

An Evaluation of the Twin Cities Habitat for Humanity AmeriCorps Program

Impact Report

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Introduction

Twin Cities Habitat for Humanity Overview

The mission of Twin Cities Habitat for Humanity (TCHFH) is to bring people together to create, preserve, and promote affordable homeownership and advance racial equity in housing. Since its establishment in 1985, TCHFH has helped over 1,500 people secure affordable housing and has completed more than 2,000 critical home repairs across the seven-county metro area. The current program builds 35 new homes and rehabilitates 15 homes each year, then sells those homes to low-income clients at an affordable rate. Construction and renovation practices are aligned to promote safety, health, and affordability. Partner families are prepared for success through eight hours of homeownership training and one-on-one financial coaching from TCHFH. Partner families contribute 250 credit hours of "sweat equity" by volunteering to build or rehab Habitat homes. Clients are also able to purchase a home with a realtor through TCHFH's Open Market program. Every Habitat family receives a mortgage that is no more than 30% of their income with an affordable, fixed interest rate.

The majority of the labor to build and repair homes is completed by volunteers. TCHFH AmeriCorps members are integral to program implementation. Members support the program by recruiting, training, and supervising community volunteers which significantly reduces program costs while boosting program capacity to meet local need.

The Twin Cities' housing needs will grow dramatically in the decade ahead. The Met

Council estimates by 2030, 37,900 new affordable housing units will be needed to keep up with population growth. Affordable homeownership is a multi-generational game changer for a family. It contributes to better outcomes in education, health, and economic stability. Today, 3 in 4 White families in the Twin Cities own homes compared to 1 in 4 Black families—approximately 85% of Habitat clients are people of color.

About the Study

The primary objective and outcome of interest for Twin Cities Habitat for Humanity is to increase access to affordable and safe housing for families with an income between 30% and 80% of the median income. Thus, the primary outcome of interest for TCHFH is the number of families who experience more favorable living conditions as a result of TCHFH services.

Previous research on TCHFH provides some descriptive evidence that families served by the program experience a variety of benefits (Mattessich & Hanson, 2015), but this research lacked a relevant comparison group. Recent changes to program selection criteria introduced the opportunity to make more meaningful comparisons between families matched with a home and those who are not yet matched. Thus, a quasi-experimental design (QED) study comparing families matched with a home through TCHFH and similar families that have qualified for a home match but have not yet closed on a home is now feasible. The purpose of the present evaluation was to evaluate TCHFH impact on overall housing quality and satisfaction.

The primary research questions guiding the evaluation were:

1. To what extent do families matched with a TCHFH home have a lower Persons-per-Bedroom (PPB) rate relative to similar families who have not been matched with a home?
2. To what extent does the probability of meeting federal guidelines for PPB differ between families matched with a TCHFH home and those still awaiting a match?
3. Relative to a matched comparison group, to what extent do families matched with a TCHFH home report higher feelings of overall home satisfaction measured by general satisfaction, safety, and housing issues?

Impact Assessment

As described previously, the current evaluation adopted a QED approach in which families acquiring a home through TCHFH were matched with similar families that qualified for TCHFH support but had not yet closed on a home.

Once matched, the primary outcomes of interest included the Person per Bedroom ratio (PPB), the probability of having a PPB ratio less than or equal to 2, and family ratings on a survey of home satisfaction, safety, and housing issues. Below, we describe the matching process, analytic sample and procedures, and observed results.

Matching and Participants

Matching. The procedures for matching in the current evaluation leveraged TCHFH procedures for family selection and home placement. To be entered in the TCHFH system, families must qualify for support and become mortgage ready. Once a family is mortgage ready, they may be matched with a TCHFH home. This infrastructure essentially creates two groups in the TCHFH data system—those that have qualified for a new home and those that have qualified and been matched to a new home. For the purposes of the current study, families matched to a home compose the treatment group and families that have qualified for support compose the comparison group. Upon entry into the TCHFH data system, families provide information on income, household members, bedrooms, race, and age. Families also complete the aforementioned survey at entry. Finally, after families close on a home, they provide updated

information on PPB and complete the survey a second time.

The goal of the matching procedures in the current study was to identify families

The evaluation adopted a QED approach in which 49 families acquiring a home through TCHFH were matched with 49 similar families that qualified for TCHFH support but had not yet closed on a home.

entering the system at approximately the same time as families who had recently been matched to a home. In these cases, the bedroom and householder member data on the intake

survey for comparison families can be compared to the post-placement data for families matched with a home. At the end of the evaluation program year, there were a total of 147 families listed in the TCHFH system. Of those families, 49 had been matched with a home, leaving an additional 98 families who had qualified for the matching process but had not yet been matched to a home. Propensity scores were used to create a matched comparison group. Propensity matching is largely advocated as a valid and useful quasi-experimental method for evaluating group differences, as it is designed to balance groups across a number of pre-existing factors that could otherwise account for differences in the outcome measures (Smith, 1997; Stuart & Rubin, 2008). In the current evaluation we used the MatchIt package in R to create a matched sample (Ho, Imai, King, & Stuart, 2011).

The matching process included two analytic steps. In the first step, logistic regression was used to calculate each family's propensity (or likelihood) for home placement based on a variety of information known about the family. In the

case of the present evaluation, families were matched based on their (1) annual gross income, (2) household members, (3) weeks from the beginning of the program year, (4) race, and (5) applicant age. The “weeks” variable was included to ensure that the time at which household data and survey data were obtained were similar for a given matched pair.

The second analytic step involved matching cases according to their propensity scores, where families in the treatment group were matched with a family that had not closed on a home but had a similar propensity for placement. In the present analysis we used nearest neighbor matching without replacement to pair cases based on their likelihood of home placement (Rubin, 1973). Comparison cases not matched to a treatment case were excluded from further analysis. Thus, the final sample consisted of 98 families (49 in treatment and 49 comparison).

Participants. Descriptive data for the analytic sample separated by group are included in Table 1. The variables of most interest for the matching procedures and baseline equivalence include household member data, annual income, whether or

not a household was designated as a household of color, primary applicant age, and weeks elapsed from the start of the program year. From Table 1, it follows that families in the two groups were generally quite similar across those variables. On average, families in the treatment group had slightly fewer family members ($M = 4.14$; $SD = 1.78$) compared to those in the comparison group ($M = 4.47$; $SD = 2.06$). A majority of families in both groups were designated as households of color; however, treatment families tended to have a slightly larger proportion of White families (29%) relative to comparison families (14%).

Comparison and treatment families tended to have very similar household income and age data. Data for comparison families was obtained, on average, one week later than treatment families using July 1, 2019 as a the start date. To evaluate the degree to which participant families differed between the two groups of interest, a series of chi-square and t-tests were conducted revealing no statistically significant differences between groups at baseline and providing evidence for the integrity of the matching procedures.

Table 1. Descriptive Data across Groups

	Treatment (n = 49)		Comparison (n = 49)	
	M	SD	M	SD
Demographics				
Weeks from Start	18.06	12.17	19.67	10.75
Annual Income (Gross)	58,918	10,346	59,832	15,203
Household of Color	71%	-	86%	-
Primary Applicant Age	39.51	8.99	39.69	8.77
Housing Data				
Household Members	4.14	1.78	4.47	2.06
Bedrooms	3.41	0.91	2.24	0.86
Person Per Bedroom (PPB)	1.28	0.82	2.24	0.85
Met PPB Benchmark (<= 2)	96%	-	67%	-
Survey Scores				
Full Score	3.52	0.44	2.89	0.48
Satisfaction	3.36	0.49	2.52	0.48
Safety	3.57	0.60	2.95	0.72
Housing Issues	3.59	0.57	3.07	0.56

Note: All survey items scaled from 1-4. M = Mean; SD = Standard Deviation.

Measures

Housing and Income Data. Information on the number of household members, current bedrooms, and annual income of families was obtained and verified as part of the intake process for TCHFH and stored in their secure database.

Household Survey Data. Prior to the 2019-2020 program year, the evaluation team worked closely with the TCHFH team to create a survey to be included in the intake for all families and as a follow-up for families matched with a home. The survey was created to assess a variety of housing-related information that is consistent with the goals of the TCHFH program. In selecting items for the survey, the evaluation team used the existing research literature on housing to identify exemplar items or sets of items (e.g., Buron et al.,

2002; Dunn & Hayes, 1999; Sandel & Wright, 2006; Smith et al., 1993).

In total, there were 19 items on the final survey that were further partitioned into three subscales of interest: Housing Satisfaction (6 items), Safety (2 items), and Housing Issues (11 items). All items were scored on a scale of 1 to 4. The anchors for the satisfaction items ranged from “Strongly Agree” to Strongly Disagree.” The anchors for the safety items ranged from “Very Safe” to “Very Unsafe.” The anchors for housing issues ranged from “Very True” to “Very Untrue.” Items were reverse scored when necessary. The full survey average score as well as subscale averages were used for analysis and interpretation. See Appendix A for a full list of the survey items.

Analytic Plan

To evaluate group differences in regard to housing data and survey data, five linear regression models were fit to the data (PPB; full survey score; satisfaction score; safety score; issues score). In each case the outcome of interest was regressed on the primary predictor of interest (treatment) as well as five covariates: annual income (mean centered), weeks from start of program year, number of household members, whether a household was coded as a household of color, and applicant age. Those covariates were included in the model despite the fact that no baseline differences were observed to increase model precision.

In addition to the linear models, a logistic regression model was fit to the data to evaluate any group differences in the probability of having a PPB at or below the industry standard (Blake et al., 2007). That model also included the aforementioned covariates.

Results

PPB Differences. The first research question of interest in regard to the ratio of household members to bedrooms evaluated the PPB ratio as a continuous variable. In this case, lower PPB values are preferred as this is indicative of increased alignment between household members and available bedrooms. Results from that model are included in Table 2. In regard to the covariates included in the model, the only statistically significant effect was observed for household members—each one unit increase in household members was associated with a 0.30 increase in the PPB ratio ($p < .001$). A statistically significant and negative association was observed between treatment (i.e., being matched to a TCHF home) and PPB ratio. More

specifically, being matched to a TCHF home was associated with a 0.68 decrease in the PPB ratio. To capture the standardized effect of home placement on PPB, marginal means were used to calculate the associated Cohen's d effect size, which was equal to 0.76 or approximately three fourths of a standard deviation.

The results from the linear regression model help articulate the impact of TCHF home placement on the overall PPB ratio for families. However, it is equally relevant to consider the proportion of families in both groups that met common guidelines for the PPB ratio. In the case of the present study, we used guidelines described by the U.S. Department of Housing and Urban Development, which suggest that families should have a PPB ratio of 2 or less. To evaluate the impact of home placement on the probability of meeting that criterion, a dichotomous variable was created in which families were coded as 1 if their PPB was at or below 2 and 0 if their PPB was above 2. In addition to treatment (i.e., home placement), information on household members and income were included in the final model.

Results from the logistic regression model provide evidence for a statistically significant increase in the log-odds of a family meeting the PPB benchmark if they were matched to a TCHF home. The observed effect of TCHF home placement on the log-odds of a family meeting the PPB benchmark (≤ 2) was translated into a probability increase to ease in interpretation. For a family with an annual income and household membership equal to the sample mean, the probability of meeting the PPB benchmark after being matched to a TCHF home was 99%, or

nearly 1. That same probability among families who had not yet been matched to home was equal to 78%. That is, TCHFH home placement was associated with a 21 percentage point increase in the probability of meeting the PPB ratio benchmark.

Survey Differences. Similar to the PPB linear model, a series of four models were fit to the data to assess program impact on the full survey score, satisfaction score, safety score, and housing issues score. In all cases, higher values were associated with greater satisfaction and/or fewer housing issues.

Across all four outcomes, a statistically significant and positive effect on survey responses was observed for treatment (see Table 2). The largest effects were observed for the full survey score (B = 0.63; d = 1.03) and Home Satisfaction (B = 0.86; d = 1.36).

TCHFH home placement was associated with a 0.68 decrease in the Persons-per-Bedroom ratio and a 21 percentage point increase in the probability of meeting the Persons-per-Bedroom ratio benchmark.

In those cases, TCHFH home placement was associated with more than a full standard deviation increase the average survey score. Smaller effects were observed for the Safety (B = 0.62; d = 0.83) and Housing Issues (B = 0.44; d = 0.71) subscales; however, both effects were also quite large. A statistically significant and negative effect was observed for the number of household members when examining the full survey score (B = -0.06) and Housing Issues score (B = -0.09).

Finally, families self-identifying as a household of color tended to have a higher PPB and lower survey ratings across all subscales.

However, the only association demonstrating statistical significance was Home Satisfaction. More specifically, there was a 0.25 expected decrease in home satisfaction among households of color (d = 0.40).

Table 2. Regression Results of TCHFH Impact across Persons per Bedroom and Survey Responses

	PPB		Full Survey Score		Home Satisfaction		Safety		Housing Issues	
	B	D	B	D	B	D	B	D	B	D
Covariates	B		B		B		B		B	
Annual Income	-0.04		0.01		.001		0.07*		0.05	
Household Members	0.30***		-0.06*		-0.01		-0.002		-0.09**	
Household of Color	-0.12		-0.20		-0.25*		0.07		-0.23	
Age	-0.002		-0.01*		-0.01*		-0.02*		-0.01	
Weeks	0.004		-0.01*		-0.01*		-0.002		-0.01	
Primary Predictor	B	D	B	D	B	D	B	D	B	D
Treatment	-0.68***	0.76	0.57***	1.03	0.86***	1.36	0.62***	0.83	0.44***	0.71

Note: Annual income mean centered; effects associated with a \$5,000 increase in gross annual household income. B = unstandardized coefficient; D = Cohen's D standardized effect size.

Conclusion and Discussion

In the current evaluation, we sought to examine the degree to which support from TCHF—made possible through the use of AmeriCorps resources—improves the quality of housing available to families in need. Improvements to housing in this case were defined as a lower PPB ratio and improvements to elements of housing satisfaction.

The observed results provide consistent and strong evidence that TCHF helps to decrease PPB ratios and increase housing satisfaction. In the context of PPB, families matched to a home had, on average, a PPB ratio that was 0.68 lower than similar families not matched to home—an effect that was nearly three quarters of a standard deviation when standardized. Likewise, nearly all families matched with a home had a PPB ratio at or below federal guidelines, compared to only 78% of families not matched with a home. The effects for PPB ratio observed in the current study exceed the performance measure goal set by the program (based on a goal of 85% of families reported a reduced PPB). The effects on PPB are particularly significant given its well-documented relationship with a host of quality of life metrics (Blakely et al., 2003; Office of the Deputy Prime Minister, 2004), and the population served by TCHF. For example, 22% of families not matched to a home in the present study fell above the PPB benchmark. These families represent the typical distribution of families not matched to a home on any given year and stand in stark contrast to national rates of attaining a PPB ratio of 2 or less, which are less than 3% (Blake et al., 2007). In other words, it is likely that TCHF has a direct and meaningful impact on a measure of life

quality (PPB) among families that need that impact most.

The effects observed for PPB ratio offer a compelling look at the direct value of the program as well as a variety of benefits that might be assumed given their close relationship with overcrowding. Data from the TCHF survey contribute to this argument as the survey asked families to report on a variety of characteristics likely to be associated with a lower PPB ratio. Indeed, the correlation between PPB and the total survey score across both groups in the current evaluation was equal to -0.43, providing some evidence that higher PPB ratios were associated with lower survey scores. When examining between-group data on the survey, families matched to a house through TCHF had total survey scores that were over a standard deviation higher than those observed among similar families that had not been matched to home. That is, families matched to a home uniformly reported more favorable views of overall home satisfaction, feelings of safety, and housing issues.

Below, and consistent with the broader push for using evaluation to guide program improvement, we describe the most relevant contextual variables for the current evaluation and offer insight on current changes adopted by TNAC intended to address those variables moving forward.

Future Programming and Evaluation. As the TCHF program begins planning for the next grant cycle, there are a number of learnings from the evaluation worth consideration. First, despite limitations associated with the current design (e.g., lack of random assignment to treatment

and control), the evidence associated with the program may be sufficiently strong to examine components of program implementation that may lead to greater efficiency, effectiveness, and/or equity. For example, it may be useful to examine benefits across relevant demographic and geographic variables. The presence of variability across families, cost of building, and home satisfaction might facilitate discussion regarding which families benefit most from support as well as which neighborhoods and/or builds are particularly desirable. Demographic data may also be useful to examine the impact of TCHFH activities on reducing racial or ethnic disparities in housing. Across nearly

all outcomes, families of color were more likely to have higher PPB ratios and report lower levels of housing satisfaction. Although only one outcome was statistically significant (housing satisfaction scores), the consistent negative association between being a household of color and the outcomes of interest may prompt the program to consider the ways in which they are partnering with households of color. Finally, future evaluations might consider capturing the value-add of members in terms of building or renovation efficiency. Such analyses might help articulate the specific value of AmeriCorps support within the model.

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Peter Nelson is the Director of Research and Innovation at ServeMinnesota where he engages with ServeMinnesota pilot programs and existing programs to ensure key principles of effective implementation and evidence-building occur. Peter has more than 10 years of experience in research and evaluation methodology with a particular focus on the educational context. Before joining ServeMinnesota, Peter was an Assistant Professor of School Psychology at Penn State University. In addition to his direct work with AmeriCorps programs, Peter has published over 35 peer-reviewed articles in academic journals and helped secure over 2 million dollars in funding to facilitate new program development and research related to data-based decision making and academic intervention in the school setting. Peter holds a B.A. in Psychology from St. Olaf College, an M.A. in Education from the University of Mississippi, and an M.Ed and Ph.D. from the University of Minnesota in School Psychology. Peter serves on the editorial board for *School Psychology Review*, *School Psychology Forum* and *Assessment for Effective Intervention*.

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Appendix A: Habitat for Humanity Family Survey

Items based on needs of the Habitat for Humanity program and existing research on housing-related issues.¹²³⁴

Occupants and Bedrooms				
How many people live in your house or apartment?				
How many bedrooms are in your house or apartment?				
Overall Satisfaction: Rate the degree to which you agree with the following statements about your current house/apartment and neighborhood.	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
My house or apartment is affordable.	4	3	2	1
My current housing situation is a source of financial stress.	1	2	3	4
Overall, I am proud of my house or apartment.	4	3	2	1
Overall, I am satisfied with the house or apartment I live in right now.	4	3	2	1
Overall, I am satisfied with the neighborhood I live in right now.	4	3	2	1
Overall, I am satisfied with the condition of the house or apartment I live in right now.	4	3	2	1
Overall Safety: Rate the degree to which you feel safe in your current home/apartment and neighborhood.	Very Safe	Somewhat Safe	Somewhat Unsafe	Very Unsafe
Overall, how safe do you feel in your current house or apartment?	4	3	2	1
Overall, how safe do you feel in your current neighborhood?	4	3	2	1
Specific Issues: Rate the degree to which the housing-related factors below are true for your current living situation	Very True	Somewhat True	Somewhat Untrue	Very Untrue
Lack of living space	1	2	3	4
Walls with peeling paint or broken plaster	1	2	3	4
Plumbing that does not work properly	1	2	3	4
Unsafe wiring or other electrical issues	1	2	3	4
Rats or mice in the house or apartment	1	2	3	4
Cockroaches or other bugs in the house or apartment	1	2	3	4
Broken locks or no locks on the door to unit or house	1	2	3	4
Heat not working	1	2	3	4
Fear of eviction	1	2	3	4
Desire to, but unable to move	1	2	3	4
Excessive noise in home	1	2	3	4

¹ Sandel, M., & Wright, R. J. (2006). When home is where the stress is: expanding the dimensions of housing that influence asthma morbidity. *Archives of Disease in Childhood*, 91(11), 942-948.

² Smith, C. A., Smith, C. J., Kearns, R. A., & Abbott, M. W. (1993). Housing stressors, social support and psychological distress. *Social Science & Medicine*, 37(5), 603-612.

³ Buron et al. (2002) The HOPE VI Resident Tracking Study. United States Department of Housing and Urban Development.

⁴ Dunn, J. R., & Hayes, M. V. (1999). Identifying social pathways for health inequalities: The role of housing. *Annals of the New York Academy of Sciences*, 896(1), 399-402.