

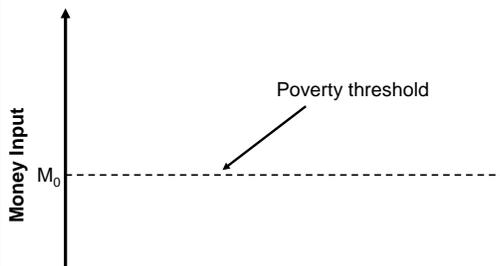
Who has time to cook?  
 New directions for food and nutrition policy  
 research on household meal production

Diego Rose  
 Department of Community Health Sciences  
 Tulane University  
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Outline

1. Beyond one dimension in poverty assessment
2. A possible contradiction in government policy
3. New directions in research on meal preparation

Assessment of poverty has been based on  
 money income

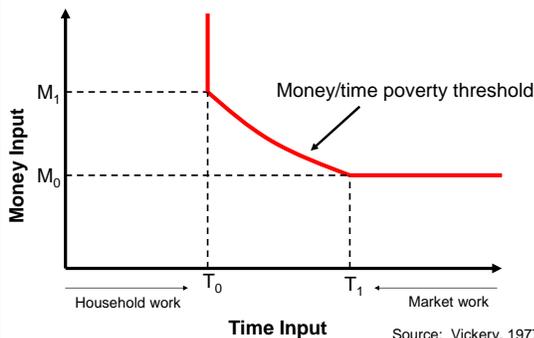


A comparison of the value of time in 2 households

|   | Household A:<br>1 adult, 1 child | Household B:<br>2 adults |
|---|----------------------------------|--------------------------|
| 2003 poverty threshold, \$/yr   | \$12,682                         | \$12,321                 |
| Time allocation, hrs/wk   |                                  |                          |
| <b>Total</b>  | <b>168</b>                       | <b>336</b>               |
| <b>Personal care</b>  | <b>-70</b>                       | <b>-140</b>              |
| <b>Child care</b>   | <b>-14</b>                       | <b>0</b>                 |
| <b>Work to earn poverty threshold (@ 6.10/hr)</b>                       | <b>-40</b>                       | <b>-39</b>               |
| <b>Net available for non-market activities</b>                          | <b>44</b>                        | <b>157</b>               |
| <b>Use remainder for household prod, leisure</b>                        | <b>-44</b>                       | <b>-88</b>               |
| <b>Time remaining</b>   | <b>0</b>                         | <b>69</b>                |
| <b>Extra resources for B<br/>(value of non-market time @ \$6.10/hr)</b> |                                  | <b>\$21,886</b>          |

Adapted from: Citro & Michael, 1995

Poverty threshold in 2 dimensions



Parameters of money/time poverty thresholds

| Household Type | M <sub>0</sub> (\$/week) | T <sub>1</sub> (Hours)                  | M <sub>1</sub> (\$/week)                |
|----------------|--------------------------|---|---|
|                | Min money                | Household time needed at M <sub>0</sub> | Money needed at min time T <sub>0</sub> |
| 1 adult with:  |                          |   |   |
| 0 children     | 43                       | 31                                      | 77                                      |
| 1 child        | 58                       | 57                                      | 144                                     |
| 2-3 children   | 78                       | 61                                      | 172                                     |
| 4-5 children   | 106                      | 63                                      | 204                                     |
| 2 adult with:  |                          |   |   |
| 0 children     | 58                       | 43                                      | 116                                     |
| 1 child        | 70                       | 62                                      | 166                                     |
| 2-3 children   | 94                       | 66                                      | 198                                     |
| 4-5 children   | 128                      | 68                                      | 236                                     |

Source: Vickery, 1977

### Weekly hours spent doing housework Upstate New York, 1967

| Household Type       | Food Activities | House care | Clothing care | Family care | Marketing & Mgmt | Total (T <sub>1</sub> ) |
|----------------------|-----------------|------------|---------------|-------------|------------------|-------------------------|
| <i>1 adult with</i>  |                 |            |               |             |                  |                         |
| 0 children           | 10              | 8          | 6             | 1           | 6                | 31                      |
| 1 child              | 14              | 12         | 7             | 15          | 9                | 57                      |
| 2-3 children         | 16              | 12         | 8             | 16          | 9                | 61                      |
| 4-5 children         | 16              | 11         | 9             | 18          | 9                | 63                      |
| <i>2 adults with</i> |                 |            |               |             |                  |                         |
| 0 children           | 15              | 10         | 8             | 1           | 9                | 43                      |
| 1 child              | 16              | 13         | 8             | 15          | 10               | 62                      |
| 2-3 children         | 18              | 13         | 9             | 16          | 10               | 66                      |
| 4-5 children         | 18              | 13         | 9             | 18          | 10               | 68                      |

Source: Walker, 1973 as displayed in Vickery, 1977

### What is the difference in poverty rate if time is included in the threshold?

Vickery's calculations using 1973 poverty thresholds, 1967 NY time use data

- Number of female-headed families with children in poverty increases by 14% using money/time thresholds

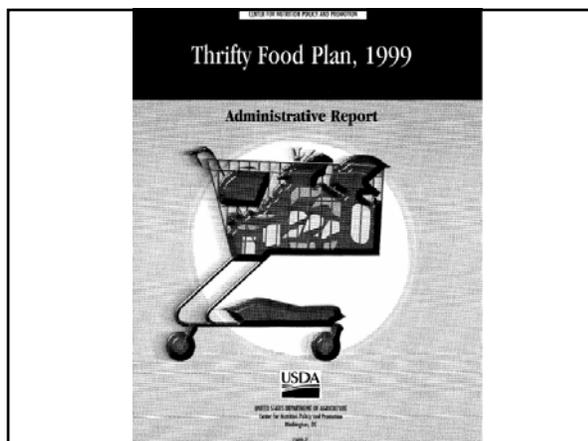
### What is the difference in poverty rate if time is included in the threshold?

Douthitt's calculations using 1984 poverty thresholds, 1985 Americans' Use of Time Survey

|  | Married Mothers |              | Single Mothers |              |
|--|-----------------|--------------|----------------|--------------|
|  | Employed        | Not employed | Employed       | Not employed |
| Official poverty rate—<br>income only, % | 6               | 9            | 11             | 18           |
| Time & income<br>poverty rate, %         | 24              | 14           | 53             | 56           |

### A contradiction in government policy...

- Since 1990s welfare & tax policies encourage low-income people to work outside home
- Maintenance of equitable food safety net (e.g. Food Stamps) seen as desirable even for those who work
- Food Stamp allotments implicitly assume that time is not a constraint to the participant



### Quantities of food for a week, 1999 Thrifty Food Plan market baskets,

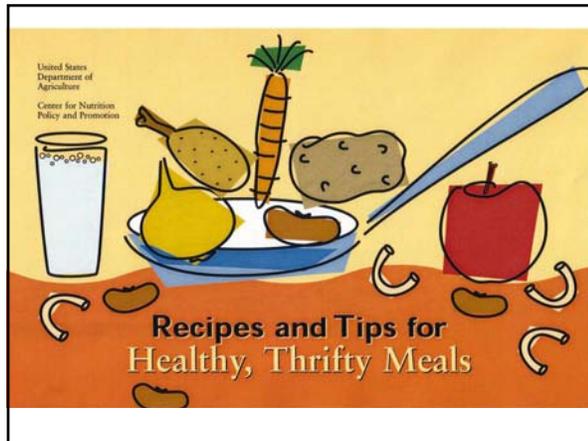
| Food category                              | Females |       |       |
|--|---------|-------|-------|
|  | 12-19   | 12-14 | 15-19 |
| <b>Total pounds</b>                        | 31.90   | 32.42 | 34.70 |
| <b>Grains</b>                              |         |       |       |
| Breads, yeast and quick                    | 1.32    | 1.20  | 1.02  |
| Breakfast cereals, cooked and ready to eat | .33     | .42   | .05   |
| Rice and pasta                             | 1.28    | 1.95  | 3.41  |
| Flours                                     | .47     | .50   | .34   |
| Grain-based snacks and cookies             | .06     | .05   | .03   |
|  | 3.46    | 4.12  | 4.85  |
| <b>Vegetables</b>                          |         |       |       |
| Potato products                            | 2.74    | 3.76  | 2.95  |
| Dark-green and deep-yellow vegetables      | .56     | .17   | .47   |
| Other vegetables                           | 1.81    | 1.89  | 2.59  |
|  | 5.11    | 5.82  | 6.01  |
| <b>Fruits</b>                              |         |       |       |
| Citrus fruits, melons, berries, and juices | 3.27    | 3.96  | 5.42  |
| Noncitrus fruits and juices                | .99     | 1.43  | .99   |
|  | 4.26    | 5.39  | 6.41  |

Source: CNPP, 2001

| Official USDA Food Plans: Cost of Food at Home at Four Levels, U.S. Average, May 2004 <sup>1</sup> |                          |               |                    |              |                           |               |                    |
|--|--------------------------|---------------|--------------------|--------------|---------------------------|---------------|--------------------|
| AGE-GENDER GROUPS  | WEEKLY COST <sup>2</sup> |               |                    |              | MONTHLY COST <sup>2</sup> |               |                    |
|  | Thrifty plan             | Low-cost plan | Moderate-cost plan | Liberal plan | Thrifty plan              | Low-cost plan | Moderate-cost plan |
| <b>INDIVIDUALS<sup>3</sup></b>   |                          |               |                    |              |                           |               |                    |
| <b>CHILD:</b>  |                          |               |                    |              |                           |               |                    |
| 1 year   | 17.90                    | 22.40         | 26.20              | 31.80        | 77.60                     | 97.00         | 113.40             |
| 2 years  | 17.80                    | 21.90         | 26.20              | 31.70        | 76.90                     | 95.10         | 113.50             |
| 3-5 years  | 19.50                    | 24.10         | 29.90              | 35.90        | 84.30                     | 104.60        | 129.40             |
| 6-8 years  | 24.20                    | 32.30         | 39.90              | 46.60        | 105.00                    | 139.90        | 172.70             |
| 9-11 years   | 28.40                    | 36.40         | 46.50              | 54.10        | 123.10                    | 157.70        | 201.50             |
| <b>MALE:</b>   |                          |               |                    |              |                           |               |                    |
| 12-14 years  | 29.70                    | 41.20         | 51.00              | 60.00        | 128.50                    | 178.40        | 221.10             |
| 15-19 years  | 30.50                    | 42.30         | 52.90              | 61.50        | 132.30                    | 183.30        | 229.10             |
| 20-50 years  | 32.60                    | 42.20         | 52.50              | 64.10        | 141.20                    | 182.60        | 227.30             |
| 51 years and over  | 29.70                    | 40.20         | 49.50              | 59.40        | 128.50                    | 174.20        | 214.70             |
| <b>FEMALE:</b>   |                          |               |                    |              |                           |               |                    |
| 12-19 years  | 29.70                    | 35.50         | 43.20              | 52.00        | 128.50                    | 153.90        | 187.20             |
| 20-50 years  | 29.60                    | 36.80         | 45.00              | 58.00        | 128.20                    | 159.40        | 194.80             |
| 51 years and over  | 29.10                    | 35.80         | 44.60              | 53.30        | 126.00                    | 155.10        | 193.20             |
| <b>FAMILIES:</b>   |                          |               |                    |              |                           |               |                    |
| <b>FAMILY OF 2<sup>4</sup>:</b>  |                          |               |                    |              |                           |               |                    |

Source: CNPP, 2004

<sup>1</sup> Basis is that all meals and snacks are purchased at stores and prepared at home...



| WEEK 1. MENUS FOR A FAMILY OF FOUR |  |   |   |   |
|------------------------------------|--|---|---|---|
|                                    | MONDAY   | TUESDAY   | WEDNESDAY   | THURSDAY  |
| <b>BREAKFAST</b>                   | Orange juice (3 c)<br>Ready-to-eat cereal (3 c flakes)<br>Toasted English muffin (4)<br>1% lowfat milk (2 c) | Orange juice (3 c)<br>Banana (4)<br>Bagel (4)<br>Margarine (4 tsp)<br>1% lowfat milk (2 c)      | Orange juice (3 c)<br>Cooked rice cereal<br>Bagel (4)<br>Margarine (4 tsp)                        | Orange juice (3 c)<br>Scrambled eggs (4)<br>Hash brown potatoes (2 c)<br>1% lowfat milk (2 c)   |
| <b>LUNCH</b>                       | Turkey patties<br>Hamburger bun (4)<br>Orange juice (3 c)<br>Coleslaw (2 c)<br>1% lowfat milk (2 c)          | Crispy chicken<br>Potato salad<br>Orange gelatin salad<br>Peaches, canned (1 c)<br>Rice pudding | Turkey chili<br>Macaroni (2 c)<br>Peach-apple crisp<br>1% lowfat milk (2 c)<br>Orange juice (3 c) | Turkey ham (11 oz, 2 tsp salad dressing)<br>sandwiches (4)<br>Baked beans<br>Banana slices (2 c)<br>Oatmeal cookies<br>Orange juice (3 c)<br>1% lowfat milk (2 c) |

**TURKEY PATTIES**

4 Servings, 1 patty each

|                       |                    |
|-----------------------|--------------------|
| Ground turkey         | 1 pound + 4 ounces |
| Bread crumbs          | 1 cup              |
| Egg                   | 1                  |
| Green onions, chopped | 1/4 cup            |
| Prepared mustard      | 1 tablespoon       |
| Margarine             | 1-1/2 tablespoons  |
| Chicken broth         | 1/2 cup            |

**PREPARATION TIME: 15 MINUTES**  
**COOKING TIME: 10 MINUTES**

- Mix ground turkey and mustard in a bowl about 1/2 cup.
- Melt margarine in a skillet on the other side of the white in a skillet and heat until minutes.
- Add chicken and heat until minutes.
- Serve on...

PER SERVING

Preparation and cooking times for TFP dishes

| Day | Meal | Recipe                | Prep time | Cook Time | P+C Time | P+C, hrs |
|-----|------|-----------------------|-----------|-----------|----------|----------|
| 1   | L    | Turkey patties        | 10        | 15        | 25       | 0.42     |
| 3   | D    | Beef-noodle casserole | 20        | 30        | 50       | 0.83     |
| 4   | S    | Chickpea Dip          | 10        | 0         | 10       | 0.17     |
| 5   | 2    | L Crispy Chicken      | 15        | 30        | 45       | 0.75     |
| 6   | L    | Potato Salad          | 25        | 15        | 40       | 0.67     |
| 7   | L    | Orange Gelatin Salad  | 5         | 3.5       | 8.5      | 0.14     |
| 8   | L    | Rice Pudding          | 15        | 40        | 55       | 0.92     |
| 9   | D    | Turkey Stir Fry       | 15        | 10        | 25       | 0.42     |
| 10  | D    | Peach-apple Crisp     | 20        | 20        | 40       | 0.67     |
| 11  | 3    | B Cooked Rice Cereal  | 10        | 15        | 25       | 0.42     |
| 12  | L    | Turkey Chili          | 30        | 70        | 100      | 1.67     |
| 13  | L    | Peach-apple Crisp     |           |           |          | 0.00     |
| 14  | D    | Baked Cod w/Cheese    | 7         | 15        | 22       | 0.37     |
| 15  | D    | Scalloped Potatoes    | 20        | 15        | 35       | 0.58     |
| 16  | S    | Crispy Potatoes       | 10        | 20        | 30       | 0.50     |
| 17  | 4    | L Baked Beans         | 5         | 30        | 35       | 0.58     |
| 18  | L    | Oatmeal Cookies       | 20        | 42        | 62       | 1.03     |
| 19  | D    | Beef Pot Roast        | 20        | 120       | 140      | 2.33     |
| 20  | D    | Rice Pudding          |           |           | 0        | 0.00     |
| 21  | 5    | L Potato Soup         | 25        | 15        | 40       | 0.67     |

Sheet1 / Sheet2 / Sheet3

### Meal Preparation Time Inputs (hours/week) Thrifty Food Plan Suggested Menus

|         | Prep Time | Cook Time | Total Time |
|---------|-----------|-----------|------------|
| Week 1  | 7.4       | 12.2      | 19.6       |
| Week 2  | 5.0       | 7.6       | 12.6       |
| Average | 6.2       | 9.9       | 16.1       |

Source: Author's calculations from "Recipes & Tips for Healthy Thrifty Meals"

### Mean weekly time (hrs) spent in food preparation by **non-working** women in the U.S.

|                  | 1965-66 | 1975-76 | 1985 | 1992-94 | 1998-99 |
|------------------|---------|---------|------|---------|---------|
| Meal preparation | 11.0    | 10.3    | 10.5 | 8.0     | 8.0     |
| Meal Cleanup     | 5.1     | 3.1     | 3.0  | 1.3     | 2.2     |
| Shopping         | 2.2     | 3.4     | 3.6  | 1.5     | 1.3     |

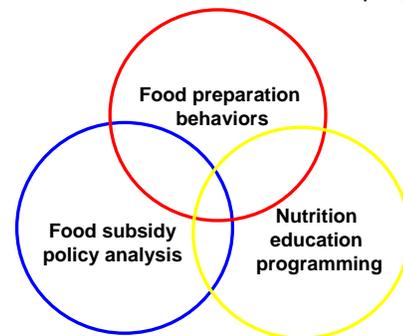
Source: Author's calculations from AUT 1965-66, AUT 1975-76, AUT 1985, NHAPS 1992-94, FISCT 1998-99

### Mean weekly time (hrs) spent in food preparation by full-time **working** women in the U.S.

|                  | 1965-66 | 1975-76 | 1985 | 1992-94 | 1998-99 |
|------------------|---------|---------|------|---------|---------|
| Meal preparation | 5.6     | 5.5     | 5.0  | 4.3     | 4.5     |
| Meal Cleanup     | 2.8     | 1.5     | 1.3  | 0.6     | 0.8     |
| Shopping         | 1.5     | 2.1     | 3.1  | 0.8     | 1.0     |

Source: Author's calculations from AUT 1965-66, AUT 1975-76, AUT 1985, NHAPS 1992-94, FISCT 1998-99

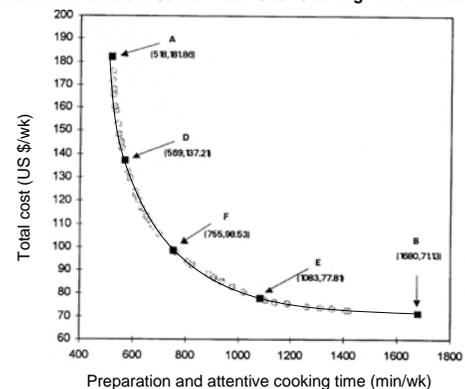
### Outline for an interwoven research program



### Questions for Future Research

- Food Preparation Behaviors
  - How much time is spent in these activities per week?
  - How does it vary by socio-economic characteristics?
  - What is the  $T_1$  (time at minimum money threshold) for low-income, well-nourished, food-secure households?
  - What are substitution possibilities between time and food costs?
  - How does all this vary by kitchen capital, human capital?
  - How do all of these vary over time?
  - Explore normative approaches to calculating time costs of meal preparation – e.g. optimization techniques that include minimization of cooking time using standard recipes (e.g. Leung et al, 1997)

### Estimated Efficient Set for Food Cost-Cooking Time Tradeoff Curve



## Questions for Future Research

- Food subsidy policy analysis
  - How do we make compatible our twin goals?
    - Provision of equitable food safety net and
    - Encouragement of employment
  - Can we tweak the FSP allotment calculation without undue financial burden on program?

Address: [http://www.fns.usda.gov/fsp/applicant\\_recipients/fs\\_Res\\_Ben\\_Elig.htm](http://www.fns.usda.gov/fsp/applicant_recipients/fs_Res_Ben_Elig.htm)

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**Applicants & Recipients**

**Fact Sheet on Resources, Income, and Benefits**

For Households in the 48 Contiguous States and the District of Columbia food stamps, households must meet certain tests, including resource and

**Resources:**

Households may have \$2,000 in countable resources, such as a bank acc \$3,000 if at least one person is age 60 or older, or is disabled. Certain re as a home and lot and the resources of people who receive Supplement benefits under the Temporary Assistance for Needy Families (TANF) prog

**Licensed vehicles are handled as follows:**

For the following vehicles, the amount of the fair market value over \$4,6

**Food Stamp Program**



## Some Food Stamp allotment calculations

- Allotment = Max Allotment – (Net Income X 0.3)
- Net Income = Gross Income – Deductions
- Deductions for
  - Standard deduction (for all households, higher for some larger households)
  - 20 percent from earned income
  - Dependent care deduction for work, training, education
  - Excess shelter costs, including fuel to heat/cook, electricity, water, telephone
  - Others

Address: [http://www.fns.usda.gov/fsp/applicant\\_recipients/fs\\_Res\\_Ben\\_Elig.htm](http://www.fns.usda.gov/fsp/applicant_recipients/fs_Res_Ben_Elig.htm)

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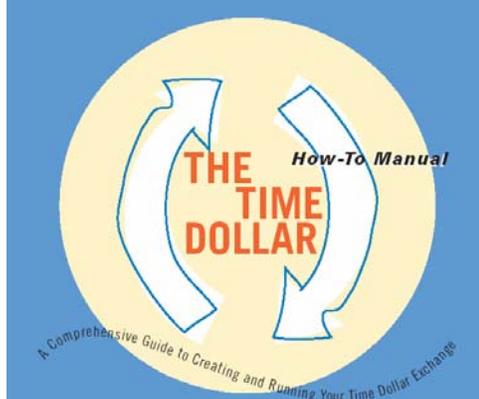
**Benefits:**

The amount of benefits the household gets is called an allotment. The net monthly income of the household is multiplied by .3, and the result is subtracted from the maximum allotment for the house size to find the household's allotment. This is because food stamp households are expected to spend about 30 percent of their resources on food.

| People in Household    | Maximum Monthly Allotment |
|------------------------|---------------------------|
| 1                      | \$141                     |
| 2                      | 259                       |
| 3                      | 371                       |
| 4                      | 471                       |
| 5                      | 560                       |
| 6                      | 672                       |
| 7                      | 743                       |
| 8                      | 849                       |
| Each additional person | +106                      |

## Questions for Future Research

- Food subsidy policy analysis
  - How do we make compatible our twin goals?
    - Provision of equitable food safety net and
    - Encouragement of employment
  - Can we tweak the FSP allotment calculation without undue financial burden on program?
    - direct increase of allotment for single-parent households
    - increase of deductions for single-parent households
      - for microwaves, dishwashers, or just fixed amount
    - increase of earned income deduction for single-parent households
  - Can we pilot test a time-dollars program?



**THE TIME DOLLAR** *How-To Manual*

A Comprehensive Guide to Creating and Running Your Time Dollar Exchange

Source: The Time Dollar Institute

### Questions for Future Research

- Nutrition education programming
  - develop, teach, evaluate how to prepare time-saving nutritious meals
    - time included for meal prep, clean-up, shopping
    - take into account knowledge of cooking techniques, equipment
    - develop variety (on time dimension) of convenient meals
      - quick meals with low total time (prep + cook)
      - meals with low prep time

### Percent of FSNEP agencies including specific behavioral objectives in their plans

| Behavioral Objective                               | %  |
|--|----|
| Improving shopping skills                          | 80 |
| Improving food budgeting skills                    | 74 |
| Changing consumption patterns                      | 74 |
| Improving or expanding skills in food preparation  | 72 |
| Improving skills in food safety                    | 66 |
| Improving skills in food storage                   | 56 |
| Improving self-esteem                              | 26 |
| Improving other household budgeting skills         | 22 |
| Weight management or weight reduction              | 20 |
| Improving meal planning and time management skills | 10 |

Source: Anliker et al, Food Stamp Nutrition Education Study, FNS/HSR, 2000

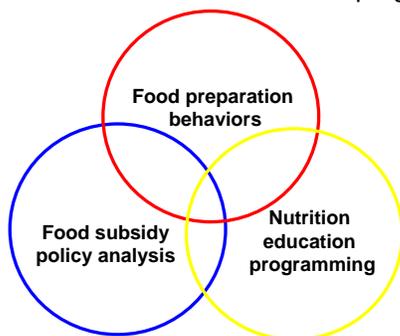
### Questions for Future Research

- Nutrition education programming
  - develop, teach, evaluate how to prepare time-saving nutritious meals
    - time included for meal prep, clean-up, shopping
    - take into account knowledge of cooking techniques, equipment
    - develop variety (on time dimension) of convenient meals
      - quick meals with low total time (prep + cook)
      - meals with low prep time
  - time management techniques
    - develop, teach, evaluate "orchestration techniques"

Women in the study did not simply "use" time, nor did they just "put in" the hours of the combined workday. Rather, they were **actively involved in manipulating the sequence and duration of activities** so as to respond to the competing demands of the office and the household. They were the **primary force in orchestrating office, household, and personal activities in the use of time...**

Source: Hessing, 1994

### Outline for an interwoven research program



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