

How Different are “Not Eligible” Cases and the ATUS Sample: A Consideration of Demographic Factors and Data Quality Indicators

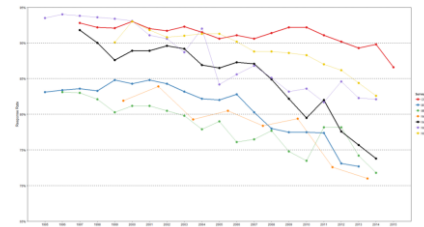
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Office of Survey Methods Research

Survey Methods Symposium

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A Loss of Cases



- ATUS response rates steadily declining
 - ▶ 49.9% (2013) to 45.6% (2017)
- Cases of low quality on ATUS are currently flagged as not eligible (NE) for estimation purposes
 - ▶ Between 3.46% in 2014 to 4.31% in 2017
 - ▶ Fewer than five activities
 - ▶ More than three hours of time coded as “gap/can’t remember” or “refusal/none of your business”

The Present Study

- Compare the characteristics of eligible and NE respondents:
 - ▶ Demographic Characteristics
 - (e.g., labor force status, race, age, sex, income)
 - ▶ Data Quality and Collection Strategies
 - (e.g., % income imputed, week of response, weekday/weekend assignment, number of call attempts)
 - ▶ Activities Reported
 - (comparison of reported activities)

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Sample and Analytic Strategy

- ATUS from 2013-2017
- n=56,809
- 2,211 flagged for exclusion (3.89%)
- Parametric Tests:
 - ▶ Compare NE Cases to Eligible Cases
- Descriptive Statistics:
 - ▶ Compare subgroups

Evaluation of NE Criteria

- Operationalized criteria:
 - ▶ Inactive Subgroup (<5 activities)
 - ▶ Forgetful Subgroup (3+ hours “don’t know”)
 - ▶ Reluctant Subgroup (3+ hours “refusal”)
- Some (minimal) overlap between subgroups

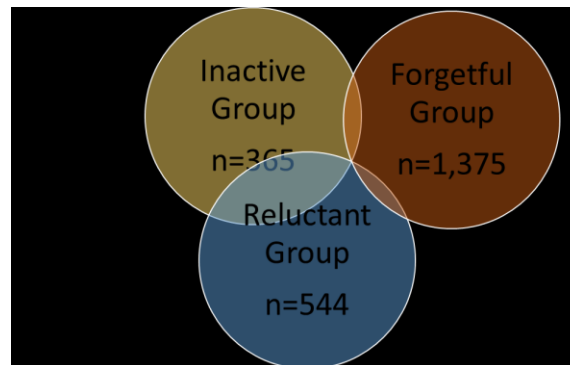


Table 1. Demographic Characteristics of NE and Eligible ATUS Cases

Demographic Factor	NE Cases (n=2,211)	ATUS Eligible (n=54,598)	t-statistic or χ^2
Age (years)	58.07	48.88	23.51***
Female (%)	59.16	55.51	11.43***
Race/Ethnicity (%)			98.83***
White	57.26	64.95	
Black	21.71	14.35	
Hispanic, Any Race	14.97	14.97	
Asian	4.07	3.92	
American Indian	0.63	0.54	
Hawaiian/Pacific Islander	0.18	0.20	
Bi or Multiracial	1.18	1.06	
Marital Status (%)			326.05***
Married	39.94	48.62	
Divorced/Separated/Never	39.30	42.11	
Widowed	20.76	9.27	
Presence of Minor in HH (%)	20.17	32.46	147.44***
Household Size	2.20	2.62	-12.95***

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Table 2. Demographic Characteristics by Subgroup

Demographic Factor	Inactive Group (n=365)	Forgetful Group (n=1,375)	Reluctant Group (n=544)	ATUS Eligible
Age (years)	52.99	61.24	53.39	48.88
Female (%)	47.12	62.33	57.54	55.51
Race/Ethnicity (%)				
White	50.41	60.51	50.92	64.95
Black	30.14	19.85	21.51	14.35
Hispanic, Any Race	13.97	13.75	20.96	14.97
Asian	1.64	4.22	4.78	3.92
American Indian	1.10	0.51	0.55	0.54
Hawaiian/Pac Isl	0.55	0.00	0.55	0.20
Bi or Multiracial	2.19	1.16	0.74	1.06
Marital Status (%)				
Married	36.16	38.84	45.59	48.62
Div/Sep/Nev	52.05	35.85	39.71	42.11
Widowed	11.78	25.31	14.71	9.27
Presence of Minor in HH (%)	18.90	17.82	26.10	32.46

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Table 3. Socioeconomic Status of NE Cases and the ATUS Sample

Socioeconomic Factor	NE Cases (n=2,211)	ATUS Eligible (n=54,598)	t-statistic or χ^2
Income (midpoint in \$)	\$47,968	\$63,467	-15.93***
Employment Status (%)			680.93***
Employed	34.64	60.56	
Unemployed	2.67	3.99	
Not in Labor Force	62.69	35.45	
Educational Attainment (%)			232.51***
HS Dropout	20.99	13.15	
HS Graduate	31.25	24.54	
Some College	24.97	27.18	
College Graduate	22.80	35.12	

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Table 4. Socioeconomic Status of Cases by Subgroup

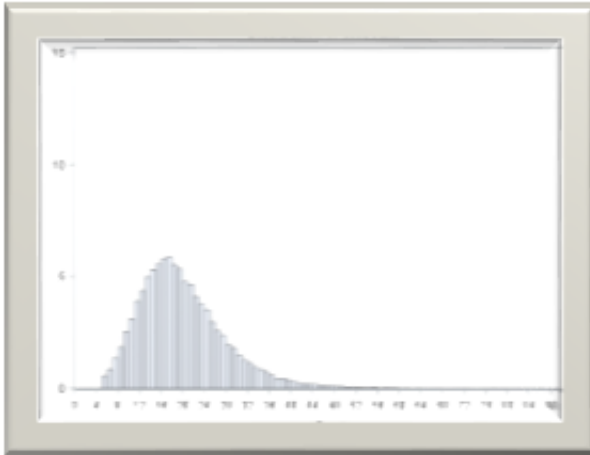
Socioeconomic Factors	Inactive Group (n=365)	Forgetful Group (n=1,375)	Reluctant Group (n=544)	ATUS Eligible
Income (midpoint in \$)	\$47,174	\$46,667	\$52,010	\$63,467
Employment Status (%)				
Employed	43.56	28.29	44.49	60.56
Unemployed	2.74	3.35	0.92	3.99
Not in Labor Force	53.70	68.36	54.60	35.45
Educational Attainment (%)				
HS Dropout	19.45	22.25	19.85	13.15
HS Graduate	32.88	31.78	30.15	24.54
Some College	25.75	23.42	26.29	27.18
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Unemployed	2.74	3.35	0.92	3.99
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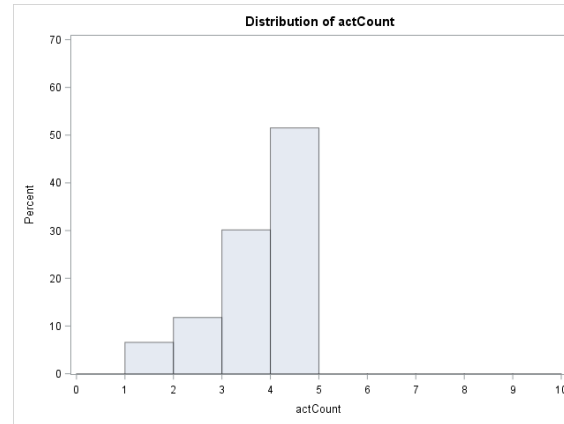
Results: Activity Counts

ATI IS

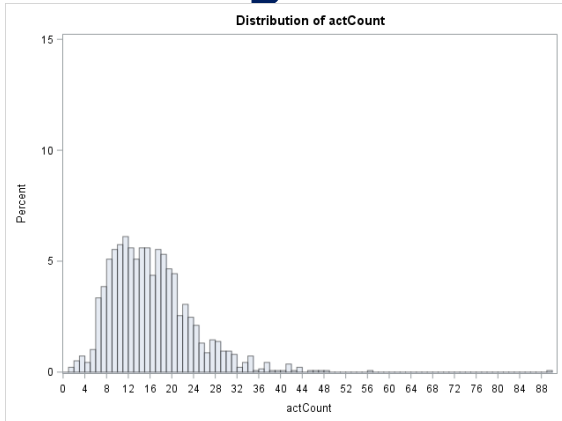


Median = 18

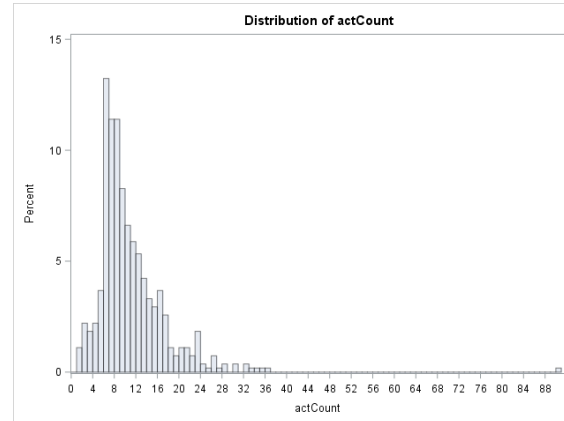
Inactive



Reluctant

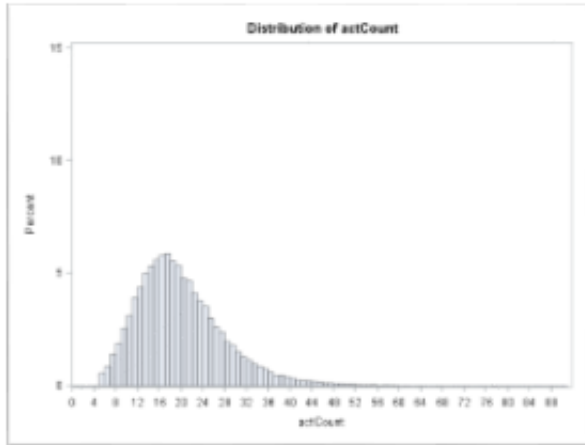


Reluctant



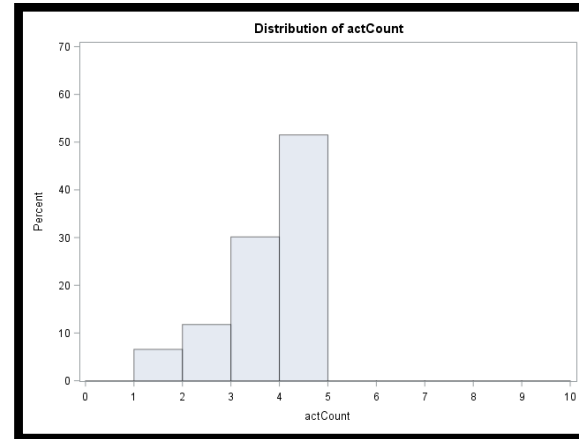
Results: Activity Counts

ATUS



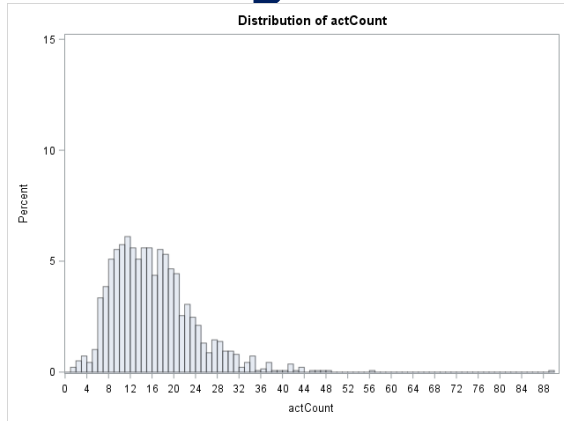
Median = 18

Inactive

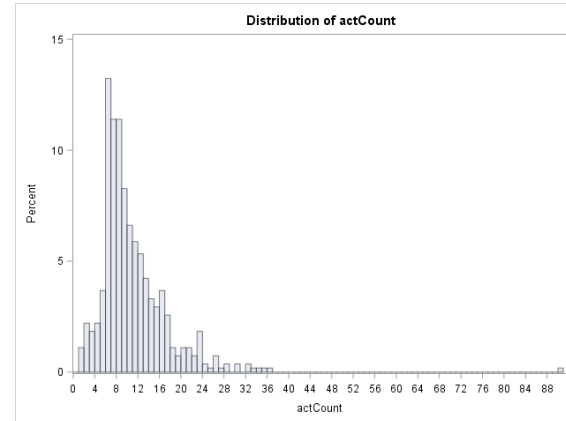


Median = 4

Forgetful

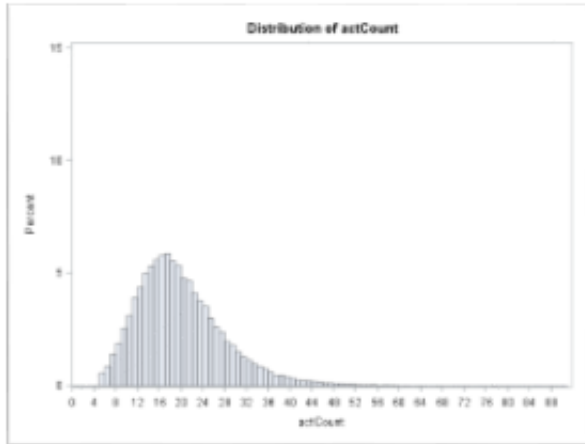


Reluctant



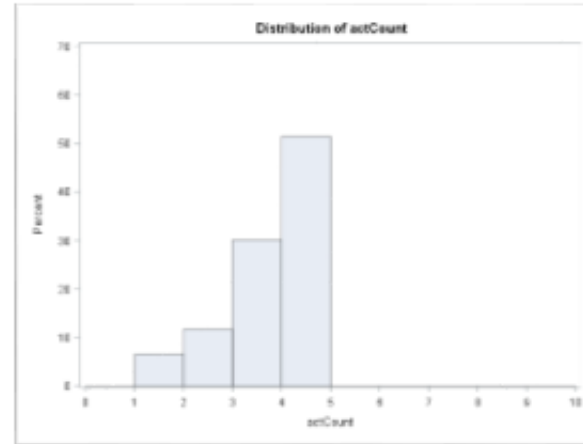
Results: Activity Counts

ATUS



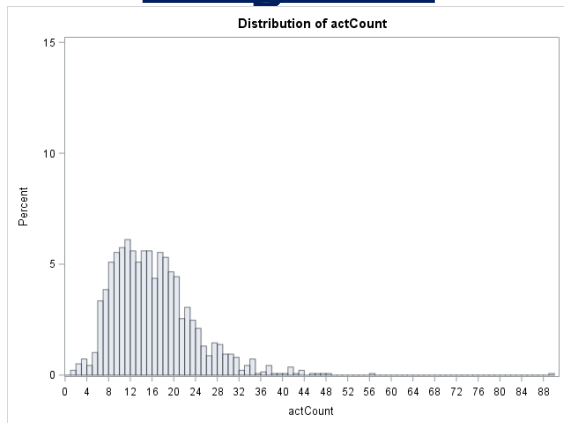
Median = 18

Inactive

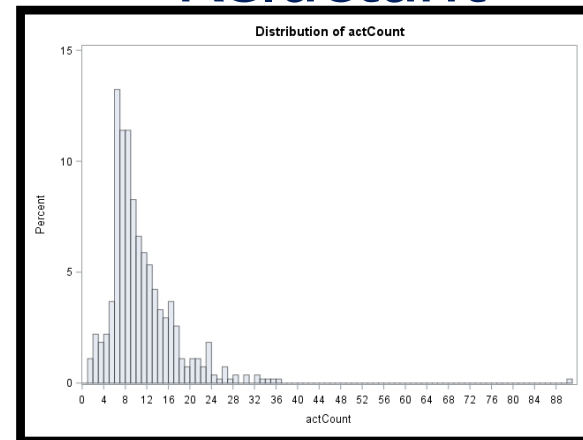


Median = 4

Forgetful



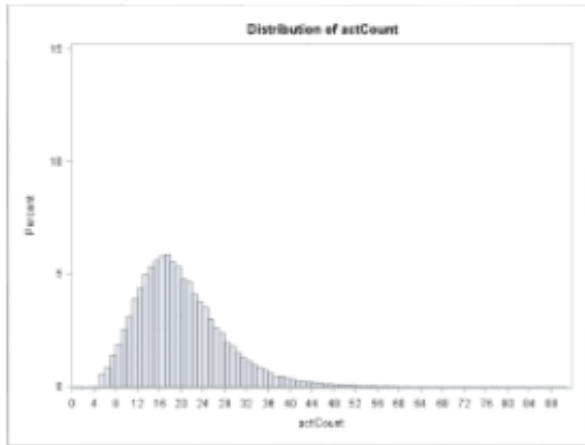
Reluctant



Median = 9

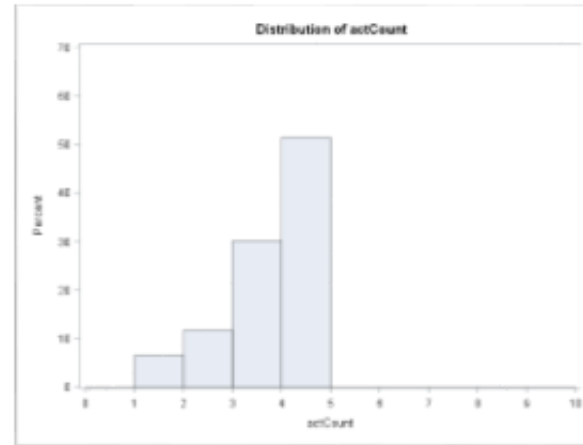
Results: Activity Counts

ATUS



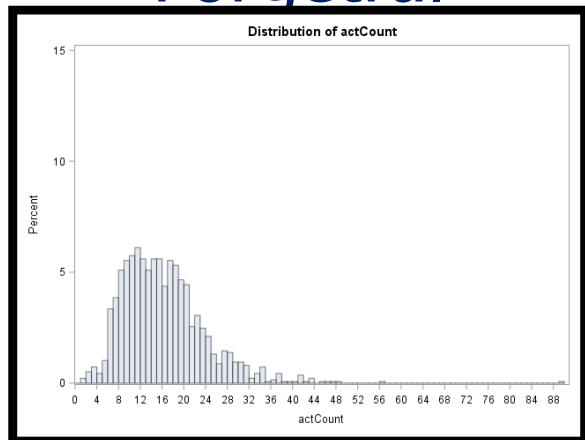
Median = 18

Inactive



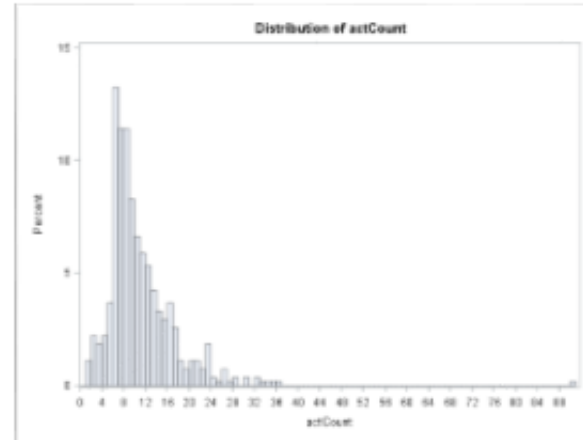
Median = 4

Forgetful



Median = 15

Reluctant



Median = 9

Results: Top 10 Activities

Table 5. Comparison of Most Frequently Reported Activities among NE Cases and Eligible ATUS Cases

NE Cases	%	Eligible ATUS Cases	%
Sleeping	13.49	Sleeping	10.94
Eating and drinking	10.19	Eating and drinking	10.14
Gap/can't remember	7.56	Television and movies (not religious)	7.99
Television and movies (not religious)	7.54	Washing, dressing and grooming oneself	7.11
Washing, dressing and grooming oneself	5.76	Food and drink preparation	4.83
Food and drink preparation	4.74	Work, main job	4.03
Interior cleaning	2.16	Socializing and communicating with others	2.86
Refused/"none of your business"	2.15	Travel related to working	2.78
Reading for personal interest	2.06	Physical care for hh children	2.37
Socializing and communicating with others	2.01	Travel related to shopping, ex groceries, food, and gas	2.18

Note: Activities in bold differ between groups

Table 6. Comparison of Most Frequently Reported Activities among NE Subgroups

"Inactive" Group	%	"Forgetful" Group	%	"Reluctant" Group	%
Sleeping	42.95	Sleeping	12.54	Sleeping	11.37
Television and movies (not religious)	15.94	Eating and drinking	10.38	Refused/"none of your business"	10.25
Eating and drinking	10.32	Gap/can't remember	9.68	Eating and drinking	9.33
Refused/"none of your business"	3.61	Television and movies (not religious)	7.70	Washing, dressing and grooming oneself	6.09
Health-related self care	3.44	Washing, dressing and grooming oneself	5.84	Television and movies (not religious)	5.10
Work, main job	3.36	Food and drink preparation	5.00	Food and drink preparation	4.32
Relaxing, thinking	2.77	Reading for personal interest	2.37	Work, main job	3.24
Gap/can't remember	2.43	Interior cleaning	2.24	Travel related to working	2.70
Washing, dressing and grooming oneself	2.01	Socializing and communicating with others	2.14	Interior cleaning	2.09
Travel related to working	1.26	Kitchen and food clean-up	1.87	Travel related to shopping (except grocery shopping)	1.90

Note: Activities in bold were not among the ten most frequently reported activities among eligible ATUS respondents



Summary

- NE cases differ systematically from eligible cases (e.g., labor force status, age, ses, sex, race)
 - ▶ Modeled the probability of being flagged for ineligibility and found consistent results
 - ▶ Activities reported seem to differ and track closely with observed demographic differences (e.g., labor force status and minor present in hh)

Discussion

- “Gap/Can’t Remember” criteria is most promising
 - ▶ Forgetful respondents report better data than reluctant and inactive respondents
 - Not actively refusing to report activities and report a higher number of activities
 - Also, tend to report earlier in the data collection period and require fewer contact attempts (not shown here)
 - ▶ Including them (subset) might reduce demographic differences between NE cases and eligible ATUS cases

Recommendations

1. Analyses to develop revised criteria for exclusion
2. Analyses to investigate the potential bias (if any) resulting from the exclusion of NE cases
3. Develop, revise, or implement interviewer strategies to aid recall

Contact Information

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202-691-5558

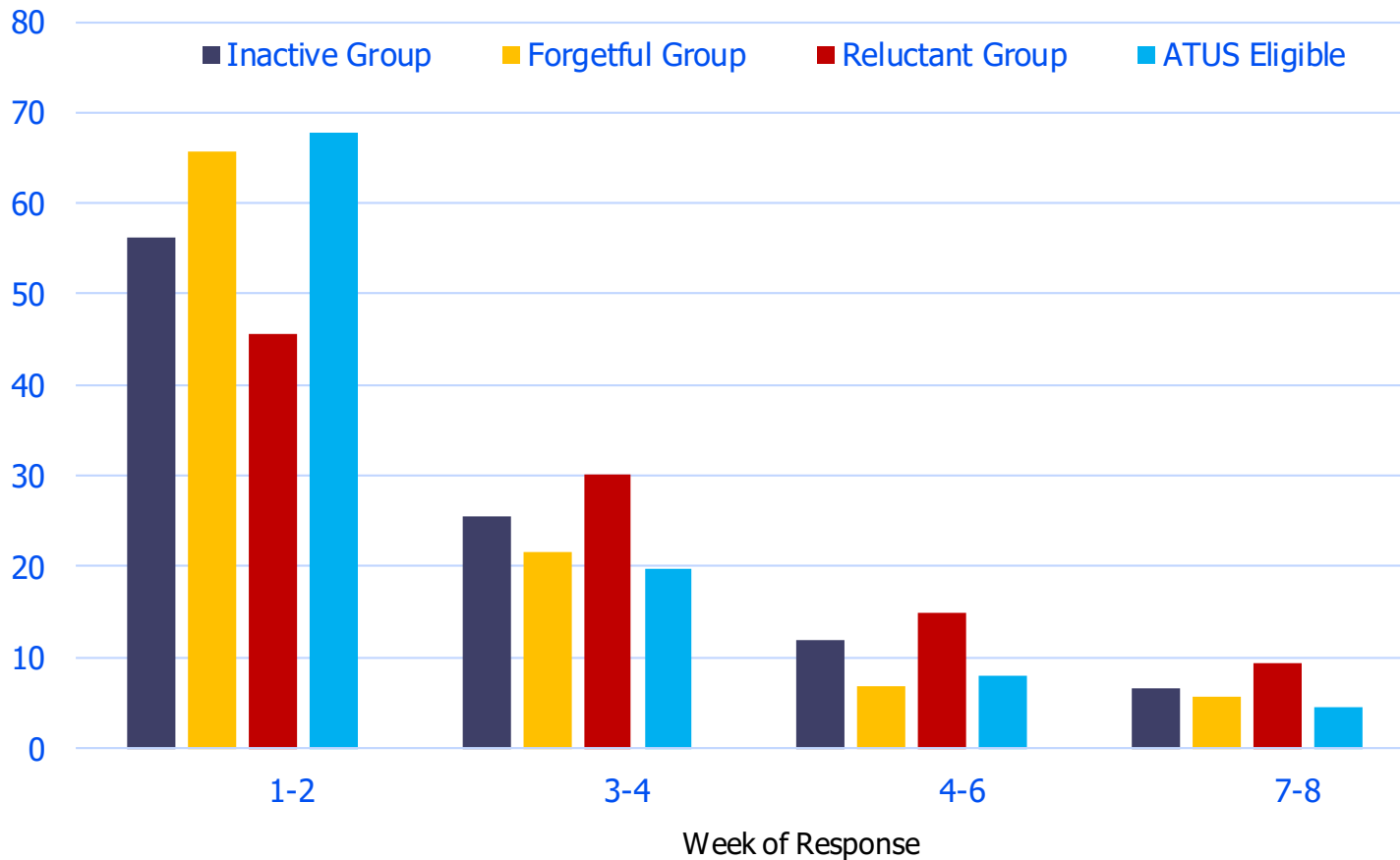
biagas.david@bls.gov

Table #. Distribution of Number of Activities Reported by Subgroup

Percentile	NE Cases	Inactive Group	Forgetful Group	Reluctant Group	ATUS Eligible
100% Max	90	4	89	90	90
75% Q3	17	4	20	13	24
50% Median	11	4	15	9	18
25% Q1	7	3	10	7	14
0% Min	1	1	1	1	5

Note: Activity counts include don't know and refusal/gap

Results: Subgroup Response Period



Results: Predicting NE Status

- Demographic: labor force status, sex, race, age, educational attainment, income, household size, etc.
- Data Quality: CPS income imputed, labor force proxy, reference person
- Data Collection Strategy: reporting for weekend day, # of call attempts, reporting period (quarter)

