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## Housing and Support Services with Homeless Mothers: Benefits to the Mother and Her Children

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### Abstract

This study reports the mental health outcomes of a small randomized clinical trial (n = 60) that compared housing and supportive services (Ecologically-Based Treatment, EBT) to community based housing and support services (treatment as usual, TAU). Mothers receiving EBT, but not those receiving TAU, reported reductions in their children's behavioral health problems. Reductions in mothers' mental health problems and intimate partner violence were observed in both TAU and EBT. The current findings provide evidence supporting the efficacy of independent housing and integrated support services. Given that EBT showed similar, and in some cases superior findings to TAU, EBT may be an effective alternative for communities that do not have shelters available for those families experiencing homelessness.

### Keywords

homeless mothers; randomized clinical trial; supportive services; secondary outcomes

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Although the number of homeless families starts to decrease from 2005, the rate of decrease in recent years has slowed (National Alliance to End Homelessness, 2014). In 2013, an estimate of 70,960 households are homeless (National Alliance to End Homelessness, 2014), which leads to a high demand of temporary shelters and many cities are unable to meet the needs of these families. Women with children in their care are an especially vulnerable group as mothers must ensure care for their children in addition to themselves. The majority of homeless families are headed by single mothers (Haber & Toro, 2004), who often struggle with substance use disorders, parenting, and physical and mental health problems (Grant, Gracy, Goldsmith, Shapiro & Redlener, 2013). Several studies note that 50% of homeless mothers are currently fleeing domestic violence, though many more have histories of intimate partner violence (IPV) (Bassuk et al., 2001; Pavao et al., 2007). Therefore, research attention directed towards identifying efficacious interventions addressing the multiple needs of these families is considered an important focus (Winship, 2001). As housing is associated with significant improvements in substance use as well as subjective quality of life among single adults experiencing homelessness (e.g., Gulcur, Stefancic, Shinn, Tsemberis, & Ficher, 2003; Padgett, Stanhope, Henwood, & Stefancic,

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2011; Patterson et al., 2013), this study tested a housing intervention combined with supportive services for improving outcomes for both women and their children.

Homeless parents and children become sick and go hungry twice as often as those who are not experiencing homelessness, and lack a regular source of medical care (National Center on Family Homelessness, 2006). Homeless mothers suffer from a range of physical health problems including asthma, anemia, ulcers and dental problems (Rog & Buckner, 2007), as well as significant mental health problems. Research suggests that lifetime major depression is common among homeless mothers with an estimated prevalence rate of 52.4% (Weinreb et al., 2006) and 15% have been hospitalized at least once for mental health problems (Vostanis et al., 1997). Substance abuse is not uncommon with studies indicating that 28% to 50% of homeless mothers report using illicit drugs within one year of the assessment (e.g., Hanrahan et al., 2005; Weinreb et al., 2006). Chambers et al. (2014) found that homeless women with dependent children were more likely to have physical and mental health problem, as well as alcohol or drug use problems, compared to homeless women without dependent children. More frequent drug and alcohol use has been shown to predict higher rates of future intimate partner violence (El-Bassel et al., 2005).

Moreover, research has shown that homeless mothers underreport substance use as well as mental health problems, and avoid treatment services, for fear their children will be removed from their custody, making estimation difficult (Gelberg & Linn, 1992). This fear is not unfounded as one report notes that 62% of children in families seeking emergency shelter were placed in foster care (National Alliance to End Homelessness, 2006). However, substance use and mental health problems can exacerbate the severity of homelessness which has many personal, social and economic costs. Finfgeld-Connett (2010) notes that women who fail to resolve homelessness tend to have unstable mental health disorders, including substance use problems, and are apt to use services in a revolving door basis. Therefore, supportive services offering substance use and mental health treatment may be key to long-term resolution of homelessness.

Parenting in the context of homelessness is extremely difficult for homeless mothers (Buckner, 2008). Mothers' preoccupation with basic survival, as well as the physical, emotional and financial strains of homelessness stress their capacity to respond fully to children's needs (David et al., 2012). On the other hand, homeless children younger than 6 years old are especially vulnerable to developing emotional and behavioral disorders compared to school-age children and adolescents (Shinn et al., 2008). More than one-third of homeless children (36.3%) show symptoms of anxiety, depression and aggressive behaviors (Gewirtz et al., 2009) with nearly one-fourth (23.5%) meeting diagnostic criteria for an anxiety disorder and 14.9% for a behavioral disorder (Yu et al., 2008). Children's internalizing and externalizing behaviors, along with the stressors of financial strain, health problems, and other stressful life events such as intimate partner violence can further limit the quality of the mother-child interaction and increase parenting stress (Gorzka, 1999; Torquati, 2002). Given the reciprocal association between parenting stress and children's internalizing and externalizing behaviors, it is important to intervene in these two domains when providing services for substance abusing disordered homeless mothers with children in their care.

## Intervention

Research focus on supportive housing interventions has increased in recent years. For example, randomized trials testing the Housing First model are beginning to appear in the literature. This model primarily targets the most vulnerable homeless people with severe mental illness and substance use disorders (Tsemberis, 2005). The Housing First approach includes several basic assumptions including that housing is a fundamental human right, recovery from mental illness is possible, and consumers can make competent choices (Tsemberis, 2005). In addition, Housing First is grounded on the premise that the provision of housing among homeless individuals will reduce their need for other public resources (Kertesz & Weiner, 2009). This approach assumes that individuals with severe psychiatric disabilities can maintain independent housing before their clinical status is stabilized (Tsemberis, 2005). To date, studies indicate that psychiatric and substance abuse symptoms are not compromised, and in fact are reduced, with a Housing First approach (e.g., Padgett et al., 2011). However, this approach has not been applied to homeless mothers.

## Current Study

The literature documents multiple areas of need among both substance use disordered homeless mothers and their children. Even so, there is a void of information on effective intervention approaches. This study reports the findings of a small randomized pilot following a Housing First approach, in which time-limited rental support (three months) for an apartment of the mother's choosing, in addition to six months of support services including substance use/mental health treatment were provided. The components of the intervention tested in the current study, Ecologically-Based Treatment (EBT), including frequency of meetings, and desired intervention targets, nature of the therapeutic relationship, desired therapist characteristics were rigorously developed, tested and manualized through focus group interviews (Author masked, 2011, 2012) and pilot testing (Author masked, 2012). Substance use and housing outcomes and are reported elsewhere (Author masked, 2013). Compared to those who received TAU (which included housing and support services through the community), mothers assigned to EBT showed a more rapid decrease in alcohol frequency and a quicker increase in housing stability during the short-term follow-ups showed similar positive outcomes. The current paper reported findings of the secondary outcomes, including mothers' mental and physical health, self-efficacy, parenting stress, intimate partner violence (IPV), and children's internalizing and externalizing behaviors.

## Methods

### Participants

Homeless mothers (n=60) were recruited from a homeless families shelter from June 2010 to January 2011. Eligible participants met the criteria of homelessness as defined by the McKinney-Vento Act (2002) and expanded in the HEARTH Act (2009) as lacking a fixed, regular, stable, and adequate nighttime residence and living in a publicly or privately operated shelter designed to provide temporary living accommodations; or a public or private place not designed for, or ordinarily used as, regular sleeping accommodations for

human being. In addition to homelessness, eligible participants had a biological child between the ages of 2 to 6 years in their care and met the DSM-IV (American Psychiatric Association, 2000) criteria for substance abuse or dependence as assessed by the *Computerized Diagnostic Interview Schedule for the DSM-IV* (Robins et al., 2000). Homeless mothers in the current sample were 26.30 years old on average. Forty-five (75%) of the mothers were African-American. The average number of children that each mother had was 2.82, ranging in age from 1 to 8 years ( $SD = 3.34$ ). The average age of the target children was 3.68 years, and 29 children were female (48.3%). Characteristics of the sample are presented in Table 1.

## Procedure

Potential participants were engaged and briefly screened by the shelter staff, and those who deemed eligible were referred to the project coordinator to set up a formal screening appointment. Among the total two-hundred forty women approached, 180 were not eligible. The main reason for ineligibility was that the mother did not meet the DSM-IV criteria for substance abuse or dependence, or she did not have her child in her care. All women ( $n = 60$ ) who were eligible for the study agreed to participate. Upon completion of the initial assessment, mothers were randomized using an urn randomization program with the urns balanced on age and race/ethnicity, to either the intervention ( $n=30$ ) or treatment as usual (TAU) condition ( $n=30$ ). The intervention group received the integrated treatment (EBT) over 6 months whereas the TAU group continued with services through the family shelter. Mothers in both groups were evaluated at 3, 6 and 9 months post baseline. The assessments took 1-2 hours to complete and mothers received a \$40 gift card for completing each assessment. All research procedures were approved by the IRB at The Ohio State University. More details on the procedure are presented elsewhere (Author masked, 2013).

## Therapists, clinical training and supervision

Three White, female therapists delivered EBT. Clinicians were master's level therapists and were graduate students at The Ohio State University Couple and Family Therapy program or in the Clinical Social Work program. The supervisor provided the initial two-day didactic training with role plays and case studies and also delivered ongoing weekly supervision and case consultation to the therapists. Weekly supervision included audiotape review to ensure treatment fidelity.

## Ecologically-Based Treatment (EBT)

EBT integrates independent housing, strengths-based case management services and substance use/mental health counseling. The mothers were housed in an apartment of their choosing and received three months of utility and rental assistance of up to \$600 per month. Support services included up to 26 case management sessions and up to 20 counseling sessions and were provided over a period of 6 months. The case management component focused on assisting mothers to meet their basic needs (i.e., referrals to food pantries) and helping them to obtain government entitlements (i.e., SSDI/SSI, cash assistance, food stamps, Title XX for child care). The counseling approach used was operant-based Community Reinforcement Approach (CRA; Meyers & Smith, 1995). This is an evidence-

based treatment for substance users which addresses a range of concomitant domains including depression, anger management, relationship problems and parenting. It has been tested and found successful with other homeless populations (i.e., Smith et al., 1998; Slesnick et al., 2007). The project therapists provided all intervention components and worked closely with the mothers, always on-call for potential crises and urgent needs. Details about EBT were described elsewhere (Author masked, 2013).

Mothers in the EBT group received an average of 10.57 (SD=3.31) CRA sessions and 12.53 (SD=5.84) case management sessions. Thirty-five CRA tapes were coded and rated for adherence and competence. Good inter-rater reliabilities were found for the double-coded tapes. The average adherence and competence ranged from good to well (Author masked, 2013).

### Treatment as Usual (TAU)

TAU included emergency shelter for women and their children up to three weeks at the shelter and linkage to housing and support services in the community. The shelter follows a rapid-rehousing approach, and is considered a national model for ending homelessness among families. The shelter partners with agencies who provide housing to the women, otherwise, the shelter provides three months of subsidized housing with the expectation that women will secure employment within that time frame and become responsible for the rent. Women were placed in a variety of housing programs with various levels of choice and freedoms. In this study, those assigned to TAU did not receive project supported housing or the accompanying support services of CRA and case management, but received the services that they would normally receive through the community.

### Measures

The *Computerized Diagnostic Interview Schedule for the DSM-IV* (Robbins et al., 2000) was used to screen mothers for substance abuse or dependence. It is a computerized structured psychiatric diagnostic interview based upon DSM-IV criteria, and includes modules to diagnose alcohol, marijuana, tobacco and other substance abuse and dependence. The diagnosis for other substance abuse/dependence specifies drug class, including stimulants, sedatives, opiates, hallucinogens, etc. A *demographic form* was administered by research assistants, exploring the ethnicity, age, current marital status, as well as characteristics of their children.

**Physical and Mental health**—The *Short-Form-36* (SF-36) was utilized as a general assessment of health status of the homeless mothers. The *SF-36* is a multi-purpose, short-form health survey derived from the Rand Corporation's Medical Outcomes Study (MOS) (Ware et al., 1993; Ware & Sherbourne, 1992). The 36-item questionnaire yields 8 subscales assessing physical health (Physical Functioning, Role-Physical, Bodily Pain, and General Health) and mental health (Vitality, Social Functioning, Role-Emotional, and Mental Health). Higher scores indicated better physical and mental functioning and the internal consistency of the measure ranged from 0.89 to 0.93 across four assessment points.

The *Beck Depression Inventory-II* (BDI-II; Beck et al., 1996) was administered to assess mothers' depressive symptoms. The *BDI-II* is comprised of 21 items rated on a 4-point Likert scale and the items correlate with the DSM-IV-TR (APA, 2000) criteria for depression. All items were summed to create an index of depressive symptoms (range 0 to 63) with higher scores indicating higher levels of depressive symptoms. In the current study, reliability of the scale ranged from 0.92 to 0.95 across baseline and follow-up assessments

**Self-efficacy**—The *Self-Efficacy Scale* (SES; Sherer et al., 1982) was used to assess mothers' expectations of success based on past events, and also the ability to attribute success to skill rather than chance. Response categories range from “agree strongly” to “disagree strongly” on a 5-point scale with higher scores indicating higher levels of self-efficacy. The items yield a score of general self-efficacy as well as a score of social self-efficacy. The current study utilized the general self-efficacy score and the reliabilities ranged from 0.89 to 0.92 across time.

**IPV**—The *Women's Experience with Battering Scale* was used to assess mothers' violence experiences with their most recent intimate partner (WEB; Smith et al., 1995). The instrument measures women's underlying experiences of fear and loss of power and control that often accompanies exposure to discrete abusive behaviors. The *WEB* includes 10 items rated on a 6 point Likert scale with higher scores on the scale imply greater exposure to abuse and violence in the latest intimate relationship. The internal consistencies ranged from 0.94 to 0.97.

**Parenting**—The *Parenting Stress Index Short Form* (PSI/SF; Abidin, 1995) was used to assess mothers' stress associated with parenting their children. The *PSI/SF* includes 36 items rated on a 5-point Likert scale with higher scores indicating higher levels of parenting stress. The measure yields three subscales, parental distress, parent-child dysfunctional interaction, and difficult child as well as a total stress score derived from these three subscales. The present study utilized the total score of parenting stress. The alpha coefficient of the scale ranged from 0.91 to 0.94 in this sample.

**Child behaviors**—The *Child Behavior Checklist/1½-5* (CBCL/1½-5; Achenbach & Rescorla, 2000) was administered as a measure of child problem behaviors. The *CBCL/1½-5* is a 120-item scale assessing internalizing and externalizing behaviors in children aged from 1 ½ to 5 years. The items are rated using a 3-point Likert scale, with higher scores indicating more problem behaviors. The present study utilized internalizing and externalizing grand scales of *CBCL* to outline child problem. The internal consistency of the internalizing scale ranged from 0.87 to 0.94 and from 0.92 to 0.96 for the externalizing scale.

## Overview of data analyses

Descriptive analysis was run to obtain information about the means and standard deviations of all variables, as well as their distributions using SPSS Version 21. Independent-sample t-test was used to examine whether there were significant baseline differences between gender and ethnic groups for all variables. Hierarchical Linear Modeling analyses (HLM; Raudenbush et al., 2011) were used to test the trajectories of the secondary outcomes. HLM



analyses can account for the nested structure of the data and utilize all possible data if there are two or more valid data points for the same person. In terms of model building and testing, a random-coefficient model was tested first with the time effect. Baseline was coded as 0. The 3-, 6-, and 9-month follow-ups were coded as 1, 2, and 3. In the second step, the random-coefficient model was used to compare to a conditional model with predictors at both Level-1 and Level-2. Frequency of alcohol and drug use was used as a time-varying covariate at Level-1 and was centered by the group-mean. Demographic variables showed significant associations with the outcome variables at baseline were used as predictors of the intercept as well as the slope of the time effect at Level 2. Treatment condition was used as a predictor of the slope of the time effect. In addition, housing status at the 3-month or the 6-month follow-up was entered as a predictor of the slope for time in the exploratory analysis in addition to the treatment effect. HLM7 software was used for the data analysis and full maximum likelihood estimation was used. Only results from the final model are reported below, details about model building are available from the first author upon request. Given the small sample size in each treatment group, the current trial did not have enough power to detect the significant difference between the two treatments (the power was 0.45 for a medium effect size and 0.17 for a small effect size based on Monte Carlo simulation). Therefore, the estimates of the time effect were obtained for each treatment group respectively by switching the reference group.

## Results

### Descriptive analysis

Comparison of baseline characteristics between the two treatment conditions and differential attrition has been reported in the primary outcome paper (Author masked, 2013). Results suggested that the current sample was randomized as expected and the data were missing at random. In this study, all continuous outcome variables had a skewness less than 1.96 across time, except for the CBCL internalizing subscale score (skewness = 2.14) and the WEB total score (skewness = 2.28) at the 9-month follow-up. Normal distribution was then assumed non-violated in the current data. The means and standard deviations of all outcome variables by treatment condition across different assessment points are presented in Table 2. Thirty-six women (60.00%) reported a history of physical abuse, 40 women (66.67%) reported a history of sexual abuse, and 45 women (75%) reported a history of verbal abuse at baseline. The majority of the current sample reported at least one form of abuse experience, with only 8 women not reporting any abuse history. Therefore the small sample size of women without an abuse history precluded the possibility to examine the effect of abuse history on treatment outcomes. The number of women who lived in independent housing was 42 (30 in EBT, 12 in TAU) at the 3-month follow-up and 38 (24 in EBT, 14 in TAU) at the 6-month follow-up.

There was no significant correlation between mother's age, child's age, total number of children and all the outcome variables at baseline. Independent-sample t test showed that African American mothers reported significantly lower levels of depressive symptoms [ $t(58) = -2.14, p < 0.05$ ], child's internalizing [ $t(19.73) = -2.49, p < 0.05$ ] and externalizing [ $t(56) = -2.56, p < 0.05$ ] behaviors, and parenting stress [ $t(56) = -2.99, p < 0.05$ ] than mothers in the other racial/ethnic groups. In addition, mothers with a male target child reported

significantly higher levels of internalizing behaviors [ $t(57) = 2.06, p < 0.05$ ], higher levels of externalizing behaviors [ $t(56) = 2.39, p < 0.05$ ], and higher levels of parenting stress [ $t(56) = 2.65, p < 0.05$ ]. No other significant differences were found based on mothers' race/ethnicity or child's gender. There were no significant differences between treatment conditions on the baseline variables ( $n(\text{all } p\text{'s} > 0.05)$ ).

### Hierarchical Linear Modeling analysis

Mothers in both treatment conditions showed significant improvements in their depressive symptoms, mental health, and IPV (all  $p\text{'s} < 0.05$ , see Table 3) across time. The effect sizes (Cohen's  $d$ , see Table 2) in both conditions were greater than 0.70. Mothers in the EBT condition reported significant reductions in their children's internalizing [ $b = -1.18, \text{S.E.} = 0.57, t(58) = -2.07, p < 0.05; d = 0.61$ ] and externalizing [ $b = -1.45, \text{S.E.} = 0.58, t(58) = -2.51, p < 0.05; d = 0.62$ ] behaviors, whereas mothers in the TAU condition did not (both  $p\text{'s} > 0.05$ ). Neither condition showed significant improvement in either general self-efficacy, parenting stress, or physical health (all  $p\text{'s} > 0.05$ ). None of the treatment condition differences were significant (all  $p\text{'s} > 0.05$ ). In addition, changes in substance use frequency covaried with changes in depressive symptoms, parenting stress, self-efficacy, and mental health (all  $p\text{'s} < 0.05$ ). That is, reductions in substance use frequency across time were associated with reductions in depressive symptoms, parenting stress, and mental health problems as well as increases in self-efficacy.

### Discussion

To our knowledge, this is the first randomized study to examine the impact of housing and supportive services for substance use disordered homeless mothers with young children in their care. Although this was a pilot study and was underpowered, several promising findings were observed. Improvements in mental health outcomes and IPV were observed in both intervention conditions. Furthermore, women assigned to EBT reported statistically significant improvements in their children's internalizing and externalizing problems, while those in TAU failed to show significant improvements in these domains, with the exception of a marginally significant improvement in child externalizing behaviors.

The improvements in child outcomes observed in EBT but not TAU suggest that all housing and intervention may not be the same. In this study, families who received TAU were housed more slowly, often following participation in various community programs, in which the level of freedoms and choice varied. In contrast, EBT families were housed quickly, in an apartment of their choosing and within three weeks of their shelter stay. EBT services were offered in the home on a voluntary basis, factors that likely increased engagement and treatment dosing as well as the better observed outcomes. Women receiving EBT were provided 6 months of manualized counseling, ongoing support including parenting support, as well as support navigating the larger service system. EBT therapists addressed children's needs as well, helping mothers obtain child care and other needed services for their children. Those who received TAU did not receive consistent, manualized support services. Therefore, the counseling and ongoing support provided in EBT, but not TAU, likely contributed to the observed differences in the improvement in child outcomes. Given these



promising findings, EBT may serve as a viable intervention for those communities that do not have shelters available for homeless families.

Women who present to a homeless shelter with children in their care present a unique opportunity for prevention/intervention with their children. Children of homeless mothers are not routinely offered services by shelter or treatment programs (Brinamen et al. 2012; Weinreb et al., 2007), even though studies document increased stress and mental health problems among homeless children (Park et al., 2012). It may be that providers assume that when the mother's mental health and substance use problems are treated, or homelessness is resolved, problems observed among their children will remit (Brinamen et al., 2012). In fact, Cooke et al. (2004) found that children of substance users showed reduced internalizing and externalizing behaviors following the treatment of their substance use disordered parent, even though the children were not directly treated. Indeed, housing likely reduces the stress among children inasmuch as it increases the sense of stability and safety. However, this study's findings suggest that intervening directly in the needs of these children can result in significant and powerful preventive effects, and has been recommended by others (Brinamen et al., 2012).

All women reported significant reductions in IPV and depressive symptoms, as well as improvement in their overall mental health composite score, regardless of intervention condition. In regard to IPV, it is likely that the shelter and subsequent linkage to housing and other supportive services allowed women an increased level of independence and confidence which might be associated with the reduced experience of IPV. That is, some research suggests that women return to abusive relationships when alternative living arrangements are not perceived as available to them due to economic reasons (Griffing et al., 2002).

The finding of reduced mental health problems among mothers in both EBT and TAU supports research showing that mental health indicators improve following housing and linkage to services (e.g., Tsemberis et al., 2004). That is, homelessness is associated with significant stress, uncertainty, and chaos, likely overwhelming most people's available coping resources. Resolution of homelessness likely ameliorates some of these stressors, allowing women to cope more effectively. A nonrandomized study (Karim et al., 2006) that tracked thirty-five homeless mothers with children who were recruited through two homeless shelters found that parents reported subjective improvements in mental health associated with housing, similar to that found here. However, Karim et al. (2006) reported that interviewer-administered assessment indicated that mothers and children continued to experience high rates of mental health problems. The authors note that in their study, no follow-up or support was offered to families once they were housed and concluded that housing addresses the structural needs of families, however, "it does not completely alleviate the often complex stresses associated with mental health and other social problems" (Karim et al., 2006, p. 455). In summary, when individuals struggle with concomitant substance use or mental health problems in addition to homelessness, housing without supportive services may be insufficient for improving long-term positive outcomes.

## Limitations and Strengths

Several limitations of the current study should be considered when interpreting the findings. First, this was a pilot study, so the power of the statistical tests to detect the group difference was low due to the small sample size (the power was 0.45 for a medium effect size and 0.17 for a small effect size based on Monte Carlo simulation). Second, it is unclear whether the positive gains observed during the relatively short follow-up period would be maintained longitudinally. Third, follow-up data were obtained from each mother receiving EBT, but only 24/30 mothers receiving TAU were assessed. Assuming that these missing TAU mothers were more unstable than those found for follow-up, they may have had more severe physical/mental health symptoms than those mothers that were assessed. Therefore, the differences between groups may be underestimated. Fourth, the gap between the follow-up assessment due date and the actual assessment date varied with participants. The current study did not include this gap as a covariate, although it may provide a more accurate estimate about the time effects. The main reason of not including this covariate was that the average gap was 2.5 weeks in the whole sample, and this was considered negligible variance. Despite these limitations, this study addresses a gap in the literature regarding efficacious interventions for an understudied population of women and children who are in need of services but have received little attention in the empirical literature (e.g., Winship, 2001). Furthermore, the current study utilized a randomized design, manualized treatment with fidelity checks, and post-intervention follow-ups. Our follow-up rate was 100% in the intervention condition and 80% in the TAU condition which compares favorably to other studies of homeless families (Karim et al., 2006; Winship, 2001). Multiple domains were assessed, including the impact of the intervention on both mothers and children, providing treatment and prevention implications.

## Conclusion

The current findings indicate that time-limited rent supported housing and supportive services using a Housing First philosophy, is a promising intervention approach for homeless mothers with young children in their care. EBT may be especially useful for reducing children's internalizing and externalizing disorders. Due to the small sample size, conclusions regarding differential effectiveness must await replication with a larger sample.

Offering housing in addition to readily available supportive services provided in the mother's home with few barriers, may be key to engaging and maintaining homeless mothers in services. Indeed, housing and supportive services can be offered without a shelter stay, reducing costs of services (e.g., Gulcur et al., 2003) as well as mothers' fear of having a child taken away from her care. This may be especially salient for communities without shelters available for homeless families. Future research might indicate that housing of mothers with young children, along with support services, maintains the family unit and reduces generational foster care involvement, as well as individual and societal costs. In fact, the average national cost of placing the children of a homeless family into foster care is \$47,608, while the average annual cost for a permanent housing subsidy and supportive services for a family is \$9,000 (National Alliance to end Homelessness, 2006). Clearly, more research is needed to assess the various ramifications of housing and support services for mothers, children and society. Little is known regarding the specific components or

important elements of how housing and supportive services are provided which enhance positive outcomes (Winship, 2001). This small study provides preliminary evidence that housing of the women's choice, and the provision of targeted, manualized but flexible support services without barriers associated with transportation or insurance, may be important elements of successful service provision.

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## References

- Abidin, RR. Parenting Stress Index: Professional Manual. 3rd. Odessa, FL: Psychological Assessment Resources; 1995.
- Achenbach, TM.; Rescorla, LA. Manual for the ASEBA preschool forms & profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families; 2000.
- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th, text rev. Washington, DC: Author; 2000.
- Bassuk EL, Dawson R, Perloff J, Weinreb L. Post traumatic stress disorder in extremely poor women: Implications for health care clinicians. *Journal of the American Medical Women's Association*. 2001; 56:79–85.
- Beck AT, Steer RA, Brown GK. Manual for the Beck depression inventory-II. San Antonio, TX: Psychological Corporation. 1996; 1:82.
- Brinamen CF, Taranta AN, Johnston K. Expanding early childhood mental health consultation to new venues: Serving infants and young children in domestic violence and homeless shelters. *Infant Mental Health Journal*. 2012; 33:283–293.
- Chambers C, Chiu S, Scott AN, Tolomiczenko G, Redelmeier DA, Levinson W, Hwang DA. Factors associated with poor mental health status among homeless women with and without dependent children. *Community Mental Health Journal*. 2014; 50:553–559. [PubMed: 23423484]
- Cooke CG, Kelley ML, Fals-Stewart W, Golden J. A comparison of the psychosocial functioning of children with drug- versus alcohol-dependent fathers. *The American Journal of Drug and Alcohol Abuse*. 2004; 30(4):695–710. [PubMed: 15624545]
- El-Bassel N, Gilbert L, Wu E, Go H, Hall J. Relationship between drug abuse and intimate partner violence: A longitudinal study among women receiving methadone. *American Journal of Public Health*. 2005; 95:465–471. [PubMed: 15727978]
- David DH, Gelberg L, Suchman NE. Implications of homelessness for parenting young children: A preliminary review from a developmental attachment perspective. *Infant Mental Health Journal*. 2012; 33:1–9. [PubMed: 22685362]
- Finfgeld-Connett D. Becoming homeless, being homeless, and resolving homelessness among women. *Issues in Mental Health Nursing*. 2010; 31:461–469. [PubMed: 20521916]
- Gelberg L, Linn LS. Demographic differences in health status of homeless adults. *Journal of General Internal Medicine*. 1992; 7:601–608. [PubMed: 1453243]
- Gewirtz AH, DeGarmo DS, Plowman EJ, August G, Realmuto G. Parenting, parental mental health, and child functioning in families residing in supportive housing. *American Journal of Orthopsychiatry*. 2009; 79(3):336–347. [PubMed: 19839671]
- Gorzka PA. Homeless parents' perceptions of parenting stress. *Journal of Child and Adolescent Psychiatric Nursing*. 1999; 12:7–16. [PubMed: 10347426]
- Grant R, Gracy D, Goldsmith G, Shapiro A, Redlener IE. Twenty-five years of child and family homelessness: Where are we now? *American Journal of Public Health*. 2013; 103:E1–E10. [PubMed: 24148055]
- Griffing S, Ragin DF, Sage RE, Madry L, Bingham LE, Primm BJ. Domestic violence survivors' self-identified reasons for returning to abusive relationships. *Journal of Interpersonal Violence*. 2002; 17:306–19.

- Gulcur L, Stefancic A, Shinn M, Tsemberis S, Fischer SN. Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in Continuum of Care and Housing First Programmes. *Journal of Community & Applied Social Psychology*. 2003; 13:171–186.
- Haber MG, Toro PA. Homelessness among families, children, and adolescents: An ecological-developmental perspective. *Clinical Child and Family Psychology Review*. 2004; 7(3):123–164. [PubMed: 15645705]
- Hanrahan P, McCoy ML, Cloninger L, Dincin J, Zeitz MA, Simpatico TA, Luchins DJ. The mother's project for homeless mothers with mental illnesses and their children: A pilot study. *Psychiatric Rehabilitation Journal*. 2005; 28(3):291–294. [PubMed: 15690743]
- Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009 (Hearth Act). PL. : 111–22.
- Karim K, Tischler V, Gregory P, Vostanis P. Homeless children and parents: Short-term mental health outcomes. *International Journal of Social Psychiatry*. 2006; 52:447–458. [PubMed: 17278346]
- Kertesz SG, Weiner SJ. Housing the chronically homeless: High hopes, complex realities. *Journal of the American Medical Association*. 2009; 301:1822–1824. [PubMed: 19417203]
- McKinney-Vento Homeless Assistance Act, Re-Authorized. 2002 42 U.S.C. 11431 et seq 725.
- Meyers, RJ.; Smith, JE. *Clinical guide to alcohol treatment: The Community Reinforcement Approach*. New York: Guilford Press; 1995.
- Miller, WR. *Project MATCH Monograph Series. Vol. 5. U.S. Dept. of Health; Bethesda, MD: 1996. Form 90 a structured assessment interview for drinking and related problem behaviors.*
- National Alliance to End Homelessness. *The State of Homelessness in American 2014*. 2014 May. Retrieved July, 23, 2014, from <http://www.endhomelessness.org/library/entry/the-state-of-homelessness-2014>
- National Alliance to End Homelessness. *Promising strategies to end family homelessness*. Washington, DC: Author; 2006 Jun.
- National Center on Family Homelessness. *America's homeless children*. Newton, MA: Author; 2006.
- Padgett DK, Stanhope V, Henwood BF, Stefancic A. Substance use outcomes among homeless clients with serious mental illness: Comparing Housing First with Treatment First programs. *Community Mental Health Journal*. 2011; 47:227–232. [PubMed: 20063061]
- Park JM, Metraux S, Culhane DP, Mandell DS. Homelessness and children's use of mental health services: A population-based study. *Children and Youth Services Review*. 2012; 34:261–265. [PubMed: 22523439]
- Patterson M, Moniruzzaman A, Palepu A, Zabkiewicz D, Frankish CJ, Krausz M, Somers JM. Housing First improves subjective quality of life among homeless adults with mental illness: 12-month findings from a randomized controlled trial in Vancouver, British Columbia. *Social Psychiatry and Psychiatric Epidemiology*. 2013; 48:1245–1259. [PubMed: 23748928]
- Pavao P, Alvarez J, Baumrind N, Induni M, Kimerling R. Intimate partner violence and housing instability. *American Journal of Preventive Medicine*. 2007; 32:143–146. [PubMed: 17234488]
- Raudenbush, S.; Bryk, A.; Congdon, R. *HLM 6.09 for Windows*. Lincolnwood, IL: Scientific Software International, Inc; 2011.
- Robins, LN.; Cottler, LB.; Bucholz, KK.; Compton, WM.; North, CS.; Rourke, K. *Diagnostic Interview Schedule for the DSM-IV (DIS-IV)*. St Louis, MO: Washington University School of Medicine; 2000.
- Rog, DJ.; Buckner, JC. *Toward understanding homelessness: The 2007 National Symposium on Homelessness Research*. 2007. <http://aspe.hhs.gov/hsp/homelessness/symposium07/Overview/index.htm>
- Sherer M, Maddux JE, Mercandante B, Prentice-Dunn S, Jacobs B, Rogers RW. The self-efficacy scale: Construction and validation. *Psychological Reports*. 1982; 51:663–671.
- Shinn M, Schteingart JS, Williams NC, Bialo-Karagis N, Becker-Klein R, Weitzman BC. Long-term associations of homelessness with children's well-being. *American Behavioral Scientist*. 2008; 51:789–809.
- Slesnick N, Prestopnik JL, Meyers RJ, Glassman M. Treatment outcome for homeless, street-living youth. *Addictive Behaviors*. 2007; 32:1237–1251. [PubMed: 16989957]

- Smith PH, Earp JA, DeVellis R. Measuring battering: development of the Women's Experience with Battering (WEB) Scale. *Women's health (Hillsdale, NJ)*. 1995; 1(4):273.
- Smith JE, Meyers RJ, Delaney HD. The community reinforcement approach with homeless alcohol-dependent individuals. *Journal of Consulting and Clinical Psychology*. 1998; 66(3):541–548. [PubMed: 9642893]
- Torquati JC. Personal and social resources as predictors of parenting in homeless families. *Journal of Family Issues*. 2002; 23:463–485.
- Tsemberis S. 2005 APA Gold Award: Providing housing first and recovery services for homeless adults with severe mental illness. *Psychiatric Services*. 2005; 56(10):1303–1305. [PubMed: 16215200]
- Tsemberis S, Gulcur L, Nakae M. Housing First, consumer choice, and harm reduction for homeless individuals with a dual diagnosis. *American Journal of Public Health*. 2004; 94:651–656. [PubMed: 15054020]
- Vostanis P, Grattan E, Cumella S, Winchester C. Psychosocial functioning of homeless children. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1997; 36:881–889. [PubMed: 9204665]
- Ware JE, Sherbourne CD. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical Care*. 1992; 30(6):473–483. [PubMed: 1593914]
- Ware JE, Snow KK, Kosinski M, Gandek B. SF-36 health survey manual and interpretation guide. New England Medical Center. The Health Institute, Boston, MA. 1993
- Weinreb LF, Buckner JC, Williams V, Nicholson J. A Comparison of the health and mental status of homeless mothers in Worcester, Mass: 1993 and 2003. *American Journal of Public Health*. 2006; 96(8):1444–1448. [PubMed: 16809590]
- Weinreb L, Nicholson J, Williams V, Anthes F. Integrating behavioral health services for homeless mothers and children in primary care. *American Journal of Orthopsychiatry*. 2007; 77(1):142–152. [PubMed: 17352595]
- Winship J. Challenges in evaluating programs serving homeless families. *Journal of Children and Poverty*. 2001; 7:163–177.
- Yu M, North CS, LaVesser PD, Osborne VA, Spitznagel EL. A Comparison study of psychiatric and behavior disorders and cognitive ability among homeless and housed children. *Community Mental Health Journal*. 2008; 44(1):1–10. [PubMed: 17641971]

**Table 1**  
**Demographic information of the current sample**

Variables	Total (n = 60)	EBT (n = 30)	TAU (n = 30)
	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)
Mother's age	26.30 (6.01)	25.60 (5.54)	27.00 (6.46)
Target child's age	3.68 (1.41)	3.70 (1.26)	3.67 (1.56)
Total number of children	2.82 (1.73)	2.60 (1.59)	3.03 (1.87)
Age homeless for the first time	22.02 (7.29)	20.97 (7.69)	23.1 (6.82)
% days homeless in the past 3 months at baseline	13.98 (19.3)	13.21 (18.33)	14.77 (20.55)
	<b>n (%)</b>	<b>n (%)</b>	<b>n (%)</b>
Gender of target children			
Female	29 (48.3%)	16 (53.3%)	13 (43.3%)
Male	31 (51.7%)	14 (46.7%)	17 (56.7%)
Ethnicity			
African/African American	45 (75%)	24 (80%)	21 (70.0%)
White, non-Hispanic	7 (11.6)	3 (10.0%)	4 (13.3%)
Asian/Asian American	1 (1.7%)	0	1 (3.3%)
Hispanic	1 (1.7%)	0	1 (3.3%)
Mixed/Other	6 (10%)	3 (10.0%)	3 (10.0%)
Current marital status			
Single, never been married	45 (75.0%)	24 (80.0%)	21 (70.0%)
Separated but still married	6 (10.0%)	2 (6.7%)	4 (13.3%)
Married and still together	4 (6.7%)	2 (6.7%)	2 (6.7%)
Cohabiting with partner	2 (3.3%)	1 (3.3%)	1 (3.3%)
Divorced	2 (3.3%)	1 (3.3%)	1 (3.3%)
Widowed	1 (1.7%)	0	1 (3.3%)
Ever been physically abused	36 (60.0%)	19 (63.3%)	17 (56.7%)
Ever been sexually abused	40 (66.7%)	19 (63.3%)	21 (70.0%)
Ever been verbally abused	45 (75.0%)	22 (73.3%)	23 (76.7%)
Living in independent housing			
3-month follow-up	42 (70%)	30 (100%)	12 (40%)
6-month follow-up	38 (63.3%)	24 (80%)	14 (46.7%)
9-month follow-up	40 (66.7%)	20 (66.7%)	20 (66.7%)



Table 2

Descriptive statistics of the outcome variables across time

Variable	Baseline			3-month follow-up			6-month follow-up			9-month follow-up			Effect size (Cohen's d)				
	EBT	TAU	Mean (S.D.)	EBT	TAU	Mean (S.D.)	EBT	TAU	Mean (S.D.)	EBT	TAU	Mean (S.D.)	EBT	TAU	Mean (S.D.)	EBT	TAU
BDI-II Total	23.43 (15.29)	23.23 (9.76)	15.03 (15.10)	13.63 (10.03)	14.63 (13.67)	14.91 (11.17)	13.21 (13.46)	13.37 (12.06)	0.71	0.90							
CBCL Internalizing	14.97 (10.63)	13.86 (9.22)	8.43 (7.95)	10.91 (7.82)	8.20 (8.64)	11.57 (8.90)	9.21 (8.19)	11.96 (14.08)	0.61	0.16							
CBCL Externalizing	20.10 (11.31)	19.34 (11.11)	14.48 (12.43)	15.92 (8.84)	12.60 (12.17)	15.78 (11.36)	13.31 (10.50)	15.38 (12.00)	0.62	0.34							
PSI/SF Total	85.87 (24.12)	88.00 (20.77)	78.14 (25.83)	75.33 (26.33)	74.43 (27.6)	84.39 (24.79)	71.03 (26.23)	78.46 (26.62)	0.59	0.40							
SES General Self-efficacy	62.10 (17.12)	61.27 (9.07)	66.30 (13.92)	67.21 (12.07)	67.66 (14.45)	64.43 (10.12)	67.45 (14.91)	66.50 (13.37)	0.33	0.46							
SF-36 PCS	63.41 (15.12)	61.94 (13.24)	64.12 (12.71)	62.10 (14.13)	66.52 (14.84)	62.63 (13.71)	68.08 (14.13)	61.99 (17.23)	0.32	0.003							
SF-36 MCS	39.50 (12.77)	39.30 (8.89)	46.77 (12.78)	46.29 (10.88)	48.43 (11.94)	49.00 (9.90)	49.72 (11.74)	49.67 (10.40)	0.83	1.07							
WEB Total	27.17 (18.09)	24.75 (14.99)	19.72 (16.20)	18.42 (14.99)	19.50 (15.87)	19.70 (16.25)	16.17 (13.01)	16.50 (11.64)	0.70	0.61							

BDI-II: The Beck Depression Inventory-II; CBCL: Child Behavior Checklist for Ages 1.5-5; PSI/SF: Parenting Stress Index – Short Form; SES: Self-Efficacy Scale; SF-36: Short-Form-36; WEB: The Women's Experience with Battering Scale.

Note: Effect size was calculated using the means and standard deviations at baseline and the 9-month follow-up for each treatment condition respectively.

Table 3

HLM results of the conditional model for secondary outcomes

Fixed Effect	SES total score			SF-36 PCS			SF-36 MCS			WEB total score		
	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercept	64.13***	1.69	37.96	63.60***	1.79	35.56	42.51***	1.46	29.03	24.82***	2.26	10.98
Time slope (TAU)	0.38	0.85	0.43	-0.27	0.95	-0.28	2.70***	0.75	3.58	-3.06**	1.12	-2.72
Time slope (EBT)	0.91	0.78	1.16	1.39	0.88	1.56	2.40***	0.70	3.42	-3.23**	1.06	-3.04
Treatment difference	0.54	1.04	0.52	1.65	1.13	1.46	-0.30	0.87	-0.35	-0.17	1.15	-0.15
Substance use	-0.05*	0.02	-2.12	-0.03	0.03	-1.24	-0.06*	0.02	-2.58	-0.002	0.03	-0.07
Random Effect	Variance			Variance			Variance			Variance		
Intercept	111.40***			121.18***			73.42***			211.44***		
Time slope	5.45*			39.21***			3.83*			23.25**		
Level-1 residual	58.36			68.20			54.29			88.01		
Deviance statistic	1530.63			1493.12			1486.59			1610.80		
Degrees of freedom	2			2			2			2		
$\chi^2$ test	4.73 <sup>†</sup>			3.71			6.60*			0.03		
	BDI total score			PSI total score			CBCL Internalizing			CBCL Externalizing		
Fixed Effect	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercept	18.19***	1.79	10.14	106.08***	7.27	14.59	18.78***	2.73	6.88	26.02***	3.23	8.04
Child gender				-18.84***	4.43	-4.25	-5.55**	1.69	-3.28	-7.70***	1.99	-3.87
Mother's ethnicity	6.02*	2.91	2.07	16.81***	5.03	3.34	6.45**	1.92	3.36	10.31***	2.26	4.57
Time slope (TAU)	-2.53**	0.83	-3.04	-1.14	1.67	-0.68	-0.32	0.61	-0.52	-1.13 <sup>†</sup>	0.62	-1.81
Time slope (EBT)	-2.13**	0.77	-2.78	-2.89 <sup>†</sup>	1.55	-1.88	-1.18*	0.57	-2.07	-1.45*	0.58	-2.51
Treatment difference	0.40	0.97	0.41	-1.76	1.96	-0.90	-0.86	0.78	-1.12	-0.32	0.75	-0.42
Substance use	0.09***	0.02	3.45	0.13*	0.05	2.61	0.03 <sup>†</sup>	0.02	1.97	0.03	0.02	1.62
Random Effect	Variance			Variance			Variance			Variance		

Fixed Effect	SES total score			SF-36 PCS			SF-36 MCS			WEB total score		
	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercept	91.88***			196.18***			22.87***			56.78***		
Time slope	4.48*			16.10*			2.49			4.40***		
Level-1 residual	65.68			268.71			31.29			27.23		
Deviance statistic	1526.94			1791.09			1373.75			1385.82		
Degrees of freedom	3			4			4			4		
$\chi^2$ test	15.53**			30.42***			22.59***			30.22***		

† p < 0.10;  
 \* p < .05;  
 \*\* p < .01;  
 \*\*\* p < .001.