2024Q4

CITY OF MINNEAPOLIS GUARANTEED BASIC INCOME PILOT PROGRAM EVALUATION CUMULATIVE WORKING RESULTS

Andrew Goodman-Bacon
Vanessa Palmer

Analytical support from Natalie Gubbay and Ayushi Narayan
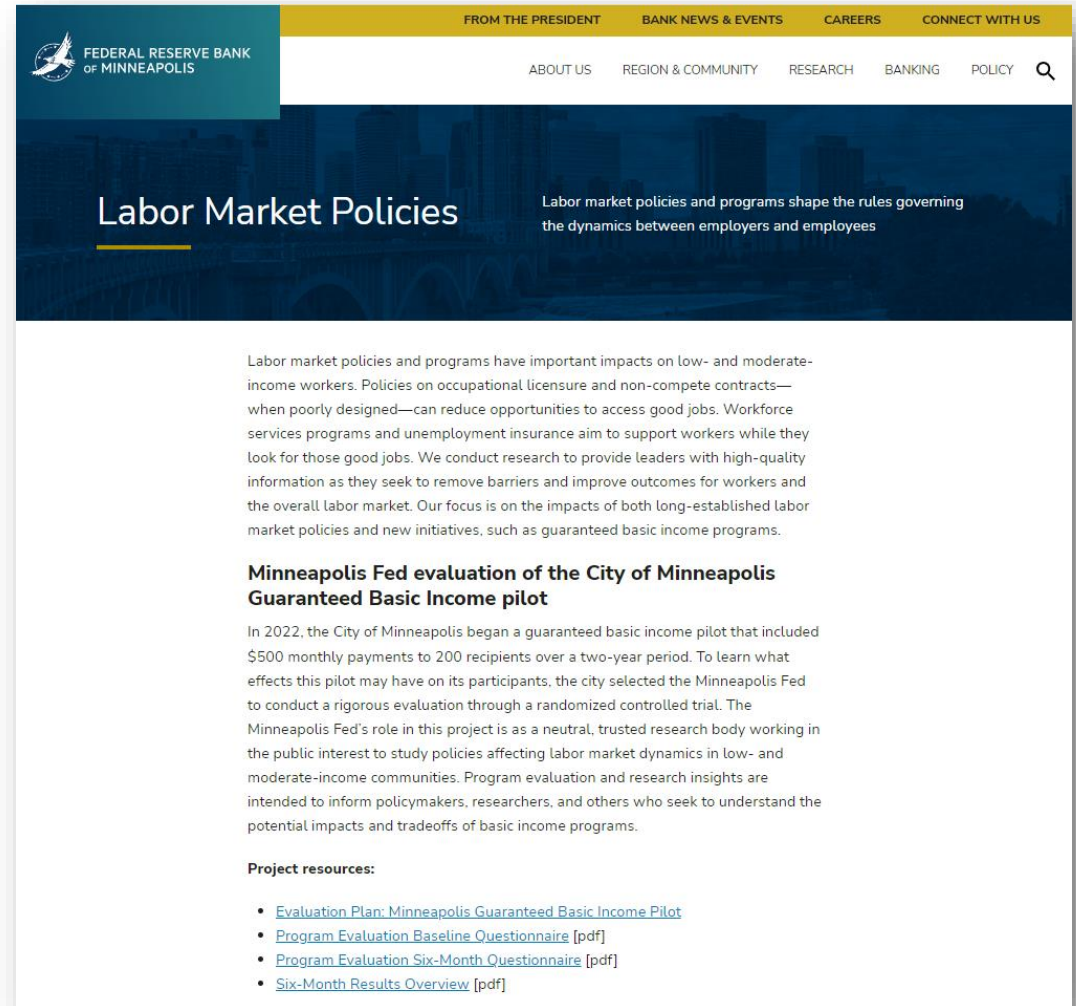
November 14, 2024

FEDERAL RESERVE BANK
OF MINNEAPOLIS

RESOURCES AND DETAILS

- Full questionnaires

- Detailed analysis plan

- All materials published to date

https://www.minneapolisfed.org/topic/labor-market-policies

Also linked from Minneapolis' GBI pilot landing page

SUMMARY OF RESULTS AT 24 MONTHS

- The payment period of the City of Minneapolis' guaranteed basic income (GBI) pilot has ended

- Evidence at this snapshot shows:

Positive impacts on:	*Potential positive impacts on:*	*Cannot detect impacts on:*
• **Food security** • **Financial security**	• **Housing stability** ☆	• **Labor supply** ☆ • **Self-assessed well-being** ☆ • **Psychological wellness** ☆ • Healthcare access • Transportation access • School/training attendance • Use of low-cost credit • Healthcare utilization • Housing "quantity"

*Formal outcome measures shown in **bold***
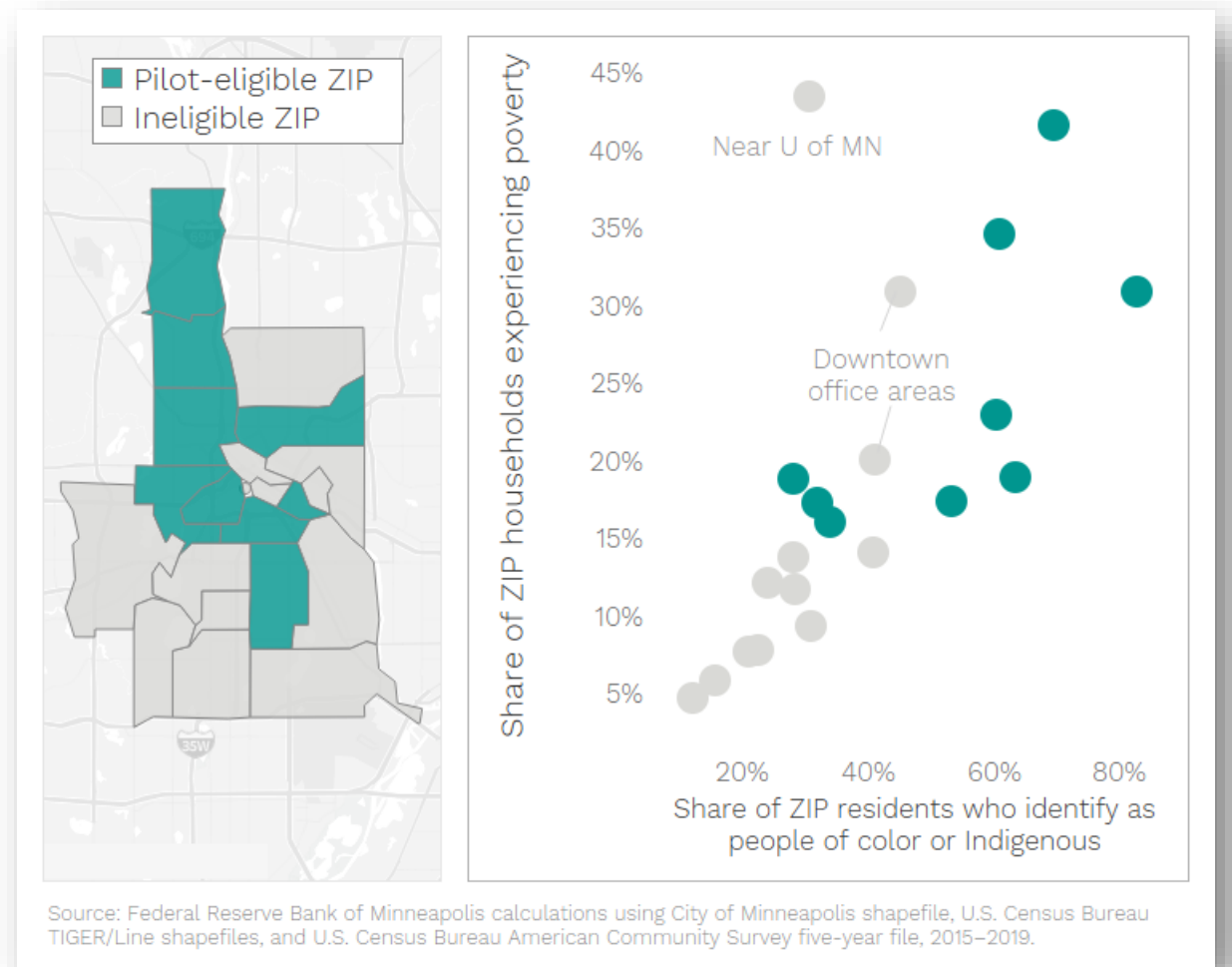*☆ indicates a change at 24 months compared to 18 months*

- We will report on follow-up (post-payment) data through 36 months
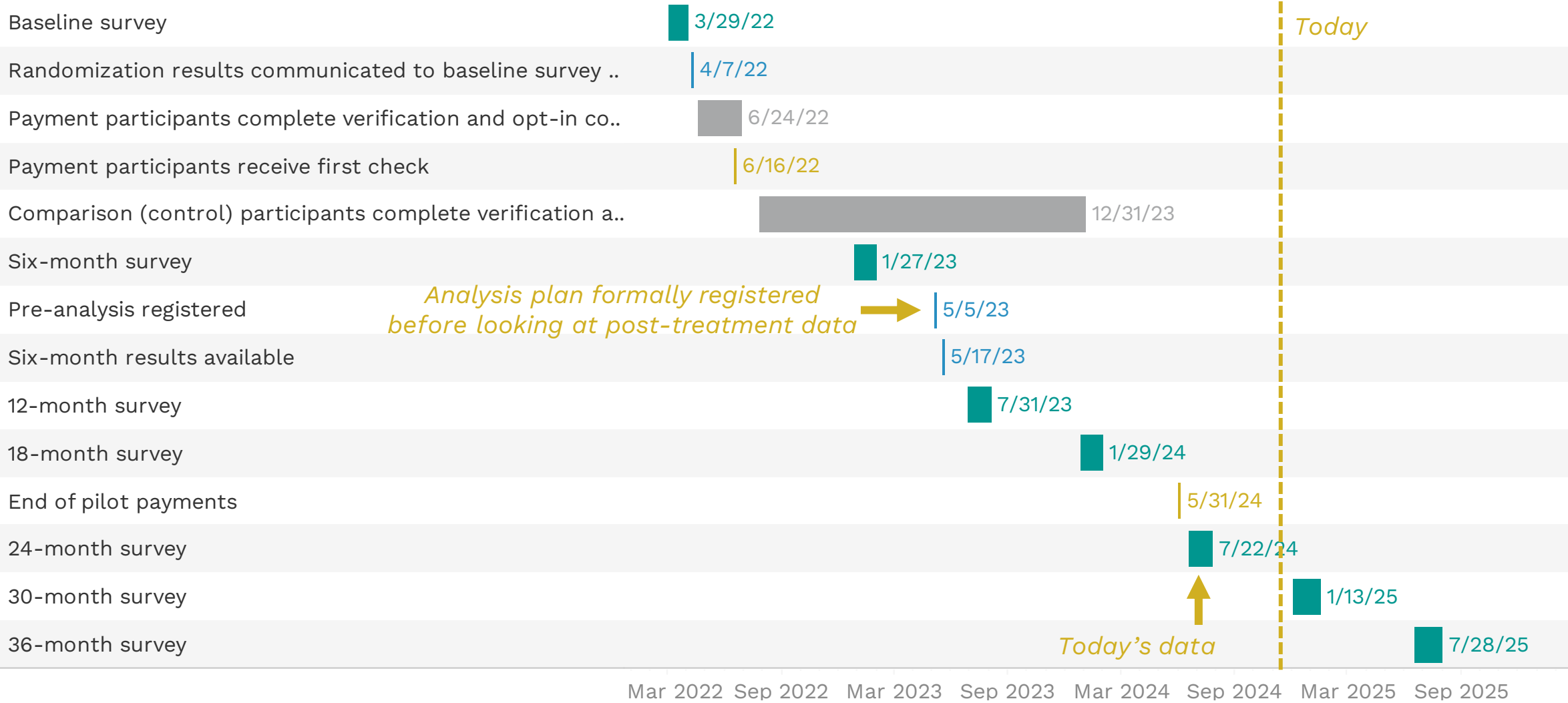
FEDERAL RESERVE BANK OF MINNEAPOLIS

MINNEAPOLIS GBI PILOT OVERVIEW

Basic design:

- City of Minneapolis recruited participants from the community at large, through community-based organizations and advertising

- **After baseline survey, randomization, and eligibility verification** by the City:

  - **200** participants assigned to the **payment (treatment) group** to receive **$500 per month** for **24 months**

  - **330** participants assigned to the **comparison (control) group** to receive compensation for taking surveys

- Surveys occur every six months *(planned)*

- Minneapolis Fed serves as neutral program evaluator

Source: Federal Reserve Bank of Minneapolis calculations using City of Minneapolis shapefile, U.S. Census Bureau TIGER/Line shapefiles, and U.S. Census Bureau American Community Survey five-year file, 2015–2019.

FEDERAL RESERVE BANK OF MINNEAPOLIS

EVALUATION TIMELINE TO PRESENT

Milestone	Date
Baseline survey	3/29/22
Randomization results communicated to baseline survey ..	4/7/22
Payment participants complete verification and opt-in co..	6/24/22
Payment participants receive first check	6/16/22
Comparison (control) participants complete verification a..	12/31/23
Six-month survey	1/27/23
Pre-analysis registered	5/5/23
Six-month results available	5/17/23
12-month survey	7/31/23
18-month survey	1/29/24
End of pilot payments	5/31/24
24-month survey	7/22/24
30-month survey	1/13/25
36-month survey	7/28/25

Today

Analysis plan formally registered before looking at post-treatment data

Today's data

Mar 2022   Sep 2022   Mar 2023   Sep 2023   Mar 2024   Sep 2024   Mar 2025   Sep 2025

FEDERAL RESERVE BANK OF MINNEAPOLIS

SELECTED RESULTS
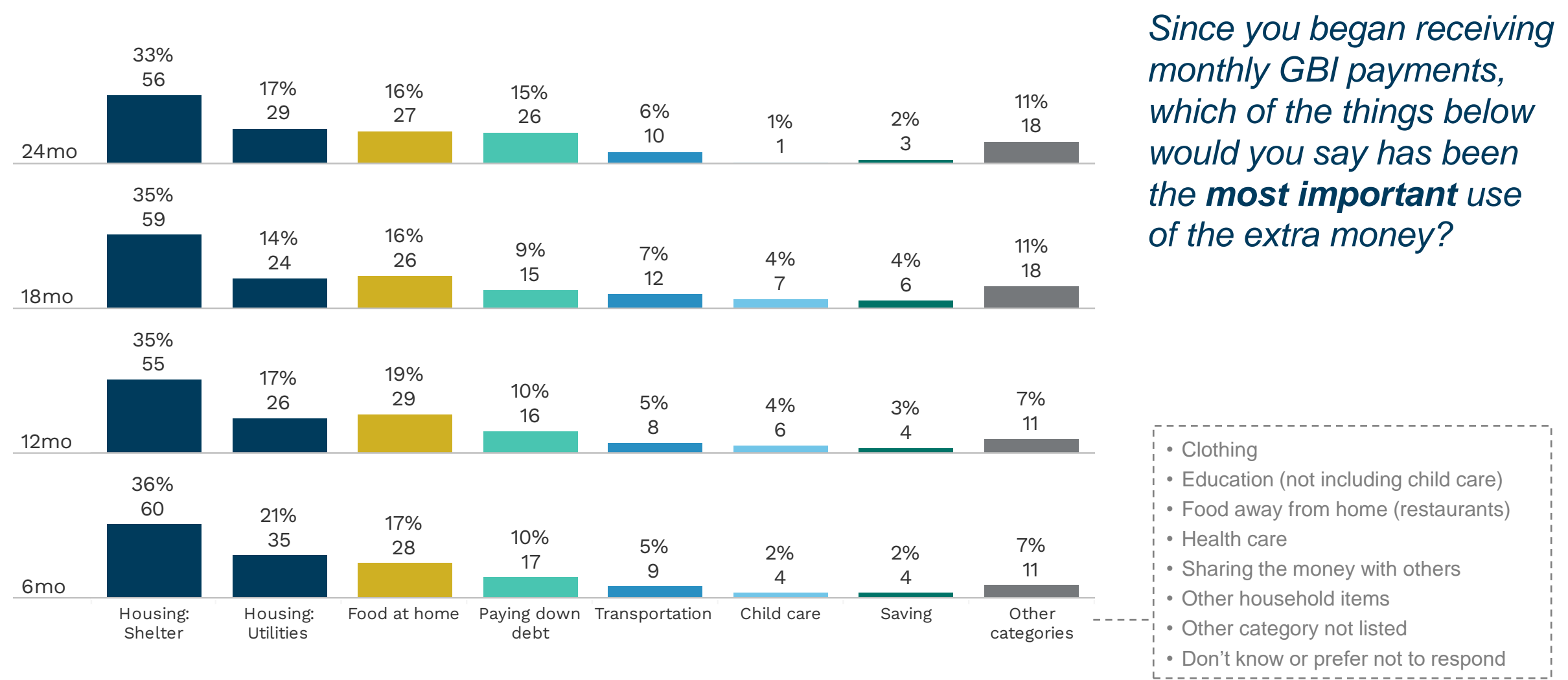
Pool of potential future survey respondents: 328
Total of 296 reportable responses at 6 months, 281 at 12 months, 292 at 18 months, and 290 at 24 months

Ever received payments: 201
Loss of 7 to date (none to opt-outs)

			Current eligibility unknown	Not currently eligible	Currently eligible	All
Randomized to payment group	Assigned to payment group	Confirmed eligible		6	164	170
		Confirmed ineligible		9		9
	Assigned to comparison group	Confirmed eligible			4	4
		Eligibility unknown	15			15
Randomized to comparison group	Assigned to payment group	Confirmed eligible		1	30	31
		Confirmed ineligible		2		2
	Assigned to comparison group	Confirmed eligible		8	130	138
		Confirmed ineligible		21		21
		Eligibility unknown	130			130
	Opted out	Confirmed ineligible		9		9
All			145	56	328	529

As of October 21, 2024

FEDERAL RESERVE BANK OF MINNEAPOLIS

CUMULATIVE RESULTS: MOST IMPORTANT USE

*Since you began receiving monthly GBI payments, which of the things below would you say has been the **most important** use of the extra money?*

24mo
- Housing: Shelter: 33% / 56
- Housing: Utilities: 17% / 29
- Food at home: 16% / 27
- Paying down debt: 15% / 26
- Transportation: 6% / 10
- Child care: 1% / 1
- Saving: 2% / 3
- Other categories: 11% / 18

18mo
- Housing: Shelter: 35% / 59
- Housing: Utilities: 14% / 24
- Food at home: 16% / 26
- Paying down debt: 9% / 15
- Transportation: 7% / 12
- Child care: 4% / 7
- Saving: 4% / 6
- Other categories: 11% / 18

12mo
- Housing: Shelter: 35% / 55
- Housing: Utilities: 17% / 26
- Food at home: 19% / 29
- Paying down debt: 10% / 16
- Transportation: 5% / 8
- Child care: 4% / 6
- Saving: 3% / 4
- Other categories: 7% / 11

6mo
- Housing: Shelter: 36% / 60
- Housing: Utilities: 21% / 35
- Food at home: 17% / 28
- Paying down debt: 10% / 17
- Transportation: 5% / 9
- Child care: 2% / 4
- Saving: 2% / 4
- Other categories: 7% / 11

Other categories:
- Clothing
- Education (not including child care)
- Food away from home (restaurants)
- Health care
- Sharing the money with others
- Other household items
- Other category not listed
- Don't know or prefer not to respond
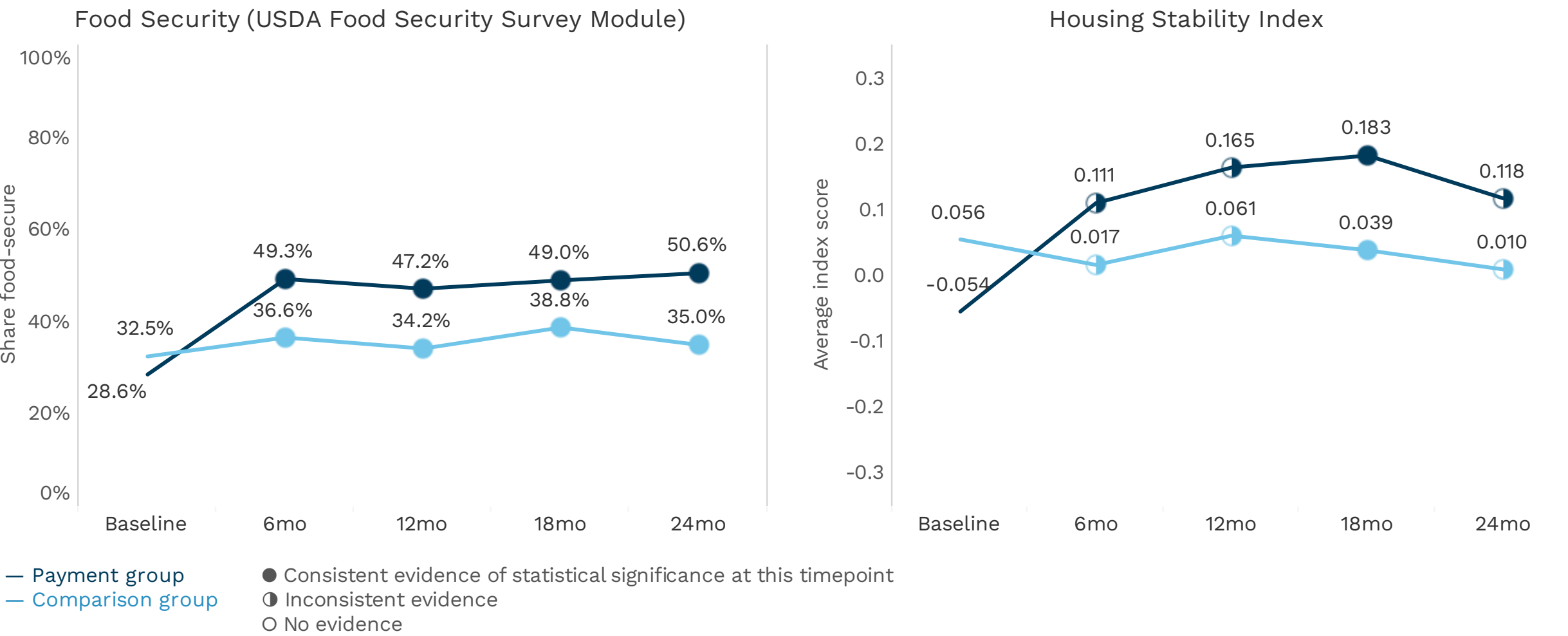
Includes responses from participants ultimately verified to have been study-eligible at baseline

FEDERAL RESERVE BANK OF MINNEAPOLIS

CUMULATIVE RESULTS: TOP 3 SPENDING CATEGORIES
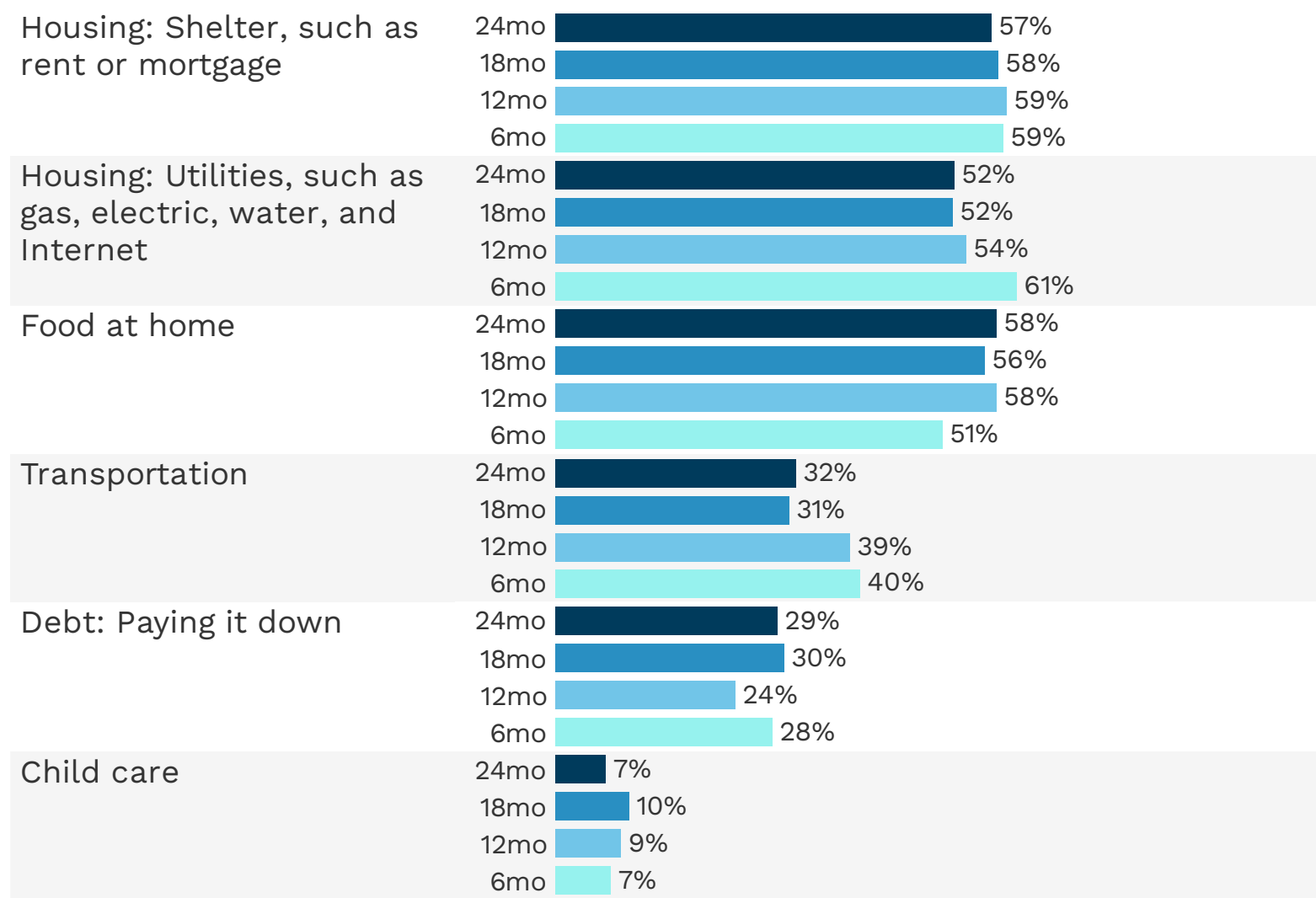
Housing: Shelter, such as rent or mortgage
- 24mo: 57%
- 18mo: 58%
- 12mo: 59%
- 6mo: 59%

Housing: Utilities, such as gas, electric, water, and Internet
- 24mo: 52%
- 18mo: 52%
- 12mo: 54%
- 6mo: 61%

Food at home
- 24mo: 58%
- 18mo: 56%
- 12mo: 58%
- 6mo: 51%

Transportation
- 24mo: 32%
- 18mo: 31%
- 12mo: 39%
- 6mo: 40%

Debt: Paying it down
- 24mo: 29%
- 18mo: 30%
- 12mo: 24%
- 6mo: 28%

Child care
- 24mo: 7%
- 18mo: 10%
- 12mo: 9%
- 6mo: 7%

*Since you began receiving monthly GBI payments, which of the things below would you say has been the **most important** use of the extra money?*

…second most important?

…third most important?

Includes responses from participants ultimately verified to have been study-eligible at baseline

FEDERAL RESERVE BANK OF MINNEAPOLIS

Food Security (USDA Food Security Survey Module)

Housing Stability Index

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
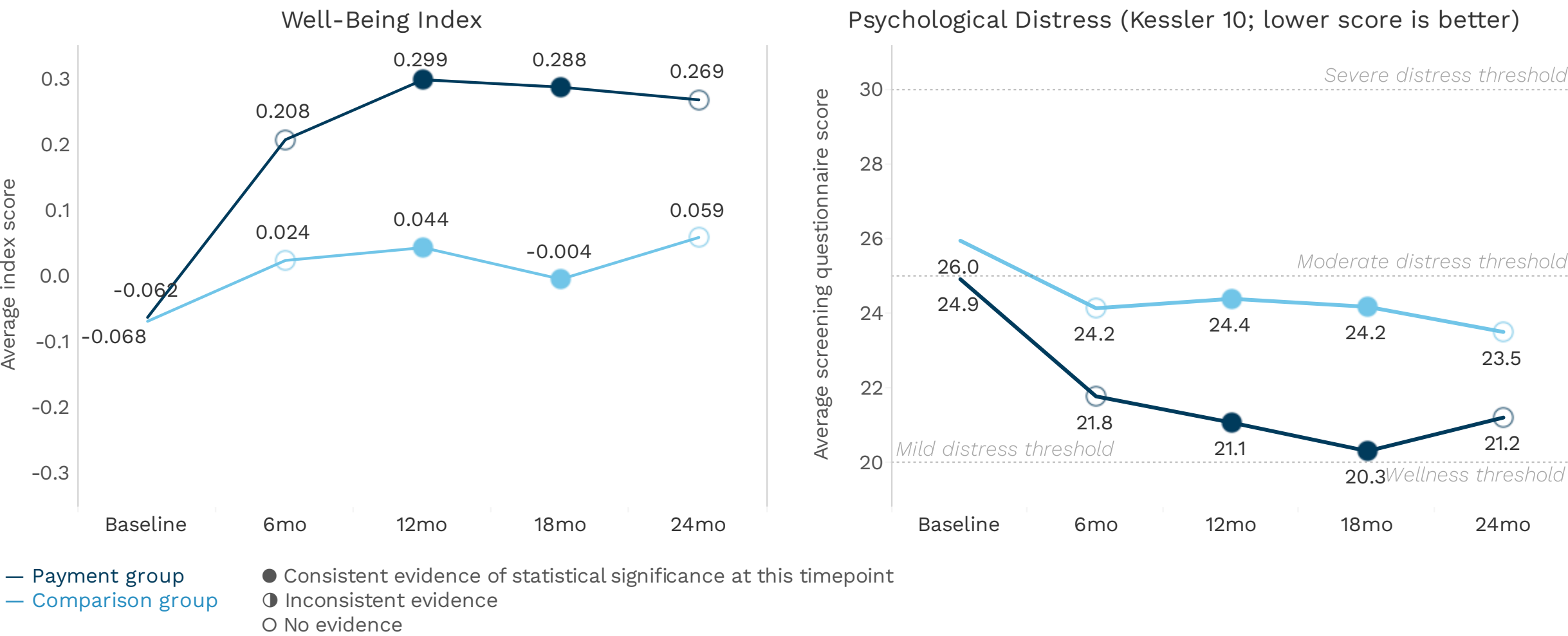◐ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

Financial Security Index

Labor Supply Index

Payment group
Comparison group

● Consistent evidence of statistical significance at this timepoint
◐ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes
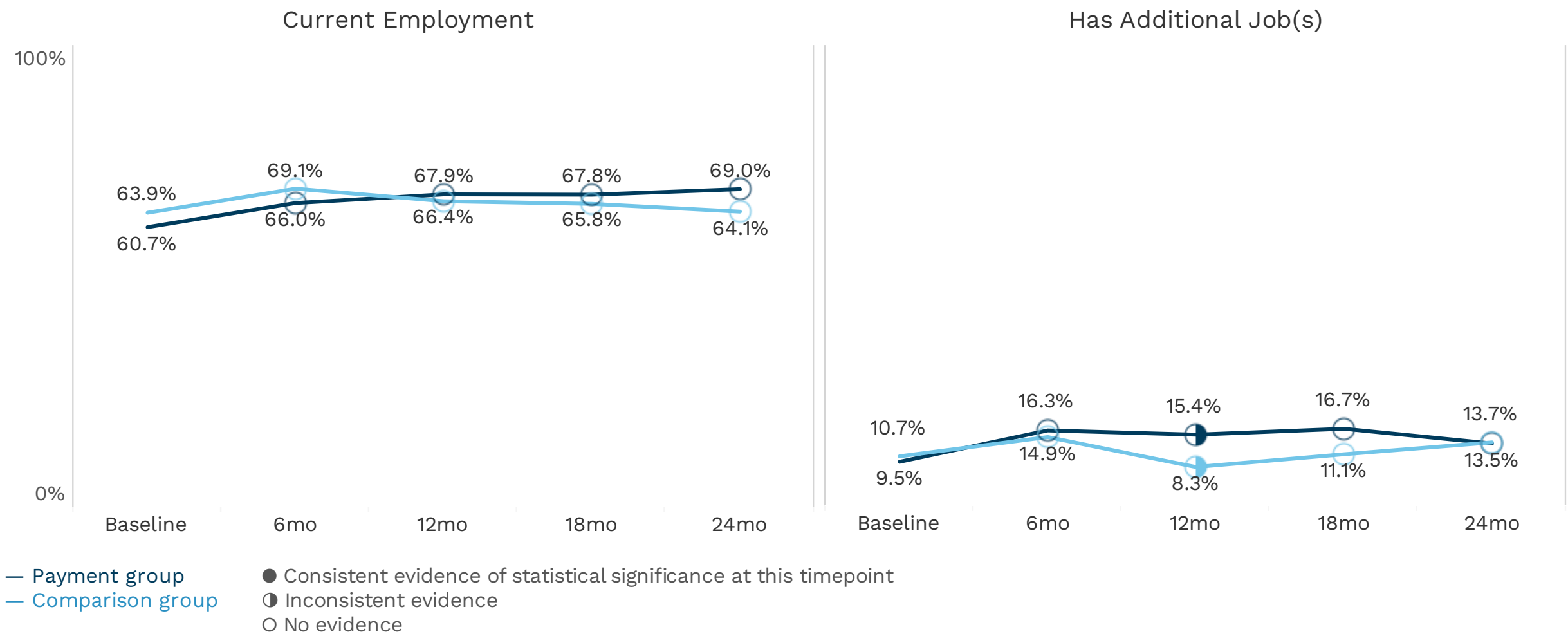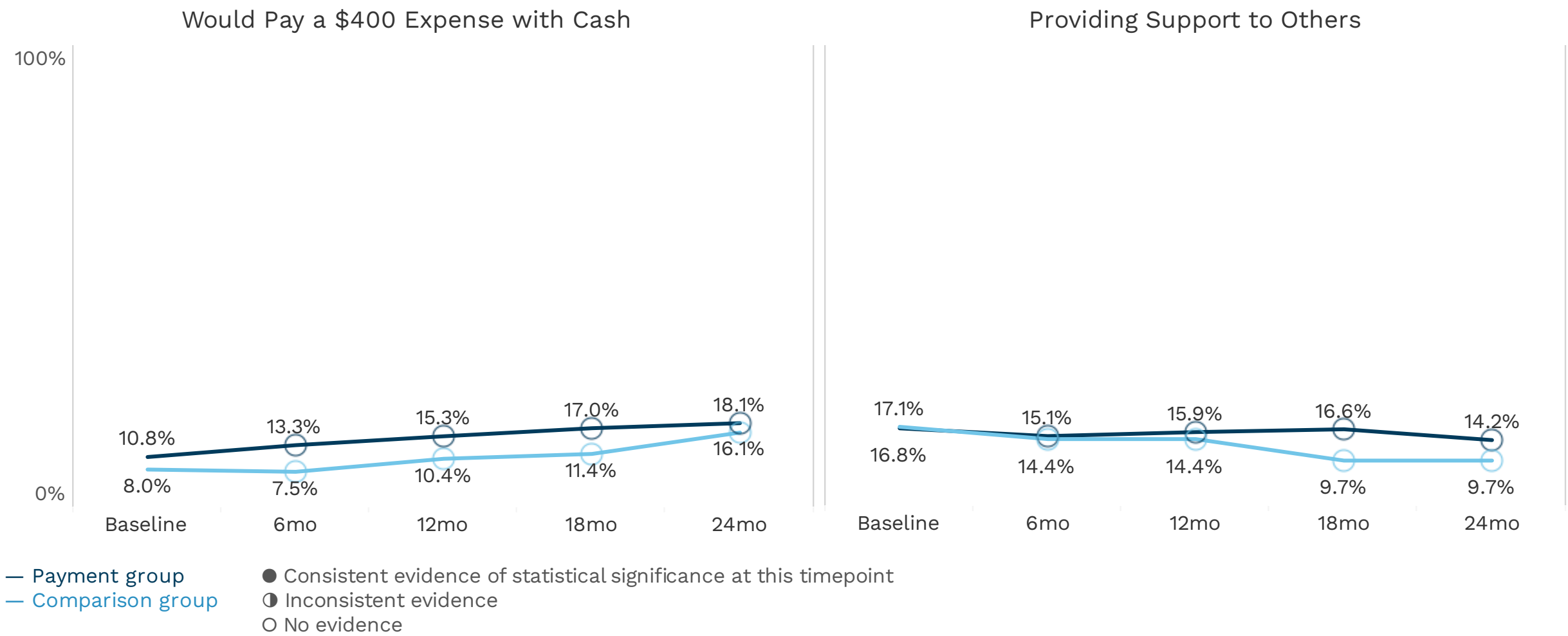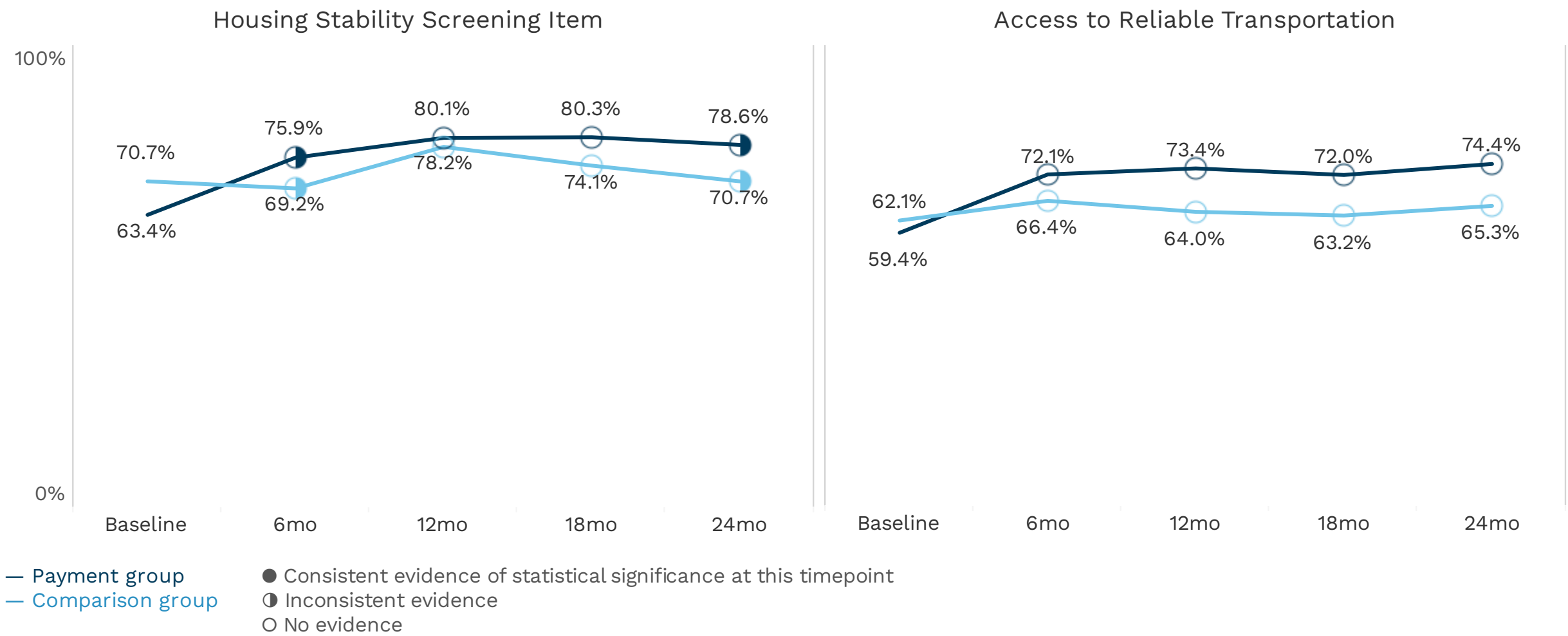
FEDERAL RESERVE BANK OF MINNEAPOLIS

Well-Being Index

Average index score

- 0.299
- 0.288
- 0.269
- 0.208
- -0.062
- -0.068
- 0.024
- 0.044
- -0.004
- 0.059

Baseline 6mo 12mo 18mo 24mo

Psychological Distress (Kessler 10; lower score is better)

Average screening questionnaire score

Severe distress threshold

Moderate distress threshold

Mild distress threshold

Wellness threshold

- 26.0
- 24.9
- 24.2
- 24.4
- 24.2
- 23.5
- 21.8
- 21.1
- 20.3
- 21.2

Baseline 6mo 12mo 18mo 24mo

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
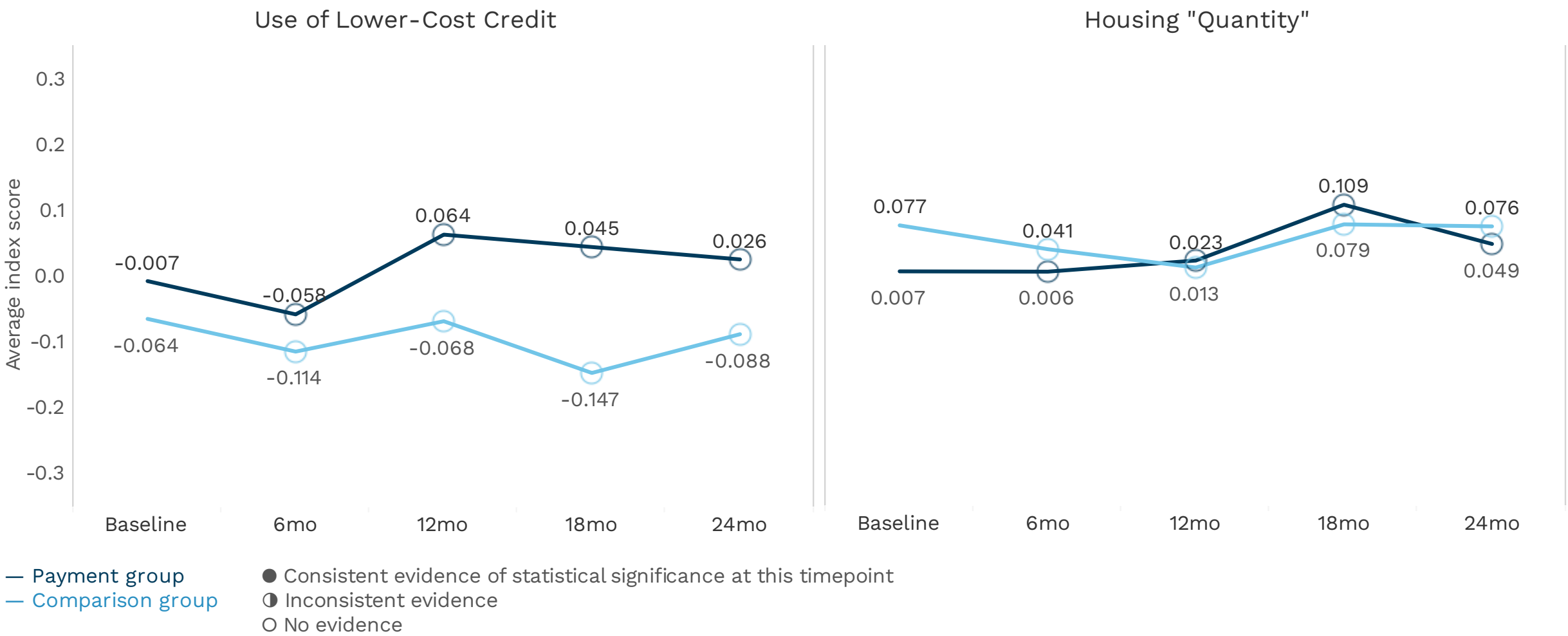◑ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

APPENDIX

EXPLORATORY OUTCOMES

Current Employment

100%

63.9%
60.7%

69.1%
66.0%

67.9%
66.4%

67.8%
65.8%

69.0%
64.1%

0%

Baseline   6mo   12mo   18mo   24mo

Has Additional Job(s)

10.7%
9.5%

16.3%
14.9%

15.4%
8.3%

16.7%
11.1%

13.7%
13.5%

Baseline   6mo   12mo   18mo   24mo

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
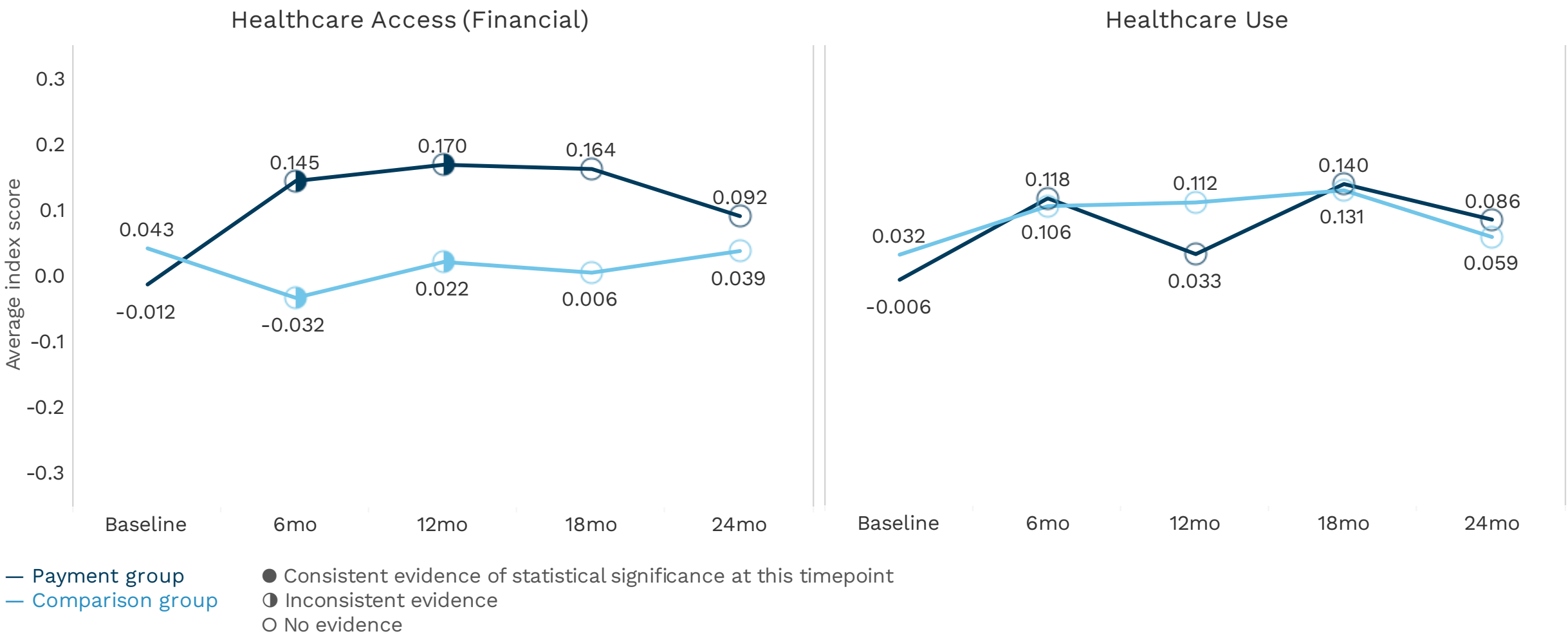◑ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

16

FEDERAL RESERVE BANK OF MINNEAPOLIS

Would Pay a $400 Expense with Cash

- 10.8%
- 13.3%
- 15.3%
- 17.0%
- 18.1%
- 16.1%
- 8.0%
- 7.5%
- 10.4%
- 11.4%

Baseline · 6mo · 12mo · 18mo · 24mo

Providing Support to Others

- 17.1%
- 16.8%
- 15.1%
- 15.9%
- 16.6%
- 14.2%
- 14.4%
- 14.4%
- 9.7%
- 9.7%

Baseline · 6mo · 12mo · 18mo · 24mo

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
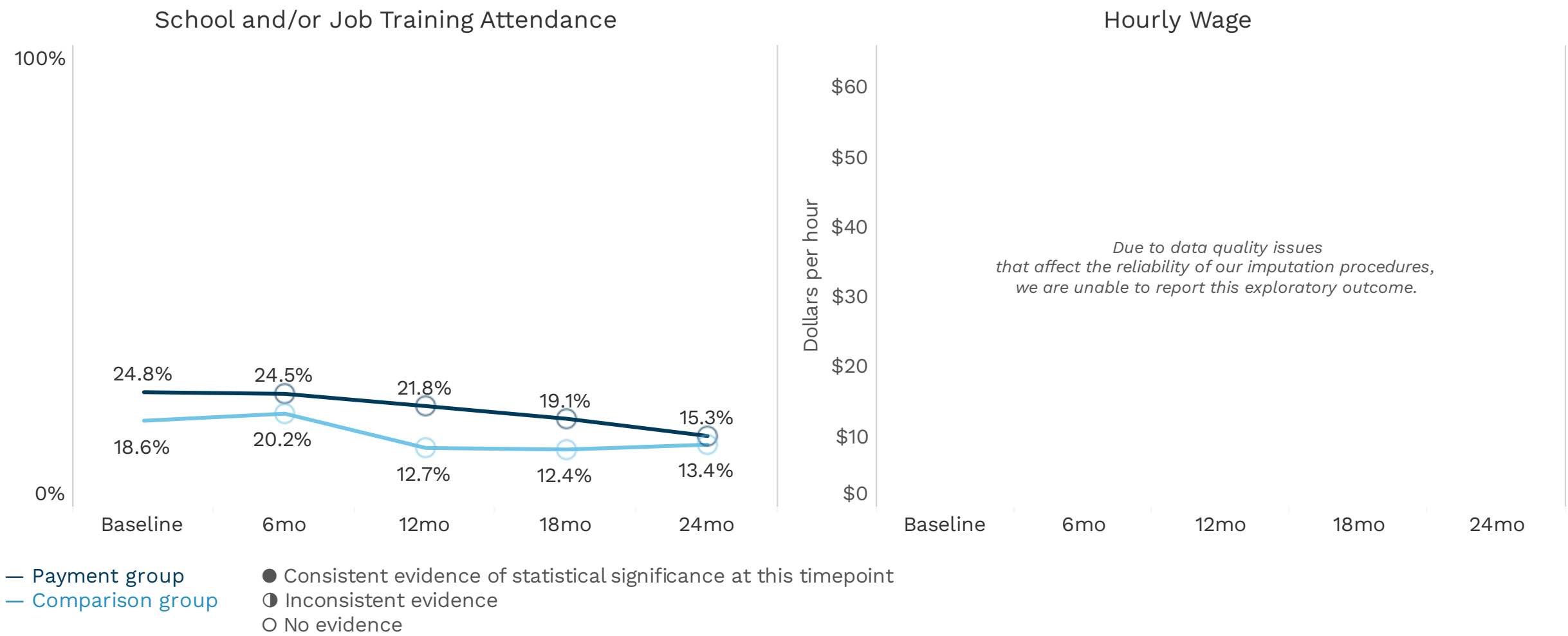◑ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

Housing Stability Screening Item

100%

70.7%
75.9%
80.1%
80.3%
78.6%
63.4%
69.2%
78.2%
74.1%
70.7%

0%

Baseline   6mo   12mo   18mo   24mo

Access to Reliable Transportation

62.1%
72.1%
73.4%
72.0%
74.4%
59.4%
66.4%
64.0%
63.2%
65.3%

Baseline   6mo   12mo   18mo   24mo

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
◑ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

Use of Lower-Cost Credit

Housing "Quantity"

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

— Payment group   ● Consistent evidence of statistical significance at this timepoint
— Comparison group   ◗ Inconsistent evidence
                O No evidence

FEDERAL RESERVE BANK OF MINNEAPOLIS

Healthcare Access (Financial)

Healthcare Use

— Payment group
— Comparison group

● Consistent evidence of statistical significance at this timepoint
◐ Inconsistent evidence
○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

School and/or Job Training Attendance

Hourly Wage

Due to data quality issues that affect the reliability of our imputation procedures, we are unable to report this exploratory outcome.

— Payment group   ● Consistent evidence of statistical significance at this timepoint
— Comparison group ◐ Inconsistent evidence
                   ○ No evidence

Showing responses over time from participants who responded to the 24-month survey and who had been verified to have been study-eligible as of that time; future results may show small changes

FEDERAL RESERVE BANK OF MINNEAPOLIS

FIGURE P1.

Characteristics of GBI Pilot-Eligible ZIP Codes
See Slide 5

FEDERAL RESERVE BANK OF MINNEAPOLIS

PRE-SPECIFIED EXHIBITS

NUMBERING AND ORDERING REFLECT PRE-ANALYSIS PLAN:
HTTPS://WWW.MINNEAPOLISFED.ORG/RESEARCH/COMMUNITY-DEVELOPMENT-WORKING-
PAPERS/EVALUATION-PLAN-MINNEAPOLIS-GUARANTEED-BASIC-INCOME-PILOT

GBI Pilot Household Income Eligibility Thresholds by Household Size

Household size	Income
1	$36,725
2	$41,975
3	$47,225
4	$52,450
5	$56,646
6	$60,842
7	$65,038
8	$69,234
9	$73,425
10	$77,625
11	$81,825
12	$86,025

Source: U.S. Department of Housing and Urban Development (2021), https://www.huduser.gov/portal/datasets/il.html

FEDERAL RESERVE BANK OF MINNEAPOLIS

Stages of Recruitment

Initial interest form submissions

14,510

Unique interest form submissions

13,378

Unique, preliminarily eligible interest form submissions

8,334

Invited to complete baseline survey
1,499
18%

Released prior to baseline survey
6,835
82%

Completed baseline survey
529
35%

Did not complete baseline survey
970
65%

Initially randomized to payment group (pending eligibility verification)
198

Initially randomized to comparison group
331

Verified eligible, assigned to payment group
201

Verified eligible, assigned to comparison group
142

Found ineligible
41

Eligibility unknown
145

| December 2021 | January 2022 | March 2022 | April 2022 | To present |

Counts reflect a duplicate baseline survey submission found during eligibility verification. Updated October 21, 2024

FEDERAL RESERVE BANK OF MINNEAPOLIS

Balance Test in the Full Study Sample

Outcome	Control mean (s.d.)	Treatment mean (s.d.)	Difference Treatment-Control (s.d.)
i. Education			
Share less than high school	0.130 (0.320)	0.177 (0.345)	0.0475 (0.333)
Share high school grad	0.254 (0.434)	0.248 (0.431)	-0.00649 (0.432)
Share some college	0.312 (0.465)	0.267 (0.445)	-0.0443 (0.455)
Share post-secondary	0.287 (0.434)	0.298 (0.443)	0.0111 (0.439)
ii. Gender			
Share male	0.259 (0.405)	0.258 (0.413)	-0.00155 (0.409)
Share other gender	0.0241 (0.107)	0.0458 (0.119)	0.0217 (0.113)
Share female	0.71 (0.412)	0.691 (0.415)	-0.0193 (0.414)
iii. Age			
Age	38.4 (10.8)	38.5 (10.8)	0.136 (10.8)
iv. Household size and distribution of children			
Household size	2.87 (1.35)	2.85 (1.24)	-0.0241 (1.30)
Number kids under 18	1.38 (0.789)	1.44 (0.814)	0.0658 (0.802)
Number kids under 5	0.439 (0.512)	0.367 (0.461)	-0.0718 (0.487)
v. Cumulative Income Distribution			
HH income < $5,000	0.138 (0.239)	0.174 (0.241)	0.0357 (0.240)
HH income < $7,500	0.217 (0.275)	0.239 (0.276)	0.0220 (0.275)
HH income < $10,000	0.283 (0.279)	0.309 (0.275)	0.0259 (0.277)
HH income < $12,500	0.353 (0.245)	0.400 (0.232)	0.0468 (0.238)
HH income < $15,000	0.438 (0.300)	0.440 (0.245)	0.00245 (0.273)
HH income < $20,000	0.54 (0.288)	0.551 (0.269)	0.0105 (0.278)

FEDERAL RESERVE BANK OF MINNEAPOLIS

Balance Test in the Full Study Sample

Outcome	Control mean (s.d.)	Treatment mean (s.d.)	Difference Treatment-Control (s.d.)
v. Cumulative Income Distribution (cont'd)			
HH income < $25,000	0.640 (0.285)	0.642 (0.272)	0.00196 (0.279)
HH income < $30,000	0.722 (0.277)	0.707 (0.28)	-0.0145 (0.279)
HH income < $35,000	0.810 (0.229)	0.819 (0.278)	0.00904 (0.255)
HH income < $40,000	0.867 (0.187)	0.884 (0.209)	0.0172 (0.199)
HH income < $50,000	0.946 (0.138)	0.955 (0.101)	0.00931 (0.121)
HH income < $75,000	0.997 (0.0199)	1.00 (0.00)	0.00303 (0.0141)
vi. Outcome Indices			
Credit Use Index	-0.0146 (0.510)	0.00764 (0.530)	0.0223 (0.520)
Financial Security Index	0.00891 (0.385)	0.0177 (0.419)	0.00875 (0.402)
Food Security Index	0.338 (0.464)	0.288 (0.458)	-0.0501 (0.461)
Healthcare Access Index	0.0148 (0.700)	-0.0254 (0.662)	-0.0402 (0.681)
Housing Quantity Index	0.00325 (0.553)	-0.0257 (0.481)	-0.0290 (0.518)
Housing Stability Index	-0.0324 (0.495)	-0.0410 (0.490)	-0.00867 (0.492)
Healthcare Utilization Index	0.0194 (0.585)	-0.0252 (0.574)	-0.0447 (0.579)
Psychological Distress Index	25.0 (9.32)	24.4 (10.8)	-0.571 (10.1)
Labor Supply Index	-0.203 (0.705)	-0.246 (0.670)	-0.0437 (0.688)
Well-Being Index	0.00276 (0.784)	-0.0375 (0.755)	-0.0403 (0.770)
Joint p-value		0.674	

FEDERAL RESERVE BANK OF MINNEAPOLIS

FIGURE P3.

Distribution of Sampled Households Across Strata

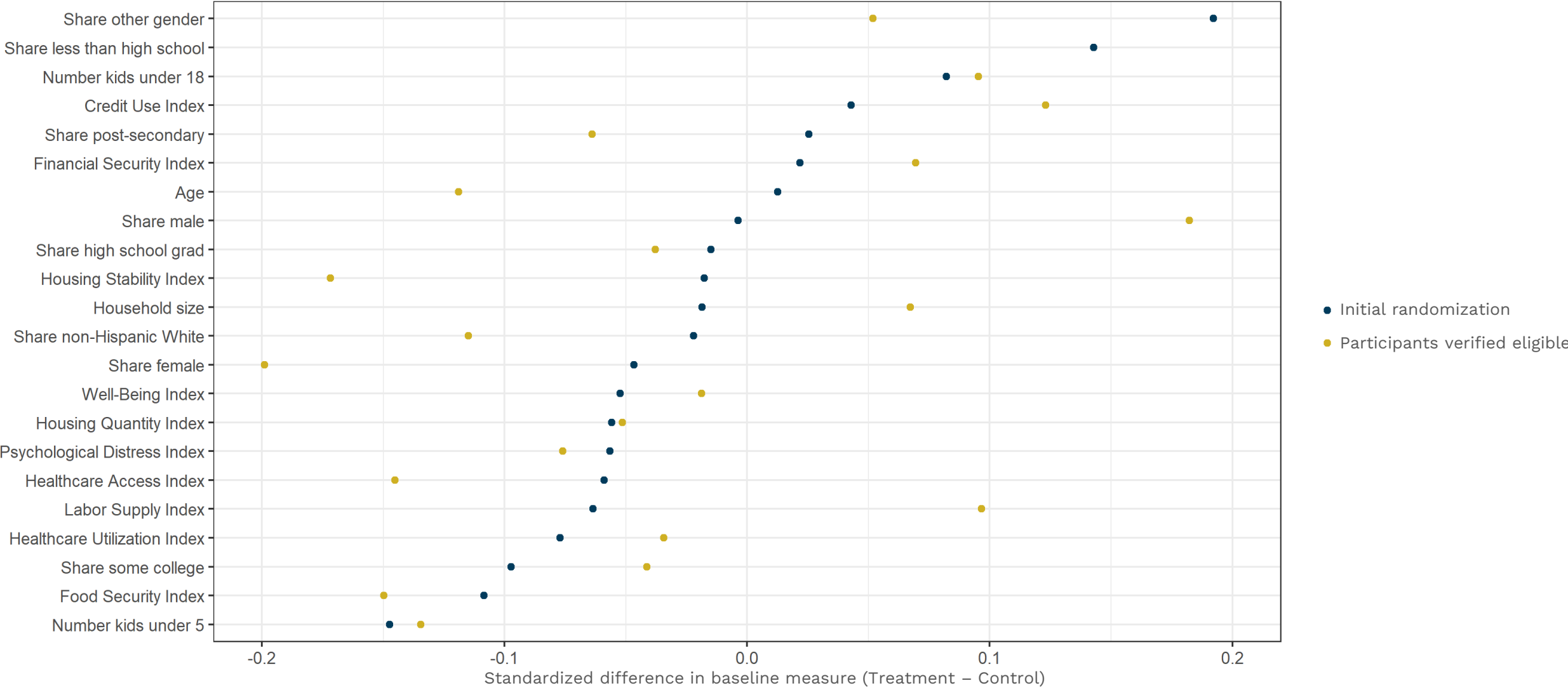|	ZIP Group 0 (55405, 55411, 55412, 55413, 55430)		ZIP Group 1 (55403, 55404, 55407, 55454)		Total
	No kids under 18	Yes kids under 18	No kids under 18	Yes kids under 18	
At or above poverty threshold	49	71	69	38	227
Below poverty threshold	44	112	61	85	302
Total	93	183	130	123	529

FEDERAL RESERVE BANK OF MINNEAPOLIS

Balance Test in the Confirmed-Eligible Sample

Outcome	Control mean (s.d.)	Treatment mean (s.d.)	Difference Treatment-Control (s.d.)
i. Education			
Share less than high school	0.0809 (0.220)	0.148 (0.319)	0.0674 (0.274)
Share high school grad	0.247 (0.407)	0.232 (0.420)	-0.0157 (0.414)
Share some college	0.320 (0.465)	0.300 (0.464)	-0.0192 (0.464)
Share post-secondary	0.339 (0.447)	0.310 (0.457)	-0.0289 (0.452)
ii. Gender			
Share male	0.197 (0.351)	0.268 (0.421)	0.0706 (0.387)
Share other gender	0.0327 (0.100)	0.0382 (0.112)	0.00551 (0.106)
Share female	0.764 (0.374)	0.685 (0.426)	-0.0798 (0.401)
iii. Age			
Age	38.9 (10.8)	37.6 (10.9)	-1.30 (10.9)
iv. Household size and distribution of children			
Household size	2.74 (1.05)	2.81 (1.18)	0.0753 (1.12)
Number kids under 18	1.36 (0.743)	1.43 (0.785)	0.0729 (0.764)
Number kids under 5	0.454 (0.500)	0.389 (0.461)	-0.0648 (0.481)
v. Cumulative Income Distribution			
HH income < $5,000	0.149 (0.247)	0.172 (0.244)	0.0238 (0.246)
HH income < $7,500	0.227 (0.283)	0.222 (0.273)	-0.00527 (0.278)
HH income < $10,000	0.287 (0.289)	0.297 (0.274)	0.0101 (0.282)
HH income < $12,500	0.367 (0.251)	0.384 (0.210)	0.0171 (0.231)
HH income < $15,000	0.443 (0.314)	0.433 (0.262)	-0.00928 (0.289)
HH income < $20,000	0.557 (0.260)	0.548 (0.266)	-0.00925 (0.263)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Balance Test in the Confirmed-Eligible Sample

Outcome	Control mean (s.d.)	Treatment mean (s.d.)	Difference Treatment-Control (s.d.)
v. Cumulative Income Distribution (cont'd)			
HH income < $25,000	0.652 (0.304)	0.646 (0.280)	-0.00641 (0.292)
HH income < $30,000	0.723 (0.254)	0.716 (0.278)	-0.00661 (0.266)
HH income < $35,000	0.830 (0.203)	0.844 (0.268)	0.0139 (0.238)
HH income < $40,000	0.901 (0.143)	0.893 (0.206)	-0.00795 (0.178)
HH income < $50,000	0.969 (0.0981)	0.970 (0.0928)	0.000934 (0.0955)
HH income < $75,000	1.00 (0.00)	1.00 (0.00)	0.00 (0.00)
vi. Outcome Indices			
Credit Use Index	-0.0429 (0.505)	0.0189 (0.500)	0.0619 (0.503)
Financial Security Index	-0.0278 (0.380)	-0.000581 (0.404)	0.0272 (0.392)
Food Security Index	0.332 (0.474)	0.264 (0.440)	-0.0685 (0.457)
Healthcare Access Index	0.0634 (0.638)	-0.0305 (0.656)	-0.0939 (0.647)
Housing Quantity Index	0.00701 (0.517)	-0.0190 (0.493)	-0.0260 (0.505)
Housing Stability Index	0.0173 (0.441)	-0.0628 (0.491)	-0.0801 (0.467)
Healthcare Utilization Index	0.0270 (0.613)	0.00667 (0.567)	-0.0203 (0.590)
Psychological Distress Index	25.7 (9.65)	24.9 (10.1)	-0.750 (9.85)
Labor Supply Index	-0.277 (0.678)	-0.210 (0.709)	0.0670 (0.694)
Well-Being Index	-0.0514 (0.759)	-0.0654 (0.721)	-0.0140 (0.740)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Standardized difference in baseline measure (Treatment − Control)

- Initial randomization
- Participants verified eligible

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

TABLE P3A.

Response Rates by Outcome Domain, Wave, and Treatment Assignment

Outcome domain	6-month		12-month		18-month		24-month	
	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment
Credit Use Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Financial Security Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Food Security Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Healthcare Access Index	42.1%	73.6%	41.4%	67.8%	41.1%	73.1%	39.7%	73.6%
Healthcare Utilization Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Housing Quantity Index	42.4%	74.0%	41.7%	67.8%	41.4%	73.1%	39.7%	73.6%
Housing Stability Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Labor Supply Index	42.4%	73.6%	41.7%	67.8%	41.4%	73.1%	39.7%	73.6%
Psychological Distress Index	42.4%	74.0%	41.7%	68.3%	41.4%	73.6%	39.7%	74.0%
Well-Being Index	42.4%	73.6%	41.7%	67.8%	41.4%	73.1%	39.7%	73.6%
Differential attrition test: Effect of treatment assignment on response rate (coef, s.e.)								
	0.316 (0.041)		0.265 (0.042)		0.322 (0.041)		0.343 (0.040)	

FEDERAL RESERVE BANK OF MINNEAPOLIS

Response and Eligibility Verification Counts by Treatment Assignment

		Baseline	6-month		12-month		18-month		24-month	
		Responded	Responded	Did not respond	Responded	Did not respond	Responded	Did not respond	Responded	Did not respond
Initially randomized to control group										
Assigned to control group	*TOTAL*	298	149	149	128	170	121	177	117	181
	Ineligible	30	4	27	1	32	0	34	0	37
	Unverified	130	21	109	5	125	0	130	0	130
	Eligible	138	124	13	122	13	121	13	117	14
Assigned to treatment group	*TOTAL*	33	27	6	24	9	26	7	25	8
	Ineligible	2	0	2	0	2	0	3	1	2
	Eligible	31	27	4	24	7	26	4	24	6
Initially randomized to treatment group										
Assigned to control group	*TOTAL*	19	7	12	5	14	4	15	3	16
	Unverified	15	3	12	1	14	0	15	0	15
	Eligible	4	4	0	4	0	4	0	3	1
Assigned to treatment group	*TOTAL*	179	141	38	131	48	141	38	145	34
	Ineligible	9	0	11	0	12	0	12	1	14
	Eligible	170	141	27	131	36	141	26	144	20

FEDERAL RESERVE BANK OF MINNEAPOLIS

TABLE P4. (SLIDE 1 OF 4)

Selective Attrition Tests at Baseline

Index (Formal Outcomes)	Wave	Baseline means				p-values			
		Control Respondents	Control Attritors	Treatment Respondents	Treatment Attritors	Unconditional IV-P test (Assumption 1)	Unconditional IV-R test (Assumption 2)	Conditional IV-P test (Assumption 1X)	Conditional IV-R test (Assumption 2X)
Financial Security	6-month	-0.0393	0.0689	-0.0249	0.067	0.141	0.25	0.275	0.775
	12-month	-0.0671	0.0877	-0.0193	0.0382	0.135	0.432	0.192	0.694
	18-month	-0.0501	0.0747	-0.0184	0.0472	0.112	0.216	0.529	0.791
	24-month	-0.0368	0.0625	0.000478	-0.00528	0.357	0.6	0.726	0.909
Food Security	6-month	0.312	0.362	0.256	0.390	0.000362	0.119	0.148	0.450
	12-month	0.302	0.369	0.271	0.333	0.00643	0.0468	0.547	0.481
	18-month	0.304	0.367	0.275	0.333	1.32E-08	0.00566	0.281	0.405
	24-month	0.325	0.352	0.286	0.305	0.00686	0.039	0.539	0.487
Housing Stability	6-month	0.0378	-0.0434	-0.0627	-0.094	3.20E-05	0.00435	0.0866	0.269
	12-month	0.0431	-0.0462	-0.0584	-0.0976	7.00E-06	0.0487	0.0364	0.741
	18-month	0.0565	-0.0552	-0.0536	-0.119	9.17E-07	0.00376	0.015	0.571
	24-month	0.0556	-0.0515	-0.0542	-0.118	3.99E-10	0.000523	0.0196	0.420

FEDERAL RESERVE BANK OF MINNEAPOLIS

Selective Attrition Tests at Baseline

Index (Formal Outcomes)	Wave	Baseline means				p-values			
		Control Respondents	Control Attritors	Treatment Respondents	Treatment Attritors	Unconditional IV-P test (Assumption 1)	Unconditional IV-R test (Assumption 2)	Conditional IV-P test (Assumption 1X)	Conditional IV-R test (Assumption 2X)
Psychological Distress	6-month	26.0	23.6	25.6	23.3	0.134	0.782	0.131	0.611
	12-month	25.6	23.8	25.7	23.4	0.309	0.900	0.544	0.864
	18-month	26.0	23.6	25.5	23.6	0.0873	0.801	0.158	0.596
	24-month	26.0	23.7	24.9	25.1	0.00682	0.230	0.116	0.590
Labor Supply	6-month	-0.242	-0.194	-0.223	-0.214	0.165	0.306	0.00143	0.0791
	12-month	-0.223	-0.209	-0.204	-0.256	0.251	0.371	0.00481	0.075
	18-month	-0.229	-0.204	-0.197	-0.287	0.102	0.227	0.00405	0.0709
	24-month	-0.237	-0.200	-0.196	-0.291	0.206	0.278	0.00895	0.0597
Well-Being	6-month	-0.0798	0.0715	-0.109	0.159	0.0572	0.731	0.0414	0.156
	12-month	-0.0683	0.0615	-0.115	0.124	0.0548	0.528	0.0451	0.141
	18-month	-0.0852	0.0728	-0.104	0.140	0.0264	0.616	0.0006	0.0844
	24-month	-0.0682	0.0571	-0.0622	0.0262	0.049	0.366	0.00306	0.0413

FEDERAL RESERVE BANK OF MINNEAPOLIS

Selective Attrition Tests at Baseline

		Baseline means				p-values			
Index (Exploratory Outcomes)	Wave	Control Respondents	Control Attritors	Treatment Respondents	Treatment Attritors	Unconditional IV-P test (Assumption 1)	Unconditional IV-R test (Assumption 2)	Conditional IV-P test (Assumption 1X)	Conditional IV-R test (Assumption 2X)
Credit Use	6-month	-0.074	0.0449	0.00398	-0.0368	0.0934	0.165	0.148	0.431
	12-month	-0.0635	0.036	0.001	-0.0231	0.0294	0.1	0.133	0.515
	18-month	-0.0612	0.0338	0.0129	-0.0609	0.207	0.514	0.159	0.707
	24-month	-0.0645	0.0334	-0.00699	-0.00561	0.0636	0.204	0.279	0.434
Healthcare Access	6-month	0.0729	-0.0162	-0.0389	-0.00447	2.36E-08	0.00274	0.0978	0.132
	12-month	0.0309	0.015	-0.0848	0.0888	0.00165	0.0518	0.256	0.171
	18-month	0.029	0.0164	-0.0415	0.00245	0.00277	0.0355	0.243	0.169
	24-month	0.0428	0.00742	-0.0121	-0.0816	0.0586	0.116	0.373	0.301

FEDERAL RESERVE BANK OF MINNEAPOLIS

Selective Attrition Tests at Baseline

Index (Exploratory Outcomes)	Wave	Baseline means				p-values			
		Control Respondents	Control Attritors	Treatment Respondents	Treatment Attritors	Unconditional IV-P test (Assumption 1)	Unconditional IV-R test (Assumption 2)	Conditional IV-P test (Assumption 1X)	Conditional IV-R test (Assumption 2X)
Housing Quantity	6-month	0.0207	-0.00957	-0.00253	-0.078	0.0853	0.152	0.119	0.571
	12-month	0.0188	-0.00788	0.0357	-0.145	0.061	0.0642	0.134	0.254
	18-month	0.0577	-0.0352	0.0366	-0.184	0.014	0.0906	0.0454	0.243
	24-month	0.0771	-0.0454	0.00689	-0.103	0.208	0.291	0.142	0.181
Healthcare Utilization	6-month	0.000695	0.00676	-0.0037	0.0107	0.0104	0.368	0.0712	0.628
	12-month	0.012	-0.00143	0.00312	-0.00658	0.0261	0.402	0.0459	0.545
	18-month	0.0381	-0.0199	0.0157	-0.0436	0.0409	0.198	0.0733	0.571
	24-month	0.0323	-0.0145	-0.00594	0.0171	0.231	0.332	0.429	0.894

FEDERAL RESERVE BANK OF MINNEAPOLIS

TABLE P5.

Distribution of Respondents Across Strata and Stratum Treatment Probabilities

Stratum	Kids	ZIP	Poverty	Respondents (Treatment Probability)				
				Baseline	6 months	12 months	18 months	24 months
1	No children	Zip group 0	Not experiencing	49 (39%)	31 (48%)	25 (60%)	27 (59%)	25 (60%)
2	No children	ZIP group 0	Experiencing	44 (36%)	24 (42%)	22 (36%)	23 (43%)	22 (45%)
3	Children	ZIP group 0	Not experiencing	71 (38%)	52 (44%)	45 (49%)	47 (51%)	47 (51%)
4	Children	ZIP group 0	Experiencing	112 (42%)	75 (52%)	64 (53%)	65 (58%)	66 (59%)
5	No children	ZIP group 1	Not experiencing	69 (45%)	45 (58%)	44 (55%)	45 (56%)	43 (58%)
6	No children	ZIP group 1	Experiencing	61 (39%)	33 (61%)	27 (67%)	27 (67%)	27 (67%)
7	Children	ZIP group 1	Not experiencing	38 (39%)	23 (52%)	21 (52%)	20 (55%)	21 (57%)
8	Children	ZIP group 1	Experiencing	85 (39%)	41 (56%)	40 (57%)	38 (66%)	39 (69%)

FEDERAL RESERVE BANK OF MINNEAPOLIS

FIGURE P4.

Distribution of the Percent Increase Over Annual Baseline Income from Annual GBI Payments in the Treatment Group

Baseline annual income < $5,000

Baseline annual income between $15-$20,000
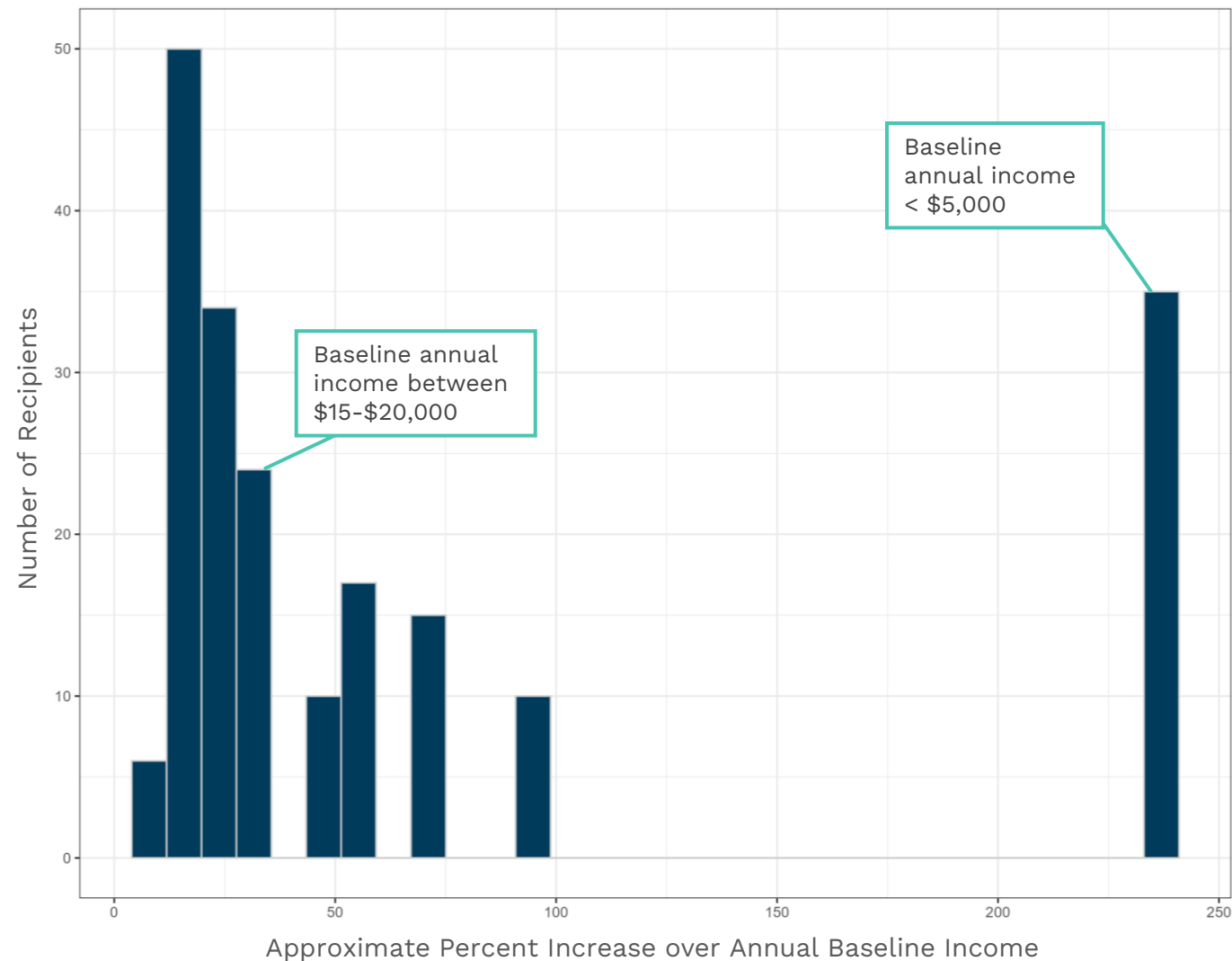
For the median participant, GBI payments represented a 34 percent increase over annual baseline income.

Number of Recipients

Approximate Percent Increase over Annual Baseline Income

FEDERAL RESERVE BANK OF MINNEAPOLIS

Distribution of Per-Person GBI Payment in the Treatment Group
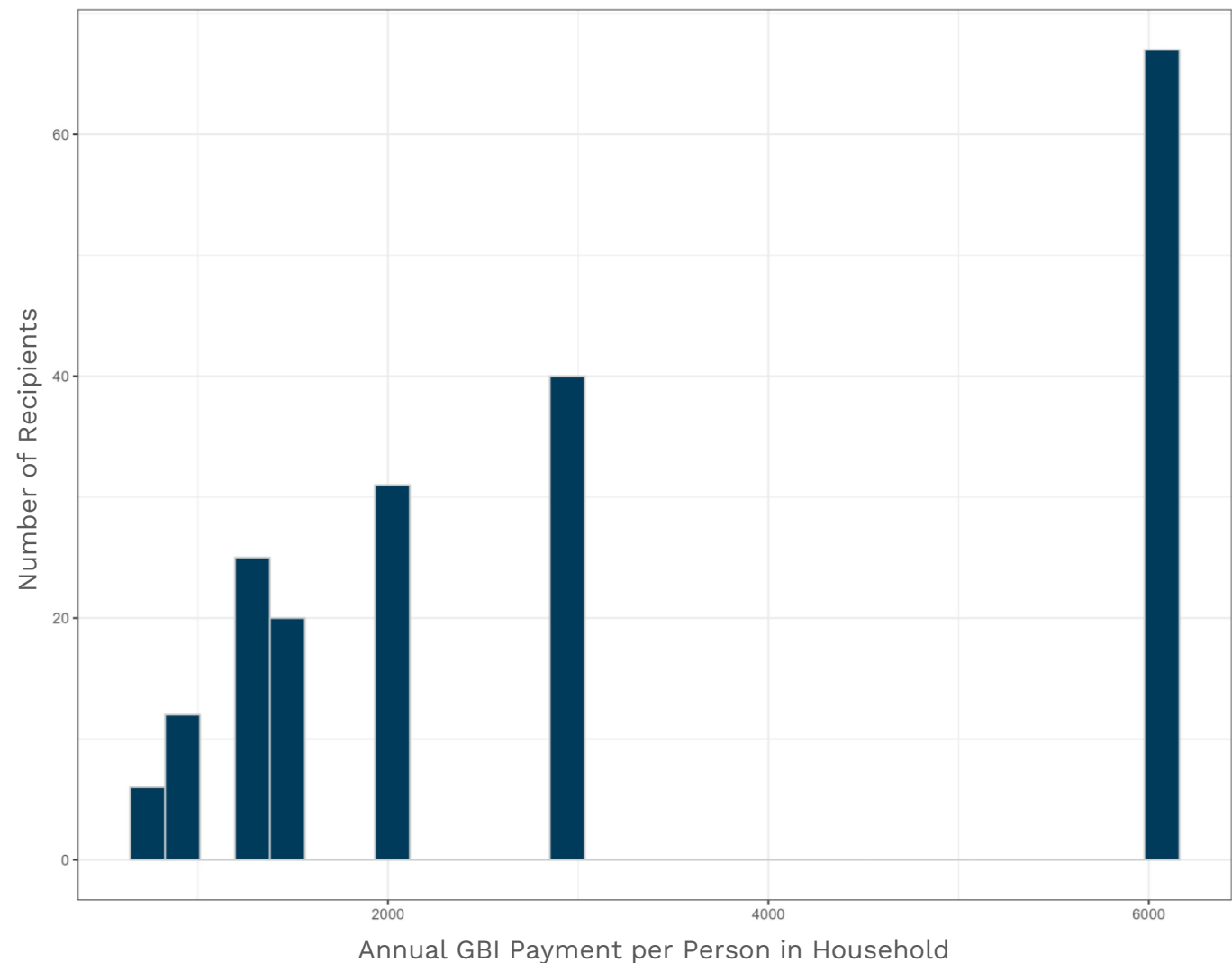
*On average,
participants in the treatment group
received $3,282 per person in their household
in annual GBI payments.*

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Formal Outcomes

Multiple hypothesis test adjustments to p-values use family-wise error rate approach; see pre-analysis plan for details

Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Labor Supply	mo06	-0.163 (127)	-0.129 (166)	0.0927	0.0116 (0.902)	0.0274 (0.707)	0.0214 (0.776)
	mo12	-0.221 (124)	-0.0485 (153)	0.243	0.173 (0.135)	0.150 (0.111)	0.159 (0.0705)
	mo18	-0.203 (124)	0.00365 (164)	0.284	0.233 (0.0398)	0.172 (0.0812)	0.156 (0.0928)
	mo24	-0.207 (120)	-0.0809 (162)	0.192	0.203 (0.158)	0.0559 (0.599)	0.0689 (0.749)
Housing Stability	mo06	-0.00752 (128)	0.0931 (168)	0.107	0.157 (0.174)	0.125 (0.239)	0.198 (0.00867)
	mo12	0.0290 (126)	0.146 (154)	0.127	0.135 (0.196)	0.146 (0.0885)	0.209 (0.0126)
	mo18	0.0297 (125)	0.185 (166)	0.183	0.180 (0.0309)	0.237 (0.00206)	0.268 (0.00119)
	mo24	0.00988 (120)	0.118 (167)	0.124	0.121 (0.145)	0.156 (0.164)	0.208 (0.0430)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Formal Outcomes

Multiple hypothesis test adjustments to p-values use family-wise error rate approach; see pre-analysis plan for details

Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Financial Security	mo06	0.0143 (128)	0.159 (167)	0.151	0.167 (0.00835)	0.154 (0.0120)	0.133 (0.0373)
	mo12	0.0156 (126)	0.187 (154)	0.194	0.199 (0.00657)	0.157 (0.00899)	0.138 (0.0559)
	mo18	-0.00666 (125)	0.222 (165)	0.240	0.263 (0.000218)	0.224 (0.00)	0.201 (0.00119)
	mo24	0.0537 (120)	0.220 (166)	0.189	0.216 (0.00740)	0.167 (0.0287)	0.139 (0.0886)
Well-Being	mo06	0.0426 (128)	0.198 (167)	0.158	0.219 (0.167)	0.148 (0.195)	0.166 (0.147)
	mo12	0.0191 (126)	0.282 (155)	0.303	0.340 (0.0295)	0.300 (0.000803)	0.318 (0.000793)
	mo18	-0.0279 (125)	0.286 (165)	0.350	0.426 (0.00567)	0.343 (0.00181)	0.327 (0.00227)
	mo24	0.0594 (120)	0.269 (165)	0.250	0.239 (0.158)	0.194 (0.102)	0.203 (0.102)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Formal Outcomes

Multiple hypothesis test adjustments to p-values use family-wise error rate approach; see pre-analysis plan for details

Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Food Security	mo06	0.359 (128)	0.500 (168)	0.141	0.166 (0.0422)	0.164 (0.0138)	0.198 (0.00804)
	mo12	0.325 (126)	0.484 (155)	0.151	0.143 (0.115)	0.160 (0.00948)	0.194 (0.0105)
	mo18	0.368 (125)	0.491 (167)	0.136	0.161 (0.0529)	0.149 (0.0226)	0.174 (0.0226)
	mo24	0.350 (120)	0.506 (168)	0.166	0.215 (0.0137)	0.179 (0.0127)	0.214 (0.0103)
Psychological Wellness (Kessler 10)	mo06	23.9 (128)	22.1 (168)	-1.84	-2.36 (0.162)	-1.12 (0.354)	-1.14 (0.445)
	mo12	24.6 (126)	21.0 (155)	-3.96	-3.94 (0.0279)	-3.77 (0.000321)	-3.76 (0.00736)
	mo18	24.4 (125)	20.6 (167)	-4.00	-4.89 (0.00262)	-3.28 (0.00219)	-3.22 (0.0215)
	mo24	23.5 (120)	21.2 (168)	-2.54	-3.15 (0.136)	-1.74 (0.336)	-1.06 (0.525)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Housing Quantity	mo06	0.0512 (128)	0.0105 (168)	-0.0118	0.0129 (1.00)	-0.0295 (1.00)	-0.0178 (1.00)
	mo12	-0.00444 (126)	0.0378 (153)	0.0693	0.0266 (0.708)	0.0439 (0.151)	0.0180 (0.929)
	mo18	0.0880 (125)	0.123 (166)	0.0474	0.0724 (0.349)	0.0711 (0.232)	0.0325 (0.586)
	mo24	0.0756 (119)	0.0487 (166)	0.0311	0.0251 (1.00)	0.0435 (0.658)	0.0580 (0.883)
Use of Low-Cost Credit	mo06	-0.113 (128)	-0.0258 (167)	0.0771	0.0710 (0.470)	0.0366 (1.00)	0.0186 (1.00)
	mo12	-0.0771 (126)	0.0746 (154)	0.147	0.171 (0.0507)	0.131 (0.102)	0.106 (0.316)
	mo18	-0.130 (125)	0.0552 (165)	0.157	0.207 (0.159)	0.138 (0.135)	0.112 (0.559)
	mo24	-0.0878 (120)	0.0260 (165)	0.106	0.115 (0.250)	0.0933 (0.544)	0.0769 (0.883)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Healthcare Utilization	mo06	0.124 (128)	0.119 (167)	0.0092	0.00202 (1.00)	0.0379 (1.00)	0.0186 (1.00)
	mo12	0.120 (125)	0.0353 (154)	-0.0871	-0.0811 (0.517)	-0.0769 (0.151)	-0.0709 (0.518)
	mo18	0.141 (125)	0.151 (165)	-0.00465	0.00176 (1.00)	0.0400 (0.232)	0.0144 (0.795)
	mo24	0.0593 (120)	0.0858 (165)	0.0243	0.0356 (1.00)	0.0586 (0.658)	0.0509 (0.883)
Healthcare Access (Financial)	mo06	-0.0265 (128)	0.131 (166)	0.134	0.163 (0.198)	0.200 (0.0388)	0.244 (0.0492)
	mo12	0.00186 (125)	0.178 (153)	0.174	0.187 (0.0507)	0.220 (0.0523)	0.303 (0.00507)
	mo18	0.0132 (125)	0.145 (163)	0.128	0.184 (0.159)	0.175 (0.135)	0.225 (0.196)
	mo24	0.0388 (120)	0.0919 (163)	0.0264	0.0157 (1.00)	0.0419 (0.658)	0.0844 (0.883)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Current Employment	mo06	0.667 (126)	0.665 (161)	0.0313	-0.00794 (1.00)	0.0286 (1.00)	0.0271 (1.00)
	mo12	0.664 (122)	0.682 (151)	0.0477	0.0183 (0.708)	0.0561 (0.151)	0.0502 (0.476)
	mo18	0.642 (123)	0.688 (160)	0.0818	0.0376 (0.398)	0.0607 (0.232)	0.0747 (0.559)
	mo24	0.641 (117)	0.690 (158)	0.0888	0.0688 (0.309)	0.0578 (0.544)	0.0747 (0.800)
Has Additional Job(s)	mo06	0.159 (82)	0.163 (104)	0.0584	NA (NA)	NA (NA)	0.102 (0.418)
	mo12	0.0875 (80)	0.172 (99)	0.125	0.994 (0.00)	NA (NA)	0.177 (0.0362)
	mo18	0.118 (76)	0.171 (105)	0.0653	0.0488 (0.398)	NA (NA)	0.108 (0.559)
	mo24	0.137 (73)	0.135 (104)	-0.0219	NA (NA)	NA (NA)	-0.0144 (0.883)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Would Pay a $400 Expense with Cash	mo06	0.0667 (120)	0.133 (150)	0.0774	0.0797 (0.198)	NA (NA)	0.0688 (0.307)
	mo12	0.0940 (117)	0.155 (142)	0.0575	0.0598 (0.450)	NA (NA)	0.0291 (0.518)
	mo18	0.106 (113)	0.172 (151)	0.0803	0.0906 (0.159)	NA (NA)	0.0466 (0.559)
	mo24	0.161 (112)	0.181 (149)	0.0387	0.0684 (0.250)	NA (NA)	-0.00268 (1.00)
Hourly Wage	mo06	42.0 (73)	44.6 (90)	-19.5	NA (NA)	-32.2 (1.00)	-11.0 (1.00)
	mo12	31.0 (76)	57.3 (84)	37.0	8.38 (0.708)	42.3 (0.102)	19.6 (0.518)
	mo18	50.1 (69)	33.9 (91)	-6.03	NA (NA)	-23.4 (0.232)	-4.66 (0.795)
	mo24	21.0 (70)	60.2 (99)	38.6	NA (NA)	12.7 (0.658)	33.9 (0.836)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Providing Support to Others	mo06	0.142 (127)	0.165 (164)	0.0334	0.0172 (1.00)	NA (NA)	0.0274 (1.00)
	mo12	0.131 (122)	0.154 (149)	0.0475	0.0207 (0.708)	NA (NA)	0.0110 (0.929)
	mo18	0.107 (122)	0.166 (163)	0.0762	0.0715 (0.193)	NA (NA)	0.0320 (0.559)
	mo24	0.0973 (113)	0.142 (162)	0.0662	0.0498 (0.298)	NA (NA)	0.0329 (0.883)
Housing Stability Screening Item	mo06	0.691 (123)	0.759 (162)	0.0771	0.131 (0.198)	0.146 (0.0388)	0.180 (0.0492)
	mo12	0.754 (122)	0.795 (146)	0.0482	0.0498 (0.517)	0.101 (0.102)	0.153 (0.0825)
	mo18	0.727 (121)	0.792 (159)	0.0641	0.0997 (0.193)	0.0834 (0.205)	0.118 (0.559)
	mo24	0.707 (116)	0.786 (159)	0.100	0.136 (0.120)	0.133 (0.0671)	0.200 (0.0244)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Experimental Results for Exploratory Outcomes

Multiple hypothesis test adjustments to p-values use Benjamini, Krieger, and Yekutieli false discovery rate approach; see pre-analysis plan for details

Exploratory Outcome	Wave	Control Mean (N)	Treatment Mean (N)	Simple Difference in Means	Model 1 (multiple hypothesis test-adjusted p-value)	Model 2 (multiple hypothesis test-adjusted p-value)	Model 3 (multiple hypothesis test-adjusted p-value)
Access to Reliable Transportation	mo06	0.643 (126)	0.707 (164)	0.0944	0.127 (0.198)	NA (NA)	0.0709 (0.432)
	mo12	0.650 (123)	0.740 (154)	0.103	0.0488 (0.517)	NA (NA)	0.0795 (0.413)
	mo18	0.618 (123)	0.716 (162)	0.141	0.114 (0.193)	NA (NA)	0.117 (0.559)
	mo24	0.653 (118)	0.744 (164)	0.142	0.135 (0.120)	NA (NA)	0.136 (0.296)
School and/or Job Training Attendance	mo06	0.192 (125)	0.236 (165)	0.0523	0.0413 (0.609)	NA (NA)	-0.00936 (1.00)
	mo12	0.123 (122)	0.222 (153)	0.101	0.114 (0.0507)	NA (NA)	0.0138 (0.929)
	mo18	0.139 (122)	0.189 (164)	0.061	0.0399 (0.398)	NA (NA)	-0.0378 (0.559)
	mo24	0.134 (119)	0.153 (163)	0.0225	0.0242 (1.00)	NA (NA)	-0.0514 (0.883)

Results reflect finalized eligibility verifications.

FEDERAL RESERVE BANK OF MINNEAPOLIS

Figure P6. Estimated Power Curves for an Index Outcome

Figure P7. Estimated Power Curves for a Binary Outcome

Table P8. Experimental Results from Stockton SEED Demonstration

Please see pre-analysis plan: https://www.minneapolisfed.org/research/community-development-working-papers/evaluation-plan-minneapolis-guaranteed-basic-income-pilot

FEDERAL RESERVE BANK OF MINNEAPOLIS

MINNEAPOLISFED.ORG/TOPIC/LABOR-MARKET-POLICIES

FEDERAL RESERVE BANK
OF MINNEAPOLIS