 percent since the 1993 round of interviews.

In addition to asking about assets, we also asked about life insurance coverage. Eighty-three percent of men and 71 percent of women reported having life insurance policies [gr080re]. The median face value is \$50,000 for men and \$20,000 for women [gr081re]. Graduates with large policies (more than \$50,000) were also asked whether their policy had an investment component. This was the case for 64 percent of policies [gr084re] and the median cash value of these investments was \$26,000 [gr085re].

Finally, we asked married graduates who in the household knew most about assets, debts, and retirement plans [gr086re]. There is a substantial disparity in the level of perceived financial knowledge between husbands and wives. Among men, 56 percent named themselves as more knowledgeable, 26 percent pointed to the spouse, and 18 percent reported equal knowledge with the spouse. For women, the corresponding figures were 27, 53, and 19 percent. The high degree of agreement between sexes suggests that there is no respondent bias in the assessment of financial knowledge.

Intertransfers - Megan Andrew, Elizabeth Rainwater, and Kamil Sicinski

According to data from the 2004 survey, WLS families act as economic units to a large extent, transferring resources across generations. Approximately 52 percent of male graduates and 53 percent of female graduates had ever received an inheritance of at least \$10,000 (gq100r1). These inheritances generally came from parents or parents-in-law (78 percent) (gq103r1). The median inheritance for both men and women in the WLS sample is approximately \$40,000, and the median year of receipt is 1995 (gq101r1, gq102r1). In general then, WLS graduates receive a sizeable transfer of economic resources in mid-life from their parents. Among WLS graduates with siblings, the parental estate was divided equally among siblings in 90 percent of cases (gq104r1). Thirty-two percent of graduates with one inheritance also received a second inheritance worth \$10,000 or more with a median year of receipt of 1993 (gq100r2). Among men, the median second inheritance was \$35,000, and among women, the median second inheritance was \$30,000 (gq102r2, ga001re).

Aside from inheritances, WLS graduates also received economic gifts from living relatives, mainly their parents. Approximately 67 percent of graduates reported a living parent (including in-laws) in the 1993 interview. Among these graduates, 36 percent had received a gift from this parent(s) since then (gq200r gq201r). Men and women are equally likely to have received a gift from a parent. The main source of inter vivos gifts is the graduate's mother (39 percent), mother-in-law (18 percent), or the graduate's parents jointly (15 percent) (gq202r1). The given reason for inter vivos gifts is either to spend in any way or for "other" reasons, such as to reduce the size of the parental estate for tax purposes (gq204r1). In 1993, men received a median \$10,000 in inter vivos gifts over the past 10 years while women received slightly less, a median gift of \$8,000 (rq007pb). By 2004, women had reached parity with men and both groups report receiving \$10,000 in inter vivos gifts since 1993 (gq203r1).

WLS graduates not only received economic resources but gave them as well. As their parents had done for them, a significant portion of graduates with living children made downstream inter vivos transfers to their children (41 percent) (gq401r1, gq400r, gd001kd). Forty-six percent of graduates with more than one child distributed gifts equally among their children, in the remaining cases the largest gift or loan was most commonly given to the oldest child (gq402r1, gq404r1). Reasons for graduates' gifts to their children differ slightly from the reasons for gifts from the graduates' parents. Approximately 36 percent of graduates gave their children gifts of \$1000 or more to spend any way they wanted (this includes wedding gifts), 16 percent gave their children a gift specifically for a down payment on a home and 6 percent provided financial assistance (gq403r1). Following the typical pattern of downstream transfer of economic resources from the parental generation to filial generations (gq500r, gq400r, gq200r), in 2004 only four percent of WLS graduates with at least one living parent

reported having given them substantial gifts. Among those graduates giving to parents, the median transfer was \$5000 (gq502r1).

While families represent an important focus of economic transfers, WLS graduates also made significant gifts to charitable organizations. About 67 percent of men and 60 percent of women in the WLS sample reported giving more than \$500 to charity in the last year (gq700r). Among graduates who did make donations, men reported a median gift of \$2000 while women reported a median gift of \$1500 (gq701r, ga001re).

Cognition – Carol Roan

Subjective Measures

In 2004 very few graduates reported being very forgetful or unable to remember anything at all. The majority of graduates (78 percent) were able to remember “most things” over the past four weeks and almost all the remaining graduates (21 percent), admitted to being “somewhat forgetful.” [gx336re] Similarly, hardly any graduates were unable to, or had a great deal of difficulty thinking or solving day-to-day problems. Nearly all (91 percent) said they were able to think clearly and solve problems, seven percent said they had “a little” difficulty and two percent said they had “a great deal” of difficulty. [gx337re] Although men and women did not differ significantly in their reports, those who completed more education were somewhat less likely to report having difficulty with memory or problem solving. Eighty-four percent of those with a college degree or higher were able to remember most things and 94 percent are able to think clearly and solve problems. Among graduates who stopped their formal education after completing high school, only 74 percent say they are able to

remember most things and 89 percent report thinking clearly and being able to solve day-to-day problems. [gx336re gx337re gb103red]

For currently married graduates we have additional subjective reports of memory and problem solving skills from spouses. Spouse participants were asked to rate their spouse's memory at the present time, to judge the ability of their husband or wife to make decisions, and to rate his or her ability to organize daily activities. They were also asked whether or not his or her memory is better, the same, or worse than it was two years ago. Figure 14 shows that the majority of spouse respondents rate their spouse's memory, decision making ability, and organizational skills at very good or higher (71 percent; 78 percent; 77 percent respectively). [ac096sp ac098sp, ac099sp] Figure 15 shows the proportion of spouse respondents reporting changes in their husband's or wife's memory compared to two years ago. Although a very large majority reports no change in their spouse's memory over the past two years (88 percent of husbands report no change for their wives and 82 percent of wives report no change for their husbands), more wives than husbands report a decline in their spouse's memory. Sixteen percent of wives report a worsening of their husband's memory compared to only ten percent of husbands reporting a decline in their wife's memory.

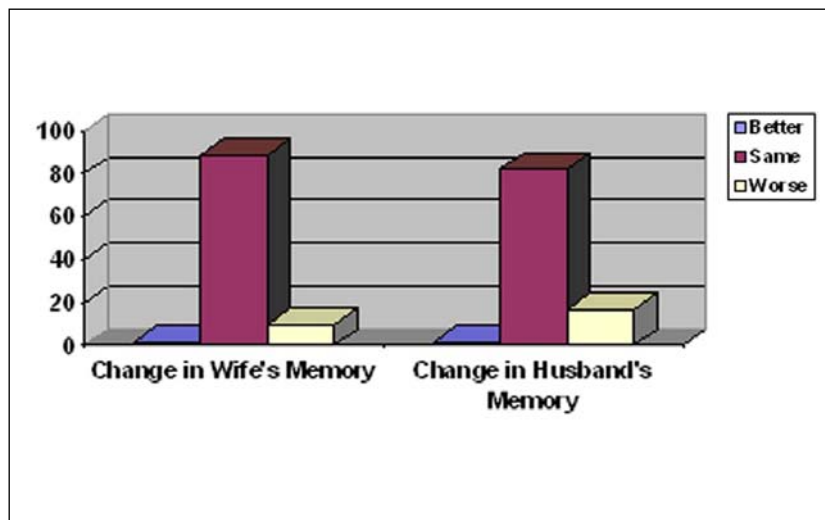


Figure 14: Spouse Respondents' Reports of Spouse's Cognitive Functioning

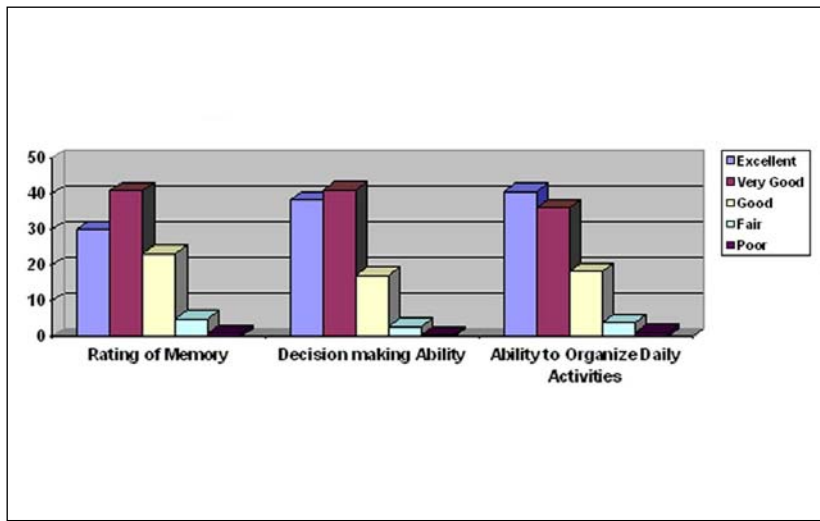


Figure 15: Spouse Respondents' Reports of Changes in Spouse's Memory over Past Two Years

Figure 16 compares the currently married graduates' self-reports of their memory (How would you rate your ability to remember things over the past four weeks) to their spouse's reports (How would you rate your spouse's memory at the present time?). Almost all graduates and their spouses (94 percent) agree that the graduate's memory is good or better according to the spouse and that the graduate remembers most things or is only somewhat forgetful according to the graduate. Spouses are perhaps a little more critical of the graduates than the graduates are of themselves. In around three percent of married couples the graduate claims to remember most things while his or her spouse describes the graduate's memory as fair or poor.

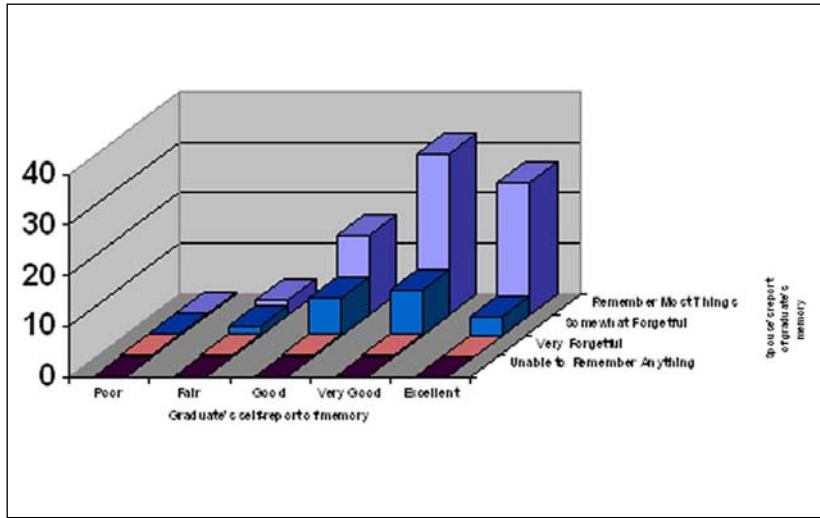


Figure 16: Graduate's self-report on memory by Spouse's report

Objective Measures

WLS participants were asked a series of objective questions to measure their cognition in both 1993 and 2004. Six questions taken from the Wechsler Intelligence Scale-Revised (WAIS-R) were asked in the 1993 telephone interview and were repeated in the 2004 interview. The prototypic item is, “In what way are an orange and a banana alike?” Scoring was based on whether the respondent used abstract (2 points) or concrete (1 point) reasoning.¹² Many transcribed scores could be assigned by computer, and in the remaining cases, specially trained coders assigned the scores. In the latter case, scoring was carried out in batches by item, to avoid respondent-specific biases. Individual scores on the six items were then summed to make a summary measure ranging from zero to twelve. Figure 17 shows distribution of the summary scores for the graduates in 1993 and again in 2004¹³. Graduates show a small decline in cognition scores in 2003 compared to 2004 but the change is fairly small. The

¹² For a more detailed discussion of the coding please see: Wechsler, D. Manual for the Wechsler Intelligence Scale-Revised (WAIS-R). San Antonio, TX: Psychological Corporation.

¹³ The distribution for the 1993 cognitive summary score is not limited to those who completed the 2004 interview. If we limit the 1993 sample to those who survived and answered the 2004 questions the distribution for 1993 shifts a little more to the right, suggesting that those with higher cognition in 1993 were more likely to survive to 2004.

average summary score for the graduates in 1993 is 6.9 points compared to 6.6 points in 2004. As shown in Figure 18, male and female graduates did equally well at both waves. Cognitive summary scores did differ by education in 2004. As expected, participants who completed more years of schooling did better on the similarities questions than respondents who did not continue their formal education past high school. Figure 19 shows the distribution by summary score and level of education.

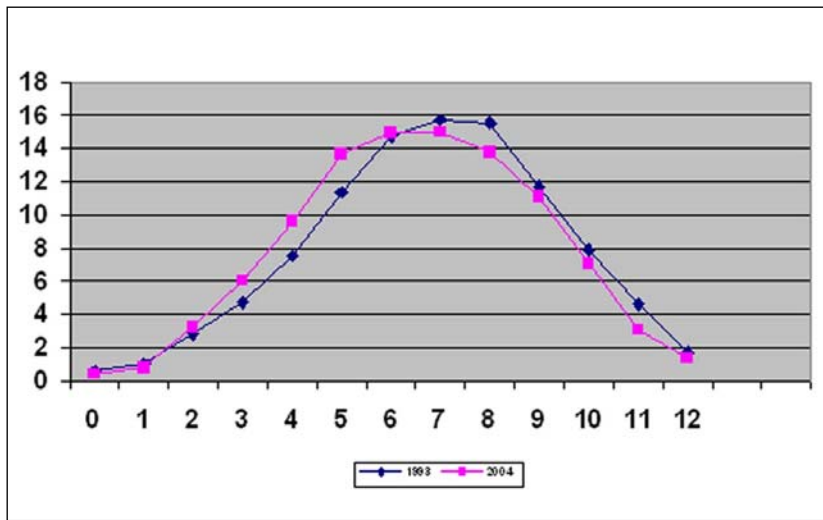


Figure 17: Cognition Summary Scores 1993 and 2004

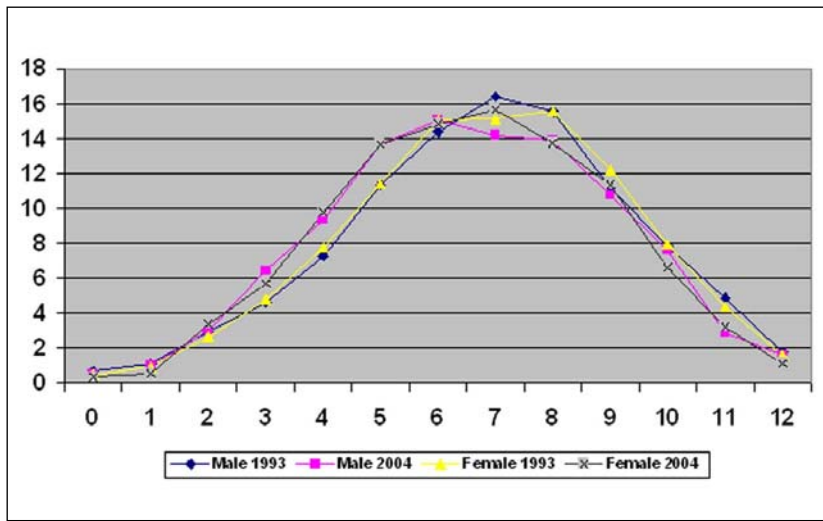


Figure 18: 1993 and 2004 Cognition Summary Scores by Gender

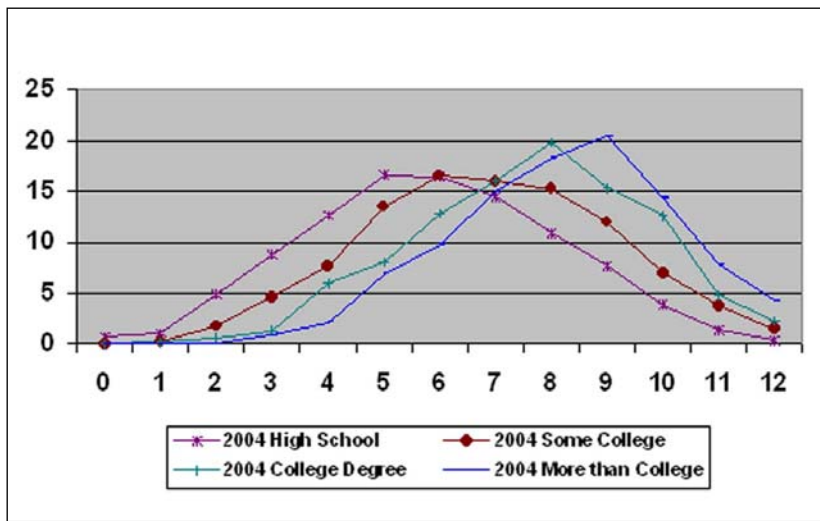


Figure 19: 2004 Cognition Summary Scores by Education

We can look at individual changes in cognitive levels among those graduates who participated in both the 1993 and 2004 cognition measures. Subtracting participant's 1993 cognition score from their 2004 provides a rough measure of change over time. Thus, individuals who do better on the similarities questions will have a positive number on the change measure, and individuals who do worse in 2004 compared to 1993 have a negative number. Figure 20 graphs the amount of individual change by level of education. Although there are individuals who experienced a substantial change over the 11-year time-span, by far the majority (72 percent) either had no change or changed by only 1 or 2 points. Although all the educational groups dropped down on average, those who attended college after completing their bachelor's degree lost on average two-tenths of a point compared to all others who lost roughly four-tenths of a point.

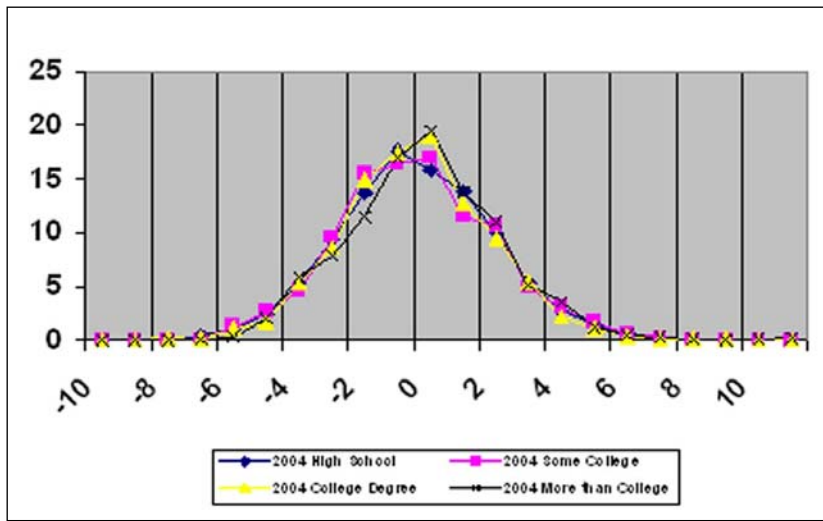


Figure 20: Change in Cognition by Education

Health and Well-Being *James Yonker, Erin Wicke, Dan Fischer, and Hanna Grol-Prokopczyk*

Health Introduction

In the past, the WLS cohort has been characterized by relatively good health, few serious symptoms and illnesses, and positive perceptions of global functioning. Recent interviews, however, indicate that the graduates are now experiencing more health-related problems, many of which are symptomatic of the aging process. Few measurements of physiological functioning remain equivalent to those of ten years ago, and many may continue to decline as the cohort progresses through their sixties. However, as baseline functioning decreases across various types of tasks—and as graduates report more limitations, symptoms, and illnesses—there is little evidence that they see their health pessimistically. By their own perceptions, our graduates are enjoying relatively good health and spirit.

Height and Weight

Self-reports of height [ix010rec] and weight [ix009rer] show that the average woman in our sample is 5'4 1/2" tall and weighs 160-165 pounds, while the average man is 5'10 1/2" and weighs around 200 pounds. The typical graduate gained five and a half pounds since 1993 [mx009rer, ix009rer]. A majority of both men (59 percent) and women (70 percent) consider themselves currently overweight [ixw05rer]. According to current medical definitions of excess weight, based on the body mass index (BMI), this perception is warranted. Among the men in our sample, only 18 percent are at a healthy weight ($18.5 \leq \text{BMI} < 25$), while 48 percent are overweight ($25 \leq \text{BMI} < 30$) and 34 percent obese ($\text{BMI} \geq 30$) [ix011rec]. Among women, 32 percent fall into the healthy weight category, 37 percent are overweight, and 30 percent obese [ix011rec].

Thus, despite their perceptions, the women in our sample are less likely than men to be clinically overweight. Nevertheless, a larger proportion of women than men are actively trying to lose weight — 51 versus 39 percent [ixw06rer]. For both men and women, exercising [ixw08rer] and cutting calories or fat [ixw07rer] are the preferred methods for weight loss or weight maintenance, used in over 80 percent of cases. Very few graduates (two to three percent) use pills or laxatives as part of their weight loss or weight maintenance plan [ixw09rer].

Exercise

Women report engaging in substantially more light physical activity than men—such as walking, gardening, bowling, or housework (46 versus 29 hours per month) [ixe01rer]. On the other hand, men engage in slightly more vigorous physical activity such as jogging, swimming, biking, or playing team sports—eight and a half hours per month, compared to seven and a half for women

[ixe02rer]. Physical activity patterns also vary by educational background. Graduates with no more than a high school diploma engage in more light physical activity (41 hours per month) and less vigorous physical activity (7 hours per month) than their counterparts with college or post-collegiate education. For example, those with post-collegiate education report 31 hours per month of light activity, and over 11 hours per month of vigorous activity [ixe01rer, ixe02rer, gb103red]. These educational differences in activity are evident for both men and women.

Global Functioning

In 1993, when graduates were in their mid-fifties, 90 percent [mx001rer] reported that their current health was either excellent or good. Most graduates continue to rate their current health as positive in general (85 percent) [ix001rer] and in comparison to others of the same age and sex (86 percent) [ix002rer]. A full 70 percent of graduates describe their current health as equal to or better than 10 years ago [ix003rer], 77 percent report similarly about their appearance [ix004rer], and 84 percent report their childhood health as excellent or very good [ixc01rer]. Consistent with 1993, men are still slightly more likely than women to report that their physical appearance is as good or better than it was 10 years ago (79 versus 74 percent) [ix005rer].

As in 1993, graduates who pursued education after high school are more likely to report that their current health is excellent or good (88 versus 82 percent) [ix001rer] and compared to others of their same age and gender (89 versus 83 percent) [ix002rer]. However, also similar to 1993, graduates with more than a high school education are slightly *less* likely to report that their appearance is equivalent to or better than 10 years ago (73 versus 78 percent) [ix004rer].

Minor Health Limitations

Many common tasks are becoming harder for participants to perform without strain or assistance, with clear disparities between women and men. While only 2 percent of men and 8 percent of women report having difficulty carrying ten pounds — such as a bag of groceries [ixch03re], 10 percent of men and 39 percent of women have trouble carrying twenty-five pounds [ixch04re]. Additionally, 11 percent of men and 24 percent of women have difficulty pushing and pulling large objects like a living room chair [ixch05re], and 21 percent of men and 29 percent of women report being at least somewhat limited in moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf [ixch01re]. A full 29 percent of men and 44 percent of women indicate troubles with vigorous activities, like climbing several flights of stairs [ixch02re].

Graduates with an education beyond high school are less likely to have problems with any of these tasks. While 29 percent of graduates with only a high school education report experiencing difficulty with moderate tasks, only 21 percent of their more educated counterparts report the same level of difficulty [ixch01re]. The same trend holds true for vigorous activities (42 versus 31 percent) [ixch02re], lifting and carrying 25 pounds (29 versus 22 percent) [ixch04re], and pushing or pulling large objects (20 versus 15) [ixch05re].

Some of these difficulties with moderate and routine activities may stem from limitations in movement, pain, or fatigue. In general, more women report experiencing difficulty standing (22 versus 16 percent) [ixch06re] or sitting (seven versus four percent) [ixch07re] for an hour or more, stooping, crouching or kneeling (45 versus 31 percent) [ixch08re], or reaching over their heads (nine versus seven percent) [ixch09re].

Again controlling for gender, those with more than a high school education are less likely to report difficulty with any of these tasks. While graduates with more than a high school education are only slightly less likely to report difficulty standing (18 versus 20 percent) [ixch06re] or sitting (five versus six percent) [ixch07re] for an hour or more, they were considerably less likely to report difficulty stooping, crouching or kneeling (33 versus 43 percent) [ixch08re] or reaching over their heads (six versus 10 percent) [ixch09re].

Furthermore, these limitations may hinder the amount and of type of activities graduates participate in regularly. About 20 percent of graduates (18 percent of males, 22 percent of females) report that in the past month they accomplished less that they would have liked to or were limited in their activities or work because of their physical health [ix401rer,ix402rer]. Net of gender, graduates with an education beyond high school are less likely to report these limitations than those with only a high school education (18 versus 21 percent and 17 versus 21 percent, respectively) [ix401rer, ix402rer]. Strikingly, 47 percent of men and 52 percent of women report that pain limited their normal work at least a little bit in the past month [ix405rer] either inside or outside the home. High school graduates express greater limitations from pain than those who pursued further education (54 percent versus 44 percent), which parallels other trends in which more education is associated with fewer health difficulties [ix405rer].

Vision & Hearing Impairments

Nearly all graduates—97 percent—use some form of vision correction regularly [ixhs05re]. Women are consistently more likely to use corrective lenses for their vision problems, including prescription glasses (91 versus 87 percent) [ixhs02re] and contact lenses (seven versus three percent)

[ixhs03re]. However, male and female graduates use nonprescription magnifying glasses equally (12 percent) [ixhs04re]. Interestingly, female graduates are more likely to report increased problems reading small print—such as on a medicine bottle—in the last year (45 versus 32 percent) [ixhs17re] and last five years (58 versus 43 percent) [ixhs18re], while male graduates are slightly more likely to report increased problems with understanding written instructions in the last year (four versus three percent) [ixhs19re] and last five years (five versus three percent) [ixhs20re].

While graduates with only a high school education are more likely to wear glasses than those with more education (92 versus 86 percent) [ixhs02re], the latter group is more likely to use contact lenses (eight versus three percent) [ixhs03re] or nonprescription magnifying glasses (14 versus 10 percent) [ixhs04re]. Additionally, graduates with only a high school education are more likely to report increased problems in the last year reading small print (42 versus 35 percent) [ixhs17re] and understanding written instructions (four versus two percent) [ixhs19re] than their more educated counterparts. They were also more likely to report increased problems understanding written instructions in the last 5 years (five versus three percent) [ixhs20re].

While vision problems generally affect more women, men have more difficulties hearing. Significantly more male graduates report having had their hearing checked in the last five years (49 versus 33 percent) [ixhs08re], which is likely the result of greater need. While 31 percent of male graduates report that those living with or close to them think they should have their hearing checked, only 10 percent of female graduates report the same [ixhs09re]. Male graduates are also more likely to use hearing aids regularly (eight versus three percent) [ixhs10re].

Across the board, male graduates report greater increases in hearing-related problems. They are more likely to report increased problems hearing conversations in person in the last year (19 versus 11 percent) [ixhs11re] and last five years (37 versus 21 percent) [ixhs12re], as well as over the phone during the same time periods (13 versus 8 percent, and 21 versus 12 percent, respectively) [ixhs13re, ixhs14re]. Not surprisingly, more males report difficulty understanding spoken instructions, such as those from a doctor or employer, in the last year (seven versus three percent) [ixhs15re] and last five years (eleven versus four percent) [ixhs16re].

Unlike vision problems, we see few differences in hearing problems across levels of educational attainment, with or without controlling for gender. Graduates with only a high school education were no more likely than others to have their hearing checked within the last five years [ixhs08re] or regularly use hearing aids [ixhs10re]. They were also no more likely to report increased problems understanding conversations in person [ixhs11re, ixhs12re] or over the phone [ixhs13re, ixhs14re]. However, graduates with more than a high school education were considerably less likely to report having someone they live with or close to them think they should have their hearing checked (43 versus 57 percent) [ixhs09re].

Health Symptoms

The number of reported health symptoms has increased dramatically since 1993, with over 97 percent of graduates listing at least one of the 25 possible symptoms [ix082rec].¹⁴ Men tended to report a full symptom less on average than women (7.9 versus 9.0) [ix082rec]. Looking specifically at

¹⁴ Symptoms: Aching muscles; Back pain/strain; Bone pains; Chest pain; Constipation; Coughing/wheezing; Diarrhea; Difficulties with or painful sexual intercourse; Dizziness/faintness; Excessive Sweating; Fatigue/exhaustion; Headache; Lack of energy; Neck and/or shoulder pain; Numbness; Pain in your hands/wrists; Pain in your ankles/knees; Palpitations (feeling your heart pound or race); Ringing in ears; Shortness of breath; Skin problems; Stiff/swollen joints; Trouble sleeping; Upset stomach; Urination problems.

the 18 symptoms asked in both 1993 and 2004, we see a significant increase in symptom count per graduate since the last interviewing wave (3.9 versus 6.2 symptoms) [mx082rec, ix082rec]. Reports of every symptom replicated in the 2004 survey increased significantly during the decade, with the exception of headache [mx025rer, ix025rer], which actually decreased (47 versus 43 percent).

Since 1993, far more graduates report experiencing aching muscles (77 versus 41 percent) [mx058rer, ix058rer], fatigue or exhaustion (47 versus 29 percent) [mx022rer, ix022rer], and overall lack of energy (59 versus 42 percent) [mx016rer, ix016rer]. As was the case in 1993, women are more likely than men to report such symptoms of physical and mental fatigue, including trouble sleeping (62 versus 46 percent) [ix019rer] and headache (50 versus 35 percent) [ix025rer]. Interestingly, while the proportion of graduates who reported experiencing headaches decreased significantly since 1993 [mx025rer], the change was more dramatic for women (56 versus 50 percent) than for men (37 versus 35 percent).

The gender gap in musculoskeletal problems has also widened since the last round of interviews, resulting in higher rates for women than for men. This is particularly true for symptoms like bone pain (35 versus 27 percent) [ix121rer], stiff and swollen joints (49 versus 35 percent) [ix061rer], neck and shoulder pain (52 versus 46 percent) [ix130rer], pain in the hands and wrists (45 versus 34 percent) and pain in the ankles and knees (53 versus 44 percent) [ix136rer].

Clear differences in certain symptoms emerge along lines of educational attainment. In accord with trends from 1993 and net of gender, graduates with an education beyond high school are significantly less likely to experience dizziness (15 versus 18) [ix031rer], muscle aches (75 versus 79

percent) [ix058rer], stiff or swollen joints (39 versus 45 percent) [ix061rer], back pain (59 versus 66 percent) [ix064rer], shortness of breath (25 versus 31 percent) [ix070rer], or excessive sweating (17 versus 22 percent) [ix073rer].

Some items asked only in 2004 also show similar differences while controlling for gender, such that those with more than a high school education are less likely to experience bone pain (28 versus 35 percent) [ix121rer], coughing or wheezing (29 versus 33 percent) [ix124rer], neck or shoulder pain (47 versus 51 percent) [ix130rer], pain in the hands or wrists (37 versus 42 percent) [ix133rer], pain in the knees or ankles (45 versus 52 percent) [ix136rer], or palpitations (18 versus 22 percent) [ix139rer]. Interestingly, we now see less fatigue in graduates with postsecondary education than without (45 versus 49 percent) [mx022rer, ix022rer], where no educational differences had been observed in 1993.

However, for some health symptoms we see no clear distinctions across levels of education. Like the earlier wave, high school graduates are no more likely than those with more than high school education to experience headache [ix025rer], ringing in ears [ix037rer], upset stomach [ix064rer], constipation [ix049rer], urination problems [ix055rer], or chest pains [ix067rer]. Finally, the only symptom experienced more by graduates with some postsecondary education is skin problems (23 versus 18 percent), where there was no educational difference in 1993 [ix079rer].

Serious Illnesses

Among graduates reporting at least one serious illness, the most common include hypertension (47 percent) [gx341re], high cholesterol (47 percent) [ix146rer], arthritis (45 percent) [gx360re], and

allergies (31 percent) [ix109rer]. Since ten years ago, the proportion of individuals reporting each replicated illness has raised significantly, most of them at least doubling. The fraction of graduates who report ever having had cancer has increased almost six-fold since 1993 (11 versus 2 percent) [mx091rer, gx348re], heart problems by three fold (15 versus 5 percent) [mx099rer, gx351re] and diabetes by almost four fold (12 percent versus 3 percent) [mx095rer, gx342re]. Allergies (31 versus 15 percent) [mx109rer, ix109rer], chronic bronchitis or emphysema (7 versus 3 percent) [mx089rer, ix089rer], hypertension (47 versus 21 percent) [mx101rer, gx341re], kidney or bladder problems (12 versus 4 percent) [mx105rer, ix105rer], and ulcer (8 versus 3 percent) [mx107rer, ix107rer] all increased between two to three times the rates reported in 1993, while arthritis (46 versus 23 percent) [mx087rer, gx360re], and asthma (9 versus 5 percent) [mx085rer, ix085rer] doubled.

Evidence from 1993 that showed little difference between men and women in cardiac problems has since changed. Men are now more likely to experience general heart problems (20 versus 11 percent) [gx351re], shortness of breath (31 versus 25 percent) [ix020rer], and hypertension (49 versus 46 percent) [gx341re]. Of those with heart problems, men are more likely to have sustained myocardial infarction (43 versus 31 percent) [gx352re] and are more likely to have had cardiac catheterization (77 versus 59 percent) [gx354re] or heart surgery (45 versus 24 percent) [gx355re]. Men are also more likely to report having diabetes (14 versus 10 percent) [gx342re].

Similar to health symptoms, rates of serious illness generally differ between levels of educational attainment among both women and men. As in 1993, graduates who continued education past high school are less likely to have arthritis (41 versus 49 percent) [mx087rer, gx359re], chronic bronchitis or emphysema (5 versus 8 percent) [mx089rer, ix089rer], hypertension (44 versus 50

percent) [mx101rer, gx341re], circulation problems (8 versus 11 percent) [mx103rer, ix103rer], kidney or bladder problems (10 versus 13 percent) [mx105rer, ix105rer], and diabetes (10 versus 14 percent) [mx095rer, gx342re]. These graduates are also less likely to experience some of the new illnesses covered only in 2004, including stroke [gx356re] and high cholesterol [ix146rer].

Surprisingly, controlling for gender, graduates who continued their education beyond high school were *more* likely to suffer from asthma (10 versus 8 percent) [mx085rer, ix085rer] and cancer (12 versus 10 percent) [mx091rer, gx348re]. However, some illnesses register no differences across educational attainment. Rates of asthma [mx085rer, ix085rer], cancer [mx091rer, gx348re], serious back trouble [mx097rer, ix097rer], multiple sclerosis [mx111rer, ix111rer], chronic sinus problems [ix142rer], Irritable Bowel Syndrome [ix148rer], fibromyalgia [ix144rer], osteoporosis [ix150rer], and ulcer [mx107rer, ix107rer] are the same for high school graduates and those who continued education into college. Of these items, only ulcer showed typical education differences in 1993.

Spouse Health

Many of the health patterns observed for graduates also appear for their current spouses. Male spouses are more likely to report hypertension (50 versus 41 percent) [ax341re], diabetes (15 versus 9 percent) [ax342re], cancer (14 versus 11 percent) [ax348re], serious heart problems (24 versus 9 percent) [ax351re], and stroke (4 versus 2 percent) [ax356re]. Of those spouses reporting heart problems, males are far more likely to have experienced myocardial infarction (52 versus 22 percent) [ax352re], cardiac catheterization (77 versus 56 percent) [ax354re], or heart surgery (43 versus 18 percent) [ax355re]. While male spouses are no more likely to report having arthritis than their female

counterparts (46 percent) [ax360re], they were much less likely to report pain, stiffness, or swelling in their joints (53 versus 63 percent) [ax359re].

Age gaps between spouses may also play a role in spouse's health. In this cohort, men were 2 to 3 years older than the women they married. Women were less likely than men to report that their spouse is in good health (33 and 39 percent respectively) [gc038sp, ga001re]. Approximately one out of four male or female spouses suffers from a health condition that limits his or her work or activities [gc094sp, gv005re].

Graduates' spouses present a mixed picture of their spouses' health. Most of the graduates' spouses (56 percent) report that the grads are in excellent or very good health [ac038sp if nwmrflag = 0], particularly the grad spouses who continued studying beyond high school [ac038sp, nwmrflag, ab001re]. At the same time, many of the grads that are reported to be in good health (42 percent) are also reported by their spouse to suffer from a condition or disability that limits their activities now or is likely to do so in the future. Overall, one in three graduates is reported by his or her spouse to suffer from a limiting health condition [av005sp, nwmrflag, ac038sp]. The graduates' spouses who have attended college are more likely than those who never attended college to report that their spouse has a limiting condition for every grad health level except excellent [av005sp, nwmrflag, ac038sp, ab001re]. No gender differences were found.

Health of Biological Parents and Siblings

Almost all graduates report that a biological sibling or parent has had at least one serious illness (94 percent) [ixa02rec-ixa12rec]. By disaggregating this number, we find that 57 percent of

graduates report at least one such relative who has had cancer [ixa12rec], 34 percent stroke [ixa04rec, ixa05rec], 32 percent diabetes [ixa08rec], 9 percent asthma [ixa10rec], and 16 percent osteoporosis [ixa11rec].¹⁵ As with cardiac illnesses, 56 percent of graduates have a biological sibling or parent who sustained a heart attack [ixa06rec, ixa07rec], 59 percent have one with high blood pressure [ixa02rec], and 35 percent have one with high cholesterol [ixa03rec].

Consistent with intuition and previous research, we see considerable evidence that graduates experience illnesses similar to their parents and siblings. Graduates whose parents or siblings have sustained a heart attack are more likely to have serious heart problems (18 versus 12 percent). Similar patterns emerge for high blood pressure and cholesterol (56 versus 34 percent and 63 versus 38 percent, respectively), stroke (4 versus 2 percent), diabetes (21 versus 8 percent), asthma (23 versus 8 percent), osteoporosis (30 versus 8 percent), and cancer (12 versus 9 percent) [gx341re, gx352re, ix146re, gx356re, ix085rer, gx342rec, ix150rer, gx348re, ixa02rec-ixa12rec].

Tobacco

Tobacco use behaviors have changed somewhat since the last round of interviewing. Whereas in 1993 about 31 percent of graduates smoked cigarettes, the proportion fell to just 21 percent in 2004 [ix013rec]. Of the 31 percent of respondents who reported smoking in 1992, just under half (44 percent) have since quit. However, the average graduate who currently smokes cigarettes has done so for over 45 years [ix014rer].

Of current cigarette smokers, men report having begun smoking regularly around age 17, whereas the average woman began closer to age 19 [ixt06rer]. Men are far more likely to have ever

¹⁵ These categories are not mutually exclusive, so the percentages may add to more than 100 percent.

smoked cigarettes regularly (62 versus 49 percent) [ix012rer], or to have used other forms of tobacco aside from cigarettes (52 versus 7 percent) [ixt01rer]. Consistent with 1993 findings, women are still slightly more likely to currently smoke cigarettes (23 versus 20 percent) [ix013rer], but continue to smoke just less than their male counterparts (slightly less than one pack per day versus slightly more than one pack per day) [ix013rer, ix015rer].

Today, 12 percent of graduates live with someone who smokes (any form) inside the home regularly [ixt12rer], and a full 74 percent report having grown up with a smoker—either a parent or someone who smoked in the home [ixt02rer]. Fathers of graduates were far more likely to smoke than their mothers (89 versus 33 percent) [ixt04rer, ixt03rer].

Alcohol use

Wisconsin is a state known for high levels of alcohol consumption, and so it is not surprising that there appears to be a good deal of social drinking among WLS participants. Moreover, there is little evidence that WLS participants decreased their alcohol consumption as they moved from their fifties to their sixties. Seventy-two percent of participants report having alcohol in the previous month in 2004, which is only about three percentage points less than the number who reported doing so in 1993 [gu026re, ru026re]. Indeed, the number of people reporting having had alcohol at least 20 days in the previous month increased from 13 percent in 1993 to 18 percent in 2004 [gu026re, ru026re]. This increase in near-daily or daily drinking is possibly the result of publicity about the positive health consequences of regular, moderate drinking; whatever its cause, it appears that participants with higher levels of education were more likely to increase their drinking to more than 20 days a month. Among men, the percentage of college graduates who drank more than 20 days in the past month increased

from 20 percent in 1993 to 29 percent in 2004, while, for those with only a high school degree, the increase was only from fifteen percent to 19 percent [gu026re, ru026re].

As expected, we find that men drink more than women. While 32 percent of women reported not drinking at all in the previous month, only about 23 percent of men reported similarly. Likewise, twice as many men as women reported drinking at least 20 days in the past month (24 percent versus 12 percent) [gu026re, ru026re]. About 62 percent of women who drink report averaging only one drink on a day that they have alcohol, compared to 37 percent of men [gu027re]. Of those who drank alcohol on at least two occasions in the past month, only 8 percent of women report having had an occasion where they had five or more drinks, compared to 24 percent of men [gu029re].

Only about 3 percent of participants report having ever sought professional help for their drinking [gu036re, ru036re]. There is good reason to think this underestimates the actual number of WLS participants who have sought professional help for drinking, especially since some participants who reported to us in 1993 that they had sought such help deny ever having sought help in the 2004 survey. Indeed, among those who participated in both the 1993 and 2004 surveys, slightly *fewer* people reported having ever received professional help in 2004 than in 1993 (3.0 percent versus 3.2 percent). If one instead bases the estimate of how many participants have ever sought professional help on the number who reported doing so in either 1993 or 2004, then 4.0 percent of participants have sought professional help. Men are about three times more likely to have received such help than women (6 percent versus 2 percent).

Of those graduates who indicated to us in 1993 that they had received professional help for their drinking, about two-thirds reported in 1993 that they had not imbibed at all in the previous month [ru036re, ru026re]. If this reflects a resolution to not drink at all, it appears that WLS participants are good at sticking to it: over 80 percent of the people who had sought professional help and were not drinking in 1993 were still reporting no alcohol consumption in the previous month in 2004 [gu026re].

Menopause/ Women's Health - Hanna Grol-Prokopczyk and Diane Shinberg

The 1993 wave of the WLS provided a uniquely detailed portrait of the timing and the side effects (both medical and social) of menopause. In 2004, the WLS continues its commitment to women's health issues, focusing in more detail on women's experiences with hormone replacement therapy.

Menarche and menopause

On average, female graduates began menstruating at age twelve and a half, with a minimum age of eight and a maximum age of 25 [in190rer]. A substantial minority of women (40 percent) in the WLS sample have had either hysterectomies (surgical removal of the uterus) and/or oophorectomies (surgical removal of the ovaries) [in122rer]. More specifically, 21 percent of women have had both ovaries removed [in123are], 7 percent have had one ovary removed [in123bre], and 35 percent have had their uterus removed [in123cre]. College graduates are less likely (32 percent) than women without a college diploma (42 percent) to have had surgery to remove reproductive organs [in122rer and gb103red]. The average age at which a woman underwent a hysterectomy was 43 [in124are]. Double oophorectomies were on averaged performed at age 46 [in124bre], and single ones at age 37

[in124rer]. Graduates had their last period at a median age of 50 (though this median age was 43 for women who underwent hysterectomies or oophorectomies) [in120rer, in122rer].

Hormone replacement therapy

Sixty-two percent of women in the WLS have taken hormones for menopausal or aging symptoms [in125rer], though of these, fewer than one in four are currently taking hormones [in203rer, in200rer, in204rer, and in208rer]. The most popular hormone therapies have been estrogen and progesterone together (taken by 73 percent of those who took hormones [in132rer]) and estrogen alone (53 percent [in128rer]), while testosterone has been relatively rare (three percent [in205rer]). Testosterone is also likely to be taken for a shorter period of time (2.7 years on average) than either estrogen alone (11.3 years) or estrogen and progesterone (8.7 years) [in206rer, in207rer, in129rer, in130rer, in133rer, and in134rer]. About two-thirds of women began taking hormones after they had already stopped having periods [in209rer].

The reasons for which the graduates began taking hormones are many. Fifty-seven percent considered their doctor's recommendation to take hormones a "very important" reason [in220rer], and health concerns such as preventing osteoporosis [in212rer] and heart disease [in214rer] were also very important to many women (48 percent and 34 percent, respectively). Forty-five percent of women rate relieving menopausal symptoms such as hot flashes and night sweats as a "very important" reason for initiating hormone therapy [in211rer]. Slightly less often, women listed relieving mood swings, depression, or anxiety as very important (21 percent [in213rer]). Very few women (fewer than seven percent) considered regulating periods, improving sex life, or keeping youthful to be very important reasons for taking hormones [in217rer, in218rer, and in219rer].

Despite the high hopes for good health evidenced in women's initial reasons for taking hormone supplements, 78 percent of those who were once taking hormones have stopped doing so [in222rer], and only nine percent of these have since resumed [in236rer]. Public controversy about the benefits and safety of hormone replacement therapy clearly played a role in women's decisions to discontinue hormones: 61 percent rated news stories on this topic as a "very important" reason for their decision [in232rer]. Indeed, given that the most common age at which women stopped taking hormones was 63 [in223rer], it appears likely that this decision was often made in the immediate wake of the discontinuation (to much media fanfare) of the Women's Health Initiative post-menopausal hormone therapy trial in mid-2002. Fear of possible long term effects (69 percent [in230rer]) and of possible side effects (64 percent [in229rer]) were very important reasons to discontinue hormone therapy for a majority of women, though fewer than 17 percent report actually experiencing undesirable side effects first-hand [in233rer]. Nearly half (49 percent) reported that their doctor's advice to discontinue was very important [in231rer]. A minority of women reported that they stopped hormone replacement therapy because they were feeling better [in224rer], because they felt that the hormones did not help them [in225rer], or because they simply did not feel like taking them [in227rer].

Sexual Activity *John Delamater*

Men

In 2003-2004, the WLS for the first time included a series of questions about sexual activity, administered in the mail questionnaire. Eighty-five percent of the men were married (ic001rer); an additional five percent reported that they had a sexual partner (ic014rer). Asked how often they had

sex (ic017rer), 23 percent of the men reported once a week or more often, 21 percent said two or three times per month, 19 percent said less than once a month, and 12 percent said they had not had sex in the past year. (An additional 16 percent did not answer the question.) Participants who were married or reported a partner were asked how physically pleasurable (ic015rer) and emotionally satisfying (ic016rer) their sexual relationship was in the past year. Of men who answered these questions, responses to the two questions were very similar, with 19 percent saying extremely to both, 44 percent saying very, 22 percent saying moderately, seven percent slightly, and 7 percent not at all. Thus, about two-thirds of the men find their sexual relationship pleasurable and satisfying. If a participant reported that sexual activity had declined or ceased, he was asked a series of nine questions about reasons for that change. Fifty-four percent reported a decline in sexual activity. They were most likely to cite physical factors, including their own (40 percent; ic020rer) or their partner's physical changes (31 percent; ic021rer), or their own illness (27 percent; ic018rer). Thirty-four percent attributed the decline to their partner losing interest (ic023rer).

Women

At the time they completed the questionnaire, 73 percent of the women were married (ic001rer); an additional three percent reported that they had a sexual partner (ic014rer). Asked how often they had sex (ic017rer), 16 percent of the women reported once a week or more often, 16 percent said two or three times per month, 14 percent said less than once a month, and 13 percent said they had not had sex in the past year. (An additional 19 percent did not answer the question.) Participants who were married or reported a partner were asked how physically pleasurable (ic015rer) and emotionally satisfying (ic016rer) their sexual relationship was in the past year. Of women who answered these questions, responses to the two questions were very similar, with 15 percent saying

extremely to both, 37 percent saying very, 27 percent saying moderately, 9 percent slightly, and 12 percent not at all. Thus, one-half of the women find their sexual relationship pleasurable and satisfying, compared to two-thirds of the men. Among women who reported a decline or end to sexual activity, 41 percent said the change was due to their own (27 percent; ic020rer) or their partner's physical changes (39 percent; ic021rer), or to their own illness (16 percent; ic018rer). Thirty-two percent attributed the decline to their own loss of interest (ic022rer), and 25 percent to their partner losing interest (ico23rer). Reported frequency of sexual activity, satisfaction with the sexual relationship, and reasons why sexual activity declined or stopped were not related to years of education completed (gb103red). Thus, both men and women attribute declining frequency to physical factors, although men are much more likely to cite a partner's loss of interest (35 percent) than women are (10 percent).

Frequency of sexual activity

Frequency of sexual activity is related to gender. Men are significantly more likely to report frequent sexual activity than women. Frequency of sex is also positively related to physical health (gx201re); men and women who report excellent or very good health report having sex more often. On the other hand, participants who attain high scores on a measure of depression (q1fw: a-t) report less frequent sexual activity. Finally, those who find their marriages satisfying (mean of relsat1 to relsat6) have sex more often. Within the age range of WLS participants, 62 to 67, frequency of sex is not related to age (RAGE), nor is it related to education (gb103red).

Disability *Rob Warren and Reiping Huang*

Early in the 2004 WLS graduate telephone interview participants were asked whether they had any physical or mental illnesses or disabilities that limit what they are able to do either on or off the job. At the end of the employment history module of that interview, participants who reported any disability were then asked about the two most serious illnesses or disabilities that limit what they are able to do. Finally, in the sub-module on disability benefits participants were asked about the most serious illness or disability that caused them to receive disability benefits.

About one in four WLS graduates reported at least one physical or mental illness or disability that limits what they are able to do either on or off the job; another one in ten reported a second physical or mental illness or disability. Finally, one in five participants reported an illness or disability for which they had received disability benefits.

The most commonly reported illnesses or disabilities were diseases of the musculoskeletal system and connective tissues. Although participants reported a variety of such diseases, rheumatoid arthritis was most frequently reported. The second most commonly reported class of illness or disability consisted of diseases of the circulatory system—most frequently heart disease. For example, almost one in ten participants reporting an illness or disability that caused them to receive disability benefits listed heart disease as the most serious of their illnesses or disabilities. The third most commonly reported class of illness or disability consisted of operations—particularly surgery on joint structures.

Other frequently reported illnesses or diseases that limit what participants can do include: diseases of the nervous system and sense organs (most commonly multiple sclerosis), neoplasms (particularly malignant neoplasms), and injuries and poisonings (particularly back pains and strains). Other frequently reported illnesses or diseases that led participants to receive disability benefits included: diabetes, diseases of the nervous system and sense organs, and diseases of the respiratory system (most commonly asthma).

Childhood Abuse *Kristen Springer*

Both men and women responded to questions about abuse experienced during childhood. Childhood abuse was fairly common among graduates. Almost 30 percent of women and almost 35 percent of men reported experiencing at least “a little” verbal abuse from one or both of their parents [iv208rer, iv211rer]. Men were also more likely to report having experienced at least “a little” physical abuse by one or both parents — with 38 percent of men and 33 percent of women reporting physical abuse [iv209rer, iv210rer, iv212rer, iv213rer]. Conversely, women graduates were more likely than men to report being sexually abused as a child. Approximately nine percent of women reported at least “a little” sexual abuse from anyone, compared to under three percent of men [iv214rer, iv215rer, iv216rer, iv217rer, iv218rer, iv219rer]. Almost one-fourth of participants reported experiencing more than one type of abuse, with more men reporting two or more types of abuse [iv214rer, iv215rer, iv216rer, iv217rer, iv218rer, iv219rer iv209rer, iv210rer, iv212rer, iv213rer iv208rer, iv211rer]. Three percent of women and one percent of men reported experiencing physical, sexual, *and* emotional abuse as children [iv214rer, iv215rer, iv216rer, iv217rer, iv218rer, iv219rer

iv209rer, iv210rer, iv212rer, iv213rer iv208rer, iv211rer]. We also asked one question about witnessing physical abuse and found that 14 percent of participants reported seeing a parent or sibling being beaten at home [q7sr_b]. Slightly more men than women reported witnessing this family violence [q7sr_b].

In general, we found that the graduate's education was not related to the likelihood that they were abused as children. However, there were two exceptions. Better educated men were less likely to have experienced parental verbal abuse as children, [iv208rer, iv211rer] and better educated women and men were less likely to have experienced parental physical abuse as children [iv209rer, iv210rer, iv212rer, iv213rer].

Depression *Shlomit Bornstein*

Both men and women responded to a series of questions about their history of depression symptoms (that lasted for two weeks or more) [GU002RE, GU001RE]. The same questions were asked of the graduates and their spouses, and overall the answers were comparable. One out of five graduates has experienced a period of depression, but for a quarter of these individuals the experience was driven by external causes such as alcohol, drugs or illness [gu003re, GU001RE].

Women graduates have suffered from depression substantially more than men graduates have. A much larger proportion of women (27 percent) than men (15 percent) reported a history of depression symptoms, and yet women's depression was less likely (27 percent) than men's (37

percent) to be sometimes or always caused by external factors such as illness, alcohol, medications, or drugs [gu003re, GU001RE, sexrsp].

Reported depression is clearly a mid-life phenomenon for the graduates. Of those who reported ever being depressed, only one percent experienced their worst or most recent depression period during their teen years, and exactly half of male and female graduates told us they have experienced their worst or most recent period by age 51 [gu004re, GU001RE]. Both in 1993 and in 2004, roughly one-third of men and women graduates reported having their worst bout of depression when they were age 30-45 [gu004re]. While half of men and women (55 percent and 49 percent respectively) who were *ever* depressed said that they had just one such spell, an additional 41 percent of women graduates and 34 percent of men reported two to five such experiences [gu013re].

Similarly to the graduates, a sizeable minority of grads' spouses (17 percent) indicated that they had experienced depression that was not related to drug or alcohol use [au001re, au003re]; that is, they had a time in their lives lasting two weeks or longer when nearly every day they felt sad and lost interest in their daily activities and hobbies. Like the graduates, a higher proportion of women (27 percent) than men (16 percent) reported ever having experienced these feelings. Unlike the graduates, the proportions of men and women whose periods of depression were unrelated to external causes such as alcohol or illness were the same (three out of four participants who reported periods of depression, regardless of sex) [au003re, au001re, sexrsp]. Despite the older age of some of the spouses at the time of interview, age 50 was the median age for graduate spouses' worst or most recent periods of depression, the same as among graduate participants [au004re, au001re].

Psychological Well-Being - Tetyana Pudrovska

Psychological well-being of the WLS graduates was assessed with the Ryff (1989) scale. In 1993, a series of 42 items measured individuals' Autonomy (i.e. self-determination and independence) [mn001rec, mn002re], Environmental Mastery (i.e. individuals' ability to create environments suitable to their personal preferences) [mn010rec, mn011re], Personal Growth (i.e. a continuous development of one's potential) [mn019rec, mn020re], Positive Relations with Others (i.e. warm, trusting interpersonal bonds) [mn028rec, mn029re], Purpose in Life (i.e. a sense of directedness, intentionality, and meaning to life) [mn037rec, mn038re], and Self-Acceptance (i.e. holding positive attitudes toward oneself) [mn046rec, mn047re]. In 2004, the six dimensions of psychological well-being were measured with a series of 31 items: 12 newly added items and 19 items repeated from the 1993 questionnaire.

Overall, both male and female graduates report high levels of psychological well-being. Yet, gender differences are also evident. Consistent with the 1993 patterns, men in 2004 had significantly greater average Autonomy [in001rec, in002re] scores than women. In contrast, women reported higher levels of Environmental Mastery [in010rec, in011re], Personal Growth [in019rec, in020re], Positive Relations [in028rec, in029re], and Purpose in Life [in037rec, in038re]. Self-Acceptance [in046rec, in047re] did not show gender variation.

Additionally, psychological well-being tends to vary by education. While the levels of Positive Relations with Others were similar across the four educational groups, men's and women's scores on other dimensions revealed a tendency to grow as educational attainment increased, so that individuals

with 16 years of education or more reported the greatest levels of well-being. These trends were evident both in 1993 and 2004.

A longitudinal comparison of the 19 repeated items indicates that both men and women reported slightly lower levels of Autonomy, Personal Growth, Purpose in Life, and Self-Acceptance in 2003-05 when they were 64-65 years old relative to their self-reports in 1992-93 at ages 53-54. Environmental Mastery has increased significantly for both male and female graduates, while the Positive Relations score remained basically unchanged.

Caregiving - Erica Siegl and Jane Piliavin

Few aspects of the caregiving roles fulfilled by WLS graduates have changed since 1993. In 1993 and again in 2004, one-third of graduates said that they had *ever* provided care to a friend or family member with a limiting condition [rv001re/ gv001re]. In contrast, the number of graduates who reported providing care within the last 12 months nearly doubled from 13 percent in 1993 [rv017re] to 25 percent in 2004 [gv016res]. Also consistent with our findings in 1993 and with traditional gender role socialization, we found that a majority, 70 percent, of caregivers were female [sexrsp by gv001re]. In both 1993 and 2004 the most common recipient of care was the graduate's mother. For most graduates, their caregiving role ended with the death of the recipient.

Religion - Luke Piefer and Justin Resnick

The 2004 data show that graduates remain relatively stable in their religious preferences. Although several dozen different religious preferences and specific denominations are represented in our sample, a less superficial analysis reveals remarkable homogeneity. In 1975, 1993, and 2004, approximately 40 percent of graduates were Catholics, about half identified themselves as Protestants, and 1 percent were Jewish [relr75, rl001re, gl001re]. Throughout the years of the survey, about half of all Protestants were Lutherans, who thus accounted for more than one-quarter of all graduates; the next most common denomination was Methodist, accounting for another seven percent of the total sample. In 2004, about two out of three graduates maintained the exact same religious preference that their family had when they were in high school [relfml]; changes in specific denomination or specificity in reporting account for most of the changes.

In 1993 and 2004, about 7 percent reported that they had no religious preference, down from almost 10 percent in 1975, but still higher than the 2.5 percent who in 1975 reported having grown up in a family without a religious preference. Male graduates have always been slightly more likely than women to report having no religious preference; in 1993 and 2004, about nine percent of men and just over five percent of women responded this way. The corresponding figures in the 1975 data are 13 percent and seven percent, respectively. Not surprisingly, a large majority of graduates (86 percent) had the same religious preference as their spouses in 1993.

The graduates have also shown stability in their religious attendance through the years. In any given wave, about 50 percent report attending religious services once a week or more in the past year,

which we term “regular” attendance. There was typically some change in which participants attended regularly from one wave to the next – about 40 percent reported attending regularly both in 2004 and 1993, and 40 percent did so both in 1993 and 1975 [bkxr13, r1004rec, g1004rec]. The other 10 percent who attended regularly in each wave therefore must have not attended regularly at some point. Similarly, 34 percent of participants reported regular attendance in all three waves. Again, the other 16 percent of regular attendees clearly changed their frequency of attendance across time.

In each wave, just under 45 percent of men reported regular church attendance, while the percent of regular attendees among women ranged from 53 percent in 1993 to a high of 59 percent in 1975. The proportion of graduates not attending any religious services in the past year increased from 6 percent in 1975 to about 14 percent in 1993 and 2004. The proportion never attending is higher for males than females in each wave. In 1975, eight percent of males never attended; in 1993, 16 percent of males never attended; in 2004, 19 percent of males never attended. For females, five percent never attended in 1975, 12 percent in 1993, and 11 percent in 2004. In other words, there has been a general increase in participants who never attend services, but more of these people are male than female. In addition, the proportion of males never attending increased monotonically from 1975 to 2004, while the proportions for women stabilized between 1993 and 2004.

In 2004, graduates were given the opportunity to rank how strongly they hold certain values regarding religion and spirituality [il001rer—il012rer], how often they seek comfort through certain religious or spiritual channels [il013rer—il016rer], whether they agreed that the Bible was God’s word exactly [il017rer], and whether it is the answer to all human problems [il018rer]. About 40 percent of graduates agreed or strongly agreed with the two statements about the Bible, while 25 percent

disagreed or strongly disagreed, and the remaining graduates opted for neutrality. About 55 percent reported that they often sought comfort through prayer [il013rer], while just eight percent often consulted a religious or spiritual advisor [il016rer]. The frequency of meditation [il014rer] and attending religious services often to seek comfort [il015rer] fell between these two extremes.

With regard to questions about religious values, graduates generally indicated that they were grounded in religion and spirituality, but were unlikely to regard themselves as very religious. There were a few exceptions; about 20 percent of graduates said religion [il003rer] and spirituality [il004rer] were extremely important in their lives, and the same proportion indicated that obtaining religious instruction for their children [il005rer] was extremely important. On the other hand, from 23 to 29 percent of graduates felt that it was not at all important to be with other people who hold the same religion [il007rer], marry people who hold the same religion [il008rer], or stick to a particular faith [il009rer].

Masculinity – *Kristen Springer*

A person's idea about what makes someone "masculine" is one component of identity that may impact various facets of a man's adult life—including health. We measured several aspects of masculinity ideals in one-half of the WLS sample. The areas of masculinity ideals we covered included people's perceptions of how men and women differ as well as how men "should" or "should not" express their emotions. Male participants generally agreed that men and women should share housework if both spouses work full-time. Specifically, 58 percent of men agreed that men should do

as much housework as their wives if their wives work full-time [ivm05rer]. However, men were split about whether they agreed that it is much better for everyone if the man earns the main living and the woman takes care of the family and home [ig307rer]. In response to this question, 35 percent of men agreed men should earn the main living and 30 percent disagreed, with the rest neither agreeing nor disagreeing. Over one-third of male respondents agreed that men have greater sexual needs than women [ivm06rer], whereas only 27 percent of men agreed that being larger, stronger-looking, and more muscular makes men more attractive to women [ivm09re].

Most WLS male participants did not believe in stereotypical masculine ideals about showing emotions. For example, only 12 percent of men agreed that when a man is feeling pain, he should not let it show [ivm07rer]. Over one quarter of WLS men agreed that in some kind of situations a man should be ready to use his fists [ivm08rer].

WLS women were also asked the same questions about masculinity ideals. As a general statement, WLS women were less likely than WLS men to agree with the statements about masculinity. For example, only 20 percent of women agreed—compared to 50 percent who disagreed—that it is much better for everyone if the man earns the main living and the woman takes care of the family and home [ig307rer]. Only seven percent of WLS women agreed that when a man is feeling pain he should not let it show [ivm07rer]. In addition, only seven percent of WLS women agree that in some kind of situations a man should be ready to use his fists [ivm08rer]. WLS women were *more* likely than WLS men to agree that men have greater sexual needs than women (41 percent of women compared to 30 percent of men) [ivm06rer]. In terms of housework, approximately 58 percent of *both*

WLS men and women agreed that men should do as much housework if their wives work full-time [ivm05rer]

The masculinity scale is related to education and self-reported health. Specifically, men with higher levels of education were less likely to subscribe to an array of stereotypical masculinity ideals, perhaps indicating a greater exposure to alternative masculinity standards through school [ivm02rer, ivm03rer, ivm04rer, ivm05rer, ivm06rer, ivm07rer, ivm08rer, ivm09rer, ig307rer, gb103red] In addition, analyses suggest stronger masculine attitudes among men are related to poorer general health and a lower likelihood of accessing preventive health care, such as getting a prostate exam in the past 12 months [ivm02rer, ivm03rer, ivm04rer, ivm05rer, ivm06rer, ivm07rer, ivm08rer, ivm09rer, ig307rer, ix001rer ix12m1re].

Social Participation - *Erica Siegl and Jane Piliavin*

We predicted in 1975 that participants were at the stage in their life-cycle when interest and participation in community affairs was likely to be greatest. At this time most participants were ages 35-36, and many of them had school-aged children. In 1993 we noted that participants' patterns of social and community activities changed as they neared the end of their child-rearing years. We again see that the trend towards declining participation continues with the 2004 surveys.

Involvement in youth oriented organizations declined significantly after 1975. Indicative of this trend, participation in parent-teacher associations peaked in the 1975 survey when 40 percent of

graduates' reported at least some involvement [sopar6]. Participation dropped to 14 percent in 1993 [mz008rer] and 3.5 percent in 2004 [iz008rer]. Similarly, participation in youth groups dropped by half from 20 percent in 1975 [sopar11] to less than 10 percent in both 1993 and 2004 [mz0013rer, iz013rer]. Involvement in other community, professional, and special interest organizations also declined sharply between 1993 and 2004. Participation in sports teams dropped from 22 to 13 percent [mz011rer, iz011rer] and hobby groups declined from 27 to 17 percent [mz018rer, iz018rer] between 1993 and 2004. Perhaps reflecting retirement trends, graduates reporting participation in business or civic organizations decreased from 21 to 11 percent [mz007rer, iz007rer], and participation in professional groups also dropped from 38 to 20 percent [mz014rer, iz014rer].

Exceptions to the trend of declining participation include three organizations where participation increased from 1975 to 1993 and remained roughly stable or declined only slightly (less than 2 percent) between 1993 and 2004. Included are charity organizations [sopr15, mz017rer, iv017rer] with nearly 25 percent of graduates indicating at least some involvement in 1993 and 2004, neighborhood improvement groups [sopr14, mz016rer, iz016rer] and veteran's organizations [sopar3, mz005rer, iz005rer] with approximately 10 percent participating. For a few other organizations, participation levels remained fairly stable across time. Involvement in groups affiliated with religious institutions [sopar1, mz002rer, iz002rer] hovered around one-third across all three waves, while community centers [sopar7, mz009rer, iz009rer], country clubs [sopr10, mz012rer, iz012rer], and political organizations [sopr13, mz015rer, iz015rer] maintained uniformly low rates of participation – around seven percent. Finally, participation in religious institutions, such as a church or synagogue, increased between 1993 and 2004 from 62 to 74 percent [mz003rer, iz003rer].

Participation varied between men and women in some fairly predictable ways. Men reported greater participation in labor unions [sopar2, mz004rer, iz004rer], veterans' organizations [sopar3, mz005rer, iz005rer], sports teams [sopar9, mz011rer, iz011rer], business or civic [sopar5, mz007rer, iz007rer] and professional organizations [sopr12, mz014rer, iz014rer] across all three waves. In contrast, women reported significantly more involvement in hobby groups [mz018rer, iz018rer], charity/welfare groups [sopr15, iz017rer, mz017rer] and religious affiliated organizations [sopar1, mz001rer, iz001rer] across all three waves. In 1975, more women than men also reported involvement in parent-teacher organizations [sopar6], although this gender difference disappears in 1993 and 2004 [mz008rer, iz008rer]. Nearly equal numbers of male and female graduates report being involved with political groups [sopr13, mz015rer, iz015rer], neighborhood improvement organizations [sopr14, mz016rer, iz016rer] and community centers [sopar7, mz009rer, iz009rer] in each year.

Participation varied among graduates according to their level of educational attainment. Across all three survey years, education showed a strong positive relationship with participation in organizations related to occupations such as professional [sopr12, mz014rer, iz014rer] and business or civic organizations [sopar5, mz007rer, iz007rer]. But, in all three waves, high school graduates and respondents with a professional or graduate degree reported greater involvement with labor unions than respondents with either some college or a bachelor's degree [sopar2, mz004rer, iz004rer]. Graduates with higher levels of education also tended to report greater involvement with political groups [sopr13, mz015rer, iz015rer], charity/welfare [sopr15, iz017rer, mz017rer] and neighborhood organizations [sopr14, mz016rer, iz016rer]. In 1993 and 2004, education appears to be positively related to involvement with church affiliated organizations [sopar1, mz002rer, iz002rer]. Graduates' educational attainments appeared unrelated to participation in parent-teacher organizations [sopar 6,

mz008rer, iz008rer], sports teams [sopar9, mz011rer, iz001rer], fraternal organizations or community centers [sopar7, mz009rer, iz009rer].

Voting and Political Leanings - Hanna Grol-Prokopczyk

The WLS graduates are a politically engaged group, with a large majority (84 percent) reporting that they voted in the November 2002 election, either at the polls or by absentee ballot [iz101rer]. Higher levels of education were associated with an increased probability of voting in the election [iz101re and gb103red]. Ninety-one percent of graduates with a bachelor’s degree or higher voted in 2002 compared to 79 percent of graduates who did not continue their education after high school. Of graduates who reported on their political leanings (iz103rer), there were more conservatives (46 percent) than liberals (18 percent), though these proportions varied significantly by education and gender. Figure 21 shows the proportion of graduates who consider themselves, liberal, middle of the road, or conservative by gender and level of education.

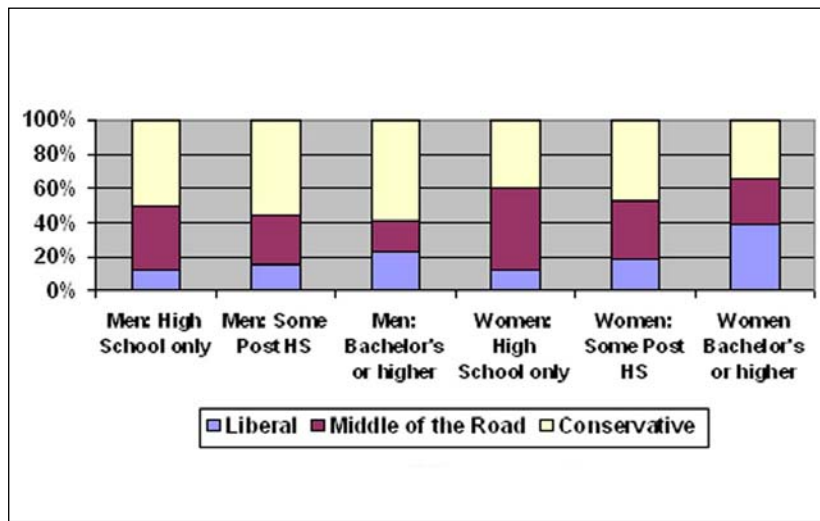


Figure 21: Political Leanings by Gender and Education

Overall, men are more likely to label themselves as conservative (54 percent) than women (39 percent). This difference is largest among graduates who completed college. At the same time, women are more likely than men to say they are liberal, and this difference, too, is largest among graduates who completed college. Regardless of gender, graduates are less likely to report that they are “middle of the road” as education increases. In fact, liberalism as well as conservatism increases with level of completed education. Whereas 38 percent of women with at least a bachelor’s degree label themselves as being liberal, only 12 percent of women with only a high school degree say they are liberal. Among men, the difference between high school graduates and college graduates in labeling themselves as liberal is smaller: 12 percent versus 23 percent (iz103rer and gb103red). As we might expect given men’s greater political conservatism, more men (50 percent) than women (44 percent) identify as Republican or Republican-leaning, and more women (40 percent) than men (33 percent) identify as Democrats or Democrat-leaning [iz102rer].

Social Relationships - *Erica Siegl and Jane Piliavin*

The availability of social relationships for WLS graduates appears not to have changed significantly since 1993. In both 1993 and 2004, approximately 85 percent of graduates report having a family member – and nearly three-quarters report having a friend outside of their family – in whom they can confide their personal feelings and share concerns. In 2004, women were again more likely than men to report having either a family member or friend outside of their family in whom they can confide (83 percent versus 61 percent) [iv054rer by sexresp]. The gap between men and women increased slightly as the number of men who report having a friend outside the family declined slightly

(sixty-seven percent to 62 percent) between [mv054] to 2004 [iv054rer]. There were essentially no educational differences in the share of graduates who reported having a family member in whom they could confide.

Volunteering - *Erica Siegl and Jane Piliavin*

The Class of 1957 continues to give back to their communities. Over the last decade, 57 percent of graduates report spending some time volunteering [gv101re], and 15 percent volunteered regularly across the whole time [gv102re]. Over one-third (34 percent) of graduates said they spent time volunteering in the last 12 months [gv103re], and half of these volunteers said they gave an average of 10 or more hours of their time each month [gv111re]. Volunteers most frequently said they worked for a religious organization (sixty percent of volunteers [gv104re]), followed by national or local organizations (47 percent [gv108re]), and education or school groups (29 percent [gv105re]). More women than men report volunteering over the past 10 years (60 percent versus 52 percent), although men and women volunteered in nearly equal numbers during the past 12 months [gv010re, gv103re by sexresp]. Ninety percent of volunteers were either very or completely satisfied with the results of their work [gv114re].

There is a positive relationship between education and volunteering during the past 10 years (gv101re by gb103red). Around half of graduates with a high school degree and 56 percent of graduates with some college report volunteering in the past 10 years compared to 72 percent of graduates with a college degree and 76 percent of graduates with a graduate or professional degree. Graduates with higher levels of education also report volunteering more regularly during this time

(gv102re by gb103red). In contrast, there was no difference by education level in volunteering over the last 12 months (gv103re by gb103red).

The reasons people volunteer are varied, and men and women differ in their reasons for volunteering. Nearly three-quarters of WLS graduates agree that it is important to help others [iz226rer]; around two-thirds named compassion for people in need [iz222rer]; and a little more than half selected feeling better about themselves [iz2225] as important reasons for volunteering. Significantly more women than men rated these reasons as being very important [iz226rer by sexrsp and iz222rer by sexresp and iz225rer by sexresp]. In contrast, grads were less likely to endorse learning to get along with a variety of people, working through personal problems, or having an escape from personal troubles as important reasons for volunteering [IZ221rer, IZ228rer, IZ229rer]. Forty-five percent of graduates did not see volunteering as at all important to helping them work through personal problems [iz221rer] or as a good means of escaping from their own troubles [iz228rer]. Motivations for volunteering also vary by education. Graduates with a high school diploma or some college are more likely to endorse escaping personal troubles as a reason for volunteering than graduates with a college degree or more (iz228rer by gb103red), who in turn are more likely to support the importance of helping others as a reason for volunteering (iz226rer by g103red).

The importance of volunteering for graduates' self-identity also differs between women and men. Overall, 23 percent of graduates strongly agree with the statement that "volunteering is an important part of who I am" [iz323rer]. Twice as many women as men (8 percent versus 4.5 percent) rated their identity as volunteer as very important to them [in504rer by sexresp].

Fewer graduates agree that the views of family and friends towards community service are important reasons for volunteering. Fifty percent of graduates indicated that the value people close to them place on community service is not important [iz220rer], and similarly 46 percent said the importance of volunteering to the people they know best is not an important reason for volunteering [iz227rer].

Blood Donations - Erica Siegl and Jane Piliavin

Nearly 50 percent of graduates have donated blood for use by others at least once in their lifetime [gv116re], but only 17 percent donated blood for use by others in the past 12 months [gv118re]. Twenty-six percent said they have given blood a total of five or more times [gv117re]. Significant gender differences in blood donation appear in the WLS sample. Across their lifetime, more men than women said they have donated blood for use by themselves or others [gv115re and gv116re by sexresp], and men also report donating more often—77 percent of male donors have given 5 or more times compared to 64 percent of women donors [gv117re by sexresp]. There were no gender differences in blood donation during the past 12 months. There is a significant positive relationship between education and donating blood for use by others (gv116re by gb103red), but not with donating blood for use by oneself (gv115re).

Computer Ownership and Internet Use - *Jeremy Freese*

If one looks at larger trends in American society since 1993, few are dramatic as the spread of Internet access into homes. Considering lingering stereotypes about Internet being mainly a younger person's technology, a large portion of WLS graduates are actively online. Less than a quarter of WLS graduates have no personal computer in their homes [gm001he]. For those participants who do have a personal computer in their homes, over 90 percent have household Internet access, and more than five out of six WLS graduates who have household Internet access use the Internet at least sometimes themselves [gm001he, gm016he, gm044re]. In all, almost 60 percent of WLS graduates use the Internet from home, and over one-third of all participants use the Internet from home for at least 2 hours per week [gm044re, gm046re, gm047re].

In the early days of home computing, it was primarily a male pastime, but the rise of the Internet has coincided with a rise in women using computers. Among WLS graduates, the percentage of men using the Internet is only slightly higher than the percentage of women who do so (60 percent versus 57 percent) [gm044re]. For participants who do use the Internet, women and men are both equally likely to use the Internet from home for more than two hours per week [gm046re, gm047re]. That said, the WLS does provide evidence that men and women do use the Internet differently. Men spend more time using the web than women do (6.4 hours versus 4.4 hours), but women spend more time than men doing e-mail (4.7 hours versus 4.2 hours) [iz214rer, iz217rer].

The chance that a WLS participant does have the Internet varies considerably by education. Seventy-eight percent of WLS participants with college degrees have the Internet in their homes and

use it, compared to only 47 percent of participants who did not attend college [gm044re]. Partly this difference may reflect differences in the probability of being exposed to the Internet at work, as twice as many college graduates report using the Internet in their current or most recent job compared to those who did not attend college (53 percent versus 24 percent) [gg203jj, gg205jj]. Interestingly, while education is strongly associated with whether someone does or does not use the Internet at home, education is not associated with the amount of time those who do use the Internet spend using it; in other words, Internet users with only a high school education use the Internet for approximately the same number of hours per week as those with college degrees [gm046re, gm047re].

Once people get the Internet in their home, they appear to keep using it. Only 3 percent of WLS graduates with computers report having discontinued Internet access [gm016he, gm018he]. As for the reasons why some households do not have computers and the Internet, graduates themselves emphasize their choice in the matter more than either a lack of resources or skills. About a third of participants say the reason for either not having a computer or not having the Internet is that they do not think it would be useful, compared to 19 percent who say they would not know how to use the computer or Internet and 12 percent who say they are too expensive.

End of Life Preparations - *Dmitry Khodyakov and Deborah Carr*

The majority (60.8 percent) of WLS graduates report that they have made some plans for the types of medical treatments they want (or do not want) to receive if they become seriously ill [gy004re/wpa1]. Although the majority of both men and women report that they have made plans, a

higher proportion of women than men did so (64 percent versus 57 percent, respectively). Nearly three-quarters (74 percent) have discussed their health care plans with others [gy010re/wpa4], with women slightly more likely than men to do so (77 percent and 70 percent, respectively).

Of those who have discussed their health care plans, roughly equal proportions did so with one and two people (38 percent), while 24 percent discussed plans with three people [gy011rec]. A slightly higher proportion of women than men had discussions with two people (41 percent and 34 percent, respectively) and three people (30 percent and 17 percent, respectively). At the same time, a higher proportion of men than women have discussed their plans with just one person (49 percent and 29 percent). Out of those people who had such discussions, 73 percent shared their plans with spouses [gy012rec] and 62 percent with children [gy014rec]. Although a higher proportion of men than women had discussions with spouses (83 percent and 65 percent), a higher proportion of women than men had discussed their plans with children (72 percent and 48 percent). This gender gap reflects gender differences in marital status, where men are much more likely than women to be still married in their 60s. Roughly 98 percent of participants reported that their loved ones (both spouses and children) understand their plans either somewhat or extremely well [gy013rec and gy015rec]. Again, a slightly higher proportion of men than women reported that their spouses understand their plans extremely well (79 percent and 76 percent), while a slightly higher proportion of women than men think that their children understand their medical plans extremely well (69 percent and 58 percent).

Slightly more than half (52 percent) of the graduates have appointed a durable power of attorney for health care (DPAHC) [gy022re/wpb1]. A DPAHC is a person who is legally permitted to make decisions about health care treatment for a patient, in the event the patient is incapacitated and

cannot make those decisions for himself or herself. Of those who named a DPAHC, 56 percent named their spouse, while 35 percent gave this authority to their child, child-in-law, or grandchild. Roughly equal proportions named other relatives (5 percent), or non-family members (4 percent). Less than 3 percent named siblings and some other relative. Similarly, less than 2 percent named their attorney or a friend as DPAHC, while less than 1 percent appointed health care providers or clergy as their health advocate [gy025re/wpb2]. A much higher proportion of men than women report that their spouses have such authority (67 percent versus 47 percent), reflecting that fact that men are more likely than women to be currently married at ages 64-65. In contrast, women are more likely than men to name one of their children as DPAHC (43 percent versus 24 percent).

Graduates who had *not* appointed a DPAHC were asked to name the person they *would* pick, if they were to appoint a health proxy. Graduates' hypothetical choices closely mirror the actual choices among those persons who did name DPAHC. Nearly 56 percent said they would pick their spouse, 36 percent would appoint their children, children-in-law, or grandchildren, 6 percent would name other relatives, and 1 percent would choose their friends. Less than one percent of graduates say they would select their healthcare professionals, attorneys, or religious advisers and clergy [gy026re/wpb3]. Again, a higher percentage of men than women reported that they would pick their spouses (70 percent versus 43 percent), while a higher percentage of women than men would select their children (48 percent versus 22 percent).

Graduates also were asked whether they have a living will. A living will is a formal document that specifies the medical treatment a dying patient would like to receive in the event that he or she is incapacitated. Slightly more than half (54 percent) of the graduates report that they have a living will

[gy030re/wpc1]. This is lower than the proportion of the participants who say that they have made plans for their medical treatment (54 percent and 61 percent, respectively), suggesting that older adults may formulate plans, but do not necessarily state them formally in a written document. Of those who have a living will, 47 percent report that they have given these written instructions to spouses [gy032rec] (with more men (57 percent) than women (38 percent) doing so) and 61 percent to children, grandchildren, and children-in-law [gy033rec]¹⁶.

Quality of Spouse's Death - *Dmitry Khodyakov and Deborah Carr*

Graduates who have experienced spousal bereavement in the ten years prior to interview were asked to characterize the death of their husband or wife. A total of 409 graduates (6 percent) are recent widows or widowers. Roughly one-third of them report that their spouse died suddenly. Of the two-thirds (n=280 graduates) whose spouse died after some forewarning period, 45 percent report that their spouse spent his or her final days at home, while 40 percent were in the hospital, 8 percent in a nursing home, 5 percent in hospital hospice, and 1 percent were in the care of in-home hospice [gy220sp/was4]. When asked about their deceased spouse's death, 36 percent of bereaved graduates say their spouse experienced no pain, 26 percent reported severe pain, 24 percent reported moderate pain, and 15 percent said their spouse had slight pain during the last week of his/her life [gy221sp/was5].

¹⁶ Percentages do not add up to 100 because participants can give instructions to several people. Also see the coding note for gy032rec and gy033rec.

The majority (59 percent) of recently widowed graduates report that their spouses had named a DPAHC [gy225sp/wcs1]. Of those whose spouses had named a DPAHC, the vast majority (90 percent) said that they themselves were named. Only 6 percent said that their spouse had appointed a child, less than 2 percent had appointed other family members, and less than 1 percent had appointed a physician or attorney as their advocate [gy226sp/wcs2]. Of those whose spouse had appointed a DPAHC, the majority (roughly 60 percent) believe that the DPAHC had no effect on their spouse's dying experience, 27 percent said that it helped a lot, and 10 percent said it helped a little. Only 3 percent said it caused problems, with nearly all saying the problems were minor. Less than 1 percent of widowed graduates could not assess the role of the DPAHC in the last week of their spouse's life [gy227sp].

Slightly more than half of bereaved spouses (57 percent) said that their spouse had a living will [gy228sp/wcs3]. When asked to evaluate how effective the living will was at the end of life, 53 percent felt that it had no effect, 32 percent believe that it helped a great deal, and 11 percent say it helped a little. Only three percent believe it caused some problems; only a handful said it created "major problems" in the last week of their spouse's life [gy229sp/wcs4].

Nearly two-thirds (66 percent) of the bereaved spouses report that their spouses were able to make medical decision during the last week of their lives [gy230sp/wcs5]. A similar proportion (63 percent) said that their spouses had specific wishes about their medical treatment [gy231sp/wcs6]. Of those who said their spouse had specific preferences, the overwhelming majority (87 percent) report that the doctor consulted with them to make sure that the medical care being offered matched with the patient's wishes [gy232sp/wcs7]. Nearly all recent widows and widowers whose spouse had a living

will (93 percent) report that their spouse received care that was consistent with his or her wishes [gy233sp/wcs8]¹⁷.

Quality of Parent's Death - Dmitry Khodyakov and Debby Carr

Graduates who have lost a parent in the ten years prior to interview were asked to describe the situation surrounding the most recent parental death. Approximately 1,806 graduates (25 percent) were asked about a parental death during that time period¹⁸. Roughly half (52 percent) of parentally bereaved graduates report that their parent spent his or her last days at a nursing home, while 23 percent were in the hospital, 19 percent were at home, 4 percent spent their final days in hospital hospice, 2 percent were receiving in-home hospice care, and less than 1 percent spent their final days somewhere else [gy403pa/wap4].

Most graduates report that their parent was in at least some pain at the time of death. 36 percent said their parent experienced no pain, 21 percent reported slight pain, 20 percent indicated moderate pain, and 13 percent said their parent had severe pain during the last week of life. Ten percent did not know the level of pain their parents had during the last week of life [gy404pa/wap5].

¹⁷ Widows and widowers did not differ significantly in their descriptions of the “quality of death” experienced by their spouses.

¹⁸ Due to sampling requirements all participants who experienced a father's death in the past 10 years and half of the participants who experienced their mother's death in the past 10 years were asked about death quality.

Most bereaved graduates (roughly 80 percent) report that their parent had appointed the DPAHC [gy407pa/wcp1]. When the parent did have a DPAHC, roughly half (49 percent) named a spouse and 46 percent named a child, grandchild, or child-in-law. Two percent named other relatives and non-relatives, and 1.3 percent named both spouse and children [gy408pa/wcp1a].

The majority (52 percent) of graduates reported that the DPAHC had no effect on the quality of care delivered to their parent, while 32 percent have said that it helped a lot, and 10 percent said it helped a little. Only 3 percent said that the DPAHC caused problems during the last week of the spouse's life. Finally, 2 percent could not evaluate the role the DPAHC of a parent played in the last week of his/her life [gy409pa/wcp2]. While a higher proportion of men than women report that the DPAHC had no effect (56 percent versus 50 percent, respectively) and helped a little (11 percent versus 9 percent), a higher proportion of women than men felt that the DPAHC helped a great deal (37 percent versus 26 percent, respectively).

Nearly 60 percent of those who lost a parent say that their parent had a living will [gy410pa/wcp3]. A significantly higher proportion of women than men report that their parent had a living will (63 percent versus 56 percent). Roughly half (52 percent) of these bereaved children say that the living will had no effect on their parent's end-of-life care, while one-third feel that it helped a great deal, and 10 percent say that it helped a little. Two percent believe it caused some problems in the last week of life, and two percent could not estimate the role of the living will [gy411pa/wcp4]. Although the majority of the bereaved children report that both the DPAHC and living will had no effect on the parents' last weeks of life, there is gender difference in opinions when it comes to the role of DPAHC, but this gender difference disappears when we look at the role of the living will.

Half of the bereaved graduates report that their deceased parent was not able to make medical decision during the last week of life [gy412pa/wcp5]. Half of the graduates also say that their parent had specific wishes about their medical treatment, while ten percent reported that they did not know about specific wishes of their deceased parent [gy413pa/wcp6]. Of those whose parents had clear health care preferences, a full 92 percent believe that their parent received care that was consistent with his or her wishes [gy414pa/wcp8].

Long Term Care Insurance – *Dmitry Khodyakov and Deborah Carr*

In the mail survey, WLS graduates were asked whether they currently have or ever have had long-term care insurance. This is insurance that helps defray the costs for care in a nursing home or long-term care facility. Roughly three-quarters (72 percent) report that they have never had long term care insurance that specifically covers care at home and in nursing home [ixhi58re]. A slightly higher percentage of women (73 percent) than men (70 percent) have never had such insurance.

When asked about the reasons for *not* having long term care insurance, half (47 percent) indicated that the premiums were too high [ixhi59re], 35 percent reported that they did not think they needed it [ixhi60re], 23 percent indicated that they thought it was not a good use of money [ixhi62re], 22 percent stated that they have never thought about it [ixhi61re], 6 percent reported that they were not eligible for long term care insurance [ixhi63re], and 6 percent indicated some other reason for not

having such insurance [ixhi64re].¹⁹ A slightly higher proportion of women than men indicated that premiums were too high (50 percent versus 44 percent), while a higher percentage of men state that they have never thought about long term care insurance (42 percent versus 30 percent).

Attitudes and Expectations for Death –*Dmitry Khodyakov and Deborah Carr*

In the mail questionnaire, graduates were asked to indicate their level of agreement or disagreement with several attitudes towards death and dying. In general, most graduates showed higher levels of death “acceptance” rather than death “avoidance.” Graduates were first asked to evaluate the statement “I avoid thinking about death all together” [ixha41re]. Roughly 60 percent disagreed (strongly, moderately or slightly), whereas 40 percent agreed at least slightly. A higher proportion of women than men (66 percent versus 59 percent) disagreed (strongly, moderately or slightly) with this statement.

The majority (62 percent) of graduates “strongly agreed” with the statement: “death is simply a part of the process of life,” while another 35 percent agreed either “moderately” or “slightly.” Less than three percent disagreed with the statement [ixha42re]. Again, women showed a slightly greater tendency toward “death acceptance” than did men. The majority of graduates also revealed beliefs consistent with a “neutral acceptance” of death. More than 86 percent agreed with the statement: “I neither fear death nor welcome it” [ixha43re]. Men were more slightly more likely than women to

¹⁹ Percentages do not add up to 100 because graduates could select more than one reason for not having insurance.

strongly endorse this view; a slightly higher percentage of men than women strongly agreed (33 percent versus 30 percent) with this statement.