

ANALYSIS BRIEF

A COMPARISON OF RECALLED AND REPORTED WALK TRIPS



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The 2009 National Household Travel Survey (NHTS) collected detailed information on walking from a broad sample of American people. The core data series asks respondents to record all trips by all modes of travel for a single day on a travel diary, which is used as a memory jogger during an interview. In the two most recent surveys in addition to the single day diary, respondents were asked to recall the number of walks ‘last week’¹. This brief compares the recall of walks ‘last week’ to the reported number of walk trips on the diary day.

Prior research comparing travel reports collected by recall versus diary indicates that people in diary surveys under-report short or incidental tripsⁱ. One justification for adding the one-week recall of walks was to broadly include the types of trips that are often under-reported on the travel day diary and to get a better understanding of behavior that may not be captured in a single day. Recent research shows that including a general question on walking at the beginning of the subject interview can result in more reported walks during the collection of actual travel for the assigned dayⁱⁱ.

The comparison of the number and type of walks recalled for ‘last week’ to the walk trips reported on the one-day diary is complicated by the time frame difference. In the NHTS, data is collected for an entire year, so the recall of ‘last week’ represents all seasons and includes weekends and holidays. Any single day assigned as the diary day may be unusual for some reason, or may not capture even frequent activity—a person may walk for exercise every other day but the diary day assigned was not one of those days, or may walk to work every weekday but the diary day assigned was a weekend.

With those differences in mind, it is instructive to compare the number of walks reported by recalling ‘last week’ to the number and type of specific walk trips reported on the diary day. To make the comparison the walk trips reported on the diary day have been multiplied by seven. Exhibit 1 compares some of the states that purchased additional samples of the NHTS 2009, including California. The State of California also added questions on the purpose of walks ‘last week’ and about the barriers to walking more to the state sample—the interviews in other states did not include these questions.

Of all the large add-on states, New York had the closest estimation between recalled and reported walk activity on the diary day—the estimates are statistically the same (see Exhibit 1). The two estimates for California are close but the recalled walks ‘last week’ are still significantly higher than the reported walks

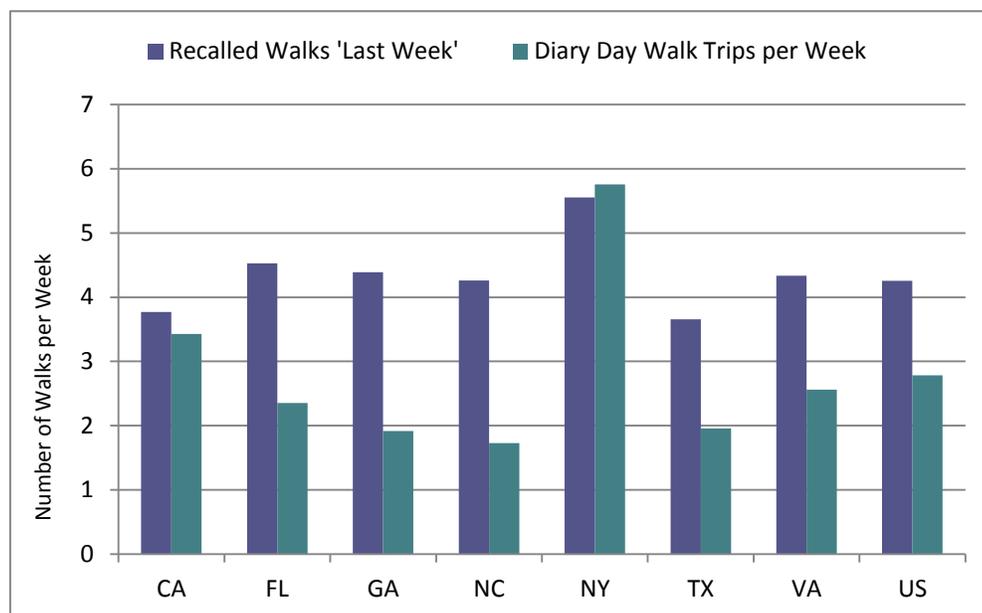
¹ The question in the interview was: “In the past week, how many times did you take a walk outside including walking the dog and walks for exercise?” This question was added in 2001 for people aged 16 and older, and the base population was expanded in 2009 to include all interviewed people.

on the diary day. The estimates for the other states are well outside the margin of error, with the diary day estimates much lower than the number of walks recalled for 'last week'².

As shown in Exhibit 1, people in California recalled 3.8 walks 'last week' but on the diary day reported 0.5 walk trips per capita, the equivalent of 3.5 walk trips per week. People in Florida recalled 4.5 walks 'last week' but on the diary day reported 0.34 walk trips per capita, or 2.8 walk trips per week.

Based on the recall of walks 'last week' Californians have one of the lowest estimates of walking—lower than the national average and second lowest of all the large add-on states (only Texas is lower). In contrast, based on the diary-day trip reports Californians have a significantly higher rate of per capita walking compared to the national average and significantly higher than every large add-on state except New York.

Exhibit 1 – Comparison of the Estimate of Walks per Week from Recall and Diary Reports



Source: NHTS 2009

The relation of recalled walks 'last week' and the number of reported walk trips varies by the age of the respondent. For example, Exhibit 2 shows that children aged 5-15 had the same number of walks recalled for 'last week' and reported on the travel day (all interviews with children in this age group are by proxy). People 16-24 and over 35 recalled more walks than the travel day estimates suggest. People aged 25-34 reported more walking activity on the travel day than the recall of walks 'last week' would suggest.

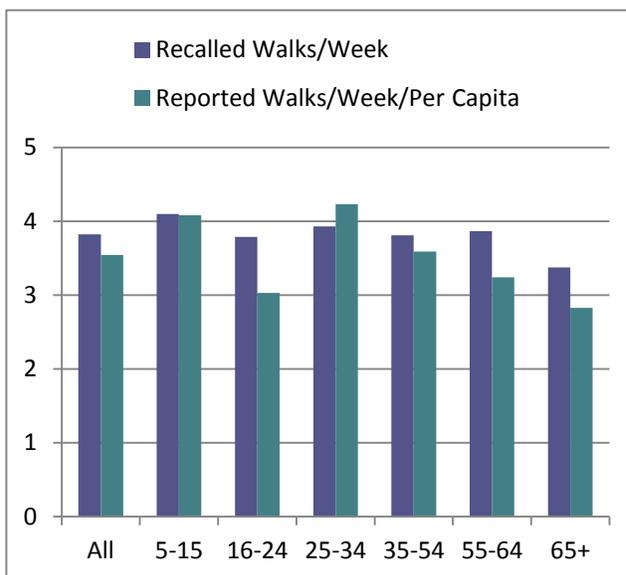
The direct comparison of the number of walks recalled 'last week' and the number of walk trips reported on the diary day is shown for people aged 16 and older in Exhibit 3. This comparison uses the actual diary day reports—either zero or one or more walks.

² All significance tests reported here use a 95% confidence interval to establish margin of error

Overall 34 percent recalled taking zero walks 'last week' and overall 83.8 percent of people reported no walk trips on the diary day. The comparison shows that 96.8 percent of people who recalled zero walks 'last week' also reported no walks on the diary day.

Over 43 percent of people recalled one to six walks 'last week', and 17.1 percent of them reported at least one walk trip on the diary day. More than one out of five (22.8 percent) of people recalled seven or more walks 'last week', and over one third of them reported at least one walk trip on the diary day (32.7 percent reported between one and six trips, and 1.2 percent reported seven or more trips).

Exhibit 2 – Comparison of Recalled and Reported Walk Activity by Age, CA



Source: CA-NHTS 2009

Importantly for methods research and for walk activity estimation, two-thirds (66.1 percent) of people aged 16 and older who recalled taking seven or more walks 'last week' reported zero walk trips on the assigned diary day.

Exhibit 3—Percent of People by the Number of Walks Recalled 'Last Week' and the Number of Walks Reported on the Travel Day

Number of Walks Recalled 'Last Week':	Number of Walks Reported on Travel Day:		
	Zero	One or more	All
Zero	96.8	3.2	34.0
One to Six	82.9	17.1	43.3
Seven or More	66.1	33.9	22.8
All	83.8	16.2	100.0

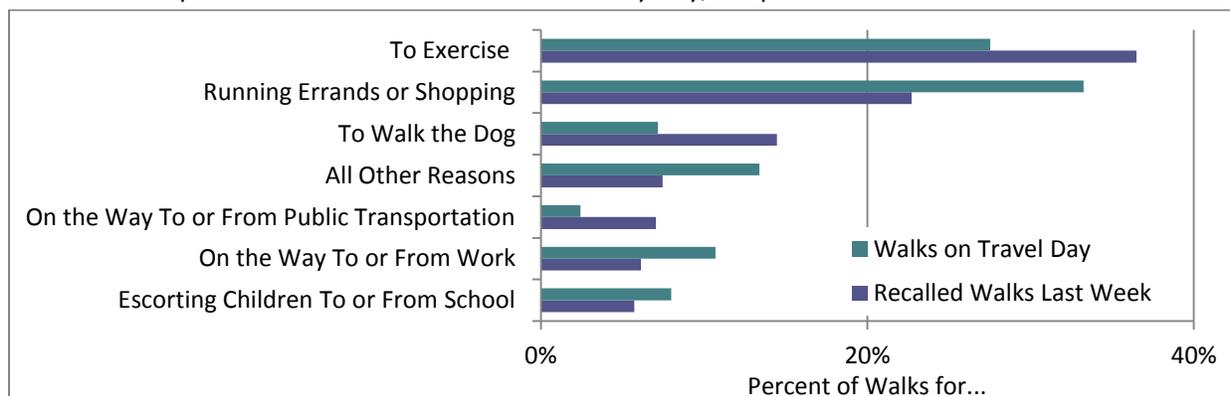
Source: CA-NHTS, people 16 and older

Exhibit 4 compares the kinds of walks people recalled 'last week' with the purpose of walking trips reported on the travel day for people aged 16 and older. These data are from California only, using the module the state added to the core NHTS data as part of their add-on. In recalling the purpose of their walks 'last week' people in the survey could choose more than one response, so the total adds up to more than 100 percent. The responses have been proportionately distributed to compare with the walk trips reported on the travel day.

A large proportion of walks in both cases were walks for exercise. However, people more often recalled walking for exercise than they reported walk trips for exercise on the diary day. In contrast, people did not recall walking for shopping and errands as often as they reported walk trips on the diary day—which may relate to the research mentioned previously relating to the under-reporting of short and incidental trips. People recalled walking the dog more often than they reported their trips to walk the dog on the

diary day. This could be because people did not think of walking the dog as a ‘real’ trip that merited being written down on the diary and reported in the interview.

Exhibit 4 -- Purpose of Walks ‘Last Week’ and On Dairy Day, People 16 and older



Source: CA-NHTS, people aged 16 and older

The data obtained in California presents two different estimates of walking activity—one estimate obtained by recall of the number of walks ‘last week’ and one estimate obtained by measuring the number of walk trips recorded as part of a single day of travel.

Each of these estimates leads to different conclusions: Based on the recall of walks ‘last week’ Californians have one of the lowest estimates of walking—lower than the national average and second lowest of all the large add-on states (only Texas is lower). In contrast, based on the diary-day trip reports Californians have a significantly higher rate of per capita walking compared to the national average and significantly higher than every large add-on state except New York.

One interpretation of these data is that asking for general activity, including the number of walks ‘last week’, the kinds of walking, and barriers to walking more led Californians to report more walking trips on the diary day. This hypothesis is in line with recent findingsⁱⁱ and would lead to the conclusion that the diary day reports of walk trips are more accurate in California than in other areas that did not have these general questions added before the detailed travel interview.

However, there is a substantial lack of credible, consistent research as to the best methods to obtain reliable estimates of walking activity, including how different age and demographic groups respond to different question wording and placement and how accurate diary information may be. More research is needed on how best to obtain accurate estimates of walking activity, and how to interpret the data we have to understand trends and factors related to walking.

ⁱ See: <http://nhts.ornl.gov/2001/pub/stt.pdf> Appendix 3

ⁱⁱ Research on the question placement for the overall NHTS 2009 found that moving the general question (walks ‘last week’) before the specific travel day reports significantly increased the travel day reports of walking from .51 in 2001 to .62 in 2009 (significant at the .05 level) for travelers aged 16 and older. In 2001 NHTS, the general question was after the travel day report.