

# Measuring Farm Women's Time Spent on Unpaid Work: Diary versus Stylized Estimates

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## Summary

La méthode que nous avons pratiquée sur cette recherche est la méthode *stylized estimates*, pour calculer la quantité du temps que les paysannes ont mis dans les travaux agricoles et domestiques gratuitement. Nous trouvons que cette méthode *stylized estimates* donne un résultat qui surestime plus que la méthode *time diary*. Cette surestimation doit être due à la pression de la vie quotidienne.

Time diary has been suggested to be more accurate than stylized measures in estimating time use. While several studies that use time diary center on market labor or general patterns of time use across countries, few of them are concerned with self-employed and have examined unpaid labor which includes market work and household work (Robinson & Gershuny 1994; Robison & Bostrom 1994; Jacobs 1998). This paper examines the difference in farm women's unpaid working time between stylized estimates and diary estimates. The time difference correlates closely with the perception of time pressure.

Based on the review of previous literature concerning unpaid labor time and different time use measures, this paper tests the following hypotheses.

Household working time on weekends is longer than that on weekdays, while farm working time on weekends is shorter than that on weekdays.

Stylized estimates tend to be larger than diary estimates.

Those who work long hours tend to exaggerate their working hours.

Those who feel rushed, stress in life, or crunch in time use tend to exaggerate their working hours.

## DATA & METHODS

The data analyzed are from the pilot study of farm women funded by National Science Council in Taiwan. Because the pilot study is at the stage that survey work is still going, only 31 cases have been collected at this point.

The time diary for this study basically is similar to that suggested in previous literature except that this study uses free format of time intervals. Two stylized measures of daily working time are from the question asking respondents "how many hours on average do you spend on work in last year", but with two different units: day and week. In order to fit into the same unit of analysis, the measure in week unit is transformed into a synthetic day. This study uses three measures for the perception of time pressure (Robinson and Godbey 1999). They are from two questions asking about whether the person feels rushed and perceives stress in life and a time crunch scale. Time crunch scale is composed of 10 questions about time use, time with family and friend, self-identity and so on.

## RESULTS

The exploration of farm women's unpaid labor centers around three dimensions: total unpaid working time, farm working time and household working time. Seasonal effect is considered in the comparison of stylized estimates and diary estimates in order to understand seasonal differences in farm working hours.

According to diary estimates, women's household working time during weekdays is significantly shorter than their time on weekend for 2.5 hours a day (at .05 significance level). The increase rate 100% is greater than that found in Hill's study (up to 45% only). This might be because of occupational differences in research subjects.

Other than that, there is no statistically significant difference in farm working hours across a week. Even though there is not much difference, we still can find that the trend is similar to the present research hypothesis. The insignificance may result from few cases analyzed in the present paper.

On average, women's working hours in a diary day are longer than those in stylized or synthetic day. The results of t-tests indicate that, however, only during busy season, is there significant difference in farm working hours or total unpaid working hours between diary estimation and two stylized estimation (at .05 significance level).

The difference is about 3 to 4 hours a day on farm work but becomes 4 to 5 hours a day when the time on household work is added. However, synthetic estimates (day estimates calculated from stylized week) appear more dispersed than other estimates, while the variance of working hours between stylized-day estimates and diary estimates is not much different. The findings support the hypothesis that stylized estimates (including synthetic-day and stylized-day estimates) tend to report more working hours than diary estimates, and also suggest that the synthetic estimates tend to be less reliable. Furthermore, the results also imply that long reference periods tend to result in exaggeration in time reported by the respondents.

This study shows the correlations of the exaggeration in time reporting with the length of working hours and with the perception of time pressure. The exaggeration is based on the result of stylized estimates minus diary estimates. Concerning total unpaid working time, those who work long hours tend to exaggerate their working hours (Pearson correlation is positive and significant at .001 significance level). The synthetic-day estimates on both farm work and household work across seasons both contribute to the exaggeration. However, in terms of stylized-day estimates, those who report long hours on farm work during busy seasons are likely to exaggerate working hours. Similarly, those who report long hours on household work during slack seasons tend to exaggerate their household working hours.

On the other hand, this study partially supports that the exaggeration correlates closely with the perception of time pressure. Those who feel rushed are likely to exaggerate their total unpaid working hours in stylized-day measure during slack seasons. To the contrary, those who feel rushed tend not to exaggerate their household working time in synthetic-day measure.

## CONCLUSIONS

The primary results fully support that time diary is a good method to measure farm women's time devoted to farm work and household work based on the existence of the exaggerated working time from stylized estimates. However, this study partially fails to explain the exaggeration from a social psychological perspective. Further exploration of this issue remains to be tested. Methodologically speaking, the use of a day as the unit of analysis in this study is totally different from the unit analyzed in the previous studies. It seems that according to this study, the synthetic-day estimates derived from week estimates seem to be less reliable than stylized-day estimates. Therefore, this exposes the important but ignored issue of which unit of analysis is appropriate.

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