

# COMMUNITY ADVANTAGE PANEL SURVEY: DATA COLLECTION UPDATE AND ANALYSIS OF PANEL ATTRITION

Technical Report: March 2011

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# **Community Advantage Panel Survey: Data Collection Update and Analysis of Panel Attrition**

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## **Overview**

We provide an update of the Community Advantage Panel Survey (CAPS) data collection activities that occurred in 2010 and describe our data collection plans for 2011. We first summarize the CAPS sampling strategy and data collection progress and then consider upcoming survey plans, attrition concerns, and the extent to which 2010 survey completers are representative of baseline respondents and other Self-Help Community Advantage Program (CAP) borrowers.

## **Sampling Strategy and Data Collection Progress**

Table 1 provides an overview of CAPS data collection progress for our sample of 3,743 original homeowners and 1,530 original renters.<sup>1</sup> The table displays the number of completed interviews by survey year, module, and mode of administration.

The 2011 row of Table 1 indicates that data collection for this year will include a variety of questions that concern the economic challenges that the survey respondents may have faced as a result of the financial crisis. These questions, which were also asked in 2009 and 2010, collect information about coping strategies that the respondents may have employed in dealing with these challenges, as well as how these strategies relate to homeownership. The consolidated wealth and asset questions that were been added to the survey in 2010 will also be administered again this year. In addition, a new module of moral hazard questions has been added to assess the attitudes of respondents toward debt repayment and defaults, as well as to ascertain the extent to which the behavior of the family and friends of the respondents may influence these attitudes via their impact on perceived social norms.

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<sup>1</sup> Note that many respondents' tenure status of "owner" or "renter" has changed since the study began; thus, original tenure status does not necessarily reflect current tenure status. For example, about 23% of original renters became homeowners between 2004 and 2010.

**Table 1: Data Collection Overview**

<b>Year</b>	<b>Survey Year</b>	<b><u>Owners</u></b>			<b><u>Renters</u></b>		
		<b>Module</b>	<b>Mode</b>	<b>Completes</b>	<b>Module</b>	<b>Mode</b>	<b>Completes</b>
2003	0	Home purchasing info; Counseling	SRU phone	3,743	---	--	--
2004	1	Social Capital; Parenting;	SRU phone	2,614	Social Capital; Parenting;	RTI phone	1,530
2005	2	Wealth & Assets; Mortgages; Savings	SRU phone RTI in-home	2,701 1,284	Wealth & Assets; Mortgages; Savings	RTI in-home	1,157
2006	2&3	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Sense of Community	RTI phone for soft-refusals	262	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Sense of Community	RTI phone for soft-refusals	77
	3	Rising Energy Costs; Sense of Community	SRU phone	2,118 (total: 2,380)	Rising Energy Costs; Sense of Community	RTI phone	970 (total: 1,047)
2007	4	Social Capital 2; Parenting 2; Medical Costs; Credit Scores	RTI phone	2,079	Social Capital 2; Parenting 2; Medical Costs; Credit Scores	RTI phone	903
2008	5	Wealth & Assets 2; Mortgages 2; Savings 2; Housing Experiences	RTI phone RTI in-home	1,296 1,080 (total: 2,376)	Wealth & Assets 2; Mortgages 2; Savings 2; Housing Experiences	RTI phone RTI in-home	55 927 (total: 982)
		Economic Challenges	RTI phone	2,229	Economic Challenges	RTI phone	917
2010	7	Economic Challenges 2	RTI phone	2,088	Economic Challenges 2	RTI phone	875
2011	8	Economic Challenges 3; Moral Hazards	RTI phone	~1,984	Economic Challenges 3; Moral Hazards	RTI phone	~831

- Note:**
- Universal core questions (demographics, employment, household expenses) asked every year. In addition, owners were administered a movers' module from Year 2 onward. Conversely, renters were asked about their intentions to purchase a home every year.
  - Renters were matched to urban owners by location and income. Renters' Year-1 data originally included 118 additional respondents who were later dropped due to not meeting age or income requirements. Renters' Years 2–5 data include one case that did not complete Year 1.
  - The soft-refusal sample comprises those cases that did not complete the SRU phone interview or the RTI in-home interview in Year 2.

Table 2 provides additional details about the final status of the data collection efforts for 2010. The 2010 completion rates for *eligible* owners and renters were 81% and 84%, respectively. However, the number of individuals who were eligible to be surveyed in 2010 exceeded the number of respondents who completed the 2009 survey. Considering only those individuals who completed the 2009 survey, 94% of owners and 95% of renters completed the 2010 survey.

Most respondents who were contacted in 2010 were willing to participate in the survey, as less than 5% of the eligible sample resulted in final refusals. About 70% of those cases that were not completed simply could not be contacted, either because of incorrect contact information or because tracing was unsuccessful. The number of hard refusals (i.e., respondents asking to be removed permanently from the survey panel) was somewhat higher in 2010 than in prior years, which may indicate some panel fatigue. However, the overall levels of noncontact and refusal in 2010 are consistent with those observed in prior years of the survey; the comparable figures were 6% and 60%, respectively, in 2009. Thus, the impact of these additional hard refusals on response rates is small.

In an effort to minimize the survey burden for respondents going forward, steps have been taken this year to shorten and streamline the 2011 survey. In addition, the National Institutes of Health have provided funding for a new experiment that will be conducted during the 2011 data collection in order to determine which of those respondents who are most likely to attrit from the survey also are most likely to respond to a higher incentive.

**Table 2: Final Status of 2010 Eligibles**

<b>Final Status – 2010</b>	<b>Owners</b>	<b>Renters</b>	<b>All</b>
Completed Interview	2,088 (81%)	875 (84%)	2963 (81%)
Unable to locate or contact	347 (13%)	128 (12%)	475 (13%)
Ineligible	7 (3%)	9 (1%)	16 (<1%)
Refused	128 (5%)	17 (2%)	145 (4%)
<b>Total Eligible</b>	<b>2,592</b>	<b>1,044</b>	<b>3,636</b>

Notes: (1) Percentages shown are column percentages. (2) The completion rates presented are calculated relative to all *eligible* cases, rather than simply those that completed the 2009 survey.

The experiment involves the evaluation of response propensities during the course of data collection and aims to minimize non-response bias. In particular, additional paradata, which includes interviewer perceptions of respondent receptiveness to the survey, will be collected from interviewers and used to optimize the prediction of response propensities. While the experiment itself may have a positive impact on non-response bias in the 2011 survey, the results of the intervention may also inform future years of data collection via panel maintenance.

### ***Panel Completion Rates by Survey Year***

#### *Owners*

Approximately 61% (1,276) of the 2,088 owners who completed the Year 7 interview in 2010 also completed interviews in Years 0 through 6. Therefore, more than half of the 2010 respondents have consistently provided data. With respect to the original baseline sample, which contained 3,743 homeowners, about 34% completed all eight interviews. Another 16% (586) of the baseline sample completed seven interviews, 11% (411) completed six interviews, 6% (210) completed five interviews, 5% (175) completed four interviews, 5% (196) completed three interviews, and 11% (423) completed just two interviews. Twelve percent of the original sample completed only baseline. Table 3 presents the number and percentage of completed owner interviews by year.

#### *Renters*

Approximately 77% (674) of the 875 renters who completed the Year 7 interview in 2010 also completed interviews in Years 1 through 6. Therefore, more than three-quarters of the 2010 respondents have consistently provided data. With respect to the original baseline renters sample, which consisted of 1,530 renters, 44% completed all seven interviews, while 13% has completed six survey years. In addition, approximately 6% of the baseline sample completed five years, 4% completed four years, 5% completed three years, 11% completed two years, and 13% completed only baseline. Note that renters have had one less interview opportunity than owners because the first renters survey was administered concurrently with the second owners survey. Table 4 presents the number and percentage of completed renter interviews by year.

#### *Eligibility for the 2011 Survey*

The panel members who are eligible for 2011 interviewing comprise 2,498 owners and 1,022 renters. To derive these numbers, we began with the pool of survey participants who were eligible for the 2010 survey and subtracted those cases for respondents who had asked to be permanently removed from the survey or who were deceased or incapacitated and who did not have a spouse in the household who could serve as a proxy respondent.

**Table 3: Owner Interviews by Year**

<b>Years Completed</b>	<b>Eligible in 2011</b>	<b>Number of Owners</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
All eight years	Yes	1,276	34.1%	34.1%
Only seven years		586	15.6%	49.7%
<i>Years 0,1,2,3,4,5,6</i>	Yes	76	2.0%	
<i>Years 0,1,2,3,4,5,6</i>	No	27	0.7%	
<i>Years 0,1,2,3,4,5,7</i>	Yes	31	0.8%	
<i>Years 0,1,2,3,4,6,7</i>	Yes	28	0.8%	
<i>Years 0,1,2,3,5,6,7</i>	Yes	144	3.9%	
<i>Years 0,1,2,4,5,6,7</i>	Yes	81	2.2%	
<i>Years 0,1,3,4,5,6,7</i>	Yes	18	0.5%	
<i>Years 0,2,3,4,5,6,7</i>	Yes	181	4.8%	
Only six years		411	11.0%	60.7%
<i>Years 0,1,2,3,4,5</i>	Yes	28	0.8%	
<i>Years 0,1,2,3,4,5</i>	No	28	0.8%	
<i>Years 0,1,2,3,4,6</i>	Yes	1	0.0%	
<i>Years 0,1,2,3,4,6</i>	No	3	0.1%	
<i>Years 0,1,2,3,4,7</i>	Yes	9	0.2%	
<i>Years 0,1,2,3,5,6</i>	Yes	31	0.8%	
<i>Years 0,1,2,3,5,6</i>	No	3	0.1%	
<i>Years 0,1,2,3,5,7</i>	Yes	21	0.6%	
<i>Years 0,1,2,3,6,7</i>	Yes	24	0.6%	
<i>Years 0,1,2,4,5,6</i>	Yes	10	0.3%	
<i>Years 0,1,2,4,5,6</i>	No	6	0.2%	
<i>Years 0,1,2,4,5,7</i>	Yes	8	0.2%	
<i>Years 0,1,2,4,6,7</i>	Yes	10	0.3%	
<i>Years 0,1,2,5,6,7</i>	Yes	79	2.1%	
<i>Years 0,1,3,4,5,6</i>	Yes	1	0.0%	
<i>Years 0,1,3,4,6,7</i>	Yes	5	0.1%	
<i>Years 0,1,3,5,6,7</i>	Yes	7	0.2%	
<i>Years 0,1,4,5,6,7</i>	Yes	11	0.3%	
<i>Years 0,2,3,4,5,6</i>	Yes	18	0.5%	
<i>Years 0,2,3,4,5,6</i>	No	2	0.1%	
<i>Years 0,2,3,4,5,7</i>	Yes	10	0.3%	
<i>Years 0,2,3,4,6,7</i>	Yes	5	0.1%	
<i>Years 0,2,3,5,6,7</i>	Yes	41	1.1%	
<i>Years 0,2,4,5,6,7</i>	Yes	23	0.6%	
<i>Years 0,3,4,5,6,7</i>	Yes	27	0.7%	
Only five years		210	5.6%	66.3%
<i>Years 0,1,2,3,7</i>	Yes	6	0.2%	
<i>Years 0,1,2,3,6</i>	Yes	11	0.3%	
<i>Years 0,1,2,3,6</i>	No	1	0.0%	
<i>Years 0,1,2,3,5</i>	Yes	24	0.6%	
<i>Years 0,1,2,3,5</i>	No	11	0.3%	

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<i>Years 0,1,2,3,4</i>	Yes	20	0.5%
<i>Years 0,1,2,3,4</i>	No	18	0.5%
<i>Years 0,1,2,4,5</i>	Yes	6	0.2%
<i>Years 0,1,2,4,5</i>	No	6	0.2%
<i>Years 0,1,2,4,6</i>	Yes	5	0.1%
<i>Years 0,1,2,4,6</i>	No	1	0.0%
<i>Years 0,1,2,5,6</i>	Yes	15	0.4%
<i>Years 0,1,2,5,6</i>	No	2	0.1%
<i>Years 0,1,2,5,7</i>	Yes	12	0.3%
<i>Years 0,1,3,4,5</i>	Yes	2	0.1%
<i>Years 0,1,3,5,6</i>	Yes	1	0.0%
<i>Years 0,1,3,5,7</i>	Yes	1	0.0%
<i>Years 0,1,3,6,7</i>	Yes	5	0.1%
<i>Years 0,1,4,5,6</i>	Yes	2	0.1%
<i>Years 0,1,4,5,6</i>	No	1	0.0%
<i>Years 0,1,4,6,7</i>	Yes	1	0.0%
<i>Years 0,2,3,4,5</i>	Yes	11	0.3%
<i>Years 0,2,3,4,5</i>	No	7	0.2%
<i>Years 0,2,3,4,6</i>	Yes	5	0.1%
<i>Years 0,2,3,4,6</i>	No	1	0.0%
<i>Years 0,2,3,4,7</i>	Yes	1	0.0%
<i>Years 0,2,3,5,6</i>	Yes	9	0.2%
<i>Years 0,2,3,5,7</i>	Yes	4	0.1%
<i>Years 0,2,3,6,7</i>	Yes	7	0.2%
<i>Years 0,2,4,5,6</i>	Yes	7	0.2%
<i>Years 0,2,4,5,6</i>	No	1	0.0%
<i>Years 0,2,4,6,7</i>	Yes	2	0.1%
<i>Years 0,3,4,5,6</i>	Yes	1	0.0%
<i>Years 0,3,4,5,7</i>	Yes	1	0.0%
<i>Years 0,3,4,6,7</i>	Yes	2	0.1%

Only four years 175 4.7% 71.0%

<i>Years 0,1,2,5</i>	Yes	29	0.8%
<i>Years 0,1,2,5</i>	No	7	0.2%
<i>Years 0,1,2,3</i>	Yes	33	0.9%
<i>Years 0,1,2,3</i>	No	31	0.8%
<i>Years 0,1,2,4</i>	Yes	3	0.1%
<i>Years 0,1,2,4</i>	No	8	0.2%
<i>Years 0,1,3,4</i>	Yes	3	0.1%
<i>Years 0,1,3,4</i>	No	1	0.0%
<i>Years 0,1,3,5</i>	Yes	2	0.1%
<i>Years 0,1,3,5</i>	No	1	0.0%
<i>Years 0,1,3,7</i>	Yes	1	0.0%
<i>Years 0,1,4,5</i>	Yes	4	0.1%
<i>Years 0,1,4,5</i>	No	1	0.0%
<i>Years 0,1,4,6</i>	Yes	1	0.0%
<i>Years 0,1,4,7</i>	Yes	1	0.0%
<i>Years 0,2,3,4</i>	Yes	4	0.1%
<i>Years 0,2,3,4</i>	No	10	0.3%
<i>Years 0,2,3,5</i>	Yes	12	0.3%

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	<i>Years 0,2,3,5</i>	No	1	0.0%	
	<i>Years 0,2,3,6</i>	Yes	7	0.2%	
	<i>Years 0,2,3,7</i>	Yes	4	0.1%	
	<i>Years 0,2,4,5</i>	Yes	3	0.1%	
	<i>Years 0,2,4,5</i>	No	2	0.1%	
	<i>Years 0,2,4,6</i>	Yes	2	0.1%	
	<i>Years 0,2,4,7</i>	Yes	1	0.0%	
	<i>Years 0,3,4,5</i>	Yes	1	0.0%	
	<i>Years 0,3,4,5</i>	No	1	0.0%	
	<i>Years 0,3,4,6</i>	Yes	1	0.0%	
Only three years			196	5.2%	76.2%
	<i>Years 0,1,2</i>	No	159	4.3%	
	<i>Years 0,1,3</i>	Yes	3	0.1%	
	<i>Years 0,1,3</i>	No	5	0.1%	
	<i>Years 0,1,4</i>	Yes	3	0.1%	
	<i>Years 0,1,4</i>	No	2	0.1%	
	<i>Years 0,2,3</i>	Yes	12	0.3%	
	<i>Years 0,2,3</i>	No	9	0.2%	
	<i>Years 0,2,4</i>	Yes	3	0.1%	
Only two years			423	11.3%	87.5%
	<i>Years 0,1</i>	No	199	5.3%	
	<i>Years 0,2</i>	No	180	4.8%	
	<i>Years 0,3</i>	No	44	1.2%	
Only one year (baseline)		No	466	12.5%	100%
<b>Total</b>			<b>2,498</b>	<b>3,743</b>	<b>100%</b>

Note: Numbers are based on the raw data set prior to data cleaning; Year 2 refers either to the SRU phone survey or to the RTI in-home interview; Year 3 includes soft refusals.

**Table 4: Renter Interviews by Year**

<b>Years Completed</b>	<b>Eligible in 2011</b>	<b>Number of Renters</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
All seven years	Yes	674	44.0%	44.0%
Only six years		203	13.3%	57.3%
<i>Years 1,2,3,4,5,6</i>	Yes	37	2.4%	
<i>Years 1,2,3,4,5,6</i>	No	7	0.5%	
<i>Years 1,2,3,4,5,7</i>	Yes	19	1.2%	
<i>Years 1,2,3,4,6,7</i>	Yes	11	0.7%	
<i>Years 1,2,3,5,6,7</i>	Yes	70	4.6%	
<i>Years 1,2,4,5,6,7</i>	Yes	27	1.8%	
<i>Years 1,3,4,5,6,7</i>	Yes	31	2.0%	
<i>Years 2,3,4,5,6,7</i>	Yes	1	0.1%	
Only five years		96	6.3%	63.6%
<i>Years 1,2,3,4,5</i>	Yes	16	1.1%	
<i>Years 1,2,3,4,5</i>	No	14	0.9%	
<i>Years 1,2,3,4,6</i>	Yes	2	0.1%	
<i>Years 1,2,3,4,6</i>	No	1	0.1%	
<i>Years 1,2,3,4,7</i>	Yes	1	0.1%	
<i>Years 1,2,3,5,6</i>	Yes	16	1.1%	
<i>Years 1,2,3,5,6</i>	No	2	0.1%	
<i>Years 1,2,3,5,7</i>	Yes	9	0.6%	
<i>Years 1,2,3,6,7</i>	Yes	8	0.5%	
<i>Years 1,2,4,5,6</i>	Yes	4	0.3%	
<i>Years 1,2,4,5,7</i>	Yes	3	0.2%	
<i>Years 1,2,4,6,7</i>	Yes	1	0.1%	
<i>Years 1,3,4,5,6</i>	Yes	2	0.1%	
<i>Years 1,3,4,5,6</i>	No	1	0.1%	
<i>Years 1,3,4,5,7</i>	Yes	4	0.3%	
<i>Years 1,3,4,6,7</i>	Yes	1	0.1%	
<i>Years 1,3,5,6,7</i>	Yes	11	0.7%	
Only four years		67	4.4%	68.0%
<i>Years 1,2,3,4</i>	Yes	10	0.7%	
<i>Years 1,2,3,4</i>	No	10	0.7%	
<i>Years 1,2,3,5</i>	Yes	16	1.1%	
<i>Years 1,2,3,5</i>	No	5	0.3%	
<i>Years 1,2,3,6</i>	Yes	5	0.3%	
<i>Years 1,2,3,7</i>	Yes	4	0.3%	
<i>Years 1,2,4,5</i>	Yes	6	0.4%	
<i>Years 1,2,4,5</i>	No	1	0.1%	
<i>Years 1,2,4,6</i>	Yes	1	0.1%	
<i>Years 1,3,4,5</i>	Yes	2	0.1%	
<i>Years 1,3,4,5</i>	No	3	0.2%	
<i>Years 1,3,4,6</i>	Yes	4	0.3%	

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Only three years			42	2.7%	70.7%
	<i>Years 1,2,3</i>	Yes	18	1.2%	
	<i>Years 1,2,3</i>	No	14	0.9%	
	<i>Years 1,2,4</i>	Yes	3	0.2%	
	<i>Years 1,2,4</i>	No	1	0.1%	
	<i>Years 1,3,4</i>	Yes	4	0.3%	
	<i>Years 1,3,4</i>	No	1	0.1%	
	<i>Years 1,3,5</i>	Yes	1	0.1%	
Only two years			152	9.9%	80.6%
	<i>Years 1,2</i>	No	140	9.1%	
	<i>Years 1,3</i>	No	12	0.8%	
Only one year (baseline)		No	297	19.4%	100%
<b>Total</b>			<b>1,022</b>	<b>1,531</b>	<b>100%</b>

Note: Numbers are based on the raw data set prior to data cleaning. Year 2 refers to the RTI in-home interview. Year 3 includes soft refusals. Total number includes one renter who did not complete the first year survey. The case was not used in the calculation of years of completion.

## Panel Attrition

In this section, we consider in two ways whether the sample of most recent panel respondents is representative of our target research populations. First, we examine the extent to which those individuals who completed the 2010 interview represent baseline respondents. Specifically, we compare the baseline characteristics of owners and renters who did not complete Year 7 with those of the renters and owners who did so. To carry out this comparison, we use multivariate logit models to predict Year 7 survey completion.

Second, we examine whether the owners Year 7 panel is representative of the larger sample of CAP loans to which we would like to generalize the findings of our future panel research. For this purpose, we use Chi-square proportion tests to identify observable differences between those 2,088 owners who completed Year 7 and the set of all 28,491 owners in our target generalization sample who received CAP loans. The appendices provide descriptive statistics for all the variables in these models (Owners: Appendices A and C; Renters: Appendix B).

### *Samples*

A total of 2,088 owners and 875 renters completed the 2010 survey. In analyzing attrition, we consider as a reference point the subsets of the baseline samples of 3,743 owners and 1,530 renters for which the demographics data are complete.

For owners, we remove 83 cases due to missing demographic information. Similarly, for renters, we omit 144 cases. Therefore, our final samples comprise 3,660 owners and 1,386 renters.

### *Multivariate Analyses of Panel Attrition*

#### *Specifications*

Our multivariate logit specifications predicting the likelihood that owners and renters completed the 2010 interview incorporate baseline demographic characteristics. So that the findings for owners and renters can be compared, the first two specifications contain only those variables common to both the owner and renter panels. The third specification also includes loan characteristics that are available only from our Self-Help data set of CAP homeowners.

For all three specifications, income was trimmed due to insignificance and a higher rate of missing data. U.S. region was also trimmed due to insignificance and the testing of geographic effects through state rather than region. States were compared to the reference category of “Other states,” which was created by combining states with less than 90 respondents.<sup>2</sup> This variable construction resulted in owners and renters having a different number of state-level controls.

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<sup>2</sup> Previous versions of this analysis have grouped states with less than 100 respondents, but we have retained the same categories to facilitate comparison of point estimates across survey years.

### *Year 7 Completion: Owners vs. Renters*

In predicting completion, significant findings generally point toward potential attrition, or non-response, bias. Thus, the results shown in Tables 5 and 6 do suggest that some bias may be present, as the Chi-square values indicate that both owner and renter specifications partially explain Year 7 survey completion. In practice, the extent and direction of bias will vary across individual survey questions and will depend on the extent to which the factors that drive the response propensity are actually correlated with substantive survey response values. Any given response rate may thus involve more or less bias, and the extent of bias cannot be determined based solely on the response rate or the response propensity. Nevertheless, we consider the relationship of various demographic factors to panel attrition in an effort to assess the extent to which the panel has remained demographically representative of our initial population of interest. Appendices A, B, and C respectively provide descriptive statistics for all the variables used in Specifications 1-3.

For owners, Specification 1 of Table 5 indicates that gender, race, education, and geography jointly predict completion while the insignificant effects of age, marital status, employment status, and the number of children in the household are taken into consideration. Specifically, the odds of completing Year 7 for men were .81 times those for women. In addition, Hispanic owners were .59 times as likely to complete the survey as Whites. Education levels also influenced completion: compared to high school graduates, those without a high school degree were .75 times as likely to complete the survey. Moreover, the odds of Year 7 completion for owners with four-year college degrees but no graduate school were nearly 40% greater than those of high school graduates, while those for owners in the other educational categories were not significantly different. Original geographic location influenced completion for Mississippi, Ohio, Oklahoma, and North Carolina owners, with the odds of completion for Mississippi owners being .56 times those of owners in Other states. For owners originally located in Ohio, Oklahoma, and North Carolina, the odds of completion were approximately 1.3, 1.5, and 1.3 times those of owners in Other states, respectively.

For renters, Specification 2 of Table 5 indicates that gender, age, race, marital status, and the number of children in the household jointly predict completion. Men were .83 times as likely to complete the survey as women, while Hispanics were .6 times as likely to complete the survey as Whites. Compared to renters aged 25 years or younger, renters who were at least 31 years old at baseline were between 1.8 and 2.5 times as likely to complete the survey. Moreover, respondents who had at some point been married or who reported being partnered were .6-.7 times as likely to have completed as those who had never been married, while respondents reporting two children in the household were only about .7 times as likely to have completed the survey as those who had no children.

Across both specifications for owners and renters, gender and race significantly affected Year 7 completion, with Hispanics and men being significantly less likely to respond. Overall, these results are consistent with those from previous years and show that we continue to have difficulty retaining baseline respondents who are Hispanic and male.

**Table 5: Logit Regression of Year 7 Completion (Demographics)**

Variable	Specification 1 - Owners		Specification 2 - Renters	
	B	Odds ratio	B	Odds ratio
<b>Gender</b>				
(Female)				
Male	-.21	.809**	-.19	.827*
<b>Age at baseline</b>				
(25 years old or less)				
26 – 30 years old	-.09	.911	.36	1.434
31 – 35 years old	-.01	.990	.58	1.780*
36 – 40 years old	.10	1.106	.90	2.449**
41 years old or more	.16	1.175	.75	2.115**
<b>Race</b>				
(White)				
Black	-.08	.923	.14	1.156
Hispanic	-.54	.586**	-.57	.564**
Other	-.29	.746	-.74	.476**
<b>Marital status at baseline</b>				
(Never married)				
Married or living with partner	.08	1.085	-.52	.594**
Widowed, divorced, separated	-.02	.985	-.33	.721*
<b>Number of children at baseline</b>				
(No child)				
1	.16	1.169	.14	1.147
2	.03	1.032	-.39	.674*
3 or more	-.02	.976	-.36	.700
<b>Education at baseline</b>				
11th grade or less	-.28	.753*	-.29	.746
(High school graduate/GED)				
Some 2 year college	.15	1.164	.29	1.340
2 year degree	-.06	.943	.31	1.364
Some 4 year college	-.18	.832	-.35	.704
Bachelor's degree	.35	1.417**	.20	1.229
Some graduate school or more	.12	1.126	.43	1.535
<b>Employment at baseline</b>				
(Employed)				
Unemployed, looking for work	-.01	.988	-.34	.710
Unemployed, not looking for work	.21	1.239	-.02	.984
Retired	-.27	.763	-.06	.938
<b>State at baseline</b>				
(Other states)				
Arizona	.10	1.107	.25	1.282
California	.14	1.146		
Illinois	-.11	.893		
Michigan	.37	1.454		
Mississippi	-.58	.558*		
North Carolina	.27	1.304**	.15	1.161
Ohio	.28	1.320*		
Oklahoma	.40	1.498**	.16	1.177
South Carolina	-.19	.828		
Texas	.17	1.187		
Virginia	.12	1.128		
<b>Intercepts</b>	.18		.38	
<b>Model Chi-Square (-2LogL)</b>		140.36		133.86
<b>Df</b>		33		25
<b>N</b>		3,660		1,386

Note: Reference groups are in parentheses; States with less than 90 observations were included in Other states; region and income were not significant and were removed; \* = p<.05; \*\* = p<.01

### *Further Analysis of Owner Retention: Owner-specific Loan Characteristics*

The third specification (see Table 6) predicting retention incorporates not only the respondent demographics previously considered but also borrower and loan characteristics, such as first-time homebuyer status, credit score at mortgage origination, and the origination loan-to-value ratio, that we have obtained from Self-Help. Clearly, these loan characteristics do not exist for our renters. Descriptive statistics for this specification are provided in Appendix C.

In predicting owner retention, the more comprehensive specification displayed in Table 6 indicates that gender, race, education, borrower credit score, origination loan-to-value ratio, and geographic location jointly predict completion when the insignificant effects of age, employment status, marital status, first-time homebuyer status, annual income as a percent of area median income, and loan origination year are considered.

More specifically, the odds of male owners completing Year 7 are .83 times those of female owners. With regard to race, Hispanic owners were .6 times as likely to have completed the Year 7 survey. Those owners with a bachelor's degree but no graduate school were 1.2 times as likely to have completed as those with only a high school diploma. From the perspective of geography, owners originally located in Michigan and North Carolina had nearly 60% and 40% greater odds of completion, respectively, than those located in Other states.

Of the additional loan characteristic variables that were not included in Specification 1, both borrower credit score at origination and the origination loan-to-value ratio influenced Year 7 completion. Compared to owners whose origination credit scores were unavailable, owners with credit scores greater than 720 had about 1.8 times the odds of completion. Moreover, those owners with an origination loan-to-value ratio of 96-97% had approximately .8 the completion odds of owners with origination loan-to-value ratios below 91%.

Otherwise, Table 6 indicates the 2010 survey respondents to not differ significantly from non-respondents with regard to baseline lending-related characteristics. First-time homebuyer status, annual household income as a percent of area median income, and loan origination year are all insignificant predictors of completion when the other relevant variables are controlled for. Overall, Specification 3 indicates that sample selection persists in our owners' panel with regard to gender, race, education, geography, origination loan-to-value ratio, and origination credit score.

**Table 6: Logit Regression of Year 7 Completion (Demographics and Loans)**

Variable	Specification 3 – Owners	
	B	Odds ratio
<b>Gender</b>		
(Female)		
Male	-.19	.831*
<b>Age at baseline</b>		
(25 years old or less)		
26 – 30 years old	-.10	.904
31 – 35 years old	-.04	.965
36 – 40 years old	.03	1.029
41 years old or more	.09	1.092
<b>Race</b>		
(White)		
Black	.01	1.003
Hispanic	-.52	.597**
Other	-.21	.809
<b>Marital status at baseline</b>		
Married or living with partner	.15	1.161
Widowed, divorced, separated (Never married)	.07	1.069
<b>Education at baseline</b>		
11th grade or less (High school graduate/GED)	-.22	.801
Some 2 year college	.17	1.180
2 year degree	-.04	.958
Some 4 year college	-.20	.818
Bachelor's degree	.25	1.284*
Some graduate school or more	.04	1.037
<b>Employment at baseline</b>		
(Employed)		
Unemployed, looking for work	-.08	.920
Unemployed, not looking for work	.17	1.185
Retired	-.37	.693
<b>Identified as first-time homebuyer</b>		
(Not a first-time home buyer)		
Identified as First-time homebuyer	.10	1.106
<b>Income as percentage of AMI</b>		
(0-50% AMI)		
51%-80% AMI	-.03	.969
>81% of AMI	-.26	.774
<b>Borrower credit score at origination</b>		
(No credit score)		
Less than 580	.18	1.198
581-620	.25	1.283
621-660	.28	1.320
661-720	.32	1.372
Greater than 720	.59	1.801**
<b>Origination year</b>		
(1999)		
2000	-.04	.965
2001	.04	1.038
2002	.07	1.074
2003	.04	1.042
<b>Loan to value ratio at origination</b>		
(0-90%)		
91%-95%	-.31	.735
96%-97%	-.25	.780*
>97%	-.01	.996

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**State at baseline**

(Other states)

Arizona	.06	1.057
California	.19	1.210
Illinois	.28	1.029
Michigan	.48	1.618*
Mississippi	-.41	.661
North Carolina	.31	1.362**
Ohio	.25	1.281
Oklahoma	.17	1.189
South Carolina	-.10	.902
Texas	.18	1.192
Virginia	.08	1.086

**Intercepts**

-07

**Model Chi-Square (-2LogL)**

159.87

**Df**

45

**N**

3,553

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Note: Reference groups are in parentheses; states with less than 90 observations were included in the 'Other states' category. Region variables were not significant and were removed;  
\* =  $p < .05$ ; \*\* =  $p < .01$

## **Comparison of the 2010 CAPS Owners with Other Self-Help CAP Borrowers**

This section compares the characteristics of those owners who completed the Year 7 survey with those of a selected sample of other CAP borrowers. Table 9 presents frequencies for demographic and homebuyer variables provided by Self-Help. The CAP sample (Self-Help Generalization Sample) to which we direct our findings consists of 28,491 homeowners, while the sample of Year 7 panel survey completers comprises 2,088 cases. Due to missing data, we exclude 4,014 borrowers, including 77 Year 7 completers. Thus, the final sample sizes for this analysis are 24,477 for the Self-Help Generalization Sample and 2,011 for the Year 7 survey completers.

We used Chi-square tests to compare these two groups, and Table 9 presents our results. The middle column of Table 9 provides percentages for all 24,477 CAP borrowers, including those who responded to the Year 7 survey. The right column instead provides percentages for the subset of owners who responded in Year 7. The percentages shown are column percentages. For example, 51% of Year 7 survey respondents are male, compared with 57% of CAP borrowers.

Table 7 indicates that there are significant differences between these two groups with respect to all of the variables considered. Compared to the larger profile of CAP borrowers, our set of Year 7 survey completers under-represents males, Hispanics, and higher-income (as a percentage of area median income) borrowers. With respect to race, Hispanics represent 19% of the portfolio but only 11% of the panel. Whites represent 56% of CAP borrowers yet 66% of the current survey panel. In addition, those with incomes greater than 80% of area median income comprise 10% of CAP borrowers but 8% of the panel. With respect to borrower and loan characteristics, our set of Year 7 survey completers over-represents first-time homebuyers and borrowers with high origination loan-to-value ratios.

These results indicate that our 2010 survey panel is mostly but not completely representative of our target generalization sample of CAP borrowers. The most worrisome difference lies in race: our panel over-represents Whites and under-represents non-Black minorities, especially Hispanics. As was done for previous survey years, sample weights for the 2010 survey have been constructed to enable data users to correct for these sample differences.

**Table 7: CAPS Owners Compared to Self-Help Generalization Sample**

Variable	Self-Help Generalization Sample	Community Advantage Panel Survey Year 7 Completers
<b>Gender*</b>		
Male	56.7	51.0
Female	43.3	49.0
<b>Race*</b>		
White	55.8	65.8
Black	18.5	19.5
Hispanic	18.7	11.3
Other	7.0	3.3
<b>Identified as First-time Homebuyer*</b>		
Yes	42.7	53.9
No	57.3	46.1
<b>Age at baseline*</b>		
25 or less	21.0	19.9
26-30	20.3	22.9
31-35	20.4	16.9
36-40	12.5	12.9
41 or older	25.8	27.4
<b>Income as percentage of AMI at baseline*</b>		
0-50% AMI	30.4	33.6
51%-80%AMI	59.5	58.7
>80% AMI	10.1	7.8
<b>Loan to value ratio at origination*</b>		
0-90%	16.3	10.8
91-95%	9.0	6.7
96-97%	40.7	39.4
>97%	34.0	43.2
<b>Borrower credit score at origination*</b>		
No Credit Score or Missing	4.4	2.7
Less than 580	4.7	4.5
581- 620	10.7	11.4
621-660	21.7	23.0
661-720	31.7	32.2
Greater than 720	26.8	26.3
<b>Borrower credit score (mean)^</b>	680.29	678.44
<b>LTV at origination (mean)*</b>	94.6	96.2
<b>N^</b>	24,477	2,011

Note: Percentages shown are column percentages. ^For Borrower credit score(mean), N=23,401 and 1,957, respectively. \* = p<.05

## Conclusions

Our analyses of attrition and sample representation do raise some concerns that data users need to address analytically. Even with continued retention efforts, including field tracing and incentives for respondents, we do anticipate that some attrition will persist through subsequent years of data collection. Given current trends, we expect higher attrition among respondents who are male or Hispanic.

Such attrition is not unusual in panel data collection, and methods to deal with this problem include weighting and multiple imputation. We have constructed sampling and non-response weights for each year of data collection to minimize the potential impact of biases resulting from higher attrition across various demographic groups. These weights will be incorporated into the final panel data set. In addition, we are actively conducting research to evaluate which panel members are most likely to attrit in the future, as well as incentive-based ways to minimize the non-response bias that may be present as a result of panel attrition.

## **Appendices A – C**

- A Owners Attrition: Baseline Demographics by Year 7 Completion Status
- B Renters Attrition: Baseline Demographics by Year 7 Completion Status
- C Owners Attrition:  
Baseline Demographics and Loan characteristics by Year 7 Completion Status

**Appendix A**  
**Owners Attrition: Baseline Demographics by Year 7 Completion Status**

Variable	All		Dropped out		Completed	
<b>Gender**</b>						
Male	1,966	53.7%	923	47.0%	1,043	53.0%
Female	1,694	46.3%	677	40.0%	1,017	60.0%
<b>Age at baseline</b>						
25 years old or less	712	19.5%	305	42.8%	407	57.2%
26 - 30years old	854	23.3%	387	45.3%	467	54.7%
31 - 35 years old	639	17.5%	290	45.4%	349	54.6%
36 - 40 years old	481	13.1%	213	44.3%	268	55.7%
41 years old or more	974	26.6%	405	41.6%	569	58.4%
<b>Race**</b>						
White	2,247	61.4%	904	40.2%	1,343	59.8%
Black	717	19.6%	310	43.2%	407	56.8%
Hispanic	573	15.7%	330	57.6%	243	42.4%
Other	123	3.4%	56	45.5%	67	54.5%
<b>Marital status at baseline</b>						
Married or living with partner	2,082	56.9%	939	45.1%	1,143	54.9%
Widowed, divorced, separated	723	19.8%	293	40.5%	430	59.5%
Never Married	855	23.4%	368	43.0%	487	57.0%
<b>Number of children at baseline**</b>						
No child	1,733	47.4%	741	42.8%	992	57.2%
1	839	22.9%	338	40.3%	501	59.7%
2	675	18.4%	311	46.1%	364	53.9%
3 or more	413	11.3%	210	50.9%	203	49.1%
<b>Education at baseline**</b>						
11th grade or less	365	10.0%	207	56.7%	158	43.3%
High school graduate/GED	886	24.2%	395	44.6%	491	55.4%
Some 2 year college	649	17.7%	260	40.1%	389	59.9%
2 year degree	508	13.9%	226	44.5%	282	55.5%
Some 4 year college	385	10.5%	188	48.8%	197	51.2%
Bachelor's degree	540	14.8%	191	35.4%	349	64.6%
Some graduate school or more	327	8.9%	133	40.7%	194	59.3%
<b>Income at baseline</b>						
Less than \$10,000	32	0.9%	13	40.6%	19	59.4%
\$10,000-\$14,999	84	2.3%	40	47.6%	44	52.4%
\$15,000-\$19,999	255	7.0%	115	45.1%	140	54.9%
\$20,000-\$24,999	526	14.4%	237	45.1%	289	54.9%
\$25,000-\$34,999	1,032	28.2%	448	43.4%	584	56.6%
\$35,000-\$49,999	1,259	34.4%	540	42.9%	719	57.1%
\$50,000-\$74,999	379	10.4%	163	43.0%	216	57.0%
\$75,000 or greater	93	2.5%	44	47.3%	49	52.7%
<b>Employment at baseline</b>						
Employed	3,380	92.4%	1,476	43.7%	1,904	56.3%
Unemployed, looking for work	118	3.2%	54	45.8%	64	54.2%
Unemployed, not looking for work	101	2.8%	41	40.6%	60	59.4%
Retired	61	1.7%	29	47.5%	32	52.5%

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**Borrower origination credit score\*\***

Credit score=0 or missing score	203	5.6%	112	55.2%	91	44.8%
less than 580	179	4.9%	88	49.2%	91	50.8%
580 - 619	435	11.9%	204	46.9%	231	53.1%
620 - 659	861	23.5%	398	46.2%	463	53.8%
660 - 719	1,155	31.6%	504	43.6%	651	56.4%
720 or greater	827	22.6%	294	35.6%	533	64.4%
<b>Age (mean)</b>	35.1		35.0		35.1	
<b>Borrower credit score (mean)^</b>	674.4		669.1		678.4	
<b>N^</b>	3,660		1,600		2,060	

Note: Percentage shown in columns 2 and 3 are row percentages. ^For borrower credit score(mean),

N=3,458; 1,488; and 1,970 respectively. \* = p<.05; \*\* = p<.01

**Appendix B**  
**Renters Attrition: Baseline Demographics by Year 7 Completion Status**

Variable	All		Dropped out		Completed	
<b>Gender*</b>						
Male	392	28.3%	169	43.1%	223	56.9%
Female	994	71.7%	362	36.4%	632	63.6%
<b>Age at baseline**</b>						
25 years old or less	216	15.6%	110	50.9%	106	49.1%
26 - 30years old	212	15.3%	92	43.4%	120	56.6%
31 - 35 years old	164	11.8%	68	41.5%	96	58.5%
36 - 40 years old	152	11.0%	51	33.6%	101	66.5%
41 years old or more	642	46.4%	210	32.7%	432	67.3%
<b>Race**</b>						
White	606	43.7%	207	34.2%	399	65.8%
Black	453	32.7%	140	30.9%	313	69.1%
Hispanic	263	19.0%	151	57.4%	112	42.5%
Other	64	4.6%	33	51.6%	31	48.4%
<b>Marital status at baseline**</b>						
Married or living with partner	524	37.8%	253	48.3%	271	51.7%
Widowed, divorced, separated	447	32.3%	146	33.7%	301	67.3%
Never Married	415	29.9%	132	31.8%	283	68.2%
<b>Number of children at baseline**</b>						
No child	719	51.9%	255	35.5%	463	64.5%
1	300	21.6%	99	33.0%	201	67.0%
2	217	15.7%	106	48.9%	111	51.2%
3 or more	150	10.8%	71	47.3%	79	52.7%
<b>Education at baseline**</b>						
11th grade or less	281	20.3%	145	51.6%	136	48.4%
High school graduate/GED	468	33.8%	180	38.5%	288	61.5%
Some 2 year college	221	16.0%	66	29.9%	155	70.1%
2 year degree	108	7.8%	33	30.6%	75	69.4%
Some 4 year college	87	6.3%	39	44.8%	48	55.2%
Bachelor's degree	159	11.4%	50	31.5%	109	68.5%
Some graduate school or more	62	4.5%	18	29.0%	44	71.0%
<b>Income at baseline</b>						
Less than \$10,000	305	22.3%	116	38.0%	189	62.0%
\$10,000-\$14,999	199	14.5%	83	41.7%	116	58.3%
\$15,000-\$19,999	205	15.0%	74	36.1%	131	63.9%
\$20,000-\$24,999	164	12.0%	55	33.5%	109	66.5%
\$25,000-\$34,999	304	22.2%	112	36.8%	192	63.2%
\$35,000-\$49,999	150	11.0%	56	37.3%	94	62.7%
\$50,000-\$74,999	34	2.5%	16	47.1%	18	52.9%
\$75,000 or greater	8	0.6%	4	50.0%	4	50.0%
<b>Employment at baseline</b>						
Employed	869	62.7%	323	37.2%	546	62.8%
Unemployed, looking for work	167	12.0%	80	47.9%	87	52.1%
Unemployed, not looking for work	280	20.2%	104	37.1%	176	62.9%
Retired	70	5.1%	24	34.3%	46	65.7%
<b>Age (mean) at baseline</b>	39.7		37.6		41.1	
<b>N^</b>	1,386		531		855	

Note: Percentage shown in columns 2 and 3 are row percentages. \* = p<.05; \*\* = p<.01  
For Income, N=1368, 516, and 852 respectively.

**Appendix C**  
**Owners Attrition: Baseline Demographics and Loan characteristics**  
**by Year 7 Completion Status**

Variable	All		Dropped out		Completed	
<b>Gender**</b>						
Male	1,905	53.6%	883	46.3%	1,022	53.7%
Female	1,648	46.4%	660	40.1%	988	59.9%
<b>Age at baseline</b>						
25 years old or less	697	19.6%	296	42.5%	401	57.5%
26 - 30years old	829	23.3%	369	44.5%	460	55.5%
31 - 35 years old	618	17.4%	278	45.0%	340	55.0%
36 - 40 years old	467	13.1%	207	44.3%	260	55.7%
41 years old or more	942	26.5%	393	41.7%	549	58.3%
<b>Race**</b>						
White	2,210	62.2%	886	40.1%	1,324	59.9%
Black	689	19.4%	296	43.0%	393	57.0%
Hispanic	532	15.0%	306	57.5%	226	42.5%
Other	122	3.4%	55	45.1%	67	54.9%
<b>Marital status at baseline</b>						
Married or living with partner	2,014	56.7%	901	44.7%	1,113	55.3%
Widowed, divorced, separated	705	19.8%	284	40.3%	421	59.7%
Never Married	834	23.5%	358	42.9%	476	57.1%
<b>Education at baseline**</b>						
11th grade or less	336	9.5%	187	55.7%	149	44.4%
High school graduate/GED	859	24.2%	381	44.4%	478	55.7%
Some 2 year college	630	17.7%	251	39.8%	379	60.2%
2 year degree	500	14.1%	220	44.0%	280	56.0%
Some 4 year college	377	10.6%	184	48.8%	193	51.2%
Bachelor's degree	528	14.9%	188	35.6%	340	64.4%
Some graduate school or more	323	9.1%	132	40.9%	191	59.1%
<b>Employment at baseline</b>						
Employed	3,294	92.7%	1,427	43.3%	1,867	56.7%
Unemployed, looking for work	107	3.0%	50	46.7%	57	53.3%
Unemployed, not looking for work	93	2.6%	38	40.9%	55	59.1%
Retired	59	1.7%	28	47.5%	31	52.5%
<b>Fist-time homebuyer</b>						
Not a first-time homebuyer	1,649	46.4%	722	43.8%	927	56.2%
Fist-time homebuyer	1,904	53.6%	821	43.1%	1,083	56.9%
<b>Income as percentage of AMI at baseline</b>						
0 - 50% AMI	1,196	33.7%	521	43.6%	675	56.4%
51 -80% AMI	2,047	57.6%	868	42.4%	1,179	56.6%
>80% of AMI	310	8.7%	154	49.7%	156	50.3%
<b>Borrower origination credit score**</b>						
No credit score	124	3.5%	70	56.5%	54	43.6%
Less than 580	178	5.0%	88	49.4%	90	50.6%
581 - 620	430	12.1%	200	46.5%	230	53.5%
621 - 660	855	24.1%	393	46.0%	462	54.4%
661 - 720	1,146	32.3%	500	43.6%	646	56.4%
>720	820	23.1%	292	35.6%	528	64.4%

*Continued on the next page.*

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**Origination year**

1999	102	2.9%	44	43.1%	58	56.9%
2000	880	24.8%	395	44.9%	485	55.1%
2001	1,054	29.7%	481	45.6%	573	54.4%
2002	1,395	39.3%	574	41.2%	821	58.9%
2003	122	3.4%	49	40.2%	73	59.8%

**Loan to value ratio at baseline\*\***

1 - 90%	361	10.2%	144	39.9%	217	60.1%
91 - 95%	256	7.2%	122	47.7%	134	52.3%
96 - 97%	1,546	43.5%	755	48.8%	791	51.2%
> 97%	1,390	39.1%	522	37.6%	868	62.5%

**State at baseline\*\***

Other states	797	22.4%	382	47.9%	415	52.1%
Arizona	105	3.0%	58	55.2%	47	44.8%
California	155	4.4%	79	51.0%	76	49.0%
Illinois	178	5.0%	88	49.4%	90	50.6%
Michigan	105	3.0%	40	38.1%	65	61.9%
Mississippi	94	2.7%	56	59.6%	38	40.4%
North Carolina	963	27.1%	380	39.5%	583	60.5%
Ohio	427	12.0%	167	39.1%	260	60.9%
Oklahoma	419	11.8%	150	35.8%	269	64.2%
South Carolina	97	2.7%	47	48.5%	50	51.6%
Texas	98	2.8%	48	49.0%	50	51.0%
Virginia	115	3.2%	48	41.7%	67	58.3%

<b>N</b>	3,553	1,543	2,010
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Note: Percentage shown in columns 2 and 3 are row percentages. \* = p<.05; \*\* = p<.01