

## **Online Supplement: Cohort Trends in the Gender Distribution of Household Tasks in the United States and the Implications for Understanding Disability**

### *Age Differences Between Cohorts*

An additional challenge to the validity is the older average age of those in the AHEAD, HRS, and Coda cohorts. Thus, we fit the same multinomial logistic models but only including HRS respondents born in the WB, EBB, and MBB birth cohorts. These three cohorts are comparable in terms of age (average age for each cohort was roughly 53). The full results of these models are presented in Supplemental Table 2. The substantive results were similar, but the models which included the three younger cohorts had larger differences in the intercepts and little differences in the slopes. In other words, there were larger gender differences in using a map, preparing meals, and going shopping in the WB cohort and then similar declines or equalization over time for men and women in the latter cohorts. Reassuringly, Table 2 in the text illustrates a cohort-based pattern of decline in reports of non-performance in the WB, EBB, and MBB for the most gendered activities: using a map, shopping, and preparing meals.

### *Differences in Reports of Non-performance among Other Demographic Groups*

We also found notable differences by race/ethnicity, educational attainment, and marital status in health-based limitations and also engagement in the activities. These results are presented below in Supplemental Table 2 and Supplemental Table 3. While, documenting these differences was not our overall objective, we are unaware of other research which has documented such results. Specifically, racial and ethnic minorities generally had higher odds of reporting non-performance using a map or a telephone than non-Hispanic whites. Respondents with less than a high school education had significantly higher odds of reporting non-performance for each of the activities except shopping than the highly educated. There were somewhat discrepant results for marital status but generally those who were divorced, widowed, or never married were less likely to report non-performance from the activities than

those who were married. Of course, those who were partnered could rely on a spouse to conduct the activity whereas the unmarried could not. These results suggest that, like research on gender or cohort differences in IADLs, research focused on documenting IADL differences by race, education, or marital status, should carefully gauge the sensitivity of their findings and how they may be altered by reports of non-performance from the activities. Not doing so risks systematic bias by those who report not doing the activity and thus systematically biased conclusions. We also show the predicted probabilities from the models on the full sample in Supplemental Figure 1 (using a map), Supplemental Figure 2 (preparing meals), and Supplemental Figure 3 (shopping).

#### *Different Interpretations of Non-Performance Have Important Implications for Disability Prevalence Estimates*

Supplemental Figure 4 documents the potential implications the reports of non-performance from activities can have on population estimates of IADLs and how they shift by cohort. We considered three assumptions related to the meaning of reported non-performance for limitation: treat the responses as missing and excluded the case from the analysis, assumed the responses were not limited (or healthy), and assumed the responses were limited (or unhealthy). Amongst the oldest, interpretations of disability are dramatically altered by this decision. Excluding those who report not engaging in the activities provides estimates that 23% of men and 37% of women in the AHEAD cohort are limited on one or more IADL. However, assuming that reports of not doing the activity are limited provides estimates that 48% of men and 59% of women have one or more IADL. Among younger cohorts the bounds of potential influence the non-performance responses can have are considerably smaller. Importantly, for men and women assuming the reports of non-performance are missing or healthy provides similar estimates. Also, Supplemental Figure 4 illustrates that no matter how the non-performance responses are treated, women have a higher prevalence of IADLs than men.

#### *Period Effects*

An important challenge to the validity of the finding that the propensity to engage in the IADLs has become more gender egalitarian by cohort are the confounding of age and period effects. To assess the importance of age and period we conducted a brief descriptive analysis of the cohort proportion of respondents who report not doing the activities over the HRS sampling windows. Specifically, we graphed the proportion of HRS respondents who indicated non-performance using a map, shopping for groceries, and shopping by cohort over time from their entrance into the HRS onwards. These three items were selected based on the significant interaction shown here and previous research (Fleishman et al. 2002; Sheehan and Tucker-Drob 2017). We graphed the proportion of women who reported not using a map (Supplemental Figure 5), the proportion of men who reported they do not shop (Supplemental Figure 6), and the proportion of men who report not preparing meals (Supplemental Figure 7). Generally, these results suggest little period or age effects, as the proportion within cohorts who report not conducting the activities remains relatively stable over time as the cohorts' age and the period changes, but these figures also show substantial cohort differences. That is, any period changes are outweighed by the vast cohort changes.

**Supplemental Table 1**

*Instrumental Activities of Daily Living Limitations, by Period and Gender, Health and Retirement Study, 2000-2010.*

	Women		Men	
	2000	2010	2000	2010
Self- Reported Difficulty Using a Map				
No	66.9	72.4	85.2	88.0
Yes/Can't Do	14.3	17.2	7.0	8.4
Non-performing	18.8	10.4	7.8	3.6
Self- Reported Difficulty Using a Telephone				
No	94.6	93.7	93.5	94.0
Yes/Can't Do	5.0	6.1	5.5	5.7
Non-performing	0.4	0.2	1.0	0.4
Self- Reported Difficulty Managing Money				
No	89.9	88.3	89.5	88.5
Yes/Can't Do	7.9	9.6	6.0	7.7
Non-performing	2.3	2.1	4.5	3.7
Self- Reported Difficulty Taking Medicine				
No	95.3	95.5	96.3	95.9
Non-performing	4.7	5.5	3.7	4.1
Self- Reported Difficulty Shopping				
No	85.0	85.5	87.0	89.7
Yes/Can't Do	12.7	13.2	7.2	8.0
Non-performing	2.3	1.4	5.8	2.3
Self- Reported Difficulty Preparing Meals				
No	89.5	89.6	83.4	89.4
Yes/Can't Do	8.9	9.1	5.4	6.2
Non-performing	1.6	1.4	11.3	4.4
<b>Composite Measures</b>				
<i>Prevalence</i>				
Any IADL Limitation Percentage (Assume Reports of Non-Performance Missing)	23.3	27.3	12.8	17.4
Any IADL Limitation Percentage (Assume Reports of Non-Performance Not Limited)	28.7	29.9	22.5	20.4
Any IADL Limitation Percentage (Assume Reports of Non-Performance Limited)	42.2	37.5	36.9	28.0
<i>Severity (Sum of Number of Limitations)</i>				
Total IADL Limitations (Assume Reports of Non-Performance Missing)	0.5	0.5	0.3	0.4
Total IADL Limitations (Assume Reports of Non-Performance Not Limited)	0.5	0.6	0.4	0.4
Total IADL Limitations (Assume Reports of Non-Performance Limited)	0.8	0.8	0.7	0.5

*Source:* Health and Retirement Study, 2000 and 2010 Waves.

**Supplemental Table 2**

*Relative Risk Ratios from Multinomial Regression Models Predicting Responses from Instrumental Activities of Daily Living.  
Health and Retirement Study, WB, EBB, and MBB cohorts, 1998-2010.*

	Map		Phone		Money	
	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing
<b>Gender</b>						
Female (Ref)						
Male	0.35 ***	0.31 ***	2.43 *	0.56	1.54	1.54
Cohort	1.09	0.66 ***	1.37 †	0.31 †	0.94	0.94
Cohort X Male	1.10	0.89	0.71	2.32	0.90	0.90
Age at Survey	1.02	1.01	0.99	1.20	1.09	1.09
<b>Educational Attainment</b>						
Less than High School (Ref)						
High School	0.34 ***	0.32 ***	0.37 ***	0.17 *	0.65 †	0.65 †
High School+	0.14 ***	0.13 ***	0.16 ***	0.00	0.21 ***	0.21 ***
<b>Race</b>						
Non-Hispanic White (Ref)						
Non-Hispanic Black	2.05 ***	4.13 ***	1.56 *	0.91	0.52 *	0.52 *
Foreign Born Hispanic	1.47 *	4.98 ***	1.09	2.17	1.11	1.11
Native Born Hispanic	1.11	2.98 ***	2.27 **	2.13	1.38	1.38
Non-Hispanic Other	1.39	2.34 *	2.48 **	3.96	1.02	1.02
<b>Marital Status</b>						
Married (Ref)						
Divorced/Separated	1.31 *	1.70 ***	1.51 *	1.31	0.25 ***	0.25 ***
Widowed	1.20	1.89 *	1.05	2.85	0.00	0.00
Never Married	1.60 ***	2.06 ***	1.13	3.74	0.49	0.49
Constant	0.26 ***	0.13 ***	0.02 ***	0.01 ***	0.03 ***	0.03 ***

	Medicine		Meals		Shop	
	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing
<b>Gender</b>						
Male	1.06		0.70	15.81 ***	0.70	8.11 ***
Cohort	1.09		1.19	0.68	1.19	0.79
Cohort X Male	0.99		0.96	0.53	0.96	0.63
Age at Survey	0.93 †		1.04	1.06	1.04	1.04
<b>Educational Attainment</b>						
Less than High School (Ref)						
High School	0.42 ***		0.53 ***	0.90	0.53 ***	0.48 *
College+	0.22 ***		0.33 ***	0.86	0.33 ***	0.31 ***
<b>Race</b>						
Non-Hispanic White (Ref)						
Non-Hispanic						
Black	1.30		1.64 **	0.95	1.64 ***	0.69
Foreign Born						
Hispanic	0.98		0.71	0.89	0.71	1.17
Native Born						
Hispanic	2.08 ***		1.41	1.76	1.41	1.45
Other	2.06 *		1.59	1.17	1.59	1.42
<b>Marital Status</b>						
Married (Ref)						
Divorced/Separated	1.61 **		2.06 ***	0.52 †	2.06 ***	0.40 †
Widowed	1.36		1.40	2.06	1.40	2.20
Never Married	1.27		1.84 **	0.67	1.84 ***	0.60
Constant	0.05 ***		0.03 ***	0.00 ***	0.03 ***	0.01 ***

† p < 0.1 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Source: Health and Retirement Study.

N=8,206

Notes: Only contains HRS Respondents born in War Baby, Early Baby Boomer, and Mid Baby Boomer, birth cohorts.

No = No Difficulty performing activities.

**Supplemental Table 3**

*Relative Risk Ratios from Multinomial Regression Models Predicting Responses from Instrumental Activities of Daily Living. Health and Retirement Study, 1995-2010.*

	Map		Phone		Money	
	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing
<b>Gender</b>						
Female (Ref)						
Male	0.35 ***	0.29 ***	1.52 ***	3.27 ***	0.94	1.26
Cohort	0.98	0.85 ***	1.31 ***	0.98	1.56 ***	0.96
Cohort X Male	0.99	0.96	1.00	1.00	1.05	1.07
Age at Survey	0.99 ***	1.05 ***	1.11 ***	1.09 ***	1.12 ***	1.05 ***
<b>Educational Attainment</b>						
Less than High School (Ref)						
High School	0.37 ***	0.35 ***	0.47 ***	0.25 ***	0.53 ***	0.59 ***
High School+	0.18 ***	0.13 ***	0.25 ***	0.09 ***	0.31 ***	0.30 ***
<b>Race</b>						
Non-Hispanic White (Ref)						
Non-Hispanic Black	2.09 ***	3.15 **	1.55 ***	2.98 ***	1.75 ***	0.67 **
Foreign Born Hispanic	1.97 ***	3.80 ***	1.38 *	4.72 ***	1.05	1.62 **
Native Born Hispanic	1.26 *	2.05 ***	1.75 ***	5.95 ***	1.60 ***	1.34
Non-Hispanic Other	1.54 **	2.43 ***	2.04 ***	5.66 ***	1.75 **	0.97
<b>Marital Status</b>						
Married (Ref)						
Divorced/Separated	1.15 *	1.62 ***	1.32 *	1.06	1.58 ***	0.22 ***
Widowed	1.12 +	1.57 ***	1.07	1.25	1.37 ***	0.31 ***
Never Married	1.34 **	1.99 ***	1.51 **	1.81	1.58 ***	0.27 ***
Constant	0.33 ***	0.22 ***	0.00 ***	0.00 ***	0.00 ***	0.03 ***



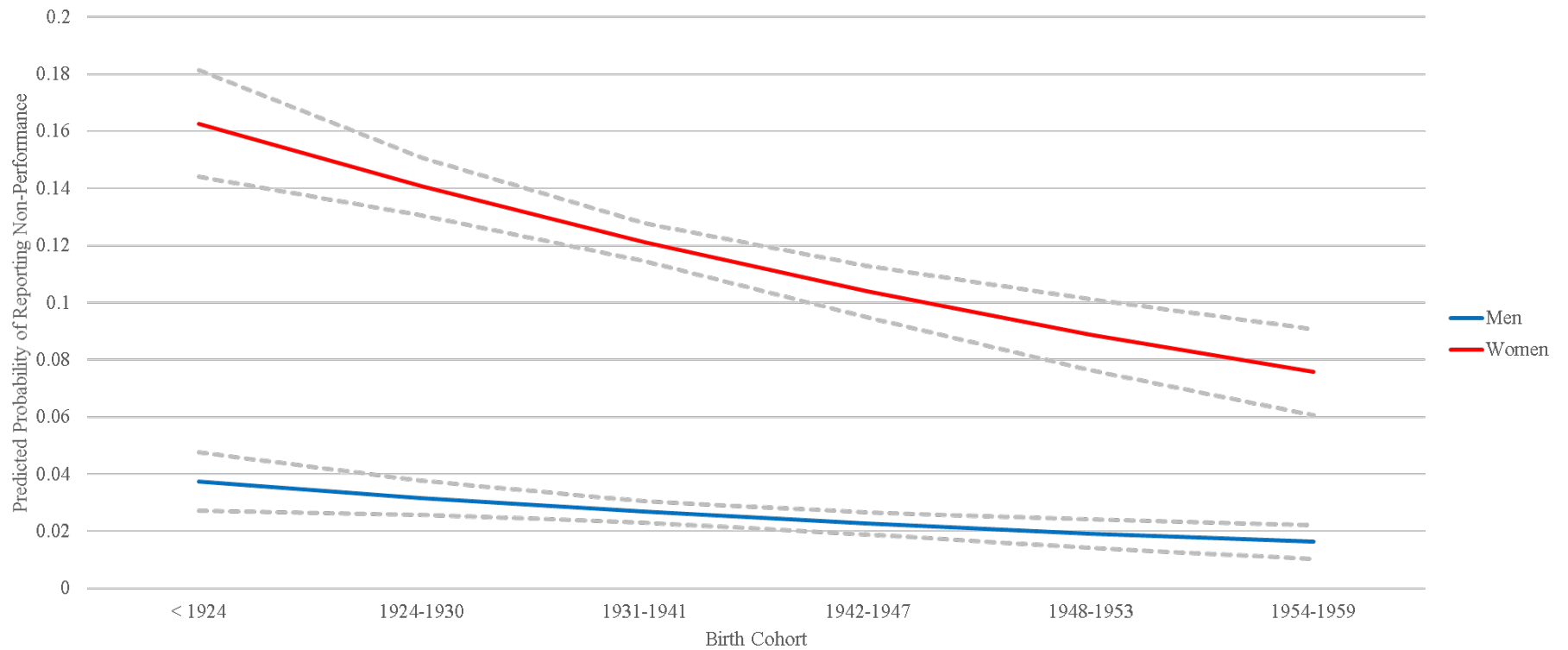
	Medicine		Meals		Shop	
	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing	No vs. Limited	No vs. Non-Performing
Gender						
Male	0.79 +		0.67 ***	1.10	0.95	5.48 ***
Cohort	1.39 ***		1.29 ***	0.62 ***	1.32 ***	0.58 ***
Cohort X Male	1.05		0.98	1.61 ***	0.93 *	1.34 **
Age at Survey	1.10 ***		1.09 ***	1.06 ***	1.10 ***	1.05 ***
Educational Attainment						
Less than High School (Ref)						
High School	0.62 ***		0.52 ***	0.58 ***	0.59 ***	0.86 †
College+	0.36 ***		0.30 ***	0.40 ***	0.38 ***	0.88
Race						
Non-Hispanic White (Ref)						
Non-Hispanic Black	1.35 **		1.69 ***	1.11	1.70 ***	0.82 †
Foreign Born Hispanic	1.38 *		0.91	1.22	1.04	1.03
Native Born Hispanic	2.02 ***		1.26 †	1.56 *	1.45 **	0.85
Other	1.90 **		1.55 **	0.92	1.91 ***	0.94
<b>Marital Status</b>						
Married (Ref)						
Divorced/Separated	1.53 ***		1.64 ***	0.42 ***	1.61 ***	0.40 ***
Widowed	1.13		1.42 ***	0.69 **	1.25 **	0.57 ***
Never Married	1.19		1.60 ***	0.57 *	1.39 *	0.67 †
Constant	0.00 ***		0.02 ***	0.03 ***	0.01 ***	0.02 ***

† p < 0.1 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Source: Health and Retirement Study.

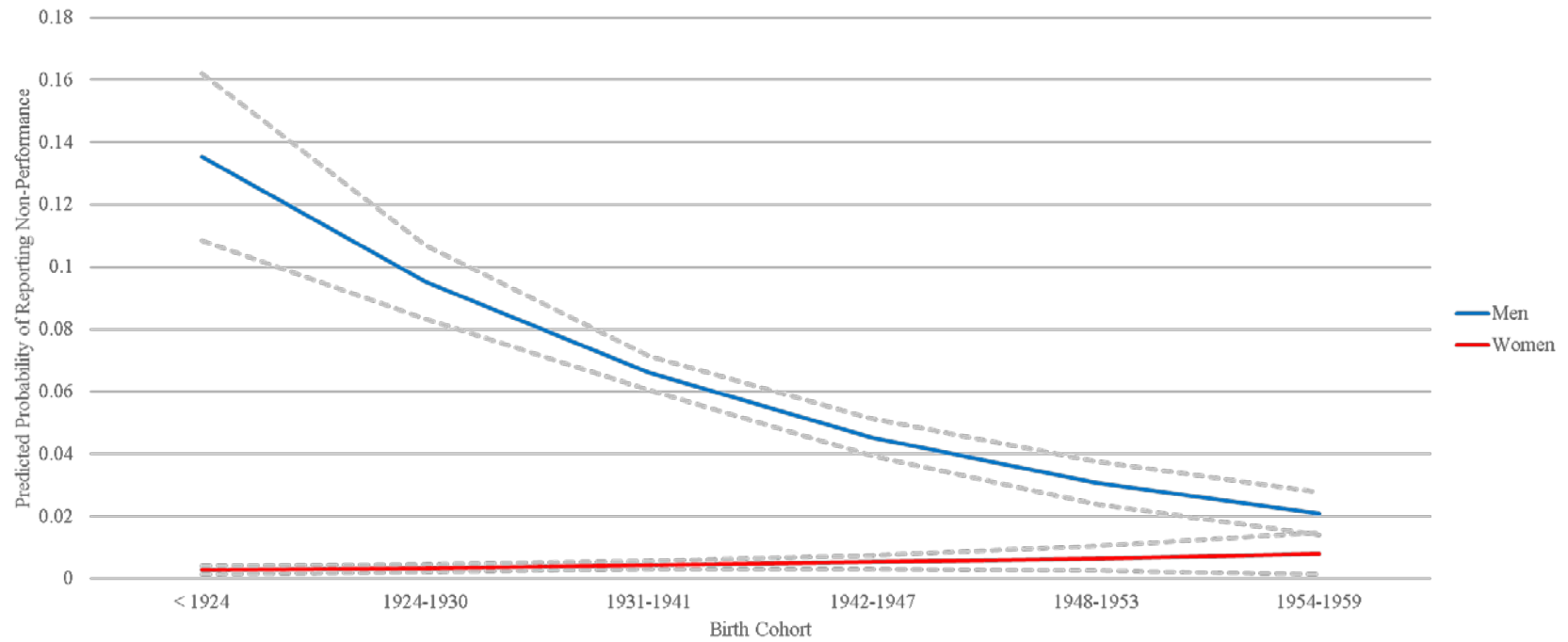
N=25,047

**Supplemental Figure 1.** *Predicted Probability of Non-Performance Using a Map. Health and Retirement Study, 1998-2010.*



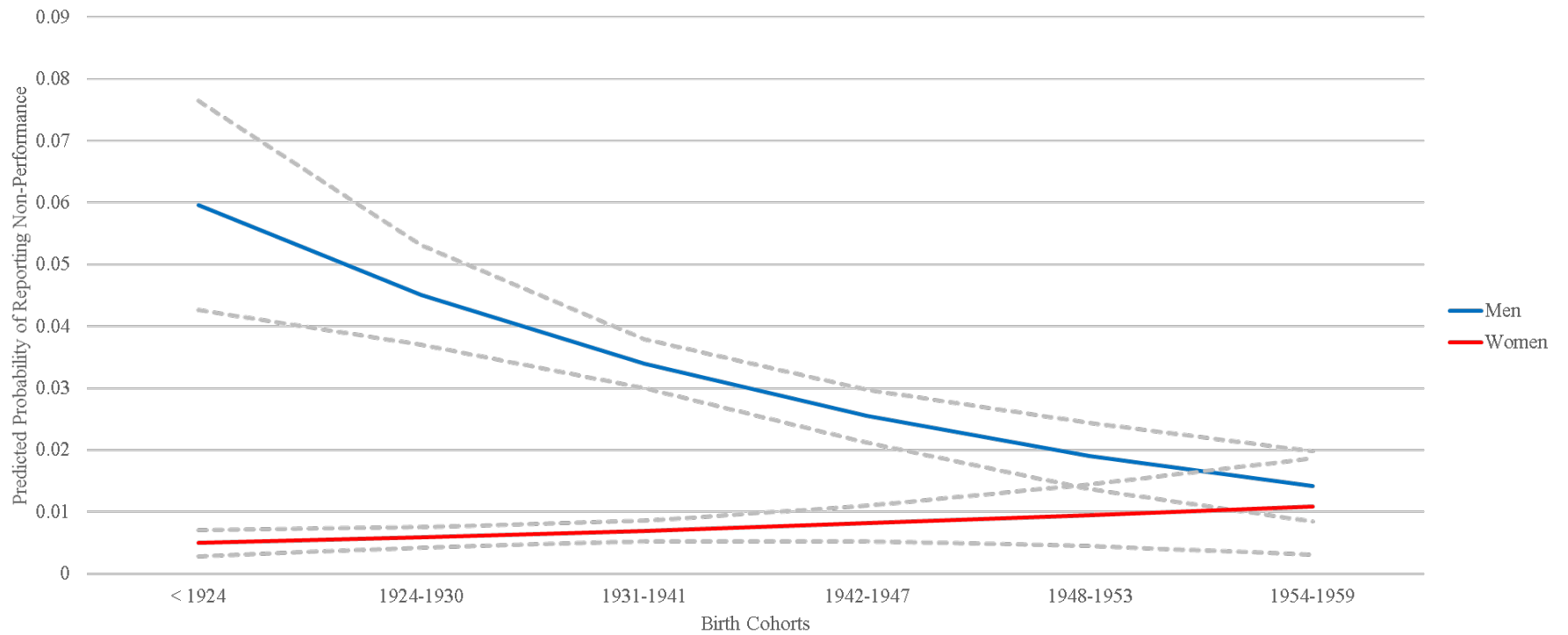
*Source:* Health and Retirement Study 1995-2010. Predicted Probabilities from Multinomial model that includes controls for age, race/ethnicity, marital status, and educational attainment

**Supplemental Figure 2.** Predicted Probability of Non-Performance Preparing Meals. Health and Retirement Study, 1998-2010.



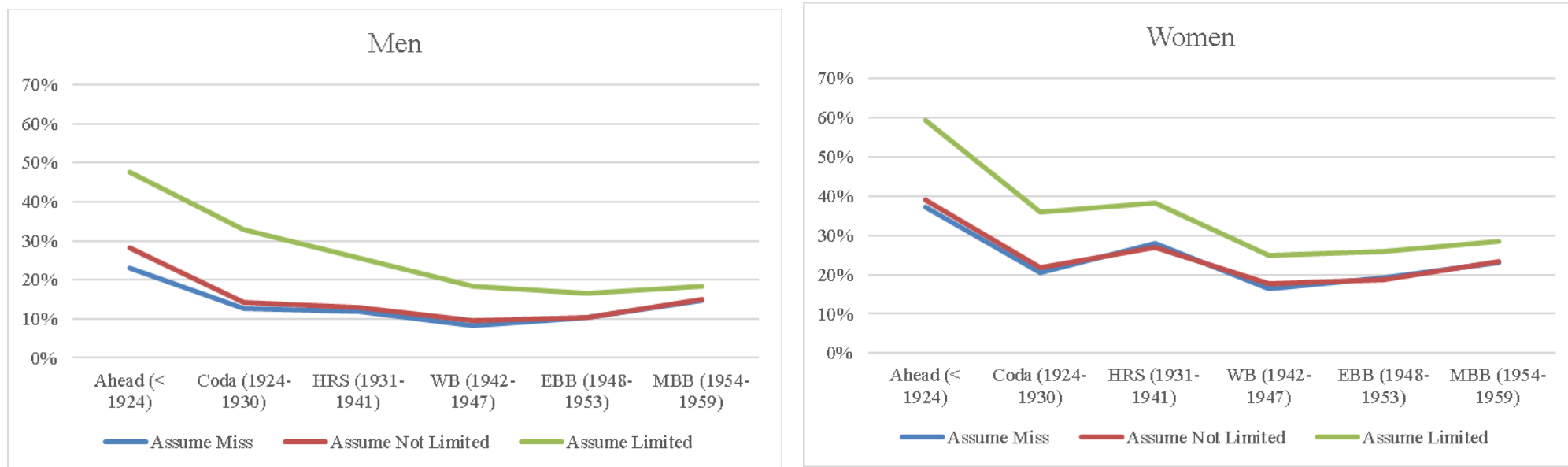
*Source:* Health and Retirement Study 1995-2010. Predicted Probabilities from Multinomial model that includes controls for age, race/ethnicity, marital status, and educational attainment

**Supplemental Figure 3.** Predicted Probability of Non-Performance Shopping. Health and Retirement Study, 1998-2010.



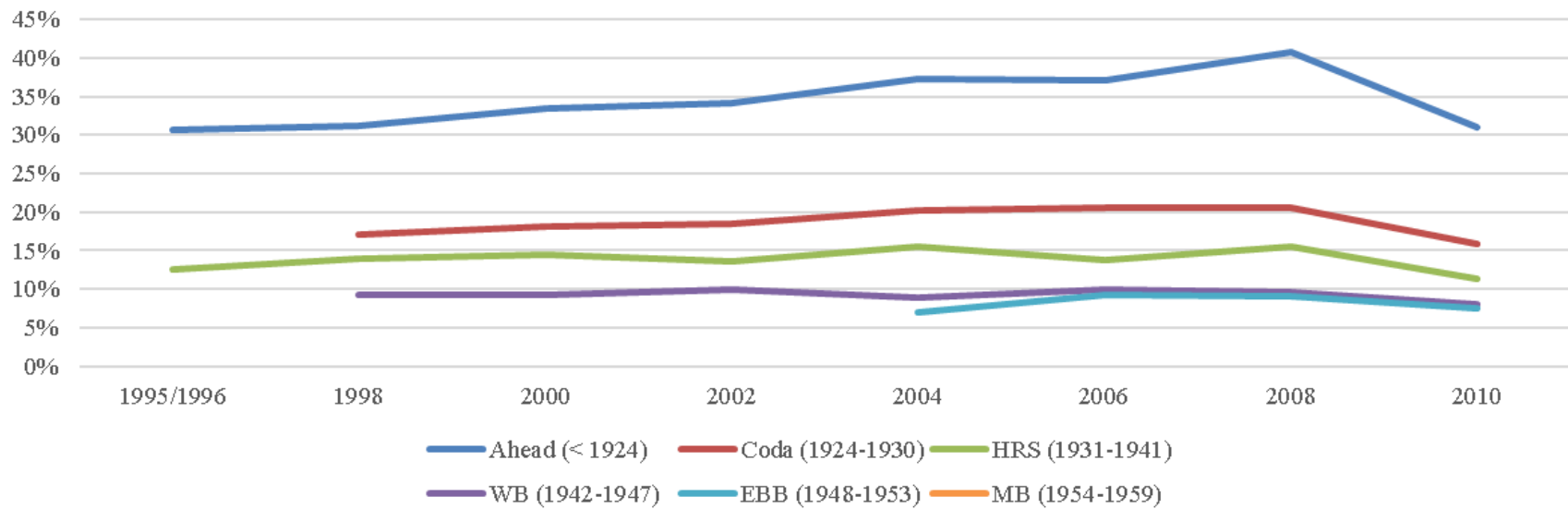
Source: Health and Retirement Study 1995-2010. Predicted Probabilities from Multinomial model that includes controls for age, race/ethnicity, marital status, and educational attainment

**Supplemental Figure 4.** *Percentage of Cohort with 1+ IADL, by Gender, Noting Bounds of Influence of Reports of Non-Performance from Activities, Health and Retirement Study, 1995-2010.*



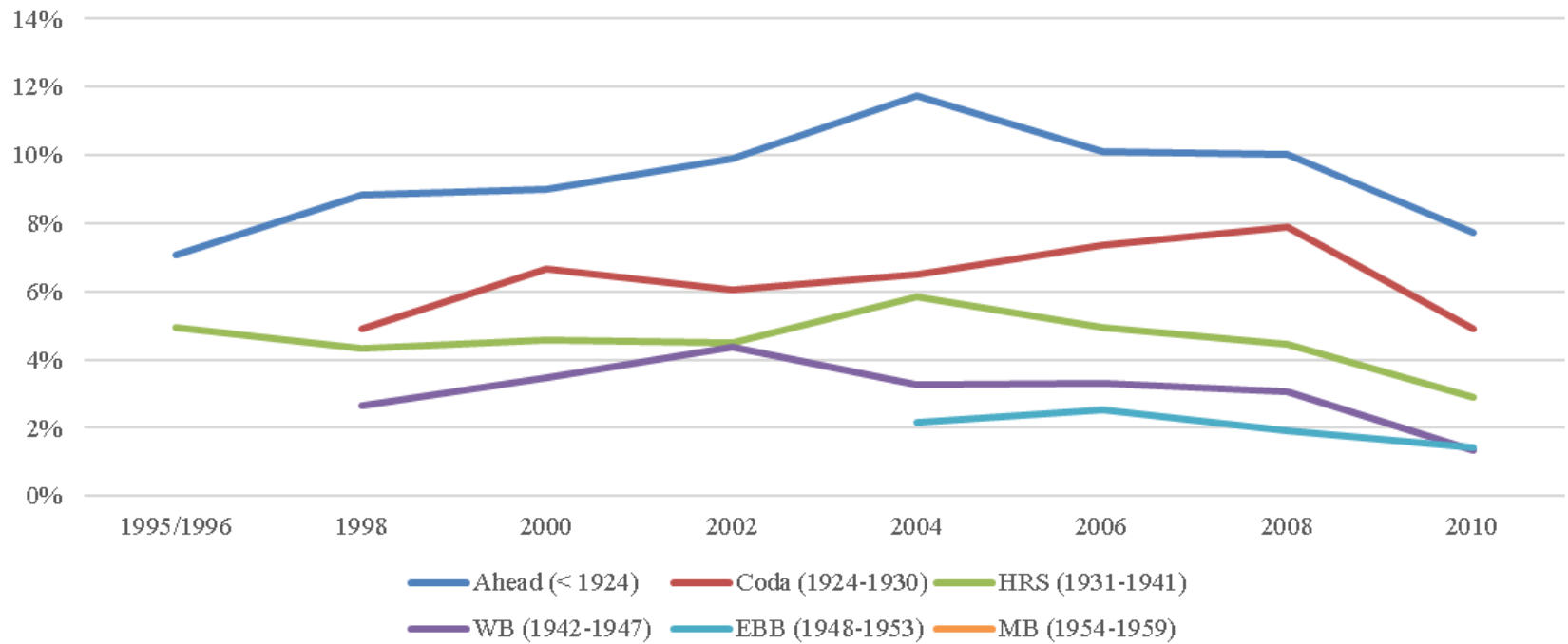
Source: Health and Retirement Study 1995-2010. Includes different assumptions for Non-Performance responses to each IADL question, then calculate the prevalence of 1+ IADL limitation for each assumption.

**Supplemental Figure 5.** *Proportion of Women Who Report they Do Not Use a Map, Over time By Cohort. Health and Retirement Study, 1995-2010.*



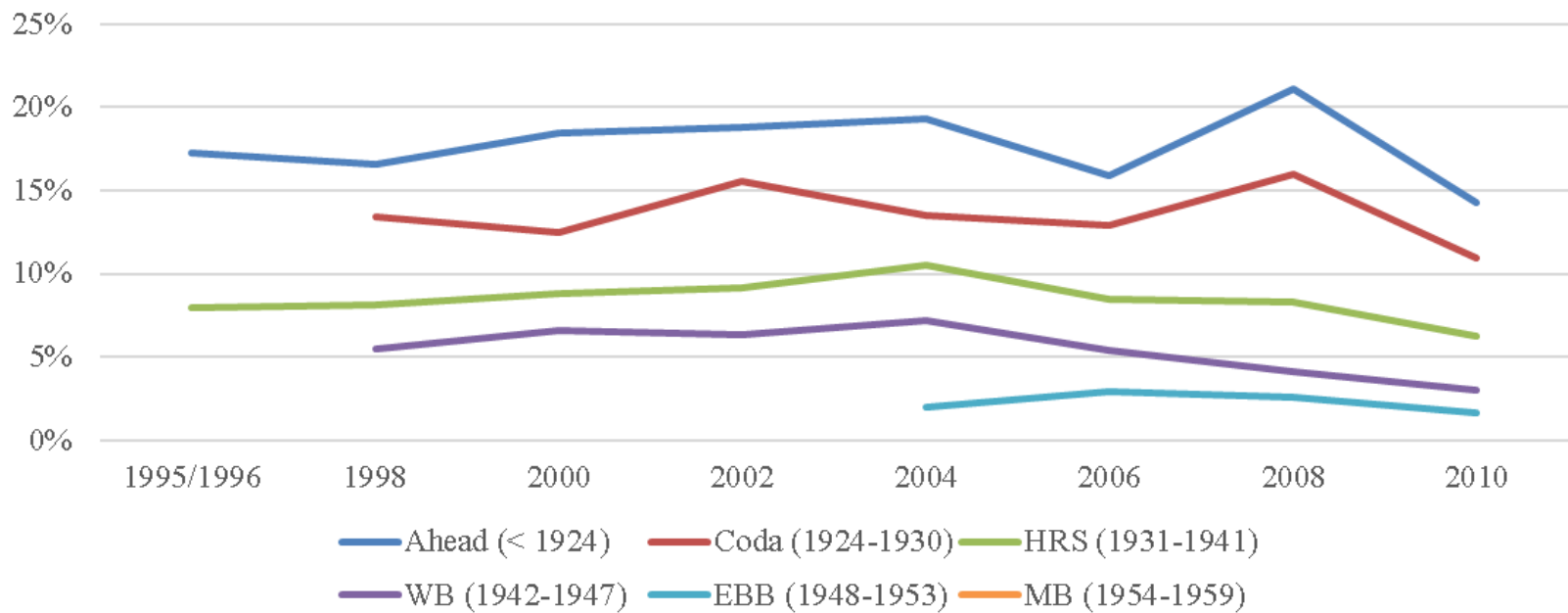
Source: Health and Retirement Study 1995-2010.

**Supplemental Figure 6.** *Proportion of Men Who Report they Do Not Shop, Over time By Cohort. Health and Retirement Study, 1995-2010.*



Source: Health and Retirement Study 1995-2010.

**Supplemental Figure 7.** *Proportion of Men Who Report they Do Not Prepare Meals, Over time By Cohort. Health and Retirement Study, 1995-2010.*



Source: Health and Retirement Study 1995-2010.