Can a House Become More Than a Home? Effects of Housing Assistance and Supportive Services on Promoting Capabilities among Homeless Mothers

DISSERTATION

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By

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Abstract

The purpose of the current study was to examine treatment outcomes of an integrative housing intervention, using Sen's (1999) Capability Approach. To that aim, 60 substance-abusing homeless mothers with 2-6 year old children were recruited from a family shelter in a Midwestern city. Upon completion of the initial assessment, 30 mothers were randomized to Ecologically Based Treatment Intervention (EBT) while 30 mothers continued with services through the shelter. Mothers in the EBT condition received an integrative intervention, which included 3 months rental and utility assistance, substance abuse counseling, and case management services for up to 6 months. Follow-up assessments were completed at 3, 6, and 9 months post baseline. The current study operationalized capabilities as outcomes, utilizing Ranis, Stewart, and Samman's (2006) definitions. Specifically, capabilities were tested in six main domains: fundamental dimensions of human development (independent living days, ability to meet basic needs), safety/physical security (victimization), material well-being (employment, income), health (quality of life, happiness), empowerment/autonomy (self-efficacy), and social integration (seeking medical care, education, and attending religious activities). Multilevel mixed effects modeling revealed few differences between the groups. Mothers in the EBT condition had a faster increase in their independent living days, as compared to mothers in the TAU condition.

On the other hand, analyses of time effects suggested distinctive findings regarding mothers' subjective and objective well-being. Mothers in both groups reported fewer problems in meeting their basic needs over time. In addition, mothers reported improvements in their health related quality of life and felt happier over time. Interestingly, mothers' objective well-being, such as employment, social integration, and criminal victimization were stable throughout the study. In other words, mothers continued to experience structural problems such as unemployment, poverty, and social exclusion, but they reported feeling better about themselves and their condition over time. This finding was explored further through additional multilevel mixed effects analysis. Contrary to the expectations, neither treatment condition nor housing stability or timing of housing predicted mothers' improvements in their subjective well-being. Instead, mothers' happiness was associated with their independent living days, their levels of self-efficacy, and a decrease in experiences of intimate partner violence. These findings indicate that home ownership, empowerment, and bodily integrity (safety in relationships) are critical capabilities for the mothers in promoting their subjective well-being. Implications for clinical practice and future research are discussed further from a Capability perspective.

Dedication

This project is dedicated to the mothers who devoted their time to participate to our study and opened their hearts to share their stories and struggles. I am humbled by the resilience, courage, and generosity shown by these women and I am indebted to have seen their capabilities to flourish and become who they are meant to be. I salute you in your journey from misery to hope, from illness to well-being and happiness.

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My life throughout the graduate school has been very colorful, with rose colored joys, bright hopes, and delightful surprises – but also with its gray challenges and difficulties. It was like a ride, full of learning, reflecting, and growing. Now that I am moving towards the end of this adventure, I feel truly excited and confident. I made it to the end of the tunnel – there is light, hope, and a brand new future along the way! This is just a note for those who made that journey special and unforgettable. You all definitely left your mark!

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Fields of Study

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Couple and Family Therapy specialization

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Chapter 1: Introduction

The Department of Housing and Urban Development's Annual Homeless Assessment Report to Congress (HUD, 2007) indicates that there are 1.6 million sheltered and unsheltered homeless persons in the United States. Recent estimates suggest that the size of the homeless population has shown a 1% decrease from 2007 to 2009 (National Alliance to End Homelessness, 2012). On the other hand, family homelessness has accelerated sharply since the 1980s and is projected to increase by at least 5% over the next three years (National Alliance to End Homelessness, 2012). Homeless families comprise 38% of the homeless population, and it is estimated that 420,000 families and 924,000 children experience homelessness in the United States in a given year (Rog & Buckner, 2007). These estimates highlight the extent of this alarming social problem and call for immediate intervention efforts and services tailored for families experiencing homelessness.

The majority of homeless families are headed by single mothers in their late 20s with two or three children in their care (National Alliance to End Homelessness, 2012) and forty two percent of homeless children are younger than six years old (Rog & Buckner, 2007). These families have high levels of mobility and instability. Their living arrangements include "doubling up" in family members' apartments or moving from one friend's house to another or temporarily residing in local family shelters (Burt & Aron,

2000). Homeless mothers with children face unique challenges in exiting the streets. Some of these challenges include fleeing from previous abusive romantic partners, struggling with untreated mental health issues and an inability to meet the basic needs of their young children (Rog, Holupka, & Patton, 2007). In addition, homeless mothers report feeling stigmatized and judged by service providers and are reluctant to seek services due to fear of losing custody of their children (Cosgrove & Flynn, 2005).

Overview of Housing Interventions for Homeless Adults and Families

A review of the literature on interventions, serving single adult men (Leff et al., 2009) and women with substance abuse and/or mental health issues (Fitzpatrick-Lewis et al., 2011; Greenfield et al., 2007) indicates four major approaches in interventions. These approaches include the Housing First model, therapeutic communities, housing assistance with case management services, and abstinence-based housing (Kertesz, 2011). The rationale of these models and exemplary clinical studies are discussed below.

Housing First model

Housing First is a model of intervention originally developed to treat homeless individuals with severe mental illness. The model provides housing assistance for immediate access to independent living and nonmandatory support services, such as case management, substance abuse, and mental health treatment (Tsemberis & Asmussen, 1999). The model conceptualizes housing as a fundamental human right, prioritizes housing stability for homeless adults, and utilizes harm reduction strategies, rather than requiring abstinence from drugs or alcohol.

Three studies tested the efficacy of Housing First Model (Kessell, Bhatia, Bamberger, & Kushel, 2006; Larimer et al., 2009; Tsemberis, Gulcur, & Nakae, 2004). In one study, dually diagnosed homeless adults were randomized to either Housing First condition (n = 99) or to the continuum of care condition (n = 126). Participants in the Housing First condition reported fewer homeless days and less service use compared to the participants in the control condition (Tsemberis, Gulcur, & Nakae, 2004). These results were replicated in studies that compared the Housing First model to the wait list control (Kessell, Bhatia, Bamberger, & Kushel, 2006; Larimer et al., 2009). Specifically, Housing First was associated with improvements in housing stability and reductions in days spent in substance abuse treatment. However, studies suggested no differences between groups in their psychiatric symptoms or frequency of substance use over time (Kessell, Bhatia, Bamberger, & Kushel, 2006; Tsemberis, Gulcur, & Nakae, 2004). These findings conclude that interventions using the Housing First approach may be beneficial in promoting independent living among homeless adults.

Therapeutic communities

The therapeutic community is a residential substance abuse treatment intervention that incorporates community rules, self-help groups, peer support meetings, and confrontational strategies. In this model, those in recovery act as the agents of change with the goal for clients to achieve and maintain abstinence from drugs and alcohol (Tims, Jainchill, & DeLeon, 1994). To that aim, paraprofessionals in recovery build relationships with the clients and serve as their ‘sponsors,’ closely monitor their sobriety, enforce rules and regulations to ensure a drug-free environment.

Several clinical studies investigated the therapeutic community model as a residential program for dually diagnosed clients. For instance, Blankertz and Cnaan (1994) examined the effectiveness of the therapeutic community model as compared to an intensive residential program (case management services, counseling, skills teaching, and psychoeducation sessions). The findings indicated that the intensive residential program had significantly higher treatment attendance and retention rates than the therapeutic community. In addition, abstinence from drugs and alcohol was higher among participants in the intensive residential program. Another randomized clinical trial (De Leon, Sacks, Staines, & McKendrick, 2000; French et al., 1999) compared a modified therapeutic community intervention to treatment as usual (standard care). The modified therapeutic community intervention had significantly higher reductions in criminal activity and depressive symptoms than the control condition. However, there were no differences between groups in substance use, HIV risk, or anxiety. Taken together, these studies reveal that the therapeutic community model was not associated with housing stability or substance use, but it had some impact on improving mental health symptoms among substance-abusing homeless adults.

Abstinence-contingent housing

This model offers housing, counseling services, and vocational opportunities to adults with substance abuse issues, but the services are contingent on their sobriety and treatment compliance. The intervention incorporates random urine screens to determine drug abstinence. Milby and his colleagues (1999) termed this approach the “Birmingham Model” and conducted several clinical trials to test its effectiveness (Kertesz et al., 2006; 2007; Milby et al., 2000; 2003; 2008; Schumacher et al., 2007).

In one study (Milby et al., 2000; 2003), cocaine-abusing homeless adults received either the Birmingham model intervention (abstinence-contingent housing, behavioral treatment, and work therapy) or behavioral treatment only. It was found that the Birmingham model condition had higher rates of abstinence from cocaine than their counterparts. The authors emphasized that the greatest impact of the intervention was on abstinence outcomes, rather than housing stability and employment. A more recent study (Milby et al., 2008) found similar results. At 6 months, the Birmingham model was associated with higher abstinence, as compared to housing with contingency management.

Another effectiveness study (Kestesz et al., 2007; Milby et al., 2005) explored substance use and housing outcomes among 196 cocaine-dependent homeless adults. Participants were randomized to either behavioral day treatment with no housing (n = 66), abstinence-contingent housing (n = 63), or non-abstinence-contingent housing (n = 67). All groups showed improvements in their employment days and housing stability over time, indicating no treatment effects. In addition, abstinence-based housing and non-abstinence based housing groups had higher rates of abstinence than the no housing group. Taken together, these studies suggest that the abstinence-based housing model is associated with higher abstinence as compared to the no housing condition. However, abstinent-contingent housing was not superior to non-abstinent contingent housing in reducing substance use or improving housing retention among cocaine-dependent adults.

Housing assistance with case management services

Housing assistance programs provide housing vouchers and rental assistance at varying degrees to homeless adults with severe mental illness. Although participation in treatment and rehabilitation is encouraged, housing is rarely taken from participants if they are noncompliant with supportive services such as case management or vocational training.

Several studies examined the efficacy and effectiveness of these programs. Two studies (Rosenheck et al., 2013; Sosin, Bruni, & Reidy, 1995) compared case management with housing assistance, case management only, and treatment as usual. Both studies suggested that treatment groups had better mental health and substance use outcomes, as compared to the treatment as usual condition. However, there were no differences between case management only and case management with subsidized housing conditions in their outcomes at 12 months. On the other hand, Rosenheck and colleagues (2013) found that case management with housing assistance was associated with higher housing stability and fewer homeless days than both the case management only and treatment as usual conditions.

In sum, housing interventions targeting homeless adults differ in their focus of intervention, their treatment approach, and components of intervention. Furthermore, studies suggest that housing assistance is associated with different outcomes, depending on the approach of the intervention. For instance, Housing First was consistently associated with improvements in independent living and stability whereas the therapeutic communities model was primarily efficacious in promoting abstinence among homeless adults. Therefore, there is no consensus in the literature about the superiority of one housing model over the other.

Housing Interventions for Homeless Mothers and Their Children

Few studies to date have explored the efficacy of housing assistance and supportive services, targeting homeless mothers with children in their care. Two studies tested the therapeutic communities model whereas several studies focused on developing and implementing integrative interventions. In one randomized clinical trial (Smith, North, & Fox, 1996), 149 homeless mothers with substance abuse issues were recruited. The intervention group (n = 67) received residential treatment that utilized the modified therapeutic community intervention model whereas the control group (n = 82) attended only 12 step meetings. Mothers completed follow up assessments at 6, 12, and 18 months post-baseline. Both groups showed significant improvements in their drug use, housing stability, and employment days over time. Treatment group differences were found only for attendance rates and retention. Specifically, mothers in the control (nonresidential) condition were more likely to miss their appointments or drop out of treatment than those in the experimental (residential) condition.

The modified therapeutic community model was also tested by Sacks and his colleagues (2004) in a sample of 148 substance-abusing homeless mothers. The treatment intervention incorporated housing, work therapy, parenting skills training, and community support. Seventy-seven mothers received the modified therapeutic community intervention while seventy-one mothers attended 12 step meetings and support groups as part of a standard residential program (control group). Consonant with prior studies, both groups showed reductions in their drug use, parenting stress, and criminal behavior, and

reported higher housing stability over time. However, the intervention group had lower levels of depression and higher health literacy over time, than those in standard care.

In another non-randomized study, Stahler and colleagues (2005) developed and tested a unique intervention that was tailored for cocaine using, African American, and homeless women. The sample included 118 women, recruited through a residential program. One hundred eleven women received treatment during the study. The study compared standard residential program (n = 64) and integrative intervention with mentoring and residential treatment components (n = 47). Findings suggested that both groups had significantly less substance use and fewer depressive symptoms over time. Treatment effects were identified only for retention and client satisfaction, showing superiority of the integrative intervention over the standard program.

A recent pilot study (Slesnick & Erdem, 2012) tested the feasibility of an integrative intervention, using a nonrandomized design. The integrative intervention was termed Ecologically Based Treatment (EBT) and incorporated rental and utility assistance case management services, and substance abuse counseling up to 6 months. Fifteen substance abusing homeless mothers were engaged for the study and received EBT. It was found that mothers reported higher levels of independent living over time. For instance, 66% of the sample maintained their apartments at 6 months. In addition, maternal substance use and depressive symptoms were improved at 6 months (Slesnick & Erdem, 2012). However, the study was limited by the lack of randomized design and control group, typical of pilot studies. A follow-up randomized controlled study (Slesnick & Erdem, 2013) tested the efficacy of EBT in a sample of 60 substance-abusing homeless

mothers. In that study, the intervention group (n = 30) received EBT while the control group continued with services as usual through the homeless shelter (n = 30). It was found that mothers in the EBT condition had faster reductions in their drinking days and a faster increase in their independent living days, than their counterparts.

In sum, comprehensive interventions integrating housing and case management services are promising approaches, addressing the multifaceted needs of families experiencing homelessness (Bassuk & Geller, 2006). Treatment outcomes in these clinical trials typically include housing stability as well as substance use and mental health (Hwang et al., 2005; Kertesz, et al., 2009). Although "symptom" reduction is an important aspect to understand the efficacy of housing interventions, it is also important to explore how housing assistance relates to empowerment, autonomy, quality of life, and health. Investigating the potential impact of integrative housing assistance programs on overall well-being is crucial because findings can guide housing and welfare policies and can provide evidence for future intervention efforts. Unfortunately, no study to date has systemically explored the efficacy of housing assistance on perceived well-being and standard of living among those experiencing homelessness (Rog & Buckner, 2007). In addition, few studies have examined employment and service use outcomes associated with housing assistance (i.e., Tsemberis, Gulcur, & Nakae, 2004). The current study addresses these gaps in the literature and examines the efficacy of housing and supportive services, using Sen's (1999) Capability Approach as a guiding perspective.

Capability Approach

In the early 1980s, economist Amartya Sen proposed the Capability Approach as a theoretical perspective to conceptualize poverty, social inequality, and human development (Alkire, 2002). The dominant paradigms of poverty at that time included utilitarian/neo-classical and social exclusion models (Sen, 1982). The first paradigm, the neo-classical model, conceptualizes poverty as resulting from "individual dysfunction or failure," lack of ability, competence or material resources. This perspective emphasizes income as a direct measure of poverty, equating wealth and material benefits with level of happiness and life satisfaction of the individual. The social exclusion model, on the other hand, offers a broader perspective of poverty. This model suggests that poverty is a condition of economic, cultural and social deprivation. That is, poverty is associated with a failure to meet basic needs (having enough food, adequate shelter, income and employment), but is also associated with powerlessness, oppression, and social exclusion. According to the social exclusion model, poverty occurs due to a lack of social and material resources and relates to being socially isolated. Poor individuals and families lack food, medical care and income, but they also lack *access* to services and they face barriers obtaining their basic needs.

The novelty of Sen's (1982; 1999) approach is in its *humanistic*, human rights-based philosophy. Sen (1982) strictly opposes utilitarian/neo-classical perspectives due to their dehumanizing and labeling stances. He also criticizes the social exclusion approach because it lacks important dimensions of poverty. Instead, his Capability Approach (Sen, 1999) draws on social choice and social justice theories with the basic assumptions that

each individual in society is entitled to have the *freedom* to make choices in his life and it is the responsibility of society to restore human dignity and a decent standard of living for its citizens. In addition, Sen believes that human beings have an intrinsic potential to flourish in their lives as long as they have the *freedom* to make choices. In that case, poverty occurs due to a lack of freedom, knowledge, egalitarian distribution of wealth and resources. One particular example Sen gives frequently in his writings is about the condition of *hunger*. A fasting individual is hungry because he has made the personal choice not to consume food despite its availability. An individual living in poverty, on the other hand, is also hungry but his hunger is a function of his living conditions, not of his personal choice. Two individuals are similar in their experiences – they are both hungry. However, they differ in their freedoms. As the example illustrates, Sen (1999) argues that poverty is a subjective experience depending on the freedoms individuals have and utilize. Therefore, the Capability Approach states that every individual has the fundamental human right to access nutritious food, adequate shelter, clean water, and have the ability to participate and be represented in the society. Sen refers to these rights as *basic capabilities* and argues that these are minimum conditions for human beings to achieve their full potential and experience a good quality of life.

Taken together, the Capability Approach focuses on what people are able to do and be as opposed to what type of resources they have or how they feel. In that manner, the Capability perspective is similar to humanistic approaches such as Roger's (1951) client-centered therapy and Maslow's (1943) motivation theory and hierarchy of needs. However, Sen (1999) makes no distinction among capabilities; one capability is not more

important than another. It is equally important to have the freedom to belong and connect with others, as to have food and shelter. In addition, Sen (1999) believes that the availability of a resource does not necessarily translate to actual behavior. For instance, one may have food, but still *choose* not to eat and *be* hungry. Therefore, Sen emphasizes the difference between functionings and capabilities. *Functionings* refer to the various things a person succeeds in 'doing or being,' such as participating in society, being healthy, and so forth, while *capabilities* refer to a person's real or substantive *freedom* to achieve such functionings; for example, the *ability* to take part in the life of society (Sen, 1999). Of crucial importance is the emphasis on *real* or *substantive* – as opposed to formal – freedom, since capabilities are opportunities that one could exercise if so desired. That is, the capability approach places particular emphasis on the capabilities a person has, irrespective of whether the person chooses to exercise them or not.

Research using Capability Approach as a Guiding Perspective

The Capability Approach made such a significant contribution to the development economics discipline and welfare policies that Sen was awarded the Nobel Prize in Economics in 1998. His approach inspired the creation of *United Nations Human Development Index*. Drawing on his Capability Approach, the United Nations Development Programme still conducts global research annually and reports rankings of countries in their levels of human development, assessing child mortality rates, education, income, food security, physical diseases, and functioning as well as quality of life and happiness. Those reports further guide funding mechanisms through the United Nations and the World Health Organization, as well as policy and intervention efforts at national

and international levels. Sen's approach has also been used to construct the United Nations Millennium Development Goals (2000) which include educational rights and health benefits for all citizens, prioritizing women and children in underdeveloped and developing countries.

Despite its recognition in development economics, social policy and public health, the Capability Approach is still a novelty in clinical research. Most recently, researchers from Harvard University and Columbia University have formed a consortium to study severe mental illness from a Capability perspective (Ware et al., 2007; 2008). This group has conducted several ethnographic qualitative studies to understand recovery processes among psychiatric patients (i.e., Hopper, 2007). Ware and her colleagues (2007) suggested that current approaches in clinical psychiatry and psychology take a labeling approach, defining "success" of intervention as simply decrease in psychiatric symptoms. Instead, recovery can be conceptualized as an increase in quality of life of the patient, change in his capability to achieve independent living, and the extent to which he feels integrated in the society. However, no study to date has used these constructs as outcomes in clinical research to determine the efficacy of an intervention. Specifically, review of randomized controlled trials in substance abuse treatment reveals that "efficacy" and "effectiveness" of the interventions are typically tested using outcome variables such as abstinence from drugs or alcohol, frequency and quantity of substance use or substance use related problems (Fitzpatrick-Lewis et al., 2011; Greenfield et al, 2007).

Similarly, efficacy of housing interventions is examined through reductions in mental and/or substance abuse issues (Hwang et al., 2005) whereas few studies report employment outcomes, overall well-being (Ludwig et al., 2012) and satisfaction with treatment (Tsemberis, Gulcur, & Nakae, 2004). Yet, there is a scarcity of research systematically examining the extent to which treatment is effective in promoting capabilities of the participants to achieve their potential. Interestingly, there is growing interest in medical research on the Capability Approach; researchers have started to include patients' perceived functioning, quality of life, and independent living as components of their recovery processes from physical illnesses. Randomized controlled trials on patients struggling with physical disability (i.e., Ferrucci et al., 2004), chronic pain (i.e., Foley, Halbert, Hewitt, & Crotty, 2003), and recovery from medical surgery (i.e., Kim et al., 2008) reported "clinically significant change" among patients by providing data on their improved daily functioning, perceived well-being, and standard of living – in addition to biological and psychological measures. However, there was no consensus in the literature on how best to operationalize and report basic capabilities as outcomes.

Operationalization of Capabilities as Treatment Outcomes

Given that Sen (1999) does not describe *how* to select the relevant capabilities, nor does he propose practical methodologies to assess capabilities in an empirical setting, there is still debate among researchers on the ways in which basic capabilities can be operationalized and measured. One widely recognized approach was proposed by philosopher Martha Nussbaum (2000). Drawing on Feminist theory, Nussbaum (2000)

provided a list of ten central human capabilities, including life, bodily health, bodily integrity, senses/imagination/thought, emotions, practical reason, affiliation, ability to live in relation to other individuals, ability to have recreation, and control over one's environment. In general, central capabilities ranged from the individual's right to live, have access to education, care, and service use to psychological needs such as the right to belong, connect with others, enjoy life and maintain civil rights to participate in the society. Other operational definitions and lists of basic capabilities also exist. For instance, Doyal and Gough (1991) define basic needs, right to have education and secure employment, and having physical security as basic capabilities while Narayan-Parker (2000) emphasize the importance of physical and material well-being, access to health care services, security and perceived social connectedness as significant capabilities.

More recently, Ranis, Stewart and Samman (2006) reviewed the Capability literature and suggested six major basic capabilities. The first domain is labeled as *fundamental dimensions of human development* and is defined as the basic human right to have access to material resources including adequate shelter, food, clothing as well as health care. This domain incorporates the right of human beings to live, and not experience premature deaths due to their living conditions or lack of basic needs (Nussbaum, 2000; Ranis, Stewart, & Samman, 2006).

The second domain is named *safety/physical security* and refers to being able to live free of bodily violations such as violence, abuse and assault. In addition, Ranis, Stewart and Samman (2006) argued that well-being is a significant part of central capabilities which include material, physical as well as emotional aspects. Specifically,

material well-being, domain 3, refers to having adequate income to meet the minimum standard of living, being able to work and obtain employment. *Health*, domain 4, is described as having good physical and mental health, being able to function to meet daily tasks and responsibilities, and being satisfied and happy with one's life. It is important to note that these dimensions include both objective and subjective evaluations of well-being – for instance, individual's net salary (objective measure of well-being) is as important as his perceptions of his quality of life and functioning (subjective measure of well-being). In addition, Ranis, Stewart and Samman (2006) emphasize the importance of *empowerment and having personal agency* (domain 5) and *social integration* (domain 6) as basic capabilities for individuals. From a capability perspective, every human being has the right to have agency and the ability to make decisions in his life as well as have self-respect. Some researchers (Ranis, Stewart, & Samman, 2006) define this construct as self-esteem and self-efficacy while others define it as perceived mastery and control over one's life (Narayan-Parker, 2000). The last domain, *social integration*, refers to having connections to social institutions, being able to seek services and resources, being able to participate in society without feeling shame or discrimination. This construct also incorporates the basic human need to belong and connect with others, having affiliations and being able to engage in social interactions.

Taken together, the conceptual definitions of basic capabilities vary while they share central constructs such as the ability to meet basic needs and having an adequate quality of life. Drawing on Sen's (1999) Capability Approach and Ranis et al.'s (2006) operational definitions, the current study will test whether a housing intervention with

supportive services promotes basic capabilities among homeless families. To that aim, characteristics of homeless families and research describing housing intervention efforts targeting this population will be reviewed in the next sections**.**

Capability Approach and Homeless Families

Intervention efforts targeting homeless mothers and their children are scarce and researchers report high drop-out rates and only short-term change in outcomes (Rog & Buckner, 2007). Understanding the efficacy of housing interventions from a Capability Approach may guide future engagement and treatment strategies to improve upon these intervention efforts. For example, as noted earlier, current intervention studies focus on reduced problems as measures of success (i.e., Kestesz et al., 2007; Leon, Sacks, Staines, & McKendrick, 2000; Milby et al., 2005). Even if women continue to use drugs and alcohol after treatment, they may report feeling more satisfied with their lives, have higher daily functioning, and feel more autonomous to make their own decisions. In that case, interpreting the treatment as ineffective may be premature, as the Capability Approach would draw a different conclusion.

Shifting the focus from dysfunctional behaviors to capabilities suggests a new understanding of "success" in clinical research and a new way of thinking about the value of "housing." From a Capability perspective, housing is not only about providing a place to live, it also means giving *freedom* and *choices* to homeless families to flourish and become who they are meant to be. Housing, in that case, is a comprehensive intervention to increase the *functionings* of homeless mothers which, in turn, promotes their *basic capabilities*. Housing provides families the *option* of living independently, it serves as a

tool to meet their needs for shelter and it provides room for stability in their lives. However, as Sen (1999) suggests, it is the responsibility of the society to provide basic functionings and freedoms (i.e., provide housing to the homeless) while it is the decision of the individuals to use these freedoms to flourish and achieve capabilities (i.e., maintain their apartments and meet basic needs). That is, homeless mothers live in extreme conditions that lack basic functionings and capabilities. However, when homeless mothers are given the freedom to have their own apartments through housing and supportive services, it is expected that they will excel in their basic capabilities. Using the Capability Approach, the living conditions and characteristics of homeless mothers are more fully discussed below. Specifically, basic capabilities as identified by Ranis, Stewart and Samman (2006) are reviewed.

Characteristics and Experiences of Homeless Families from a Capability Perspective

Domain 1: Fundamental dimensions of human development: Basic needs

Need for housing and independent living. From a Capability Approach (Sen, 1999), homeless mothers with young children lack basic capabilities and freedoms in their lives. For instance, homeless mothers, by definition, do not have permanent housing and reside in family shelters or temporarily stay with friends/family members. Being without a 'home' is a violation of a basic human need which limits privacy, interactions with their children and the sense of physical security (Evangelista, 2010). For instance, studies with shelter-residing homeless mothers document that mothers often feel being monitored and controlled while staying at shelters (Tischler, Rademeyer, & Vostanis,

2007). Women describe feeling that they are expected to ‘fit-in’ to the structured, rule-governed system in those settings (Cosgrove & Flynn, 2005; Swick & Williams, 2010). Given these findings, it is not surprising that homeless mothers rank their housing needs, particularly their need for independent housing, as their top priority, reporting it to be more important than substance abuse or mental health counseling (Acosta & Toro, 2000).

Poverty and inability to meet material needs. Families in homelessness experience extreme poverty with most mothers living below 50% to 65% of the federal poverty line (Tompsett et al., 2006). Homeless mothers are beset with difficulty meeting the basic needs of themselves and their children (Rog, Holupka, & Patton, 2007). Specifically, mothers report barriers in obtaining hot meals, clothing and child care for their children (Tischler, Rademeyer, & Vostanis, 2007) and claim that shelters and systems of care are inadequate in their services to meet their needs (Acosta & Toro, 2000; Rog, Holupka, & Patton, 2007). Addressing mothers’ struggles in obtaining shelter and other material needs is especially important in order to engage them in services and treatment interventions (Tsemberis & Eisenberg, 2000). Studies suggest that once their basic needs are met, homeless adults are more likely to stay in treatment and they report higher satisfaction with services (i.e., Tsemberis, Gulcur, & Nakae, 2004). Moreover, research documents a significant relationship between food security, stable housing and improved health outcomes (Ludwig et al., 2012; Wehler et al., 2004). Specifically, housed mothers who have adequate food to feed their children, and have residential stability, report better physical health, less depressive symptoms and higher overall happiness with their lives than those who are homeless (i.e., Wehler et al., 2004).

Domain 2: Safety/Physical Security

From a Capability perspective (Sen, 1999), human beings are entitled to have a sense of physical security, bodily integrity and boundaries. Homeless mothers, on the other hand, lack this basic capability of safety. Several studies note that childhood abuse is one of the precursors of homelessness among women (Mallett & Rosenthal, 2009). Almost half of homeless mothers are currently fleeing domestic violence (Rog, Holupka, & Patton, 2007) and many report lifetime histories of intimate partner violence (Bassuk, et al., 2001). After surveying 309 homeless young people, Mallett and Rosenthal (2009) noted that many became homeless because of habitual violence aimed at them—much of which came from their mothers.

In addition, research on homeless individuals has consistently demonstrated a link between time spent on the streets and increased exposure to criminal victimization (Lee & Schreck, 2005; Waccholz, 2005). Homeless women are at higher risk of sexual exploitation, harassment, and sexual violence than homeless men (Evans & Forsyth, 2004; Wenzel, Leake & Gelberg, 2000). Bassuk et al. (1997) reported high rates of violence among homeless women and housed, low-income women; 91.6% experienced some kind of physical and sexual assault during their lifetime. Nevertheless, homeless mothers avoid shelters for fear of predation and further victimization (Evans & Forsyth, 2004), and some mothers are forced to return to their abusers because of inadequate shelter or lack of resources (Davies, Lyon, & Monti-Catania, 1998). Currently, housing options, such as transitional housing and permanent housing programs, have been offered as effective strategies to enhance safety among homeless women (Menard, 2001).

However, most of these programs do not offer women a choice of where to live, primarily because of budget constraints (Baker, Niolon, & Oliphant, 2009). Some programs have only one building, or only specific units designated for transitional or permanent housing. That is, homeless mothers not only lack capabilities to maintain their bodily integrity (i.e., safety), but they also lack *choices* of affordable housing in order to have a sense of security for themselves and their children.

Domain 3: Material well-being

Despite the experience of chronic poverty, homeless families' incomes are slightly higher than homeless single adults', due to homeless families having greater access to government benefit programs (i.e., Temporary Assistance for Needy Families) and more help from relatives and friends. Nevertheless, homeless families' incomes are almost always too low for them to obtain and maintain adequate housing without subsidies (Rog & Buckner, 2007). Unemployment and low wage work are also linked to homelessness among these families (Rog, Holupka, & Patton, 2007). Social and economic barriers such as high debt accumulation and criminal and eviction history exacerbate the challenges that single homeless mothers' experience while attempting to obtain a lease for their own apartments (Dashora, Slesnick, & Erdem, 2012). Indeed, homeless parents of young children identify their low income as a primary component of their homelessness, and a barrier to maintain their housing (Swick & Williams 2006).

From a capability perspective, housing is related to the overall well-being of the individual because it increases the individual's access to basic needs and resources which, in turn, improves quality of life and standard of living (Sen, 1999). However, the

Capability Approach makes a distinction between the dimensions of material well-being which include material income, employment, but also one's perception of material resources and benefits (i.e., satisfaction with employment, perceived poverty). For instance, a recent study by Ludwig and his colleagues (2012) compared long-term housing outcomes among homeless adults who were offered vouchers for housing and those who were not. The findings suggested that homeless adults who had the opportunity to obtain housing reported improved subjective well-being and satisfaction, but their income and employment status did not improve. Another study compared abstinence-contingent housing and a vocational training intervention to abstinence-contingent housing and cognitive behavioral treatment. It was found that both groups showed significant improvements in their employment status (Milby et al., 2010). Similarly, a pilot study with homeless mothers found no associations between employment and housing stability even though mothers reported improved safety and mental health at post-treatment (Slesnick & Erdem, 2012). Given these findings, researchers emphasize the importance of assessing various dimensions of well-being and recommend considering both material income and subjective well-being (i.e., perceived quality of life) in exploring the efficacy of housing assistance (i.e., Tsemberis & Eisenberg; Tsemberis, Gulcur, Nakae, 2004).

Domain 4: Health

Mental health: Substance use and psychiatric issues

Research documents that substance use and mental health issues are far more prevalent among homeless mothers than housed women with children in their care (Rog

& Buckner, 2007). For instance, in a cross-sectional study, 43% of homeless people in the United States had either a mental health or a substance use problem, and an additional 23% had dual diagnosis (Burt, 2001). More specifically, Hanrahan and colleagues (2005) reported that 50% of the homeless mothers in their study had substance abuse problems at intake. Substance abuse treatment is imperative because substance abuse disorders can exacerbate the severity of homelessness, which has many personal, social, and economic costs (Greenfield et al., 2007). In addition, depression and mental health problems are high among homeless mothers compared with the general population. For example, homeless mothers have high lifetime rates of posttraumatic stress disorder and major depressive disorder (Bassuk et al., 1998). In a recent meta-analysis (Fazel, Khosla, Doll, & Geddes, 2008), diagnoses of psychosis ranged from 3% to 42%, depression from 4% to 41%, and drug dependence from 5% to 54% among the homeless women.

Physical health

Many studies have reported a high prevalence of various health problems among homeless women and mothers. Serious physical morbidity, such as tuberculosis, hepatitis and HIV, contributes to an increased age-standardized mortality rate of three to four times that of general population (Levy & O'Connell, 2004). Injuries, cold exposure, and skin problems are also common hazards of life on the street and shelters (Kushel, et al, 2003; Stratigos & Katsambas, 2003). As a result of their complex health issues and lack of stable housing, homeless patients present serious challenges to healthcare providers.

As mentioned, researchers who focus on health issues and problems among homeless families typically assess medical conditions and symptoms. From a capability

perspective, physical and mental well-being also incorporate the perceived functioning of the individual (i.e., ability to perform daily tasks), happiness and satisfaction with one's life, and general health. Housing has the potential to increase perceived quality of life of the mothers, as suggested by prior studies (i.e., Rosenheck et al., 2003).

Domain 5: Autonomy, Empowerment and Agency

Mothers who experience homelessness describe their daily lives as stressful due to a great deal of uncertainty, unpredictability, and uncontrollable events and hassles (Rog, Holupka, & Patton, 2007). Given the instability and insecurity in their lives, mothers feel powerless and discouraged about their future (Cosgrove & Flynn, 2005; Dashora, Slesnick, & Erdem, 2012; Rog & Buckner, 2007). However, self-efficacy and perceived control in one's life can be important coping resources for homeless mothers. From a Capability perspective, housing provides an opportunity for the mothers to have autonomy and independence, and to achieve higher self-efficacy. Having their own apartments place the power on the mothers to freely decide how they live and who they allow to live with them (Greenwood et al., 2005). In that case, housing is a step towards empowering homeless mothers through giving them choices and freedoms to have control over their environment. Nelson et al. (2007) applied this theory to *Housing First* by suggesting that choice in housing provides an empowering setting that should lead to a sense of personal control and better outcomes. Using the *Housing First* model, studies have shown promising results such as improved drinking days (Larimer et al., 2009) and less need for substance abuse treatment among homeless adults (Tsemberis, Gulcur & Nakae, 2004).

Domain 6: Social Integration

Despite the high prevalence of physical and mental health issues among homeless mothers, more than half of the mothers lack health insurance and face major barriers to obtaining medical care (Kushel, Vittinghoff, & Haas, 2001; Rog, Holupka, & Patton, 2007). In addition, as noted earlier, mothers avoid seeking substance abuse treatment and mental health counseling due to fears of losing their children. Studies document that homeless mothers feel stigmatized and judged by service providers as "inadequate" and "bad" parents (Cosgrove & Flynn, 2005; Swick & Williams, 2006) and report shame, anger and mistrust in their daily interactions (Swick & Williams, 2010). According to the Capability Approach, homeless mothers' reluctance to seek services and the negative experiences in their daily lives imply social exclusion and marginalization. As such, mothers do not use their basic right to use social services, and they experience barriers in accessing the care they need. However, few studies have examined whether housing can address the service needs of the homeless and promote their social integration. For instance, one study found that homeless adults, compared to housed adults, were more likely to use services when they needed food or shelter, rather than medical care (Rodriguez et al., 2009). Another study showed reductions in hospitalizations following a housing intervention (Larimer et al., 2009).

Conclusions, Research Gaps and the Current Study

Treatment interventions tailored for homeless families are in the early stages of development. While different housing approaches were identified in the literature – ranging from *abstinence-based housing* to *Housing First* models, few studies to date have

explored the efficacy of housing assistance among homeless mothers and their children using a randomized controlled design (Sacks et al., 2004; Smith, North, & Fox, 1996). Focusing specifically on homeless families is critical for preventing the potential separation of mothers and their children and, for intervening in the transmission of homelessness to future generations. In addition, housing interventions can provide stability and security for the mothers who often flee from domestic violence and victimization (Bassuk, Dawson, Perloff, & Weinreb, 2001).

The current study addresses gaps in the literature in several ways. First, this study uses a subgroup of homeless women who have their young children in their care – a population that has received little attention in the literature. Furthermore, the current study conceptualizes homelessness from a human-rights perspective (UN, 1948), suggesting that homelessness occurs due to lack of basic capabilities (Sen, 1999). According to United Nations Declaration of Human Rights (1948) article 25, "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control." That is, homelessness among mothers with young children violates their fundamental human rights and housing is a service that they are entitled to receive. Drawing on Sen 's (1999) Capability Approach, this study tests the efficacy of housing on homeless families. Although some housing studies reported employment and health outcomes, no study to date has systematically examined the housing intervention from a Capability

lens. Finally, the current study incorporates subjective (i.e., perceived ability to meet basic needs; health related quality of life) and objective measures of well-being (i.e., material income and employment) which offers a broader perspective for understanding clinically significant improvement in randomized controlled trials.

Study objectives and hypotheses

The goal of the current study was to examine the efficacy of an integrative housing intervention on basic capabilities of homeless mothers. To that aim, basic capabilities were operationalized in six domains, using Ranis, Stewart, and Samman's (2006) conceptualization. Domains included fundamental dimensions of human development, safety/physical security, material well-being, health, empowerment/agency and social integration. From a Capability Perspective (Sen, 1999), dimensions of human development comprise substantive as well as instrumental freedoms. Substantive freedoms include but are not limited to perceived quality of life, access to social resources as well as ability to meet basic needs. Instrumental freedoms, on the other hand, refer to objective measures including material income or wealth. Theoretically, both substantive and instrumental freedoms relate to one another as dynamic set of basic capabilities.

Using Ranis, Stewart, and Samman's (2006) conceptualization, the current study outlines one hypothesis for each domain. According to the Capability Approach, the housing intervention was expected to increase the functionings and freedoms of homeless mothers and lead to better outcomes. Given previous research (i.e., Larimer et al., 2009), mothers who were offered rental assistance and supportive services were expected to

spend more days in their own apartments than those who were not offered any services (Hypothesis 1a). In addition, it was expected that integrative housing intervention would help mothers to meet their basic needs, such as obtaining food, clothing and medical care for themselves and their children (Hypothesis 1b).

Furthermore, the current study explored whether housing was associated with the change in safety and security concerns of the mothers. As noted earlier, research has shown that time spent on the streets was associated with increased exposure to criminal victimization (Lee & Schreck, 2005; Waccholz, 2005). Given these findings, housing was expected to get the mothers off the insecure streets and shelters, and experience fewer violent crimes. That is, mothers in the integrative housing intervention group were hypothesized to report fewer victimization experiences than those who did not receive housing assistance (Hypothesis 2).

According to the Capability Approach, objective measures of material well-being are significant dimensions of basic capabilities, but they are not directly related to perceived quality of life and satisfaction of the individuals (Sen, 1999). Moreover, research has found minimal or no support for the impact of a housing intervention on employment outcomes (i.e., Milby et al., 2010). Therefore, it was expected that mothers in both groups would not differ in their material income and employment status at post-treatment (Hypothesis 3). On the other hand, groups were expected to be different in their subjective well-being. Drawing on prior research (i.e., Ludwig et al., 2012), the current study hypothesized that housing assistance would be associated with higher quality of life, particularly perceived daily functioning, for homeless mothers (Hypothesis 4a). In

addition, housing was expected to increase overall happiness among the mothers (Hypothesis 4b). These hypotheses comply with the prior research suggesting the link between satisfaction, happiness and housing assistance (Padgett, Gulcur, & Tsemberis, 2006; Tsemberis, Gulcur & Nakae, 2004).

As noted earlier, from a Capability perspective, housing could enable the mothers to have control over their lives and environment, which could lead to empowerment and higher self-efficacy (Nelson et al., 2007). As shown by previous studies (Larimer et al., 2009; Tsemberis, Gulcur & Nakae, 2004), it was expected that mothers who received the integrative intervention with housing would achieve higher levels of self-efficacy, compared to the mothers who did not receive housing assistance (Hypothesis 5). That is, housing was predicted to promote empowerment, and a sense of personal control.

Finally, the sixth hypothesis included the social integration domain. According to the Capability Approach, every individual is entitled to receive social services and have participatory rights such as being able to obtain health care without shame or judgment (Alkire, 2002; Ranis, Stewart, & Samman, 2006). The current study proposed that housing would provide residential stability for the mothers and increase their likelihood to seek services for education, medical care, and religious faith when services are needed. It was predicted that mothers in the integrative treatment condition would report higher days of service utilization than those who did not receive housing (Hypothesis 6).

Chapter 2: Methodology

Participants

The data came from a larger intervention study, testing the efficacy of integrative treatment among homeless mothers. Participants (N=60) were recruited from a local family shelter from June 2010 to January 2011. In order to be eligible, women a) had to meet the criteria of homelessness as defined by the McKinney-Vento Act (2002) 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 beings, b) had a biological child between the ages of 2 to 6 years in their care and c) met the DSM-IV (APA, 2000) criteria for substance abuse or dependence.

Characteristics of the sample at baseline are presented in Table 1. Mothers were on average 26.3 years old (SD = 6.01; Range: 18-41). The majority of the women were African American (*n* = 45, 75%) and single (*n* = 45, 75%). On average, mothers had 3 children in their care (Mean = 2.82; SD = 1.73). In addition, nine mothers (15%) reported being pregnant at baseline.

Procedure

Potential participants were engaged and briefly screened by the shelter staff. Ineligible mothers continued with the services at the shelter. Mothers deemed eligible were recruited to the project and were referred to the project coordinator to set up the initial appointment. A research assistant met with the mother, determined formal eligibility and obtained informed consent. The initial assessment was conducted at the family shelter and included interviewer-administered and self-reported questionnaires. The assessment covered a broad range of topics including homeless experiences, income resources, mental and physical health of the mothers and substance use. The initial interview took approximately 2 hours to complete and the mothers received a $40 gift card for their time.

Upon completion of the initial assessment, mothers were randomized to either the intervention (n=30) or treatment as usual (TAU) condition (n=30). The intervention group received the integrated treatment, Ecologically-Based Treatment (EBT), over 6 months, TAU continued with services through the family shelter. Mothers in both groups were evaluated at 3, 6 and 9 months post baseline. The follow up interviews required 1-1.5 hours to complete and each mother was given a $40 gift cards for completing the assessment. All research procedures were approved by the IRB of the Ohio State University. The design of the original randomized controlled trial is summarized in Figure 1.

Treatment conditions: Ecologically-Based Treatment vs. Treatment as Usual

Ecologically-Based Treatment (EBT)

The integrative treatment was originally developed through focus groups with homeless mothers (n = 28), recruited through a family shelter (Dashora, Slesnick, & Erdem, 2012). The intervention was pilot-tested in a small convenience sample (n = 15) to assess feasibility and acceptability (Slesnick & Erdem, 2012). The empirical findings of the pilot study as well as therapist experiences (i.e., Slesnick, Glassman, Katafiasz, & Collins, 2012) guided the revision of the EBT treatment manual, protocol and procedures of the current study

EBT integrates independent housing, case management services, and individual substance-abuse counseling. Specifically, the mothers were housed at an apartment of their choice and received three months of utility and rental assistance up to $600 per month. The independent housing was not contingent on mother's substance use or attendance in treatment services. The case management component included assisting mothers in meeting their basic needs (i.e., referrals to food pantries), helping them to obtain social security benefits (i.e., SSDI/SSI, cash assistance, food stamps, Title XX for child care), and advocating for the mothers when connecting them to social services. The mothers were also offered 20 substance abuse counseling sessions for up to 6 months. The intervention was based on the Community Reinforcement Approach (CRA; Meyers & Smith, 1995), an evidence-based practice for treating substance abuse in homeless populations (i.e., Slesnick, Prestopnik, Myers, & Glassman, 2007; Smith, Meyers, & Delaney, 1998). The counseling component included a functional analysis exploring the

antecedents and consequences of substance use. The treatment sought to reinforce non-substance using, adaptive behaviors through communication and coping skills training, relapse prevention and refusal skills training.

Treatment as Usual (TAU)

TAU included services through the local family center that serves homeless women with minor children in their care. The center provides shelter, meals, basic need items, and transportation assistance for up to three weeks (YWCA, 2012). In addition, each family was assigned a case worker who assisted with housing, job counseling, and obtaining government benefits. In TAU, the mothers were either provided subsidized housing up to 3 months upon discharge from the shelter or were connected to agencies where housing services and assistance were provided.

Materials

Measuring independent variables

Treatment condition. Given the original design of the study (Figure 1), treatment condition was the primary independent variable, and categories included Ecologically-Based Treatment and Treatment as Usual groups. Women in those two groups were compared in their capabilities over time.

Housing assistance by treatment condition. As mentioned, participants in both conditions were provided resources, referrals, and case management services. In an attempt to capture the wide range of assistance mothers received, a *Housing Form* was administered at 3, 6 and 9 month follow ups. The form assessed availability of rental assistance, specified the agency through which mothers obtained support services, and

documented the resources mothers used to maintain their apartments. Mothers who reported receiving housing assistance at 3 months were classified as "assisted" and mothers who did not receive services for housing at 3 months were classified as "not assisted." (Table 2).

Time of Housing. Given that mothers in the EBT condition were housed sooner than mothers in the TAU condition, time of housing was used as a control variable. A *Housing Form* item "When did you move into your leased room or apartment?" was utilized to determine when mothers were housed in their own apartments. Mothers were categorized as "housed at 3 months" and "housed at 6 months" to test the effects of timing of housing assistance on outcomes.

Housing Stability. Mobility of mothers and their living conditions were assessed via *Housing Form* items "Are you currently living in the leased room or apartment?", "(If No) When did you leave the leased apartment?" and "Where did you live after you left the leased apartment?" Using these items, mothers were categorized as "mobile" or "stable." The *Mobile* category refers to those who got evicted from their apartments and lost their independent housing and went back to the shelter or to couch-surfing. The *Stable* category refers to mothers who achieved independent living; they either maintained their leased apartments, or reported paying partial or full rent in a different apartment of their own (Table 2).

Measuring dependent variables (Basic capabilities)

Using Sen's (1999) Capability Approach and Ranis, Stewart and Samman's (2006) conceptualization, basic capabilities and freedoms were operationalized in six

domains in the current study. The domains included fundamental dimensions of human development (basic needs), safety/physical security, material well-being, health/quality of life, autonomy/agency and social integration (Table 3). The measures and forms utilized to assess these basic capabilities are described as below.

Participants completed an extensive *demographic/homeless experiences form* at the baseline and follow-up assessments. The form included items on characteristics of the sample including age, ethnicity, employment and marital status. In addition, a wide range of experiences of the mothers were assessed including homelessness, arrest history, and child abuse. In the current study, several items from the *demographic/homeless experiences form* were used as measures of basic capabilities.

Domain 1: Fundamental dimensions of human development

1a. Meeting basic needs. Mothers reported whether they had problems meeting their basic needs as assessed by four yes/no items in the demographic questionnaire. The items included "in the past 3 months, was getting enough food to eat a problem for you and your children?" "was getting clothes a problem for you and your children?" "was getting medical care a problem for you and your children?" and "was finding a place where you could clean up a problem for you and your children?" (Table 3). The items were summed to create a total score for perceived ability to meet basic needs.

1b. Independent living days. Independent living was operationalized as 'the number of days one spent days in her own apartment' and was assessed via demographic form item "How many nights in the past 30 days did you stay in your own apartment?" The form also assessed alternative living conditions of the mothers including staying with

friends or relatives in their home, staying in a shelter, sleeping in an abandoned building, being in jail or residential treatment and staying outdoors (i.e., street, park, valley). The current study utilized independent living as an outcome variable in the multilevel modeling analysis (Table 3). However, average number of days living with others or at the shelter was also reported by treatment condition in order to characterize the living conditions of homeless mothers at each follow up assessment.

Domain 2: Safety and Physical Security

Victimization experiences were selected as proxy measures of safety issues as reported by mothers. Six yes/no items in the demographic form assessed criminal victimization. Five of these items referred to physical assault, sexual assault, robbery, burglary or rape incidents that were committed against the mothers. The sixth item assessed if mothers had experienced any other crime. The sample items were “in the last 3 months, have you been assaulted or physically attacked?” and “have you been robbed, that is, was something taken from you by someone who threatened you with violence if you did not give it to them?” The items were summed to create a total score for victimization experiences.

Domain 3: Material well-being (income and work)

Two items of demographic questionnaire were used to capture *income* and *employment status* of the mothers. The single items included “What is your personal monthly income?” and “What is your employment status?” The response categories for employment included working +40 hours a week, working fewer than 40 hours a week,

being a homemaker, retired, or unemployed. Employment status was recoded as “having a full time or part time job” vs. “having no job” (Table 3).

Domain 4: Health

4a. Perceived health related quality of life (HRQoL) was measured via *The Short-Form Health Survey-36* (SF-36; Ware et al., 2007). The measure was originally developed through the Medical Outcomes Study (MOS; Ware & Sherbourne, 1992) and has revealed high validity and reliability with clinical populations (McHorney et al., 1994; Ware et al., 2007). The SF-36 has been widely used by clinical researchers and health economists in clinical trials to assess the cost-effectiveness of health care interventions covering range of outcomes for quality of life.

The present study used the SF-6D subscale as an outcome measure (Ware et al., 2007) which has shown high concurrent validity with the original SF-36 (Brazier & Roberts, 2004; Brazier, Roberts, & Deverill, 2002). SF-6D was preferred for the current study given that SF-6D items correspond to similar measures such as Center for Disease Control and Prevention’s Health- related Quality of Life measure (CDC, 2000) and World Health Organization’s Quality of Life-BREF measure (Murphy et al., 2000). The measure compromised 12 items, covering 6 different dimensions of health related quality of life such as physical functioning, role limitations, bodily pain, vitality, social functioning and mental health. Sample items included “how much does your physical health limit you in moderate activities such as moving a table and pushing a vacuum cleaner?” “in the past 4 weeks, have you had difficulty performing the work or other activities as a result of your physical health?” “in the past 4 weeks, have you had

difficulty performing the work or other activities as a result of your emotional health?" and "during the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?" (Table 2). The Cronbach alphas ranged from .82 to .88 across baseline and follow up assessments in the current sample.

4b. Happiness and perceived well-being were assessed using a single item from SF-36 "how much of the time during the past 4 weeks have you been happy?" (Ware et al., 2007). The item was rated on a 5 point Likert scale with response categories ranging from 1 (all of the time) to 5 (none of the time). This item on happiness was selected because it has been widely used in global health surveys conducted by WHO (2012) as well as in development economics research by UN (2012) as a proxy measure of life satisfaction and overall well-being.

Domain 5: Empowerment, autonomy and agency

Self-efficacy, one's belief in his/her ability to achieve, was used as a proxy measure for empowerment and self-respect. Mothers completed The *Self-Efficacy Scale* (Sherer et al., 1982) at baseline and follow ups and reported their willingness to initiate and complete certain behavior, as well as their persistence in the face of adversity. The scale included 23 items that yielded two subscales, assessing general and social self-efficacy. Specifically, the General Self-Efficacy subscale (17 items) measured the "general set of expectations that the individual carries into new situations" (Sherer et al., 1982, p. 664) whereas Social Self-Efficacy scale (6 items) measured individual's perceptions of interpersonal skills in social gatherings. Both subscales have shown

adequate internal reliability with Cronbach alphas .86 and .71, respectively (Sherer & Adams, 1983). Items were rated on a 5-point Likert scale with response categories ranging from (1) disagree strongly to (5) agree strongly.

The current study utilized General Self-Efficacy subscale as a proxy measure of agency and control (Table 3). This subscale has been widely used in clinical, educational and organizational research, with internal consistency coefficients ranging from .70 to .90 (Chen et al., 2001). Sample items were “When I make plans, I am certain I can make them work” “I am a self-reliant person” and “Failure just makes me try harder.” The Cronbach alphas of the subscale indicated high internal reliability and ranged from .88 to .92 across baseline and follow up assessments in the current sample.

Domain 6: Social integration

Social integration was conceptualized using three variables, regarding education/training days, seeking medical care, and attending religious ceremonies. The current study utilized percent days of medical care, education days, religion days in the past 90 days (composite scores) from the Form 90 (Miller, 1996) as proxy measures of social integration. The *Form 90* is a semi-structured questionnaire that measures the frequency and quantity of substance use in the past 90 days as well as school and work attendance, mental and physical health care utilization. The questionnaire has shown high validity among adults (Westerberg, Tonigan & Miller, 1998) and excellent test-retest reliability (Tonigan, Miller, & Brown, 1997) (Table 3).

Statistical analyses plan

Initial data screening

First, descriptive analyses were run to obtain information about the frequencies of categorical variables, the means, and standard deviations of continuous variables. If skewness of a variable exceeded ±1.96 range and the assumption of normality was violated, the variable was log-transformed before the analysis (Field, 2005). If the log-transformed variable still had high skewness, it was dichotomized and used as a yes/no item. In addition, participants in the EBT and TAU conditions were compared in their baseline characteristics, including age, ethnicity, marital status, years of education, homeless experiences, and frequency of substance use. Next, mothers in both conditions were compared in their outcome variables at pretreatment. Chi square and independent samples t tests were run for all group comparisons. Those variables associated with significant baseline differences were used as predictors of the intercepts in multilevel modeling. SPSS Version 19 (2010) was utilized for the initial analysis of the data.

Testing the efficacy of interventions in basic capabilities (Multilevel modeling with mixed effects)

Data analysis for continuous outcome variables. In the current study, participants were nested in treatment conditions (EBT vs. TAU) and outcomes were assessed longitudinally. Therefore, multilevel modeling was conducted using HLM 7 software (Raudenbush, Bryk, & Congdon, 2011). Hierarchical Linear Models included two levels; at the within subjects level (Level 1), outcome variables vary within participants over time as a function of a person-specific growth curve. This level tests for time effects,

estimating the change in outcomes across the 3, 6, and 9 month follow-ups. At level 1, the linear factor (TIME) describes the linear growth in outcome. At the between subjects level (Level 2), person specific change parameters vary by random across participants as a function of two treatment conditions (EBT vs. TAU). That is, level 2 tested whether treatment condition explains the linear change in outcomes. Follow up analysis included additional Level 2 variables in the model such as housing stability (stable vs. mobile) and housing assistance (received housing assistance at 3 months vs. no assistance at 3 months). The growth models were estimated for each continuous dependent variable with Full Maximum Likelihood estimation, using an intent to treat design.

Data analysis for dichotomous outcome variables. Bernoulli Generalized Hierarchical Linear Model (HGLM) was used for the analysis of dichotomous dependent variables. Similar to HLM models, Bernoulli HGLM models include two levels, but the models test the change in binary outcome variables (0, 1) over time, using log-odds transformation. Level 1 includes sampling model, link function, and structural model. Specifically, the beta-coefficients at Level 1 refer to the log-odds of the "success" (1 = yes). The structural model exponentiates beta-coefficients to odds-ratios and provides the probability of success in a given outcome variable. For the current study, Level 1 included Time effects and treatment condition, housing stability, and housing assistance were entered as Level 2 variables. The random and fixed effects in growth models were estimated with PQL. For model comparison, Laplace estimation was used because it provides overall model fit information for the deviance test. The analysis followed a stepwise model construction procedure, which tested the unconditional model first,

followed by testing time effects. The final model included time and treatment effects, using mixed effects modeling.

Chapter 3: Results

Preliminary data analysis

Data screening for randomization: Comparison of groups and outcome variables at baseline

Mothers in the Ecologically-Based Treatment (EBT) condition did not differ in age [$t(58) = .90$, $p > .05$], ethnicity [$\chi^2(4) = 3.49$, $p > .05$], or marital status [$\chi^2(5) = 1.88$, $p > .05$] than those in the treatment as usual (TAU) condition. In addition, mothers' years of education [$t(58) = -.41$, $p > .05$], days of homelessness [$t(57) = .31$, $p > .05$], and frequency of substance use [$t(57) = -.38$, $p > .05$] were not statistically different between the groups at baseline.

Comparison of outcome variables revealed no differences among mothers in EBT and TAU conditions (Table 4). Specifically, mothers did not differ in their independent living days [$t(58) = -.44$, $p > .05$], income [$t(58) = .65$, $p > .05$], victimization experiences [$\chi^2(1) = .88$, $p > .05$], and problems in meeting their basic needs [$\chi^2(1) = 1.02$, $p > .05$]. In addition, mothers' reports of happiness [$t(58) = .31$, $p > .05$], quality of life [$t(58) = -.29$, $p > .05$], and self-efficacy [$t(57) = -.24$, $p > .05$] were not statistically different at baseline. Chi square tests suggested no differences between treatment groups in seeking medical care [$\chi^2(1) = .14$, $p > .05$], attending religious ceremonies [$\chi^2(1) = 2.1$, $p > .05$], or receiving education or training [$\chi^2(1) = 1.51$, $p > .05$].

Treatment attendance and additional treatment seeking

Mothers in the EBT group attended 23.1 (SD = 6.52) sessions on average. Specifically, mothers were provided 12.53 (SD = 5.84) sessions of case management and 10.57 (SD = 3.31) sessions of CRA over 6 months. Six mothers (20%) in the EBT condition reported seeking additional treatment for substance abuse and mental health issues at baseline, 3 months, and 6 months. Furthermore, four mothers (13.3%) sought additional services at 9 months in the EBT condition. Among those in the treatment as usual condition, five mothers (20.8%) reported seeking substance abuse and mental health counseling at baseline, 3, 6, and 9 months. Chi square tests revealed that the groups did not differ in their reports of seeking outpatient counseling services in the current sample ($p > .05$).

Housing assistance and independent living by treatment condition

All women in the EBT condition (n = 30) received rental and utility assistance for 3 months. In the TAU condition, eight (26.7%) women reported receiving housing assistance at 3 months and six (20%) women received housing assistance at 6 months through the family shelter. However, the nature of housing assistance varied among these mothers and included Section 8 housing, transitional housing, and independent living. In addition, nine (30%) mothers in the TAU group reported independent living, but they obtained their apartments through personal resources (i.e., cash assistance, social security, sharing rent with family members or friends), rather than housing vouchers. Of nine mothers, four (13.3%) mothers obtained their own apartments at 3 months whereas five (16.6%) mothers obtained their apartments at 6 or 9 months. In the TAU condition,

five (16.6%) women reported no independent living across all time points and data were missing for two (6.6%) women.

Differential attrition from assessments

Follow-up assessments were conducted at 3 time points (3, 6, and 9 months). There were no participants in the EBT condition who refused to complete their assessments (Figure 1). In the TAU group, there were 9 mothers who missed at least one follow up assessment. Specifically, 5 (8.3%) women missed only one assessment, 2 (3.3%) women missed two assessments, and 2 (3.3%) women missed all three follow-ups. Mothers in the treatment as usual condition were more likely to be lost at follow-up than those in the intervention condition [$t(58) = -3.04$, $p < .01$].

Descriptive analysis of outcome variables

Means and standard deviations of continuous variables across time are presented in Table 5. Initial data analysis was also conducted to examine the skewness of continuous outcome variables across time. The distribution of basic needs, independent living days, monthly income, perceived happiness, quality of life, and self-efficacy had skewness less than 1.96 at all time points. Therefore, normal distribution of these variables was assumed non-violated in the current data. However, four continuous variables (victimization total score, percent days of medical care, percent days of education, and percent days of attending religious ceremonies) had high skewness and violated the assumption of normality. The variables were log-transformed, but they still had high skewness (±1.96). Descriptive analysis revealed that only few women experienced victimization, received medical care, attended school/training, and religious

ceremonies (Table 5). Therefore, the variables were dichotomized before the analysis. The observed change in continuous and dichotomous outcome variables are shown in Figures 2 to 12 (Appendix C).

Testing the efficacy of interventions on basic capabilities: Multilevel modeling findings

Domain 1: Fundamental Dimensions of Human Development

Independent living. The analysis followed a stepwise construction approach. First, the unconditional model was tested to determine variability and nonindependence in the data. This null (empty) model did not include any constraints and was run to calculate Intraclass Correlation Coefficients (ICCs). The unconditional model yielded significant variability in the independent living days between the mothers [χ^2 (59) = 89.6, $p < .01$] and ICC was .11. These results indicated that there was nonindependence in the data and multilevel modeling was needed (Raudenbush, Bryk, & Congdon, 2004). Next, the random coefficients models were run to determine the general form of change that best fit the data across four time points. The deviance test suggested that the conditional model had a significantly better fit to the data than the unconditional model [χ^2 (2) = 44.59, $p < .001$]. In addition, the conditional model indicated a significant positive intercept for the linear slope [b = 12.55, S.E. = 1.98, t (59) = 6.32, $p < .001$]. These results indicated a significant increase in independent living days over time in the current sample (Table 6).

The treatment effect was tested by adding intervention type (EBT vs. TAU) at level 2 to explain the variability in change in independent living days. The conditional model with mixed effects revealed a significantly better fit to the data than the

unconditional model [χ^2 (2) = 53.88, $p < .001$]. The model retained significant time effects, mothers in both conditions reported an increasing number of days living in their own apartments over time [b = 9.16, SE = 2.35, t (58) = 3.89, $p < .001$]. In addition, treatment effects were found [b = 6.07, S.E. = 2.02,t (58) = 2.99, $p < .01$]. That is, mothers receiving housing and rental assistance through the current study showed a faster rate of increase in their independent living days than the mothers in the treatment as usual condition (Table 6).

Basic needs. Mothers reported problems in meeting their basic needs in four domains; getting enough food to eat, getting clothes, getting medical care, and finding a place to clean up. The initial analysis revealed high skewness of the total score for problems in meeting basic needs, therefore this variable was dichotomized. Basic needs variable was labeled as 1 = having at least one unmet basic need vs. 0 = no problem in meeting any basic needs. The frequencies and percentages are presented in Table 5.

Bernouilli HGLM analysis was conducted to test unconditional and conditional models. The intercept of the unconditional model was significant [b = .32, S.E. = .14, t (59) = 2.25, $p < .05$], indicating variability in problems in meeting basic needs at baseline. The conditional model was tested by adding time to explain the variability in the intercept. The time effect was negative and highly significant [b = -1.12, S.E. = .25, t (59) = -4.44, $p < .001$], suggesting reductions in probability of having problems in meeting basic needs. Specifically, the probability of mothers experiencing problems to meet their basic needs at follow ups was .33 times (CI = .19 - .54) less likely than experiencing these problems baseline. The deviance test revealed that the conditional

model with time effects fit the data significantly better than the unconditional model [χ^2 (3) = 55.9, p < .001]. The combined model included time and treatment effects (Deviance = 647.78, df = 6). The model retained time effects [b = -1.09, S.E. = .26, t (59) = -4.16, p < .001], but no differences were found between treatment conditions (Table 7). That is, the probability of mothers having issues in meeting their needs for food, medical care, cleaning, and clothing decreased over time, regardless of their treatment condition.

Domain 2: Safety and Physical Security

Victimization. Mothers' victimization experiences was highly skewed and the variable was dichotomized as 1 = mother had at least one victimization experience in the past 3 months vs. 0 = mother reported no victimization. The unconditional model had a highly significant intercept [b = -1.59, S.E. = .25, t (59) = -6.4, p < .001], indicating variability in victimization. The conditional model with a time effect did not have a better fit to the data than the unconditional model [χ^2 (3) = 1.7, p > .05]. Similarly, the time effect was nonsignificant in the model (p > .05). The mixed conditional model also suggested no time or treatment effects and deviance was not improved (Table 8). Taken together, these results indicate that there was no change in victimization experiences of the mothers across time or treatment conditions.

Domain 3: Material Well-being

Income. The unconditional model showed significant variability in monthly income [χ^2 (59) = 127.25, p < .001] and ICC was .73 (Table 9). The conditional model with time effects fit data significantly better than the unconditional model [χ^2 (3) = 35.16, p < 0.001]. There was a significant and positive linear time effect [b = 90.90, S.E. =

27.56, t (59) = 3.3, $p < .01$], suggesting an increase in monthly income over time. Next, the conditional model with mixed effects was tested and the model included both time and treatment effects. The deviance test revealed that the conditional mixed effects model fit the data significantly better than the unconditional model [χ^2 (4) = 35.17, $p < 0.001$]. The average baseline monthly income was $254.63 [S.E. = 59.34, t (59) = 4.29, $p < 0.001$]. Time effects were also retained in the model. Specifically, monthly income increased by $89.01 at each additional time point among mothers who received TAU [S.E. = 33.29, t (58) = 2.67, p = 0.01]. For the EBT group, each additional time point was significantly associated with a $92.39 increase in monthly income on average [S.E. = 31.24, t (58) = 2.96, $p < 0.01$]. However, the difference between the treatment groups was not significant [b = 3.38, S.E. = 33.43, t (58) = .10, $p > .05$].

Employment. Given that few mothers reported having a part time or full time job, the variable was dichotomized for the analysis. The Bernouilli HGLM analysis revealed that variance components (random effects) of the unconditional model was highly significant [χ^2 (49) = 115.89, $p < 0.001$]. In addition, the intercept of the unconditional model was significant at baseline [b = -1.20, S.E. = .29, t (59) = -4.04, $p < .001$] with odds ratio = .30 (CI = .17 – .55). Two conditional models were run to test if time and treatment group explained the variability in the intercepts (Table 10). However, the analysis suggested no time or treatment effects ($p > .05$). In other words, employment status of homeless mothers in the current sample was found to be stable over time and across conditions.

Domain 4: Health

Health related quality of life. Following a stepwise model construction procedure, the unconditional model was tested first. Significant variability was found in quality of life [χ^2 (59) = 263.79, p < .001] with ICC = .89 (Table 11). Next, the conditional model tested for time effects. The deviance test suggested that the conditional model fit the data significantly better than the unconditional model [χ^2 (3) = 19.22, p < .001] and there was a significant positive time effect among mothers [b = 1.40, S.E. = .39, t (59) = 3.58, p < .001]. The mixed effects conditional model was conducted to test for both time and treatment effects. The model yielded a significantly better fit to the data as compared to the unconditional model [χ^2 (4) = 19.93, p < .001]. It was found that the average baseline quality of life score was 31.94 [S.E. = 1.21, t (59) = 26.27, p < 0.001]. Mothers in both conditions reporting increase in their quality of life over time and there were no treatment effects [b = .46, S.E. = .54, t (58) = .85, p > .05]. Mothers in the EBT condition reported a 1.15 increase in their quality of life at each time point [S.E. = .49, t (58) = 2.33, p < 0.05]. On the other hand, quality of life among mothers in the TAU condition increased by 1.61 at each additional time point on average [S.E. = .46, t (58) = 3.5, p < 0.001].

Happiness. The unconditional model yielded significant variability in happiness scores among the mothers (Table 12). The Chi Square test was highly significant at p < .001 [χ^2 (59) = 106.46] and ICC was .18. The conditional model with time effects had a significantly better fit to the data than the unconditional model [χ^2 (3) = 27.14, p < .001]. In addition, the conditional model suggested a significant positive slope for happiness over time [b = .29, S.E. = .06, t (59) = 5.23, p < .001]. That is, mothers' perceived

happiness increased across four time points. The conditional model with mixed effects also had better fit to the data than the unconditional model [χ^2 (4) = 27.21, p < .001]. In that model, the time effect was still significant (p < .001), but there were no differences between the treatment groups [b = .02, S.E. = .06, t (58) = .27, p > .05].

Domain 5: Empowerment, Autonomy and Agency

General self-efficacy. The unconditional model with the general self-efficacy score as the outcome revealed significant variability among the mothers [χ^2 (59) = 369.84, p < .001] and ICC was .59 (Table 13). The model comparison test was not significant, but indicated a trend (p = .08), suggesting that the conditional model with time effects had a marginally better fit to the data than the unconditional model [χ^2 (4) = 8.30]. The conditional model did not yield a time effect for mothers in the TAU condition [b = .80, S.E. = .85, t (58) = .95, p > .05]. However, there was a trend for a time effect for the mothers in the EBT condition. Specifically, mothers in the EBT group reported a 1.43 increase in their self-efficacy at each additional time point on average [S.E. = .77, t (58) = 1.86, p = .068]. Finally, there were no differences between treatment groups [b = .63, S.E. = 1.08, t (58) = -.58, p > .05].

Domain 6: Social Integration

The social integration domain included three variables; seeking medical care, attending school or any training programs, and attending any religious ceremonies or church in the past 3 months. The random effects of the unconditional model for seeking medical care was significant [χ^2 (59) = 93.51, p < .001], but the intercept of medical care was nonsignificant (Table 14). That is, the probability of mothers seeking medical care at

baseline did not indicate significant variability. Similarly, the conditional models with time and treatment effects did not suggest main effects, indicating that the probability of mothers seeking medical care did not change over time and across treatment conditions. Similar results were found for the other two outcome variables; attending training and religious ceremonies. Although there was variability in random effects in the unconditional models for education [χ^2 (59) = 86.38, $p < .05$] and religious attendance [χ^2 (59) = 126.15, $p < .001$], the conditional models revealed neither time nor treatment effects ($p > .05$) (Table 15 and 16).

Summary of the findings and exploratory analysis

Taken together, the HLM and HGLM analyses suggested treatment effects only for independent living days, indicating that mothers in the EBT condition had faster increase in days they spent in their own apartments than mothers in the TAU condition. On the other hand, there was no change in mothers' employment status, victimization experiences, seeking medical care, educational days, and attendance in religious ceremonies over time. In addition, there was a trend for change in self-efficacy, but it was marginally nonsignificant ($p = 0.068$) and revealed no treatment differences ($p > .05$).

It is important to note that mothers reported improvements in their monthly income, perceived ability to meet basic needs, health-related quality of life, and happiness over time. However, change was not associated with the treatment condition. Additional analyses were run to explore the predictors of change in mothers' well-being. Given that both groups received services throughout the study, an additional variable was created to account for housing assistance. Mothers who received housing assistance at 3

months (n = 38) were coded as 1 and those who did not report getting assistance at 3 months (n = 22) were coded as 0. Mothers in those two groups were compared in their capabilities.

The final conditional models with time and housing assistance effects yielded similar findings as the findings in prior models with time and treatment condition effects. Specifically, Bernoulli HGLM testing change in basic needs revealed significant time effects. It was found that problems in meeting basic needs were reduced over time [b = 5.31, S.E. = 2.58, t (58) = 2.06, p < .05]. However, the change was not associated with housing assistance at 3 months (p > .05). In addition, the significant increase in mothers' income [b = 12.94, S.E. = 35.88, t (58) = .36, p > .05], perceived quality of life [b = -.62, S.E. = .58, t (58) = -1.07, p > .05], and perceived happiness [b = -.03, S.E. = .07, t (58) = -.44, p > .05] were not predicted by housing assistance at 3 months. Similarly, additional control variables (housing stability and housing time) were not associated with any of the outcome variables in the models (p > .05).

Interestingly, the majority of the improvements in mothers' well-being were in subjective, rather than in objective domains of capabilities. For instance, mothers' *perceptions* of meeting their basic needs and their *perceptions* of their quality of life were improved, but mothers were still not seeking services for medical care, nor were they attending trainings or obtaining part time or full time jobs. This improvement in mothers' 'subjective' well-being was further explored using Capability Approach as a guiding framework. Outcomes included problems in meeting basic needs (Domain 1: Fundamental dimensions of human development), monthly income (Domain 3: Material

well-being), quality of life and perceived happiness (Domain 4: Health). Mixed effects modeling analysis was conducted to test the impact of independent living days, self-efficacy, and women's experiences with battering on mothers' well-being. Given the design of the study, the models also controlled for treatment condition (EBT vs. TAU). The final conditional models are presented in Table 17.

Bernouilli HGLM analysis suggested that general self-efficacy was significantly associated with the reduction in perceived ability to meet basic needs over time [$b = -.01$, $S.E. = .005$, $t(55) = -1.95$, $p < .05$]. The probability of experiencing problems in meeting basic needs was .99 times less likely among the mothers with higher levels of self-efficacy than their counterparts. Similarly, HLM analysis yielded a significant association between self-efficacy and a linear change in health related quality of life [$b = .05$, $S.E. = .02$, $t(55) = 2.18$, $p < .05$]. It was found that higher levels of self-efficacy predicted an increase in perceived health related quality of life over time. On the other hand, improvements in perceived happiness were related to not only mothers' self-efficacy [$b = .006$, $S.E. = .002$, $t(53) = 2.53$, $p < .05$], but also an increase in their independent living days [$b = .002$, $S.E. = .001$, $t(53) = 2.09$, $p < .05$], and reduction in their battering experiences [$b = -.006$, $S.E. = .002$, $t(53) = -3.84$, $p < .001$]. That is, mothers in both treatment conditions reported feeling happier over time if they were living in their own apartments, had higher levels of self-efficacy, and experienced less intimate partner violence. No variables in the model predicted an increase in monthly income over time (Table 17).

Chapter 4: Discussion

Research on intervention efforts targeting homeless mothers and their children is limited. In addition, no study to date has systematically examined housing interventions using Sen's (1999) Capability Approach. In an attempt to address these gaps, the current study investigated the efficacy of an integrative intervention for promoting capabilities among homeless mothers. The capabilities were operationalized and tested in six main domains: fundamental dimensions of human development (independent living days, ability to meet basic needs), safety/physical security (victimization), material well-being (employment, income), health (quality of life, happiness), empowerment/autonomy (self-efficacy), and social integration (seeking medical care, education, and attending religious activities). The results suggested partial support for the study hypotheses, indicating some improvement in capabilities of the mothers over time with few treatment differences.

In addition, an exploratory analysis shed light on the predictors of well-being among the mothers. It was found that a significant increase in mothers' subjective well-being (ability to meet basic needs, happiness, and quality of life) was not related to the treatment condition, housing assistance, housing stability, or timing. However, improvements in well-being were mainly associated with mothers' high levels of self-efficacy. In addition, an increase in happiness was explained by the increase in days mothers spent in their own apartments and a decrease in violence in their romantic

relationships. Whether or not mothers obtained their apartments through the research projects, referrals from shelter or by using their own resources did not make a difference on their happiness. Instead, what mattered for the mothers was how many days they spent in their own apartments and how safe they were in their romantic relationships. The findings in relation to each domain and hypotheses are discussed more fully below.

Domain 1: Fundamental Dimensions of Human Development

It was hypothesized that capabilities in the first domain (independent living days and ability to meet basic needs) would be associated with housing and supportive services. This hypothesis was supported for independent living days. It was found that mothers who were in the EBT condition had faster increase in days they were living in their own apartments than those in the TAU condition. This treatment effect was understandable because mothers in the EBT condition obtained housing through the research project within 3 or 4 weeks. In comparison, mothers in the TAU group received referrals for housing and it took them 4 to 8 weeks to move in to their apartments. These findings also indicated a relationship between housing assistance and independent living days. Similarly, Weinreb, Rog, and Henderson (2010) found that 39% of homeless families exit shelters after obtaining a housing subsidy whereas only 19% of mothers were able to move in to their apartments if they were not offered any subsidy. That is, housing assistance was much needed to help mothers obtain their own apartments.

Despite the differences in time of housing and types of services they received, mothers in both conditions reported fewer problems in meeting their basic needs over time. This finding is especially interesting because mothers in the EBT condition had the

opportunity to receive evidence-based counseling and intensive case management services. From a Capability perspective, those treatment opportunities would be associated with more functionings and better outcomes. Instead, 66% mothers in each group maintained their apartments at the end of the study and both groups reported improvements in meeting their basic needs. One interpretation of this finding is that housing itself may be necessary and sufficient for mothers to have fewer problems in meeting their needs. In other words, housing may be the fundamental human need for the mothers. Once this fundamental need is met, their capabilities to meet other basic needs increase. This finding is also consonant with qualitative research where mothers identified housing as one of their top priorities (Dashora, Slesnick, & Erdem, 2012) and perceived housing as a first step to "get back on their feet" and "have privacy" as single mothers (Cosgrove & Flynn, 2005).

Follow up analysis suggested that self-efficacy predicted an increase in perceived ability to meet basic needs. This finding raises questions about what it means for mothers to have a "home" and meet their needs. For instance, Burlingham and her colleagues (2010) found that mothers who were housed through a Housing First program, reported a sense of "privacy" and "the freedom to live how they wanted to live" (p. 173). In addition, housed mothers felt a sense of mastery and control over their lives (Burlingham et al., 2010). As such, it is possible that housed mothers in the current sample were empowered through housing and their perceived self-efficacy helped them overcome barriers in meeting their basic needs.

Domain 2: Safety and Physical Security

The second hypothesis predicted that victimization would decrease over time as a function of treatment intervention. Contrary to the expectations, this hypothesis was not supported. In general, mothers reported that their experiences of criminal victimization such as robbery, burglary, and physical assault, were rare, but also stable over time. Moreover, victimization was not associated with treatment condition, housing assistance, or housing stability. This is particularly interesting because a prior study using found significant reductions in intimate partner violence among the homeless mothers (Slesnick & Guo, 2013).

These findings of criminal victimization and domestic violence should be interpreted with caution while considering the unique living arrangements of the homeless mothers. Research suggests that women with children in their care do not usually stay on the streets or camps, but typically "double up" with significant others, such as family members, friends, and romantic partners (Bassuk, Volk, & Olivet, 2010). Therefore, mothers in the current study may be experiencing victimization on the streets infrequently, simply because their exposure to the streets is limited. However, uncommon street victimization does not necessarily mean mothers are 'safe.' Studies show that mothers report domestic violence and abuse as the primary reasons for their homelessness (Shinn, 2011) and many mothers report fleeing from current or past romantic partners (Nyamathi et al., 2001). Similarly, ongoing intimate partner violence was common among the mothers in the current study, but decreased over time in both groups, as mothers obtained their own apartments (Slesnick & Guo, 2013). Given these findings, it

is likely that housing enhanced the “security” of the mothers, especially with romantic partners.

These distinctive findings on victimization and intimate partner violence reveal the utility of considering ‘safety’ as a form of personal, physical, but also a relational concept for marginalized women. Perhaps Nussbaum’s (2000) term, ‘bodily integrity,’ is a better fit to define safety for these mothers. Bodily integrity is closely linked to relational and sexual freedom of women and refers to “being able to be secure against violent assault, including sexual assault in relationships and having opportunities for satisfaction in relationships.” It is likely that housing assistance is associated with this form of relational safety for the mothers, rather than simply decreasing criminal victimization.

Domain 3: Material Well-being

The current study also found that monthly income increased over time in both conditions, but employment status of the mothers was stable. At baseline, the majority of the mothers were unemployed, and few mothers were able to obtain or maintain jobs throughout the current project. An increase in income, despite unemployment, is understandable because mothers reported seeking alternative income resources such as cash assistance, food stamps, and financial support from local agencies to cope with financial strain. Similarly, Weinreb, Rog, and Henderson (2010) found that the majority of the formerly homeless families identified welfare benefits as major sources of income while few mothers were able to obtain jobs. In a sample of 253 housed families, 94% were receiving food stamps, 77% of mothers were getting school lunches for their

children, and 64% were on Temporary Assistance for Needy Families (TANF) program. However, most mothers in Weinreb, Rog, and Henderson's (2010) study obtained these benefits after they exit the shelter system and moved in to their apartments.

The current findings can be interpreted from a Capability framework. Sen (1999) argues that capability is about having resources, opportunities, and freedoms to achieve and flourish. Despite the multifaceted needs and barriers mothers experience in their daily lives (i.e., unemployment), mothers in both conditions were immensely *resourceful*; they were able to seek information on welfare benefits, government programs, and support from non-profit organizations. Although mothers in the TAU condition did not receive intensive case management services through the research project, they sought services through referrals. That is, mothers in both conditions had some access to information on financial resources and mastered how to receive these benefits. Sen (1999) emphasizes how information is critical for freedom. Future research should explore the ways in which mothers gain access to welfare benefits and utilize case management services as source of information.

Domain 4: Health

In general, mothers reported feeling happier and having a higher quality of life over time in both conditions. Further analysis suggested that an increase in self-efficacy predicted an overall increase in mothers' subjective well-being. That is, the more mothers felt confident about their ability to overcome barriers and felt empowered, the happier and healthier they became over time. This finding is consonant with prior research, documenting that perceived control and psychological well-being are closely linked with

physical health outcomes (Motl et al., 2013; Steca, et al., in press; Stein, Zane, & Grella, 2012). The findings also provide support for Sen's (1999) idea that subjective well-being of impoverished communities is not simply related to the material resources they have. Instead, subjective well-being is also related to the perceived access to resources and the ways in which individuals have the opportunity to use these resources.

Contrary to the expectations, change in happiness and overall well-being were not associated with treatment condition, housing assistance, or timing of housing. However, as mothers spent more days in their own apartments, they felt happier. Some mothers obtained their apartments through the research project, others were housed through the shelter, and some were able to move in to their apartments through their own resources. Regardless of the source of support (research, agency, or family/partners), what mattered for the mothers was to have their *own* apartments. From a Capability perspective, these findings may indicate the importance of 'ownership' for the mothers; living in their own apartments also means having mastery over their personal space, feeling empowered, and being more independent. Therefore, it is not surprising that this sense of freedom would translate to perceived happiness and better health outcomes among the mothers.

Another interesting finding was that as mothers reported less intimate partner violence, they felt happier over time. Consistent with this finding, studies suggest that peer and romantic relationships are the strongest predictors of perceived happiness among young adults (Demir, 2008; Demir & Weitekamp, 2007), even after controlling for personality traits. In addition, degree of connectedness to significant others predicts more satisfaction with life (Demir & Ozdemir, 2010) and better health outcomes (WHO,

2012). Drawing on these prior studies, the current study provides evidence that reductions in intimate partner violence are associated with significant gains in women's health and happiness. Future research should determine the extent to which housing interventions play a role in promoting relationship satisfaction for mothers. It is possible that mothers with more stable relationships also achieve more stable living arrangements and feel happier.

Domain 5: Empowerment, Autonomy, and Agency

It was hypothesized that self-efficacy of the mothers would increase over time with mothers in EBT condition having higher levels of self-efficacy. The results were mixed regarding this hypothesis. Mothers in both conditions reported increasing self-efficacy, but their scores were marginally nonsignificant. On the other hand, the exploratory analysis suggested that self-efficacy was associated with mothers' ability to meet their basic needs, happiness, and quality of life. Given those mixed findings, it is unclear if self-efficacy increases as a function of housing assistance or supportive services. However, it was found that mothers with increasing self-efficacy reported higher levels of subjective well-being. This finding implies that self-efficacy can be an *achieved functioning* for the mothers, rather than a *capability*. Achieved functioning refers to the actions of individuals, it describes what individuals do or how they behave depending on social norms, context, and personal characteristics. Capability, on the other hand, refers to a set of options, freedoms, and opportunities that individuals can choose from (Sen, 1999). In that case, self-efficacy may be the way in which mothers convert their resources (i.e, housing assistance) to independent living and better health outcomes.

In other words, housing assistance for both groups may be therapeutic for the mothers to enhance their self-efficacy through which mothers achieved improvements in their subjective well-being.

Domain 6: Social Integration

The sixth hypothesis predicted that the integrative intervention with supportive services would increase the social integration among mothers. This hypothesis was not supported. Mothers in the current sample reported attending church, seeking medical care, and getting training or education very rarely at all time points. In addition, seeking services for medical care, or education was not related to the intervention condition. The demographic characteristics of the sample may shed light in interpretation of this finding. The majority of the mothers in the current study was African American. Prior research concludes that ethnic minorities, particularly African Americans, report a lack of trust to medical professionals and are reluctant to seek services (Scheppers et al., 2006). In addition, most of the mothers in the sample were single women with very limited income and employment opportunities. That is, education can be less important for these mothers and they may be simply focusing on meeting their urgent, basic needs. For instance, research with homeless adults has consistently shown that having a shelter, obtaining food, and clothes were immediate goals, whereas education and employment were typically identified as long term goals (Acosta & Toro, 2000; Dashora, Slesnick, & Erdem, 2012).

In addition, it is important to consider the degree to which women in the current sample were socially excluded in a variety of levels due to their ethnic identity, living

conditions, criminal history, mental illness, and substance abuse issues. Mothers were marginalized to such an extent that participation in six months of an integrative intervention was understandably not enough to undo issues associated with structural problems, such as poverty. Therefore, social integration may be a long term goal that requires even more comprehensive, participatory, and community-based interventions.

Limitations

The present study is a significant contribution to the literature, building on previous intervention research with homeless mothers. However, some limitations must be noted when interpreting the findings. First, the study utilized data from a larger randomized controlled trial which was originally designed to test maternal substance use and mental health outcomes. Therefore, capabilities were operationalized and assessed via proxy measures from the original dataset, and direct measures of resources, freedoms, and functionings were not available. In addition, there is no consensus among the Capability Approach researchers on the ways in which capabilities and functionings can be quantified and measured (Robeyns, 2005). This lack of clarity in operational definitions limits the ability to replicate the study and generalizability of the findings.

Furthermore, the current study was a pilot project with a relatively small sample and power was limited to detect differences among the groups. Moreover, differential attrition was found among the study arms. All mothers in the EBT condition completed their assessments while several mothers in the TAU condition refused to participate in their follow ups. Therefore, failure to detect treatment group differences in the basic capabilities is contaminated by sample size and attrition. It is likely that the comparison

of treatment conditions revealed only conservative estimates on actual differences between the groups.

Another limitation was that mothers in the TAU group utilized a variety of services through the family shelter, nonprofit organizations, and other agencies. However, the sample was too small to explore the heterogeneity among those mothers and how their capabilities changed over time as a function of these services. Similarly, the sample was too small to test functionings and capabilities simultaneously. Sophisticated analysis such as latent growth profile analysis could explore potential subgroups while testing for mediating effects of functionings on capabilities.

Finally, the current study included measures on an individual level, such as mothers' perceived happiness and material income. However, process measures on relationship quality, satisfaction, and bonding were lacking in the present project. According to the Capability Approach (Sen, 1999), feeling loved, having fulfilling relationships, and feeling connected to one's community are critical capabilities for one's subjective well-being. This study failed to grasp relational and social aspects of capabilities and provided limited information, focusing only on individual level capabilities.

Clinical implications and directions for future research

Despite these limitations, the current study suggests important implications for clinical practice and future research. The most striking finding of the study was that mothers in both conditions reported feeling happier, having better health related quality of life, and fewer problems in meeting their basic needs over time while their structural

problems such as unemployment or social integration did not show improvements. Contrary to expectations, mothers' perceptions of their well-being were not associated with the treatment condition or their housing stability. Interestingly, subjective well-being was associated with three major factors: days mothers spent in their own apartments, their sense of self-efficacy, and reductions in incidents of intimate partner violence. One implication of these findings is the need for targeted interventions for homeless mothers to promote their freedoms, opportunities, and resources. The majority of the mothers in the current study obtained housing – either through the research project, shelter, or their own resources. However, what mattered for these mothers was the extent to which they had their *own* space. The more time mothers spent in their own apartments, the better they felt about themselves.

Research with homeless mothers stress the need for multifaceted interventions to meet complex array of needs for mothers. However, Bassuk, Volk, and Olivet (2010) suggest a stepped care approach where the initial interventions are tailored towards their basic and urgent needs in the short term. Once mothers are stabilized, the next step is to address more structural problems such as employment, education, and severe mental health issues. The current findings partially support this stepped care approach. Interventions targeting this vulnerable population would benefit from focusing on increasing the choices of mothers in obtaining independent housing, at least in the short-term.

Similarly, empowerment played a key role in promoting mothers' well-being in the current study. Some clinical researchers emphasize the importance of self-efficacy as

a change mechanism in the treatment of substance abuse disorders (Bogenschutz & Pommy, 2012; Kadden & Litt, 2011; Sugarman et al, in press) and suggest cognitive-behavioral interventions to “empower” clients (Kadden & Litt, 2011). However, the current findings suggest that mothers felt empowered over time whether or not they were receiving counseling or additional services. The question this finding raises is, “Can nonclinical interventions be therapeutic for marginalized populations?” This question is especially important, given that most marginalized, minority adults avoid seeking counseling (Thompson, Bazile, & Akbar, 2004) and social services (Scheppers, et al., 2006). In that case, one alternative intervention strategy may be addressing their needs through interventions that focus on promoting autonomy. For instance, United Nations Development Programme (UNDP) utilizes a Capability framework and funds women in impoverished communities. Women receive *microcredits* (small loans) and use these material resources to invest, initiate, and grow their own local businesses. These economic interventions have shown better well-being outcomes for the women, but they also resulted in an increased sense of empowerment among the marginalized women (UNDP, 2005). It is of interest if a similar resource- and opportunity-based intervention approach would benefit homeless mothers. Specifically, future research should determine the link between independence of mothers in their living arrangements and their sense of empowerment. From a Capability Approach, it is possible that once mothers secure their own apartments, a variety of capabilities and functionings increase. Hypothetically, these capabilities may include a sense of belonging to the community, access to health care agencies, access to child care, opportunities to build social relationships, and even civic

engagement and representation as part of society. Future studies should examine if independent living is linked to those capabilities. In addition, studies should investigate if home ownership can be “therapeutic” on its own to reinforce empowerment among these marginalized women.

Furthermore, the current study revealed that reductions in intimate partner violence predicted better subjective well-being among mothers. This finding implies the utility of integrating couple and family therapy in stepped-care interventions with homeless mothers, especially for those who have positive attitudes towards seeking counseling. Nonetheless, the majority of the interventions targeting homeless mothers focus primarily on parent-child relationships, parenting skills, substance abuse, and mental health issues (Cosgrove & Flynn, 2005; Hwang, Tolomiczenko, Kouyoumdjian, & Garner, 2005; Uziel-Miller & Lyons, 2000), rather than mothers’ romantic relationships. However, the current study provided evidence for the importance of mothers’ safety in intimate relationships. Family systems therapy, focusing on mothers’ relational dynamics with their family members as well as romantic partners may be crucial in promoting mothers’ well-being. On the other hand, some mothers may be reluctant to seek therapy for their traumas and child abuse history (Dashora, Slesnick, & Erdem, 2012). In that case, future studies should also examine if home ownership may be “therapeutic” for non-treatment seeking mothers and can help them build safer romantic relationships.

Conclusions and future directions

In clinical research, randomized controlled trials (RCT) are acknowledged as the "gold standard" to assess efficacy and effectiveness of treatment interventions on mental health outcomes (Campbell et al., 2000; Mohr et al., 2009). However, the majority of RCTs assess dependent variables via objective measures, focusing on what participants do or how they behave. Typically, outcomes include abstinence from drugs, frequency of suicide attempts, or hospital visits. The current study revealed that it is also important to assess how participants feel about their lives and how they perceive their health and well-being. This study can provide guidance for clinical researchers in implementing a different framework in their research. Currently, hypotheses in clinical research rely on the assumption that participants are subject to change as a function of treatment. However, it is also possible participants change over time as a function of their *perceptions* of resources, opportunities, and intervention efforts. The idea of bringing in participants' perceptions complies with Capability Approach. Sen (1999) opposed the idea of aggregated measures of income as an assessment of well-being. Instead, he conceptualized well-being as several components and he took into account individuals' own experiences and context. Similarly, clinical researchers can incorporate subjective well-being measures, qualitative interviews, or participatory methods in their studies to capture well-being more fully.

In addition, the current study showed few differences between the integrative treatment condition and TAU in promoting capabilities among mothers. The failure to detect differences between groups can be due to the small sample size and pilot nature of

the study. Mothers in both conditions improved in their well-being. From a Capability perspective, this finding implies resilience, strength, and survival of women, even among those with minimal financial support. It shows how mothers have the capability to improve their lives, even with limited support from agencies. Given these findings, the question this study raises is whether less is more. Can we suggest that for these mothers, what really matters are sense of ownership, sense of belonging, and sense of empowerment? Unfortunately, the current project with its design, sample size, and quantitative nature cannot fully answer those questions. However, the findings can inspire future research to focus on mothers' capabilities and strengths with the core belief that change is possible for these mothers.

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APPENDIX A: Measures

Baseline Demographic and Homeless Experiences Interview

DEMOGRAPHICS:

1. Age: _____ 1a. Date of Birth _____

2. Ethnic Group (Check one for mother, child):

Mother	Child	
_____ (1)	_____(1)	African National (country of origin)_____
_____(2)	_____(2)	Asian, Asian American, or Pacific Islander (country of origin)
_____(3)	_____(3)	Black or African-American
_____(4)	_____(4)	Hispanic (country of origin)_____
_____(5)	_____(5)	Native American
_____(6)	_____(6)	White, not of Hispanic origin
_____(7)	_____(7)	Other

If other ethnic groups please specify:
Mother: _____
Child: _____

3. Do you identify yourself as belonging to a family of immigrants? Yes / No
3a. What generation would you identify yourself as ____1st _____2nd _____3rd

4. What is your religious preference?
Please check only one:____1) Buddhist ____2) Catholic ____ 3) Hindu _____4) Jewish ____
5.) Muslim ____6) Protestant Christian ____ 7) Agnostic ____ 8) Other: _____

5. For the most part, how many persons, <u>including yourself</u> were living in the home where you grew up?

6. For how many years (up to age 18) were you raised by: [Total years should equal 18]

A. _____ <u>Both</u> of your birth parents

B. _____ Birth mother only

C. _____ Birth mother plus partner (not birth father)

D. _____ Birth father only

E. _____ Birth father plus partner (not birth mother)

F. _____ Other relatives (grandparents, aunt(s) or uncle(s), etc.)

G. _____ Adoptive parent(s)

H. _____ Foster parent(s)

I. _____ Institution(s) (group home, hospital, detention, shelter)

J. _____ Other, please specify: _____

7. How many brothers or half-brothers do you have?

_____ Number of full brothers (both parents in common)

_____ Number of half brothers (one common parent)

8. How many sisters or half-sisters do you have?

_____ Number of full sisters (both parents in common)

_____ Number of half sisters (one common parent)

9. How many children do you have?

_____ Biological sons

_____ Age Ever been taken out of your custody? Yes___ No___ If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for him to return to your care? Yes / No

_____ Age Ever been taken out of your custody? Yes___ No___ If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for him to return to your care? Yes / No

_____ Age Ever been taken out of your custody? Yes___ No___ If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for him to return to your care? Yes / No

_____ Biological daughters

_____ Age Ever been taken out of your custody? Yes___ No___ If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for her to return to your care? Yes / No

_____ Age
Ever been taken out of your custody? Yes___ No___ If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for her to return to your care? Yes / No

_____ Age
Ever been taken out of your custody? Yes___ No___ If yes, for how long?____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Is there a plan for her to return to your care? Yes / No

10. Are you currently expecting a baby? Yes / No If Yes, when is the baby due? _____

11. How many times have you been married? _____ time(s). Pregnant? _____ time(s)

12. Current Marital Status (Check one):

Yourself	Your child's birth father
___ 1) Single, never been married	___1) Single, never been married
___ 2) Legally married - # years _____	___2) Legally married - # years _____
___ 3) Cohabiting with partner	___3) Cohabiting with partner
___ 4) Separated but still married	___4) Separated but still married
___ 5) Divorced	___5) Divorced
___ 6) Widowed	___6) Widowed
	___7) Don't know

13. Employment Status (Check one)

(1) Work 40+ hours a week ____
(2) Work fewer than 40 hours a week ____
(3) Homemaker ____
(4) Retired ____
(5) Unemployed ____

What is your primary occupation (whether or not you are currently employed)? That is, what is your major occupational skill?
_____

14. What is your total annual family income? $_____

What was your income last month? $_____

15. What is your highest level of education? _____ years _____ degree/GED
What was your mother's highest level of education? _____ years _____ degree/GED
What was your father's highest level of education? _____ years _____ degree/GED

If raised by someone other than your biological mother/father, what was their highest level of education?
Relationship to you _____ _____ years _____ degree/GED
Relationship to you _____ _____ years _____ degree/GED

LEGAL
16. Have you ever been ARRESTED? Yes / No

If Yes, how many times have you been arrested:
in your life? _____
in the last 12 months? _____
in the last 3 months? _____

10. Are you currently expecting a baby? Yes / No If Yes, when is the baby due? _____

11. How many times have you been married? _____ time(s). Pregnant? _____ time(s)

12. Current Marital Status (Check one):

Yourself	Your child's birth father
___ 1) Single, never been married	___1) Single, never been married
___ 2) Legally married - # years _____	___2) Legally married - # years _____
___ 3) Cohabiting with partner	___3) Cohabiting with partner
___ 4) Separated but still married	___4) Separated but still married
___ 5) Divorced	___5) Divorced
___ 6) Widowed	___6) Widowed
	___7) Don't know

13. Employment Status (Check one)

(1) Work 40+ hours a week ____
(2) Work fewer than 40 hours a week ____
(3) Homemaker ____
(4) Retired ____
(5) Unemployed ____

What is your primary occupation (whether or not you are currently employed)? That is, what is your major occupational skill?
_____

14. What is your total annual family income? $_____

What was your income last month? $_____

15. What is your highest level of education? _____ years _____ degree/GED
What was your mother's highest level of education? _____ years _____ degree/GED
What was your father's highest level of education? _____ years _____ degree/GED

If raised by someone other than your biological mother/father, what was their highest level of education?
Relationship to you _____ _____ years _____ degree/GED
Relationship to you _____ _____ years _____ degree/GED

LEGAL
16. Have you ever been ARRESTED? Yes / No

If Yes, how many times have you been arrested:
in your life? _____
in the last 12 months? _____
in the last 3 months? _____

List incidents (from most recent); include charges, date, status (conviction, probation), and whether alcohol or other drugs were involved (if more than 4 times, please list on a separate sheet of paper and attach):

Charge	Date	Status	Alcohol/Drugs Involved	Did your Child(ren) Witness
A.			Yes / No	Yes / No
B.			Yes / No	Yes / No
C.			Yes / No	Yes / No
D.			Yes / No	Yes / No

17. Do you currently have a PO/Case Worker/Case manager? Yes / No
Which? _____

MENTAL HEALTH TREATMENT:

18. Have you ever been hospitalized, INPATIENT, for ALCOHOL/DRUG abuse treatment?Yes / No
Describe : How many times?_____
Where, when, duration of stay:

18a. Do you have a family history of inpatient hospitalization for alcohol and drug treatment? Yes / No
Describe:

19. Have you ever been hospitalized, INPATIENT, for EMOTIONAL difficulties?Yes / No
Describe : How many times?_____
Where, when, duration of stay:

19a. Do you have a family history of inpatient hospitalization for emotional difficulties? Yes / No
Describe:

20. Have you ever received OUTPATIENT treatment for ALCOHOL/DRUG issues? Yes / No
Describe where, when, duration of treatment:

20a. Do you have a family history of outpatient hospitalization for alcohol and drug treatment? Yes / No
Describe:

21. Have you ever received OUTPATIENT treatment for other EMOTIONAL problems? Yes / No
Describe where, when, duration of treatment:

21a. Do you have a family history of inpatient hospitalization for emotional difficulties? Yes / No
Describe:

22. Have there been times when you couldn't remember what you did while drinking? Yes / No
(e.g., your friends told you later what you did, or you woke up not knowing how you got somewhere)
About how often has this happened to you?
___almost every time I drink ___most of the times that I drink
___about half of the times that I drink ___less than half of the times that I drink
___once in a while ___once or twice in my lifetime

23. Is there evidence that DETOX is needed? Yes / No

ASSESSMENT OF DANGER:

24. Have you ever tried to harm yourself, tried to commit SUICIDE, or placed yourself in a dangerous or life-threatening situations? Yes / No

25. How many times in your life have you attempted suicide? _____

26. Have you had any thoughts of harming yourself recently (in the last few weeks)? Yes / No

26a. If so, please describe:

27. **HOMICIDAL IDEATION:** Is there anyone you seriously want to harm? Yes / No

27a. If so, please describe:

28. The next few questions are about **Abuse** that may have happened to you as a child, before you were 18. I would like to remind you that you may skip any question you prefer not to answer and you may stop the interview at any time.

Before you were 18, was there any time when you were punched, kicked, choked, or received a more serious physical punishment from a parent or other adult guardian?

<1> YES
<0> NO (SKIP TO 29)
<d> DK/NOT SURE (SKIP TO 29)
<r> REF (SKIP TO 29)

28a. If yes, how many times did this happen? Would you say…

<1> Once,
<2> Two to five times,
<3> Six to nine times,
<4> Or ten times or more.
<d> DK/NOT SURE
<r> REF

29. Before you were 18, did anyone ever touch you in a sexual place or make you touch them when you did not want them to?

<1>YES
<0>NO (SKIP TO 30)
<d>DK/NOT SURE (SKIP TO 30)
<r>REF (SKIP TO 30)

29a. If yes, how old were you when this first happened?

__ __ AGE IN YEARS (1-17)
<97> SPECIFIC AGE UNKNOWN, BUT LESS THAN 18 YEARS
<d> DK/NOT SURE
<r> REF

29b. How many times did this happen? Would you say…

<1> Once
<2> Two to five times
<3> Six to nine times
<4> Or ten times or more
<d< DK/NOT SURE
<r> REF

30. As a child, did you ever see or hear one of your parents or guardians being hit, slapped, punched, shoved, kicked, or otherwise physically hurt by their spouse or partner?
<1> YES
<0> NO
<d> DK/NOT SURE
<r> REF

31. Before you were 18, was there any time when you were sworn at, insulted or put down by a parent or other adult guardian? <verbal abuse>
<1> YES
<0> NO
<d> DK/NOT SURE
<r> REF

31a. How many times did this happen? Would you say…
<1> Once
<2> Two to five times
<3> Six to nine times
<4> Or ten times or more
<d< DK/NOT SURE
<r> REF

32. Before you were 18, did a parent or other adult guardian act in a way that made you afraid that you would be physically hurt? <threat>
<1> YES
<0> NO
<d> DK/NOT SURE
<r> REF

32a. How many times did this happen? Would you say…
<1> Once
<2> Two to five times
<3> Six to nine times
<4> Or ten times or more
<d< DK/NOT SURE
<r> REF

33. Before you were 18, did you live with anyone who was a problem drinker or alcoholic? Yes / No
If Yes Relationship to you: Father____ Mother_____ Sibling_____ Steparent_____ Other (describe) _____

33. Before you were 18, did you live with anyone who used street drugs? Yes / No
If Yes Relationship to you: Father____ Mother_____ Sibling_____ Steparent_____ Other (describe) _____

34. Before you were 18, was a household member depressed or mentally ill? Yes / No
If Yes Relationship to you: Father____ Mother_____ Sibling_____ Steparent_____ Other (describe) _____

35. Before you were 18, did a household member attempt suicide? Yes / No
If Yes Relationship to you: Father____ Mother_____ Sibling_____ Steparent_____ Other (describe) _____

HOMELESS EXPERIENCES:

37. Have you ever been:
a. Placed in a foster home? Yes / No Age 1st time ____ How many lifetime placements?____
b. Placed in a group home? Yes / No Age 1st time ____ How many lifetime placements?___
c. Kept in jail or D-home overnight? Yes / No Age 1st time ____ How many times?____
d. A ward of the state? Yes / No Age 1st time ____ How many lifetime placements?____
e. In a homeless shelter overnight? Yes/ No Age 1st time ____ How many different times?____

38. How old were you the first time that you did not have a place to live? _____ years old.
How long did you go without a permanent residence at that time? _____days

39. What is the longest number of days you have been without shelter? _____

40. How many days have you currently been without shelter? _____

41. Altogether, how many different times have you not had a place to live?
That is, times when you didn't have a room, apartment or home where you could sleep. ____ times

42. When you were under the age of 18, how many times had you runaway from home, including from foster care or other supervised setting? _____ times

43. What was the reason that you first left your family of origin (mom or dad's)?

_____Physical abuse _____ Verbal abuse _____ Sexual abuse _____ Arguments with parents

_____Thrown out of the house ____ Substance Abuse (mine) _____ Substance Abuse (parents)

_____ Legal Problems (mine) _____ Legal Problems (parents) _____ School Problems

_____ Other:_____

44. What is the main reason that you do not have a place to stay right now?
_____

45. Please list all the times that you did not have a permanent residence

Your age	Date	# days homeless	Reason	Where stayed	Were children with you (describe)
1st time					
2nd time					
3rd time					
4th time.					
5th time					
6th time					

46. In the last 12 months, have you or your child(ren) had any physical health problems you needed medical care for? Yes / No

a. If YES, what were those physical health problems?

1._____
2._____
3._____
4._____

b. Did you get medical care? Yes / No
If NO, what were the main reasons you didn't receive medical care for (this/these) problems
_____

47. In the last 3 months, have you or your child(ren) had any physical health problems you needed medical care for? Yes / No
a. If YES, what were those physical health problems?
1._____
2._____
3._____
4._____

b. Did you get medical care? Yes / No
If NO, what were the main reasons you didn't receive medical care for (this/these) problems
_____

48. Over the last 12 months (365 days), how many nights did you spend:

	Nights
a. In your own room or apartment?	_____
b. With family members in their home?	____
c. With friends in their home?	_____
d. In a shelter or mission?	_____
e. In an abandoned building or as a squat?	_____
f. In jail?	_____
g. Someplace else indoors, such as in a bus or train station, or at an airport?	_____
h. Someplace outdoors, such as on the street, or in a park or alley?	_____
i. In a residential treatment program?	_____
j. Anyplace I haven't mentioned?	_____

Please specify:_____

49. During the past 3 months (90 days), how many nights did you spend:

	Nights
a. In your own room or apartment?	_____
b. With family members in their home?	_____
c. With friends in their home?	_____
d. In a shelter or mission?	_____
e. In an abandoned building or as a squat?	_____
f. In jail?	_____
g. Someplace else indoors, such as in a bus or train station, or at an airport?	_____
h. Someplace outdoors, such as on the street, or in a park or alley?	_____
i. In a residential treatment program?	_____
j. Anyplace I haven't mentioned?	_____

Please specify: _____

50. In the past 12 months was:

a. Getting enough to eat a problem for you or your child(ren)? Yes / No
b. Getting clothes a problem for you or your child(ren)? Yes / No
c. Getting medical care a problem for you or your child(ren)? Yes / No
d. Finding a place where you could clean up a problem for you or your child(ren)? Yes / No

51. What about the past 3 months?

a. Getting enough to eat a problem for you or your child(ren)? Yes / No
b. Getting clothes a problem for you or your child(ren)? Yes / No
c. Getting medical care a problem for you or your child(ren)? Yes / No
d. Finding a place where you could clean up a problem for you or your child(ren)? Yes / No

INCOME SOURCES AND OTHER SUPPORTS:

52. During the last 12 months, did you get any money from:
a. A full or part-time job? Yes / No
b. Doing any other kind of work, including day labor, seasonal, minimum wage or pick up work? Yes / No
c. Friends? Yes / No
d. Relatives? Yes / No
e. Spanging (spare change)? Yes / No
f. Clothing and other personal possessions that you sold? Yes / No
g. Collecting and selling bottles and cans? Yes / No
h. The sale of your blood or plasma? Yes / No
i. Dealing drugs? Yes / No
j. Survival Sex? Yes / No
k. An agency or program? Yes / No
l. Stealing? Yes / No
m. Anything else I haven't mentioned? Yes / No Specify: _____

53. Only during the last 3 months, did you get any money from:
a. A full or part-time job? Yes / No
b. Doing any other kind of work, including day labor, seasonal, minimum wage or pick up work? Yes / No
c. Friends? Yes / No
d. Relatives? Yes / No
e. Spanging (spare change)? Yes / No
f. Clothing and other personal possessions that you sold? Yes / No
g. Collecting and selling bottles and cans? Yes / No
h. The sale of your blood or plasma? Yes / No
i. Dealing drugs? Yes / No
j. Prostitution? Yes / No
k. An agency or program? Yes / No
l. Stealing? Yes / No
m. Anything else I haven't mentioned? Yes / No Specify: _____

VICTIMIZATION EXPERIENCES:
Now I'd like to ask about any crimes that may have been committed against you.
54. In the last 12 months, have you been:
a. Assaulted or physically attacked? Yes / No
b. Robbed, that is, was something of your taken from you by someone who threatened you with violence if you didn't give it to them? Yes / No
c. Burglarized, that is, has someone broken into a room or apartment of yours and taken some of your property?
d. Have you been raped? Yes / No
e. Have you been sexually assaulted, other than rape? Yes / No
f. Have you been the victim of another crime? Yes / No Specify:_____

55. How about in the last 3 months, have you been:
a. Assaulted or physically attacked? Yes / No
b. Robbed, that is, was something of your taken from you by someone who threatened you with violence if you didn't give it to them? Yes / No
c. Burglarized, that is, has someone broken into a room or apartment of yours and taken some of your property?
d. Have you been raped? Yes / No
e. Have you been sexually assaulted, other than rape? Yes / No
f. Have you been the victim of another crime? Yes / No Specify: _____

Homeless Experiences Follow-up Form

HOMELESS EXPERIENCES:

1. During the past 3 months (90 days), how many nights did you spend:
   a. In your own room or apartment? _____
   b. With family members in their home? _____
   c. With friends in their home? _____
   d. In a shelter of mission? _____
   e. In an abandoned building or as a squat? _____
   f. In jail? _____
   g. Someplace else indoors, such as in a bus or train station, or at an airport? _____
   h. Someplace outdoors, such as on the street, or in a park or alley? _____
   i. In a residential treatment program? _____
   j. Anyplace I haven't mentioned? _____

Total nights **____ (should equal 90)**

2. In the last 3 months have any of your children ever been taken out of your custody? Yes___ No___

Biological Sons
_____ Age If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Do the children plan to return to your care? Yes/No

_____ Age If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Do the children plan to return to your care? Yes/No

Biological Daughters
_____ Age If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Do the children plan to return to your care? Yes/No

_____ Age If yes, for how long? ____
What was the reason? _____
In your custody now? Yes___ No ___
If no, where? ____relatives ___other parent ____foster care _____Other
Do the children plan to return to your care? Yes/No

3. Are you currently expecting a baby? Yes/No
a. If Yes, when is the baby due? _____

4. Current Marital Status (Check one):

___ 1) Single, never been married
___ 2) Legally married - # years _____
___ 3) Cohabiting with partner
___ 4) Separated but still married
___ 5) Divorced
___ 6) Widowed

LEGAL

5. Have you been ARRESTED in the last 3 months? YES/NO _____

List incidents (from most recent); include charges, date, status (conviction, probation), and whether alcohol or other drugs were involved (if more than 4 times, please list on a separate sheet of paper and attach):

Charge	Date	Status	Alcohol/Drugs Involved	Did your Child (ren) Witness
A.			Yes / No	Yes / No
B.			Yes / No	Yes / No
C.			Yes / No	Yes / No
D.			Yes / No	Yes / No

HOMELESS EPISODES IN THE LAST 3 MONTHS:

6. Please list all the times that you did not have a permanent residence (couch surfing, on the streets, in a shelter):

Date	# days homeless	Reason	Where stayed	Were your children with you ?
1st time				YES/NO
2nd time				YES/NO
3rd time				YES/NO
4th time.				YES/NO
5th time				YES/NO
6th time				YES/NO

7. In the past 3 months was:

a. Getting enough to eat a problem for you or your child(ren)? Yes / No
b. Getting clothes a problem for you or your child(ren)? Yes / No
c. Getting medical care a problem for you or your child(ren)? Yes / No
d. Finding a place where you could clean up a problem for you or your child(ren)? Yes / No

8. In the last 3 months, have you or your child(ren) had any physical health problems you needed medical care for ? YES/NO

If YES, what were those physical health problems?
1._____

2. _____

3. _____

4. _____

Did you get medical care? YES/NO
If NO, what were the main reasons you didn't receive medical care for (this/these) problems?
_____

INCOME SOURCES AND OTHER SUPPORTS:

9. Only during the last 3 months, did you get any money from:

a. A full or part-time job? Yes / No
b. Doing any other kind of work, including day labor, seasonal, minimum wage or pick up work? Yes / No
c. Friends? Yes / No
d. Relatives? Yes / No
e. Spanging (spare change)? Yes / No
f. Clothing and other personal possessions that you sold? Yes / No
g. Collecting and selling bottles and cans? Yes / No
h. The sale of your blood or plasma? Yes / No
i. Dealing drugs? Yes / No
j. Survival Sex? Yes / No
k. An agency or program? Yes / No
l. Stealing? Yes / No
m. Anything else I haven't mentioned? Yes / No Specify: _____

10. What was your last month's income? _____

VICTIMIZATION EXPERIENCES:

Now I'd like to ask about any crimes that may have been committed against you.

11. In the last 3 months, have you been:
a. Assaulted or physically attacked? Yes / No
b. Robbed, that is, was something of your taken from you by someone who threatened you with violence if you didn't give it to them? Yes / No
c. Burglarized, that is, has someone broken into a room or apartment of yours and taken some of your property? Yes / No
d. Have you been raped? Yes / No
e. Have you been sexually assaulted, other than rape? Yes / No
f. Have you been the victim of another crime? Yes / No Specify: _____

12. In order to keep yourself from being harmed in any way, do you:

a. Carry a weapon? Yes/No Specify: _____
b. Stay away from certain places? Yes/No
c. Stay away from certain people? Yes/No
d. Sleep during the day and stay awake at night? Yes/No
e. Make sure you're always with someone you can trust? Yes/No
f. Do you do anything else to keep from being harm? Yes/No Specify: _____

Housing Form (3, 6, 9 month Follow-up)

Section I

1) Did you receive housing through the Homeless Mothers' Research Project?
<0> NO (If No, Skip to Section II Question# 5)
<1> YES

2) If YES, then when did you move in to the leased apartment secured by the Homeless Mothers' Research Project? Date: _____/ _____/_____

3) Are you currently living in the leased room or apartment?
<1> YES (Skip to Question # 4)
<0> NO

3a. If NO, when did you leave the leased apartment? _____/ _____/_____
3b. What was(were) the reason(s) for leaving the apartment?
Instructions: Please order the following, with 1 as the most influential reason and 5 (or 6 if "any other reasons") the least.

1. Eviction _____
2. Not able to pay the rent _____
3. Not able to pay the utilities _____
4. Moved in with someone else _____
5. Rental assistance from the project ended _____
6. Any other reasons _____

Explain _____

3c. Where did you live after you left the leased apartment? Please list the locations in chronological order (for example, where did you go first, second, third etc.). Also, include the number of days you lived at each location.

			[Number of days]
1.	Moved in with someone else	_____	_____
	Specify who (friends/ relatives/ partner)	_____	_____
2.	Another rented apartment	_____	_____
3.	Government assisted housing (Section 8 housing)	_____	_____
4.	Homeless shelter	_____	_____
5.	Residential treatment center	_____	_____
6.	CHOICES	_____	_____
7.	Incarcerated	_____	_____
8.	An abandoned building or as a squat?	_____	_____
9.	On the streets	_____	_____

4. Has the rental assistance from the project ended?
<0> NO (If NO, the survey ends here)
<1> YES

4a. If YES, when did the rental assistance from the project end? _____/ _____/_____
4b. How are you paying the rent, if you are currently living in the leased apartment? Specify the source(s) and the amount of money paid from each source toward the last month's rent (Check all that apply):

1.	A full or part-time job?	Yes / No	$_____
2.	Specify what kind of job _____		
3.	Doing any other kind of work, including day labor, seasonal, minimum wage or pick up work?	Yes / No	$_____
4.	Specify what kind of work _____		
5.	Sharing the rent with friends/ relatives	Yes / No	$_____
6.	Borrowing money from friends/ relatives	Yes / No	$_____
7.	Exchanging sex for money/ things	Yes / No	$_____
8.	Selling drugs	Yes / No	$_____
9.	Stealing	Yes / No	$_____
10.	Assistance from an agency or program	Yes / No	$_____
11.	Specify what kind of assistance _____		
12.	Cash assistance	Yes / No	$_____
13.	Social security	Yes / No	$_____
14.	The sale of your blood or plasma?	Yes / No	$_____
15.	Selling food stamps	Yes / No	$_____
16.	Selling WIC coupons	Yes / No	$_____
17.	Any other source _____	Yes / No	$_____

Section II

INSTRUCTIONS*: Answer the following questions only if you did not receive housing through Homeless Mothers' Research Project.*

1) When did you leave the family shelter? Date: _____/ _____/_____

2) Where did you go after you left the family shelter? Please list the locations in chronological order (for example, where did you go first, second, third etc.). Also, include the number of days you lived at each location.

[Number of days]

1. Own room/ apartment _____ _____
2. Transitional housing _____ _____

Through the YWCA shelter assistance Yes/No

3. Moved in with someone else _____ _____

Specify who (friends/ relatives/ partner) _____ _____

4. Government assisted housing (Section 8 housing)_____ _____
5. Residential treatment center _____ _____
6. CHOICES _____ _____
7. Incarcerated _____ _____
8. In an abandoned building or as a squat _____ _____
9. On the streets _____ _____
10. Any other place that I have not mentioned _____ _____

Specify _____

6a. Did YWCA assist you in obtaining the housing?

<1> YES

<0> NO

6b. If you were living in your own room/apartment, how did you pay the rent? Specify the source(s) and the amount of money paid from each source toward the last month's rent (Check all that apply):

1. A full or part-time job? Yes / No $_____

Specify what kind of job _____

2. Doing any other kind of work, including day labor, seasonal, minimum wage or pick up work? Yes / No $_____

Specify what kind of work _____

3. Sharing the rent with friends/ relatives Yes / No $_____
4. Borrowing money from friends/ relatives Yes / No $_____
5. Exchanging sex for money/ things Yes / No $_____
6. Selling drugs Yes / No $_____
7. Stealing Yes / No $_____
8. Assistance from an agency or program Yes / No $_____

Specify what kind of assistance _____

9. Cash assistance Yes / No $_____
10. Social security Yes / No $_____
11. The sale of your blood or plasma? Yes / No $_____
12. Selling food stamps Yes / No $_____
13. Selling WIC coupons Yes / No $

SF-36v2 Health Survey

INSTRUCTIONS: This survey asks for your views about your health. This information will help you keep track of how you feel and how well you are able to do your usual activities. Please answer every question. Some questions may look like others, but each one is different. Please take the time to read and answer each question carefully, and circle that best describes your answer. *Thank you for completing this survey!*

1. In general, would you say your health is: (Please tick one box.)

Excellent ☐
Very Good ☐
Good ☐
Fair ☐
Poor ☐

2. Compared to one year ago, how would you rate your health in general now?

Much better now than one year ago ☐
Somewhat better now than one year ago ☐
About the same as one year ago ☐
Somewhat worse now than one year ago ☐
Much worse now than one year ago ☐

3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	Activities	Yes, Limited A Lot	Yes, Limited A Little	Not Limited At All
3(a)	**Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
3(b)	**Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
3(c)	Lifting or carrying groceries	1	2	3
3(d)	Climbing **several** flights of stairs	1	2	3
3(e)	Climbing **one** flight of stairs	1	2	3
3(f)	Bending, kneeling, or stooping	1	2	3
3(g)	Walking **more than a mile**	1	2	3
3(h)	Walking **several hundred yards**	1	2	3
3(i)	Walking **one hundred yards**	1	2	3
3(j)	Bathing or dressing yourself	1	2	3

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
4(a)	Cut down on the **amount of time** you spent on work or other activities.	1	2	3	4	5
4(b)	**Accomplished less** than you would like	1	2	3	4	5
4(c)	Were **limited** in the **kind** of work or other activities	1	2	3	4	5
4(d)	Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2	3	4	5

5. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems such as feeling depressed or anxious?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
5(a)	Cut down on the **amount of time** you spent on work or other activities	1	2	3	4	5
5(b)	**Accomplished less** than you would like	1	2	3	4	5
5(c)	Did work or other activities as **less carefully than usual**	1	2	3	4	5

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

Not at all ☐
Slightly ☐
Moderately ☐
Quite a bit ☐
Extremely ☐

7. How much bodily pain have you had during the past 4 weeks?

None ☐
Very mild ☐
Mild ☐
Moderate ☐
Severe ☐
Very severe ☐

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at all ☐
- A little bit ☐
- Moderately ☐
- Quite a bit ☐
- Extremely ☐

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks…

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
9(a)	Did you feel full of life?	1	2	3	4	5
9(b)	Have you been very nervous?	1	2	3	4	5
9(c)	Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5
9(d)	Have you felt calm and peaceful?	1	2	3	4	5
9(e)	Did you have a lot of energy?	1	2	3	4	5
9(f)	Have you felt downhearted and depressed?	1	2	3	4	5
9(g)	Did you feel worn out?	1	2	3	4	5
9(h)	Have you been happy?	1	2	3	4	5
9(i)	Did you feel tired?	1	2	3	4	5

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives etc.)?

- All of the time ☐
- Most of the time ☐
- Some of the time ☐
- A little of the time ☐
- None of the time ☐

11. How TRUE or FALSE is <u>each</u> of the following statements for you?

		Definitely true	Mostly true	Don't know	Mostly false	Definitely false
11(a)	I seem to get sick a little easier than other people	1	2	3	4	5
11(b)	I am as healthy as anybody I know	1	2	3	4	5
11(c)	I expect my health to get worse	1	2	3	4	5
11(d)	My health is excellent	1	2	3	4	5

Self Efficacy Scale

This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter that best describes your attitude or feeling. Please be very trustful and describe yourself as you really are, not as you like to be.

1 = Disagree strongly
2 = Disagree moderately
3 = Neither agree nor disagree
4 = Agree moderately
5 = Agree strongly

____ 1. When I make plans, I am certain I can make them work.
____ 2. One of my problems is that I cannot get down to work when I should.
____ 3. If I can't do a job the first time, I keep trying until I can.
____ 4. When I set important goals for myself, I rarely achieve them.
____ 5. I give up on things before completing them.
____ 6. I avoid facing difficulties.
____ 7. If something looks too complicated, I will not even bother to try it.
____ 8. When I have something unpleasant to do, I stick to it until I finish it.
____ 9. When I decide to do something, I go right to work on it.
____ 10. When trying to learn something new, I soon give up if I am not initially successful.
____ 11. When unexpected problems occur, I don't handle them well.
____ 12. I avoid trying to learn new things when they look too difficult for me.
____ 13. Failure just makes me try harder.
____ 14. I feel insecure about my ability to do things.
____ 15. I am a self-reliant person.
____ 16. I give up easily.
____ 17. I do not seem capable of dealing with most problems that come up in life.
____ 18. It is difficult for me to make new friends.
____ 19. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.
____ 20. If I meet someone interesting who is very hard to make friends with, I'll soon stop trying to make friends with that person.
____ 21. When I'm trying to become friends with someone who seems uninterested at first, I don't give up very easily.
____ 22. I do not handle myself well in social gatherings.
____ 23. I have acquired my friends through my personal abilities at making friends.

Form 90-DI

DRUG USE ASSESSMENT (Intake)

1. For period from _____/ _____/ _____through _____/_____/

2. Number of days in this assessment period: _____/ _____/

3. This is: (0) Pretreatment

4. ___(1) Male ___(2) Female

5. Current body weight in pounds: ____/ _____/

6. Weight was obtained by: __(1) weighing or ___(2) self-report

7. This interview was conducted:

   ___(1) on site ___(2) by telephone
   ___(3) home visit ___(4) other location

8. Presenting drug:_____

"I'd like to begin by reminding you that whatever you say here is confidential. In this first interview, I am going to be asking you some specific questions about your drug use in the 90 days before your last use. I'll be asking about drugs that were prescribed for you as well as others that you have used during this period. [Place calendar in front of client.] *Here is a calendar to help you remember this period of time. First of all, when was the last time that you used any drug?* [Drug is as defined above; count back 89 days and cross out with Xs the days preceding this period.] *So the period I'm going to be asking you about is from* [beginning date,] *up through* [end date]."

"I realize that this is a long period of time to remember things that happened, so we will use this calendar to help you identify events that occurred during this period. Notice that a few events are already printed on the calendar. [Point out some specific events already printed on the calendar.] *Were there any particularly memorable things that happened during this time - any birthdays, illnesses or accidents, anniversaries, parties, hospitalizations, vacations, changes in your work or at home, things like that?"* [Record on calendar.]

"Now the rest of the questions that I will ask you are also about this time period from up through _____. I'll be asking you about your drug use in a few minutes, but first I'd like to know about a few other things. Feel free to take your time in answering,

since it is important for you to remember as accurately as you can. Let me know if you're not sure what I am asking, or what I mean by a particular question. OK?"

TREATMENT / INCARCERATION / LIVING EXPERIENCES

"During this period, how many days did you spend in a hospital or treatment program where you stayed overnight?" [Mark days on calendar]

Hm	total number of hospital days for medical problems	9. _____
Htox	total number of hospital days for detoxification	10. _____
Rtox	total number of non-hospital residential detox days:	11. _____
	total number of ambulatory detox treatment days:	12. _____
Rd	total number of residential days for other drug problems	13. _____
Ra	total number of residential days alcohol treatment	14. _____
Rp	total residential days for emotional / psych problems	15. _____
	Total days in residential treatment during this period: [Sum of 9 + 10 + 11 + 13 + 14 + 15. Do not include 12]	16. _____

"During this period, did you spend any time in jail or prison?" [Mark days on calendar]

In	total days incarcerated during period	17. _____
	Total day in institutions [add 16 + 17]	18. _____

"During this period, where did you live? How many days did you live in:" [Do not record on calendar unless useful as memory aids.]

Total number of days in own house, apartment, room:	19. _____
Total number of days living with others (no rent):	20. _____
Total number of days living in halfway house:	21. _____
Total number of days homeless (shelters, etc.):	22. _____
Lines 18 + 19 + 20 + 21 + 22 must equal Line 2	_____

"During this period, how many days were there [not including hospital or detox days] *when you saw a doctor, nurse, nurse-practitioner, or physician's assistant for any kind of medical care?"*
[Do not record on calendar unless useful as memory aids.]

Total days seen for medical care 23. _____

"During this period, on how many days did you have a session with a counselor or therapist?" [Do not record on calendar unless useful as memory aids.]

total number of days for drug problems (EXCEPT alcohol)
write down the drug or drugs 24. _____

If treatment was received, describe briefly:

total number of days for alcohol problems 25. _____
If treatment was received, describe briefly:

total days for emotional / psychological problems 26. _____
If treatment was received, describe briefly:

"During this period, on how many days did you attend a Twelve-Step meeting like NA, CA, *or* AA*?*:
[Do not record on calendar unless useful as memory aids.]

total number of days attending 12-step meetings: 27. _____
[enter 0 if none]

OTHER ACTIVITIES

[Do not enter activity days on the calendar unless they appear to be of value for recalling drinking.]

WORK: *"How many days have you been paid for working during this period?"* WORK days 28. _____

EDUCATION: *"How many days have you been in school or training during this period?"*
EDUCATION days 29. _____

RELIGIOUS ATTENDANCE: *"On how many days during this time did you attend a worship service or other religious celebration?"*

RELIGIOUS ATTENDANCE days 30. _____

MEDICATIONS

"During this period, on how many days did you take any medications prescribed by a physician?" [Do not enter medication days on the calendar unless they appear to be of memory value.]

to treat a medical problem 31. _____
specify:

to prevent you from drinking (Antabuse only) 32. _____

to help you detoxify / come off drugs or alcohol 33. _____
specify:

to help you stabilize or change your use of drugs 34. _____
specify:
maintaining / stabilizing drugs (e.g., methadone)
serotonin uptake inhibitors (make sure not for depression)

to help you keep from using drugs 35. _____
specify:
drug antagonists / blockers

for psychological or emotional problems 36. _____
specify:

DRUG ASSESSMENT

Card Sort

"Now I am going to show you this set of cards. Each card names a kind of drug that people sometimes use. I'd like you to sort them into two piles for me. In one pile here [indicate position and use marker card] *I'd like you to place those cards that name a kind of drug that you have tried at least once in your life. In the other pile* [indicate position and use marker card], *place the cards that name the types of drugs that you have never used at all."*

[Give cards to client IN NUMERICAL ORDER - with Alcohol on top, Tobacco next, Marijuana next, and so on. When the sorting has been completed, take the pile on the right, and check all these categories a "NO" in the LIFETIME USE column below. For convenience, record here the client's CURRENT AGE:

DRUG TYPE	Lifetime Use Ever?	Age at First Use	Lifetime weeks of Use
Alcohol (al)	( ) 0 No ( ) 1 Yes		
Tobacco (to)	( ) 0 No ( ) 1 Yes		
Marijuana/Cannabis (ma)	( ) 0 No ( ) 1 Yes		
Tranquilizers (tr)	( ) 0 No ( ) 1 Yes		
Sedatives/Downers (do)	( ) 0 No ( ) 1 Yes		
Steroids (sd)	( ) 0 No ( ) 1 Yes		
Stimulants/Uppers (up)	( ) 0 No ( ) 1 Yes		
Cocaine (co)	( ) 0 No ( ) 1 Yes		
Hallucinogens (ha)	( ) 0 No ( ) 1 Yes		
Opiates (op)	( ) 0 No ( ) 1 Yes		
Inhalants (in)	( ) 0 No ( ) 1 Yes		
Other Drugs (xx)	( ) 0 No ( ) 1 Yes		
	Total Yes:		

Then continue with the "Yes" pile:

"Now for each of these types of drugs, I'd like you to give me an estimate of howlong you have used them in your lifetime. What I will want to know is: about how many weeks during your lifetime have you used each type of drug at least once.

Let's start with _____ [Use first YES card from numerical sequence]. *How many weeks, during your lifetime, would you say that you used* _____ *at least once?"*

[Record responses on the chart on Page 5. Convert all responses into weeks. Year = 52 weeks if used every week. Month = 4 weeks. etc. Repeat the query for each YES drug card. Then give YES pile back to client.]

Periods of Abstinence

"Now I'd like to ask you about your drug use during this same period we were discussing before. The things already recorded on the calendar here may help you to remember better. I'm not asking here about drugs that were prescribed for you for medical problems, like antibiotics, stomach or blood pressure medicine. I'm asking about drugs not prescribed for you, although I do want to know about any medication prescribed for pain, or to help you relax or sleep. I will also ask you about your use of alcohol. First of all, were there any periods of days during this time when you used no drugs (including alcohol) at all?"

[Mark all abstinent days with a capital "A" on calendar.]

37. Date of first drug use during period: _____/ _____/

    Drug:

38. Date of last drug use during period: _____/ _____/

    Drug:

Give back the YES pile and say:

Now I'd like you to sort these cards again, to say which kinds of drugs you have used at least once during the period we've been talking about on this calendar, from___ up through _____._____ If you used the drug at least once during this time, put it in a pile on the left here, and if you never used it at all during this period, put it on the right." [Alternatively, if there are few cards, simply ask: "Which of these have you used at least once during this period we've been talking about?"]

For each NO card in this sort, print a zero (0) under "Total Days Use in Period" on the
USE PATTERN CHART on Page 7. For the remainder, proceed with the CALENDAR instructions on Page 8.

USE PATTERN CHART

Drug Classes		Used in this period?	Total Days	1	2	3	Oral Ingest	Smoke	Nasal Inhale	Needle	Other
Alcohol	al							------	------	------	
Tobacco	to									------	
Marijuana/ Cannabis	ma									------	
Tranquilizer	tr							------	------		
Sedatives/ Downers	do							------	------		
Steroids	sd							------	------		
Stimulants/ Uppers	up										
Cocaine	co										
Hallucinogens	ha										
Opiates	op										
Inhalants	in						------	------		-------	
Other Drugs	xx										
Total	12										

Use Categories:

1 = Single use
2 = Several uses
3 = Steady or heavier use

Enter days of each type of use. 1 + 2 + 3 must equal Total Days of use.

Enter days of each route of administration (use rules from manual). These must total at least to the number of days of use, but total may be higher if multiple routes of administration were used on the same day.

If OTHER route of administration, specify drug(s) and route here:

"Now I'd like to ask you about each of the drugs that you have used during this period. I'd want to get an idea of what your pattern of use was during this period of time for each of these drugs. We'll use this calendar to make it easier. Let's start with _____. When were you using _____ during this period?

Proceed drug by drug, entering drug codes for each day of use. For a day on which alcohol, marijuana, and cocaine were used, for example three codes would be entered into the box for that day: al, ma, co. Using different colored pencils for different drugs can be helpful.

Using the calendar, carefully count the total number of days of use during the assessment period for each drug class, and put this information on the USE PATTERN CHART (Page 5).

"Now I'm going to go back through these drugs once again and ask you two more questions about each. For each one, I will tell you the total number of days that you said you used this drug during this period, and I will want to know how many of those days you think fell into each of these three categories." [Show use categories]

"*According to the calendar we did, you used _____on a total of _____days during this period. Help me divide those days up among these three categories. On how many of those _____ days would you say that you used _____only once? How many of those days did your use fall in between? And that would mean that on days your use of _____fell in this third category – does that seem right? And how did you give yourself (take) _____ during this period of time we have been talking about? Any other way?* If more than one route of administration for a drug class, ask:

"*According to the calendar we did, you used _____ on a total of _____days during this period. On how many of those _____days would you say that you gave yourself* __[drug]__ *by* ___[route]___*?*

Repeat for each drug class. Be sure you have accounted for all days of use. The total across routes of administration should be at least the same as the number of days of use, although the total may be higher if multiple routes are used on the same day.

Fill in the information on the Use Pattern Chart. Be sure 1+2+3 totals to the number of days of use.

When you have completed the calendar for all drug classes used, show the

subject the CONFIDENCE SCALE and ask:

> *"Now I'd like you to tell me, using the line, how confident you feel about the information you've given me about your drug use. How accurate do you think you have been in estimating your drug use on this calendar? I'm not asking if you got each drug on the exact days you used it. But overall, how accurate is this calendar in showing <u>how much</u> you used drugs during this period?*

Circle the subject's response below.

5	4	3	2	1
Very Accurate		Fairly Accurate		Not at all Accurate

CATEGORIES FOR DAYS OF USE

(1) Single use. On this day you used the drug only once.

Examples: One alcoholic drink
One cigarette
One dose

(2) Medium use. On this day you used the drug more than once, but not steadily or heavily.

Examples: 2-4 drinks
2-9 cigarettes
Two doses of other drugs

(3) Heavier use. On this day you used the drug more heavily than the "medium" category.

Examples: 5 or more drinks
10 or more cigarettes (half a pack or more)
Three or more doses of other drugs

WAYS OF TAKING DRUGS

Orally	Eating, drinking, swallowing, placing the drug under the tongue, chewing, dipping
Smoking	Lighting and smoking the drug
Inhaling	Snorting, breathing in the drug (but not smoking)
Injecting	Taking a drug by needle; injecting under the skin or into a vein

CONFIDENCE SCALE

5	4	3	2	1
Very Accurate		Fairly Accurate		Not at all Accurate

_____ Study
_____ ID
_____ Point
_____ Date
_____ RA ID

Form 90-DF

DRUG USE ASSESSMENT (Follow-Up)

1. For period from _____/ _____/ _____through _____/_____/_____
2. Number of days in this assessment period: _____/ _____/_____

3. This is: _____ Month Follow-Up

4. ___(1) Male ___(2) Female

5. Current body weight in pounds: ____/ _____/_____

6. Weight was obtained by: __(1) weighing or ___(2) self-report

7. This interview was conducted:

   ___(1) on site ___(2) by telephone
   ___(3) home visit ___(4) other location

"I'd like to begin by reminding you that whatever you say here is confidential. In this first interview, I am going to be asking you some specific questions about your drug use in the 90 days before your last use. I'll be asking about drugs that were prescribed for you as well as others that you have used during this period. [Place calendar in front of client.] *Here is a calendar to help you remember this period of time. First of all, when was the last time that you used any drug?* [Drug is as defined above; count back 89 days and cross out with Xs the days preceding this period.] *So the period I'm going to be asking you about is from* [beginning date,] *up through* [end date]."

"I realize that this is a long period of time to remember things that happened, so we will use this calendar to help you identify events that occurred during this period. Notice that a few events are already printed on the calendar. [Point out some specific events already printed on the calendar.] *Were there any particularly memorable things that happened during this time - any birthdays, illnesses or accidents, anniversaries, parties, hospitalizations, vacations, changes in your work or at home, things like that?"* [Record on calendar.]

"Now the rest of the questions that I will ask you are also about this time period from up through _____. I'll be asking you about your drug use in a few minutes, but first I'd like to know about a few other things. Feel free to take your time in answering, since it is important for you to remember as accurately as you can. Let me know if you're

not sure what I am asking, or what I mean by a particular question. OK?"

TREATMENT / INCARCERATION / LIVING EXPERIENCES

"During this period, how many days did you spend in a hospital or treatment program where you stayed overnight?" [Mark days on calendar]

Hm total number of hospital days for medical problems 8. _____

Htox total number of hospital days for detoxification 9. _____

Rtox total number of non-hospital residential detox days: 10. _____

total number of ambulatory detox treatment days: 11. _____

Rd total number of residential days for other drug problems 12. _____

Ra total number of residential days alcohol treatment 13. _____

Rp total residential days for emotional / psych problems 14. _____

Total days in residential treatment during this period:
[Sum of 8 + 9 + 10 + 12 + 13 + 14. Do not include 11] 15. _____

"During this period, did you spend any time in jail or prison?" [Mark days on calendar]

In total days incarcerated during period 16. _____

Total day in institutions [add 15 + 16] 17. _____

"During this period, where did you live? How many days did you live in:" [Do not record on calendar unless useful as memory aids.]

Total number of days in own house, apartment, room: 18. _____
Total number of days living with others (no rent): 19. _____
Total number of days living in halfway house: 20. _____
Total number of days homeless (shelters, etc.): 21. _____

Lines 17 +18 + 19 + 20 + 21 must equal Line 2 _____

"During this period, how many days were there [not including hospital or detox days] *when you saw a doctor, nurse, nurse-practitioner, or physician's assistant for any kind of medical care?"*
[Do not record on calendar unless useful as memory aids.]

Total days seen for medical care 22. _____

"During this period, on how many days did you have a session with a counselor or therapist?" [Do not record on calendar unless useful as memory aids.]

total number of days for drug problems (EXCEPT alcohol)
write down the drug or drugs 23. _____

If treatment was received, describe briefly:

total number of days for alcohol problems 24. _____
If treatment was received, describe briefly:

total days for emotional / psychological problems 25. _____
If treatment was received, describe briefly:

"During this period, on how many days did you attend a Twelve-Step meeting like NA, CA, *or* AA*?*: Either for you or to support someone else
[Do not record on calendar unless useful as memory aids.]

total number of days attending 12-step meetings (enter 0 if none)
26a. _____

Number of AA (Alcoholics Anonymous) Meetings: 26b. _____
Number of NA (Narcotics Anonymous) Meetings: 26c. _____
Number of CA (Cocaine Anonymous) Meetings: 26d. _____
Number of Ala-teen Meetings: 26e. _____

OTHER ACTIVITIES

[Do not enter activity days on the calendar unless they appear to be of value for recalling drinking.]

WORK: *"How many days have you been paid for working during this period?"* WORK days 27. _____

EDUCATION: *"How many days have you been in school or training during this period?"*
EDUCATION days 28. _____

RELIGIOUS ATTENDANCE: *"On how many days during this time did you attend a worship service or other religious celebration?"*

RELIGIOUS ATTENDANCE days 29. _____

MEDICATIONS

"During this period, on how many days did you take any medications prescribed by a physician?" [Do not enter medication days on the calendar unless they appear to be of memory value.]

to treat a medical problem 30. _____
specify:

to prevent you from drinking (Antabuse only) 31. _____

to help you detoxify / come off drugs or alcohol 32. _____
specify:

to help you stabilize or change your use of drugs 33. _____
specify:
maintaining / stabilizing drugs (e.g., methadone)
serotonin uptake inhibitors (make sure not for depression)

to help you keep from using drugs 34. _____
specify:
drug antagonists / blockers

for psychological or emotional problems 35. _____
specify:

Periods of Abstinence

"Now I'd like to ask you about your drug use during this same period we were discussing before. The things already recorded on the calendar here may help you to remember better. I'm not asking here about drugs that were prescribed for you for medical problems, like antibiotics, stomach or blood pressure medicine. I'm asking about drugs not prescribed for you, although I do want to know about any medication prescribed for pain, or to help you relax or sleep. I will also ask you about your use of alcohol. First of all, were there any periods of days during this time when you used no drugs (including alcohol) at all?"

[Mark all abstinent days with a capital "A" on calendar.]

36. Date of first drug use during period: _____/ _____/_____

    Drug:

37. Date of last drug use during period: _____/ _____/_____

    Drug:

Card Sort

Now I'd like you to sort these cards again, to say which kinds of drugs you have used at least once during the period we've been talking about on this calendar, from _____ up through _____. If you used the drug at least once during this time, put it in a pile on the left here, and if you never used it at allduring this period, put it on the right."
[Alternatively, if there are few cards,
simply ask: "*Which of these have you used at least once during this period we've been talking about?"*]

For each NO card in this sort, print a zero (0) under "Total Days Use in Period" on the
USE PATTERN CHART on Page 6. For the remainder, proceed with the CALENDAR instructions on Page 7.

USE PATTERN CHART

Drug Classes		Used in this period?	Total Days	1	2	3	Oral Ingest	Smoke	Nasal Inhale	Needle	Other
Alcohol	al							------	------	------	
Tobacco	to									------	
Marijuana/ Cannabis	ma									------	
Tranquilizer	tr							------	------		
Sedatives/ Downers	do							------	------		
Steroids	sd							------	------		
Stimulants/ Uppers	up										
Cocaine	co										
Hallucinogens	ha										
Opiates	op										
Inhalants	in						------	------		-------	
Other Drugs	xx										
Total	12										

Use Categories:

1 = Single use
2 = Several uses
3 = Steady or heavier use

Enter days of each type of use. 1 + 2 + 3 must equal Total Days of use.

Enter days of each route of administration (use rules from manual). These must total at least to the number of days of use, but total may be higher if multiple routes of administration were used on the same day.

If OTHER route of administration, specify drug(s) and route here:

"Now I'd like to ask you about each of the drugs that you have used during this period. I'd want to get an idea of what your pattern of use was during this period of time for each of these drugs. We'll use this calendar to make it easier. Let's start with . When were you using _____ during this period?

Proceed drug by drug, entering drug codes for each day of use. For a day on which alcohol, marijuana, and cocaine were used, for example three codes would be entered into the box for that day: al, ma, co. Using different colored pencils for different drugs can be helpful.

Using the calendar, carefully count the total number of days of use during the assessment period for each drug class, and put this information on the USE PATTERN CHART (Page 5).

"Now I'm going to go back through these drugs once again and ask you two more questions about each. For each one, I will tell you the total number of days that you said you used this drug during this period, and I will want to know how many of those days you think fell into each of these three categories." [Show use categories]

"*According to the calendar we did, you used _____on a total of _____days during this period. Help me divide those days up among these three categories. On how many of those _____ days would you say that you used _____only once? How many of those days did your use fall in between? And that would mean that on days your use of _____fell in this third category – does that seem right? And how did you give yourself (take) _____ during this period of time we have been talking about? Any other way?* If more than one route of administration for a drug class, ask:

"*According to the calendar we did, you used _____ on a total of _____days during this period. On how many of those _____days would you say that you gave yourself* __[drug]__ *by* ___[route]___*?*

Repeat for each drug class. Be sure you have accounted for all days of use. The total across routes of administration should be at least the same as the number of days of use, although the total may be higher if multiple routes are used on the same day.

Fill in the information on the Use Pattern Chart. Be sure 1+2+3 totals to the number of days of use.

When you have completed the calendar for all drug classes used, show the subject the CONFIDENCE SCALE and ask:

"Now I'd like you to tell me, using the line, how confident you feel about the information you've given me about your drug use. How accurate do you think you have been in estimating your drug use on this calendar? I'm not asking if you got each drug on the exact days you used it. But overall, how accurate is this calendar in showing how much you used drugs during this period?

Circle the subject's response below.

5	4	3	2	1
Very Accurate		Fairly Accurate		Not at all Accurate

CATEGORIES FOR DAYS OF USE

(1) Single use. On this day you used the drug only once.

Examples: One alcoholic drink
One cigarette
One dose

(2) Medium use. On this day you used the drug more than once, but not steadily or heavily.

Examples: 2-4 drinks
2-9 cigarettes
Two doses of other drugs

(3) Heavier use. On this day you used the drug more heavily than the "medium" category.

Examples: 5 or more drinks
10 or more cigarettes (half a pack or more)
Three or more doses of other drugs

WAYS OF TAKING DRUGS

Orally	Eating, drinking, swallowing, placing the drug under the tongue, chewing, dipping
Smoking	Lighting and smoking the drug
Inhaling	Snorting, breathing in the drug (but not smoking)
Injecting	Taking a drug by needle; injecting under the skin or into a vein

CONFIDENCE SCALE

5	4	3	2	1
Very Accurate		Fairly Accurate		Not at all Accurate

APPENDIX B: Tables

Table 1: Sample characteristics at baseline (N = 60)

Variables	n (%)	Mean (SD)
Age		26.3 (6.01)
Ethnicity		
African/African American	45 (75%)	
White, non-Hispanic	7 (11.6%)	
Asian/Asian American	1 (1.7%)	
Hispanic	1 (1.7 %)	
Mixed/Other	6 (10%)	
Current marital status		
Single, never been married	45 (75.0%)	
Separated but still married	6 (10.0%)	
Married and still together	4 (6.7%)	
Cohabiting with partner	2 (3.3%)	
Divorced	2 (3.3%)	
Widowed	1 (1.7%)	
Highest level of education in years		11.75 (1.55)
Employment status		
Work 40+ hours a week	1 (1.7%)	
Work less than 40 hours	4 (6.7%)	
Homemaker	9 (15.0%)	
Unemployed	46 (76.7%)	
Personal monthly income		$300.9 ($346.9)
Age homeless for the first time		22.02 (7.29)
% days homeless in the past 3 months		13.98 (19.3)
Currently expecting a baby	9 (15%)	
Average number of children		2.82 (1.73)

Table 2: Summary of Independent Variables

Variable	Measure/Form/ Source	Item/scale/composite score	Categories in the model
Treatment condition	n/a	n/a	Ecologically Based Treatment vs. Treatment as Usual
Housing assistance by treatment condition	Housing form	Item: "Did you receive housing through the Homeless Mothers research project?" Item: "Did YWCA assist you in obtaining housing?"	Housing assistance through EBT vs. Housing assistance TAU
Time of housing	Housing form	Item: "When did you move into the leased room or apartment?"	Housed at 3 months vs. 6 months
Housing stability	Housing form	Item: "Are you currently living in the leased room or apartment?" Item: (If No) "When did you leave the leased apartment?"	Stable (maintained own apartment) vs. Mobile (evicted, lost housing)

Table 3: Summary of Basic Capabilities (Dependent Variables)

Capabilities	Definitions (Ranis, Stewart, & Samman, 2006)	Form/Measure	Item/scale/composite score
Domain 1: Fundamental dimensions of human development	Having access to the basic material resources such as adequate shelter, utilities, food, and clothing needed for a decent standard of living	Demographics	Independent living days item: "How many nights in the past 90 days have you stayed at your own apartment?" Perceived ability to get enough food, clothes, medical care, and place to clean in the past 3 months (4 items)
Domain 2: Safety/Physical security	Having bodily integrity and having bodily boundaries treated as sovereign, being secure against violence, abuse, and assault.	Demographics	Total victimization score including assault, robbery, burglary, rape, and sexual assault incidents in the past 3 months (6 items)
Domain 3: Material well-being	Having employment, work opportunities and material income.	Demographics	Material income item: "What is your personal monthly income?" Employment status item: "Did you have a full-time or part-time job in the past 3 months?"
Domain 4: Health	Having good physical and mental health to achieve adequate quality of life and daily functioning. Being satisfied and happy with one's life.	SF-36 (Ware et al, 2007)	Health Related Quality of Life: SF-6D Subscale score (12 items) Item: "How much of the time during the past 4 weeks have you been happy?"
Domain 5: Empowerment, autonomy and agency	Having personal agency and autonomy, being able to make decisions in one's life, having self-respect.	SES (Sherer et al., 1982)	General self-efficacy subscale total score (17 items)
Domain 6: Social integration	Having connections to social institutions, being able to seek services and resources.	FORM 90 (Miller, 1996)	Composite scores: Percent days of medical care, percent days of education, and percent days of attending religious ceremonies.

Table 4: Comparison of outcome variables by treatment groups at baseline

	TOTAL		EBT		TAU		
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)	Test statistic
Domain 1: Fundamental Dimensions of Human Development							
Independent living days							t(58)=-.44,
Baseline		27.6 (34.76)		29.7 (35.77)		25.47 (34.19)	p > .05
3 months		56.61 (34.87)		75.13 (17.06)		33.46 (37.79)	
6 months		74.23 (30.69)		84.1 (15.46)		61.35 (40.08)	
9 months		63.85 (34.61)		65.33 (34.68)		62 (35.19)	
Meeting basic needs							$\chi^2(1)=1.02$,
Had problems in meeting basic needs							p > .05
Baseline	59 (98.3%)		29 (96.7%)		30 (100%)		
3 months	34 (56.7%)		15 (50%)		19 (63.3%)		
6 months	27 (45%)		9 (30%)		18 (60%)		
9 months	27 (45%)		13 (43.3%)		14 (46.7%)		
Domain 2: Safety and Physical Security							$\chi^2(1)=.88$,
Victimization experiences (Reported being victimized)							p > .05
Baseline	13 (21.7%)		8 (26.7%)		5 (16.7%)		
3 months	10 (18.5%)		6 (20%)		4 (26.7%)		
6 months	11 (20.8%)		4 (13.3%)		7 (30.4%)		
9 months	7 (13%)		2 (6.7%)		5 (20.8%)		
Domain 3: Material well-being							
Employment status (Had a full/part time job)							$\chi^2(1)=.149$,
							p > .05
Baseline	14 (23.3%)		9 (30%)		5 (16.7%)		
3 months	15 (27.8%)		7 (23.3%)		8 (33.3%)		
6 months	22 (41.5%)		13 (43.3%)		9 (39.1%)		
9 months	17 (31.5%)		13 (43.3%)		4 (16.7%)		

Continued

Table 4 continued

	TOTAL		EBT		TAU		
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)	Test statistic
Personal monthly income							t(58)= .65,
Baseline		$300.95 ($346.86)		$287.03 ($352.49)		$314.87($346.58)	p > .05
3 months		$459.24 ($405.57)		$441.60 ($328.88)		$481.29($491.68)	
6 months		$671.0 ($530.0)		$641.73($480.36)		$710.91($600.54)	
9 months		$547.57 ($535.02)		$561.77($470.15)		$529.83($616.69)	
Domain 4: Health							
Health-related Quality of life							t(58)= -.29,
Baseline		32.71 (7.75)		33.01 (8.43)		32.41 (7.15)	p > .05
3 months		35.28 (8.11)		36.01 (8.78)		34.43 (7.35)	
6 months		36.66 (7.99)		37.25 (8.46)		35.90 (7.48)	
9 months		36.83 (9.16)		37.85 (8.44)		35.60 (10.02)	
Happiness and well-being							
Baseline		2.58 (.99)		2.50 (.974)		2.67 (1.03)	t(58)= .31,
3 months		3.20 (.90)		3.43 (.90)		2.92 (.83)	p > .05
6 months		3.30 (1.20)		3.30 (1.29)		3.30 (1.11)	
9 months		3.51 (1.05)		3.48 (1.12)		3.54 (.98)	
Domain 5: Empowerment, autonomy and agency							t(57)= -.24,
Self-efficacy							p > .05
Baseline		61.68 (13.52)		62.10 (17.12)		61.27 (9.07)	
3 months		66.70 (13.02)		66.30 (13.92)		67.21 (12.07)	
6 months		66.23 (12.70)		67.66 (14.45)		64.43 (10.12)	
9 months		67.02 (14.11)		67.45 (14.91)		66.50 (13.37)	

Continued

Table 4 continued

	TOTAL		EBT		TAU		
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)	Test statistic
Domain 6: Social Integration							$\chi^2(1)=1.51$,
Attending school or job training							$p > .05$
Baseline	12 (20.3%)		8 (26.7%)		4 (13.8%)		
3 months	9 (16.7%)		7 (23.3%)		2 (8.3%)		
6 months	9 (17%)		7 (23.3%)		2 (8.7%)		
9 months	7 (13%)		4 (13.3%)		3 (12.5%)		
Attending church or religious ceremonies							$\chi^2(1)=2.1$,
Baseline	21 (35.6%)		8 (26.7%)		13 (44.8%)		$p > .05$
3 months	21 (38.9%)		14 (46.7%)		7 (29.2%)		
6 months	26 (49.1%)		17 (56.7%)		9 (39.1%)		
9 months	24 (44.1%)		14 (46.7%)		10 (41.7%)		
Seeking medical care							$\chi^2(1)=.14$,
Baseline	25 (42.4%)		12 (40%)		13 (44.8%)		$p > .05$
3 months	30 (55.6%)		16 (53.3%)		14 (58.3%)		
6 months	30 (56.6%)		17 (56.7%)		13 (56.5%)		
9 months	28 (51.9%)		15 (50%)		13 (54.2%)		

Table 5: Frequencies, percentages, means, and standard deviations of dependent variables over time by treatment condition

	TOTAL		EBT		TAU	
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)
Domain 1: Fundamental Dimensions of Human Development						
Independent living days						
Baseline		27.6 (34.76)		29.7 (35.77)		25.47 (34.19)
3 months		56.61 (34.87)		75.13 (17.06)		33.46 (37.79)
6 months		74.23 (30.69)		84.1 (15.46)		61.35 (40.08)
9 months		63.85 (34.61)		65.33 (34.68)		62 (35.19)
Meeting basic needs (Had problems in meeting basic needs)						
Baseline	59 (98.3%)		29 (96.7%)		30 (100%)	
3 months	34 (56.7%)		15 (50%)		19 (63.3%)	
6 months	27 (45%)		9 (30%)		18 (60%)	
9 months	27 (45%)		13 (43.3%)		14 (46.7%)	
Domain 2: Safety and Physical Security						
Victimization experiences (Reported being victimized)						
Baseline	13 (21.7%)		8 (26.7%)		5 (16.7%)	
3 months	10 (18.5%)		6 (20%)		4 (26.7%)	
6 months	11 (20.8%)		4 (13.3%)		7 (30.4%)	
9 months	7 (13%)		2 (6.7%)		5 (20.8%)	
Domain 3: Material well-being						
Employment status (Had a full/part time job)						
Baseline	14 (23.3%)		9 (30%)		5 (16.7%)	
3 months	15 (27.8%)		7 (23.3%)		8 (33.3%)	
6 months	22 (41.5%)		13 (43.3%)		9 (39.1%)	
9 months	17 (31.5%)		13 (43.3%)		4 (16.7%)	

Continued

Table 5 continued

	TOTAL		EBT		TAU	
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)
Personal monthly income						
Baseline		$300.95 ($346.86)		$287.03 ($352.49)		$314.87 ($346.58)
3 months		$459.24 ($405.57)		$441.60 ($328.88)		$481.29 ($491.68)
6 months		$671.0 ($530.0)		$641.73 ($480.36)		$710.91 ($600.54)
9 months		$547.57 ($535.02)		$561.77 ($470.15)		$529.83 ($616.69)
Domain 4: Health						
Health-related Quality of life						
Baseline		32.71 (7.75)		33.01 (8.43)		32.41 (7.15)
3 months		35.28 (8.11)		36.01 (8.78)		34.43 (7.35)
6 months		36.66 (7.99)		37.25 (8.46)		35.90 (7.48)
9 months		36.83 (9.16)		37.85 (8.44)		35.60 (10.02)
Happiness and well-being						
Baseline		2.58 (.99)		2.50 (.974)		2.67 (1.03)
3 months		3.20 (.90)		3.43 (.90)		2.92 (.83)
6 months		3.30 (1.20)		3.30 (1.29)		3.30 (1.11)
9 months		3.51 (1.05)		3.48 (1.12)		3.54 (.98)
Domain 5: Empowerment, autonomy and agency						
Self-efficacy						
Baseline		61.68 (13.52)		62.10 (17.12)		61.27 (9.07)
3 months		66.70 (13.02)		66.30 (13.92)		67.21 (12.07)
6 months		66.23 (12.70)		67.66 (14.45)		64.43 (10.12)
9 months		67.02 (14.11)		67.45 (14.91)		66.50 (13.37)

Continued

Table 5 continued

	TOTAL		EBT		TAU	
	f (%)	Mean (SD)	f (%)	Mean (SD)	f (%)	Mean (SD)
Domain 6: Social Integration						
Attending school or job training						
Baseline	12 (20.3%)		8 (26.7%)		4 (13.8%)	
3 months	9 (16.7%)		7 (23.3%)		2 (8.3%)	
6 months	9 (17%)		7 (23.3%)		2 (8.7%)	
9 months	7 (13%)		4 (13.3%)		3 (12.5%)	
Attending church or religious ceremonies						
Baseline	21 (35.6%)		8 (26.7%)		13 (44.8%)	
3 months	21 (38.9%)		14 (46.7%)		7 (29.2%)	
6 months	26 (49.1%)		17 (56.7%)		9 (39.1%)	
9 months	24 (44.4%)		14 (46.7%)		10 (41.7%)	
Seeking medical care						
Baseline	25 (42.4%)		12 (40%)		13 (44.8%)	
3 months	30 (55.6%)		16 (53.3%)		14 (58.3%)	
6 months	30 (56.6%)		17 (56.7%)		13 (56.5%)	
9 months	28 (51.9%)		15 (50%)		13 (54.2%)	

Table 6: Results of HLM mixed effects modeling testing change in independent living days over time across treatment conditions

	Unconditional Model		Conditional Model with Random Coefficients		Conditional Model with Mixed Effects	
Fixed Effects	Coefficient (S.E.)	*t value*	Coefficient (S.E.)	*t value*	Coefficient (S.E.)	*t value*
Intercept						
Intercept	54.64 (2.93)	18.64***	23.74 (5.38)	4.41***	24.08 (5.36)	4.49***
Linear slope						
Intercept			12.55 (1.99)	6.32***	9.16 (2.35)	3.89***
EBT					6.07 (2.02)	2.99**
Random Effects	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2
Intercept	160.27 (12.66)	89.58**	193.64 (13.92)	60.99	180.14 (13.42)	60.98
Linear slope			22.40 (4.73)	62.07	37.79 (6.15)	66.12
Level-1 residual	1285.11 (35.85)		990.53 (31.47)		990.49 (31.47)	
Estimated parameters	2		4		4	
Deviance statistic	2226.74		2182.15		2172.86	

***p < .001 **p < .001 *p < .05

Table 7: Results of HGLM mixed effects modeling testing change in mothers' problems of meeting basic needs over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	.32 (.14)	1.38	2.25*	3.06 (.71)	21.23	4.3***	3.05 (.71)	21.15	4.3***
Linear slope									
Intercept				-1.12 (.25)	.33	-4.44***	-1.09 (.26)	.33	-4.16***
EBT							-.05 (.17)	.95	-.28
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	.094 (.31)	59	62.88	.004 (.06)	56	24.55	.005 (.07)	56	25.47
Linear slope				.11 (.33)	56	35.38	.11 (.33)	55	35.56
Estimated parameters	2			5			6		
Deviance statistic	703.78			647.88			647.78		

***p < .001 **p < .001 *p < .05

Table 8: Results of HGLM mixed effects modeling testing change in mothers' victimization experiences over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	-1.59 (.25)	.20	-6.41***	-.87 (.78)	.42	-1.12	-.98 (.72)	.38	-1.35
Linear slope									
Intercept				-.36 (.34)	.69	-1.08	-.17 (.29)	.85	-.58
EBT							-.25 (.25)	.78	-.99
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	.27 (.52)	59	63.76	.02 (.16)	56	45.84	.10 (.32)	56	43.98
Linear slope				.03 (.18)	56	44.51	.02 (.13)	55	40.23
Estimated parameters	2			5			6		
Deviance statistic	614.97			613.27			610.74		

***p < .001 **p < .001 *p < .05

Table 9: Results of HLM mixed effects modeling testing change in income over time across treatment conditions

	Unconditional Model		Conditional Model with Random Coefficients		Conditional Model with Mixed Effects	
Fixed Effects	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value
Intercept						
Intercept	479.60 (41.11)	11.67***	254.46 (59.33)	4.29***	254.63 (59.34)	4.29***
Linear slope						
Intercept			90.90 (27.56)	3.29**	89.01 (33.29)	2.67*
EBT					3.38 (33.43)	.10
Random Effects	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2
Intercept	52914.69 (230.03)	127.25***	6415.76 (80.1)	56.42	6378.63 (79.87)	56.43
Linear slope			15903.16 (126.11)	88.08**	15873.2 (125.98)	88.02**
Level-1 residual	52914.69 (414.05)		130081.33 (360.67)		130056.79 (360.63)	
Estimated parameters	3		6		7	
Deviance statistic	3320.66		3285.50		3285.49	

***p < .001 **p < .001 *p < .05

Table 10: Results of HGLM mixed effects modeling testing change in mothers' employment status over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	-1.2 (.29)	.30	-4.04***	-1.76 (.68)	.17	-2.58*	-1.76 (.69)	.17	-2.55*
Linear slope									
Intercept				.22 (.22)	1.25	.99	.29 (.04)	1.04	.14
EBT							.31 (.22)	1.37	1.41
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	1.39 (1.18)	59	115.89***	1.17 (1.08)	56	46.58	1.22 (1.10)	56	46.18
Linear slope				.003 (.57)	56	38.18	.002 (.05)	55	37.19
Estimated parameters	2			5			6		
Deviance statistic	652.58			649.89			647.45		

***p < .001 **p < .001 *p < .05

Table 11: Results of mixed effects modeling testing change in health related quality of life over time across treatment conditions

	Unconditional Model		Conditional Model with Random Coefficients		Conditional Model with Mixed Effects	
Fixed Effects	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value
Intercept						
Intercept	35.29 (.85)	41.62***	31.91 (1.21)	26.25***	31.94 (1.21)	26.27***
Linear slope						
Intercept			1.40 (.39)	3.58***	1.15 (.49)	2.33*
EBT					.46 (.54)	.85
Random Effects	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2
Intercept	32.55 (5.71)	263.79***	44.37 (6.66)	118.85***	44.35 (6.66)	118.8***
Linear slope			2.85 (1.69)	83.72*	2.79 (1.67)	83.3**
Level-1 residual	35.96 (5.99)		27.83 (5.27)		27.84 (5.28)	
Estimated parameters	3		6		7	
Deviance statistic	1485.71		1466.49		1465.78	

***p < .001 **p < .001 *p < .05

Table 12: Results of mixed effects modeling testing change in mothers' happiness scores over time across treatment conditions

	Unconditional Model		Conditional Model with Random Coefficients		Conditional Model with Mixed Effects	
Fixed Effects	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value
Intercept						
Intercept	3.12 (.09)	34.79***	2.41 (.15)	15.83***	2.41 (.15)	15.83***
Linear slope						
Intercept			.29 (.05)	5.23***	.28 (.07)	4.23***
EBT					.02 (.06)	.27
Random Effects	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2
Intercept	.21 (.46)	106.45***	.11 (.33)	58.83	.11 (.33)	58.81
Linear slope			.01 (.08)	54.44	.01 (.08)	54.62
Level-1 residual	.97 (.98)		.82 (.91)		.82 (.91)	
Estimated parameters	3		6		7	
Deviance statistic	653.46		626.32		626.25	

***p < .001 **p < .001 *p < .05

Table 13: Results of mixed effects modeling testing change in self-efficacy over time across treatment conditions

	Unconditional Model		Conditional Model with Random Coefficients		Conditional Model with Mixed Effects	
Fixed Effects	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value	Coefficient (S.E.)	t value
Intercept						
Intercept	65.01 (1.48)	43.94***	63.60 (1.94)	31.62***	63.43 (1.65)	38.43***
Linear slope						
Intercept			1.39 (.59)	2.37*	1.43 (.77)	1.86†
EBT					-.63 (1.08)	-.58
Random Effects	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2	Variance (S.D.)	χ^2
Intercept	107.92 (10.39)	369.84***	133.19 (11.54)	133.74***	85.98 (9.27)	272.59***
Linear slope			7.09 (2.66)	87.76**	4.86 (2.20)	96.46***
Level-1 residual	72.15 (8.49)		57.68 (7.59)		27.37 (5.23)	
Estimated parameters	3		6		7	
Deviance statistic	1543.32		1439.85		1415.5	

***p < .001 **p < .001 *p < .05

Table 14: Results of mixed effects modeling testing change in seeking medical care over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	.07 (.19)	1.07	.36	-.29 (.38)	.75	-.75	-.29 (.38)	.75	-.76
Linear slope									
Intercept				.15 (.14)	1.16	1.07	.17 (.16)	1.19	1.06
EBT							-.04 (.13)	.96	-.31
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	.62 (.79)	59	93.51**	.43(.66)	56	55.52	.43 (.65)	56	55.46
Linear slope				.006 (.08)	56	51.09	.006 (.08)	55	51.14
Estimated parameters	2			5			6		
Deviance statistic	701.04			699.64			699.56		

***p < .001 **p < .001 *p < .05

Table 15: Results of mixed effects modeling testing change in mothers' education days over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	-2.33 (.45)	.09	-5.2***	-1.45 (.49)	.23	-2.91**	-1.39 (.49)	.25	-2.81**
Linear slope									
Intercept				-.11 (.17)	.89	-.66	-.25 (.22)	.77	-1.17
EBT							.20 (.17)	1.22	1.15
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	1.11 (1.05)	59	86.38*	2.69 (1.64)	56	55.57	2.53 (1.59)	56	56.03
Linear slope				.07 (.26)	56	42.99	.08 (.28)	55	45.96
Estimated parameters	2			n/a			n/a		
Deviance statistic	592.99			n/a			n/a		

***p < .001 **p < .001 *p < .05

Table 16: Results of HGLM mixed effects modeling testing change in attending religious ceremonies over time across treatment conditions

	Unconditional Model			Conditional model with Random Coefficients			Conditional Model with Mixed Effects		
Fixed effects	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value	Coefficient (S.E.)	Odds ratio	t value
Intercept									
Intercept	-.47 (.26)	.62	-1.83	-1.00 (.50)	.37	-1.99*	-1.01 (.52)	.37	-1.95*
Linear slope									
Intercept				.21 (.16)	1.24	1.32	.08 (.19)	1.08	.39
EBT							.25 (.18)	1.28	1.39
Random effects	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2	Variance (S.D.)	df	χ^2
Intercepts	1.51 (1.23)	59	126.15***	1.56 (1.25)	56	56.51	1.71 (1.31)	56	56.76
Linear slope				.0005 (.02)	56	43.88	.001 (.03)	55	42.73
Estimated parameters	2			5			6		
Deviance statistic	674.47			672.43			670.49		

***p < .001 **p < .001 *p < .05

Table 17: Results of exploratory mixed effects modeling examining predictors of well-being over time.

	Having problems in meeting basic needs			Monthly income		Happinesss		Quality of life	
Fixed effects	Coefficient (SE)	Odds ratio	t-value	Coefficient (SE)	t-value	Coefficient (SE)	t-value	Coefficient (SE)	t-value
Intercept									
Intercept	2.69 (.44)	14.71	6.12***	254.51 (63.46)	4.01***	2.45 (.16)	15.59***	31.91 (1.25)	25.56***
Linear slope									
Intercept	-.34 (.43)	.71	-.78	50.37 (102.72)	.49	-.007 (.18)	-.04	-1.44 (1.67)	-.86
EBT	-.07 (.14)	.93	-.55	1.59 (32.81)	.05	.04 (.06)	.69	.71 (.54)	1.33
Independent living days	-.001 (.002)	.99	-.37	.62 (.51)	1.23	.002 (.001)	2.09*	-.002 (.008)	-.19
Self-efficacy	-.01 (.005)	.99	-1.95*	1.11 (1.37)	.81	.006 (.002)	2.53*	.05 (.02)	2.18*
Battering	.006 (.004)	1.006	1.55	1.72 (.95)	-1.81	-.006 (.002)	-3.84***	-.02 (.02)	-1.39
Random effects	Variance component(SD)	χ^2		Variance component(SD)	χ^2	Variance component(SD)	χ^2	Variance component(SD)	χ^2
Intercept	.001 (.04)	27.26		8951.82 (94.61)	55.18	.05 (.22)	55.17	47.56 (6.89)	123.86***
Linear slope	.06 (.25)	34.25		16461.93(128.3)	79.55**	.008 (.09)	55.25	5.46 (2.34)	113.15***
Level 1 error				134061.55(366)		.83 (.91)		24.44 (4.94)	

APPENDIX C: Figures

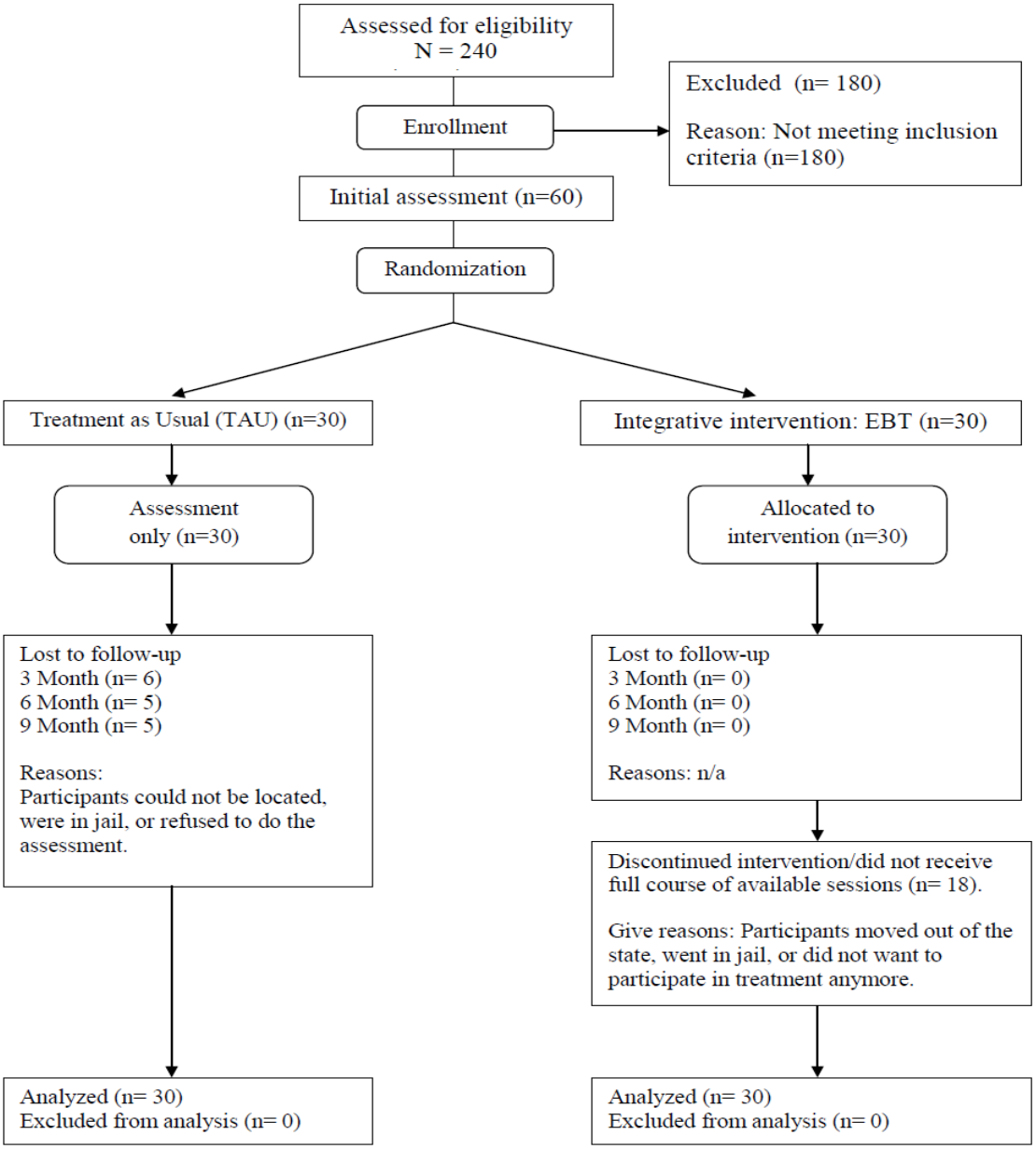

Figure 1. The design of the original randomized controlled trial.

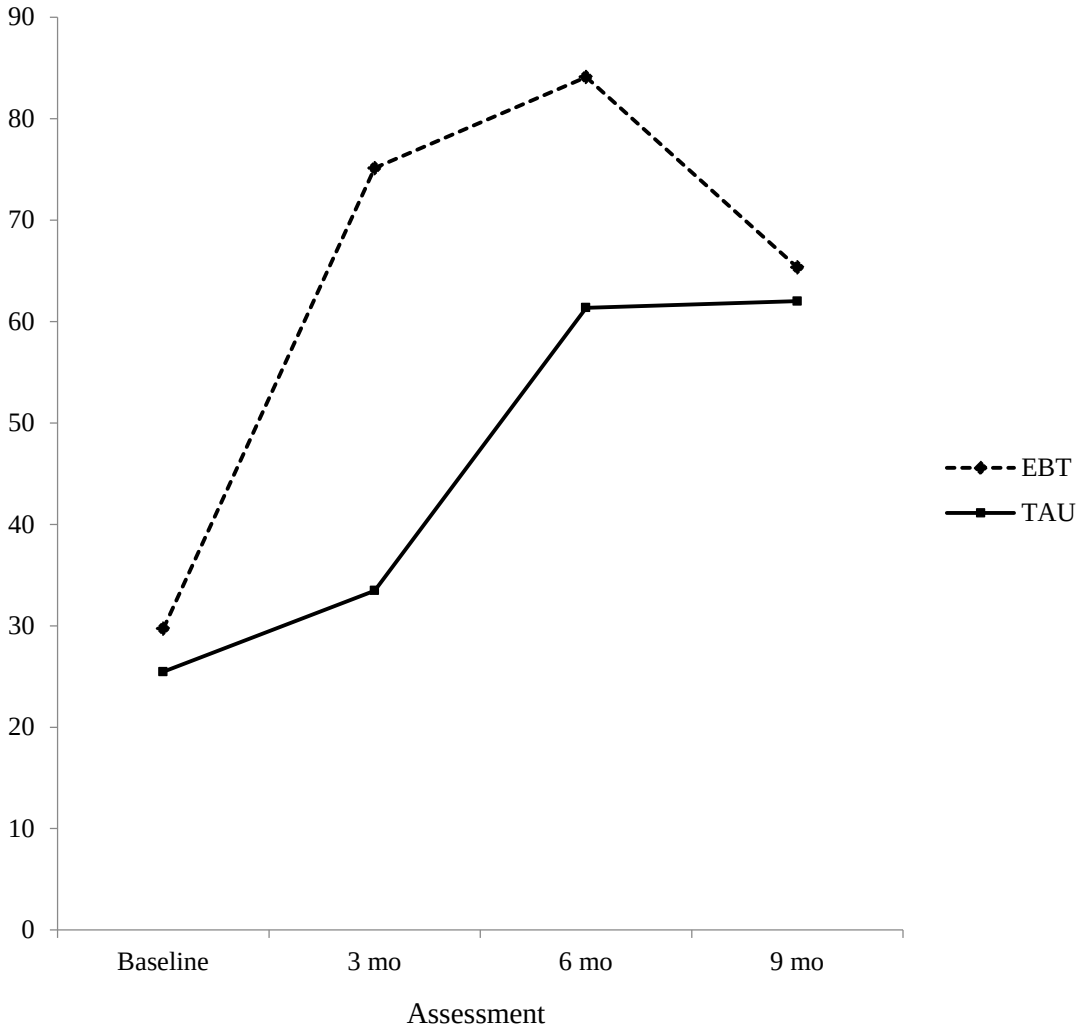

Figure 2. Average number of days mothers spent in their own home in the past 90 days over time.

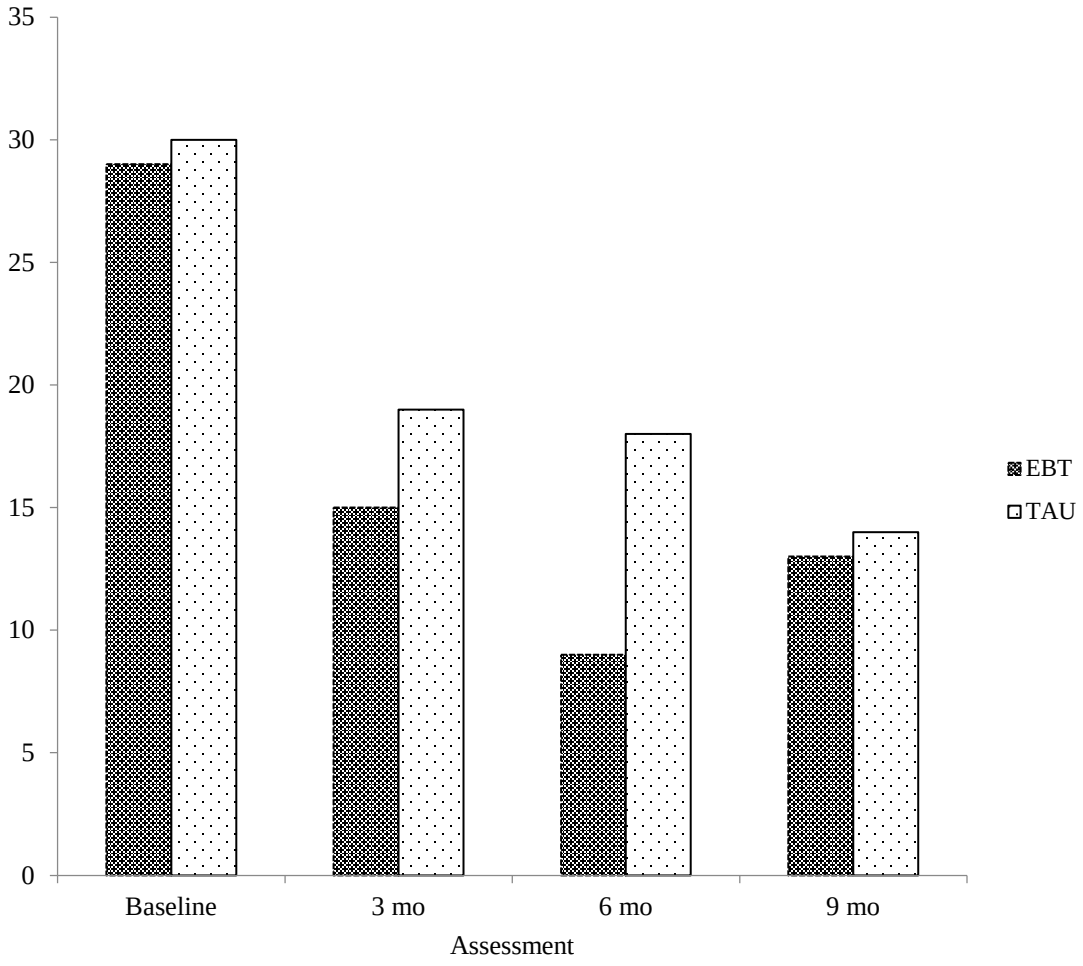

Figure 3. Number of mothers who reported problems in meeting their basic needs over time.

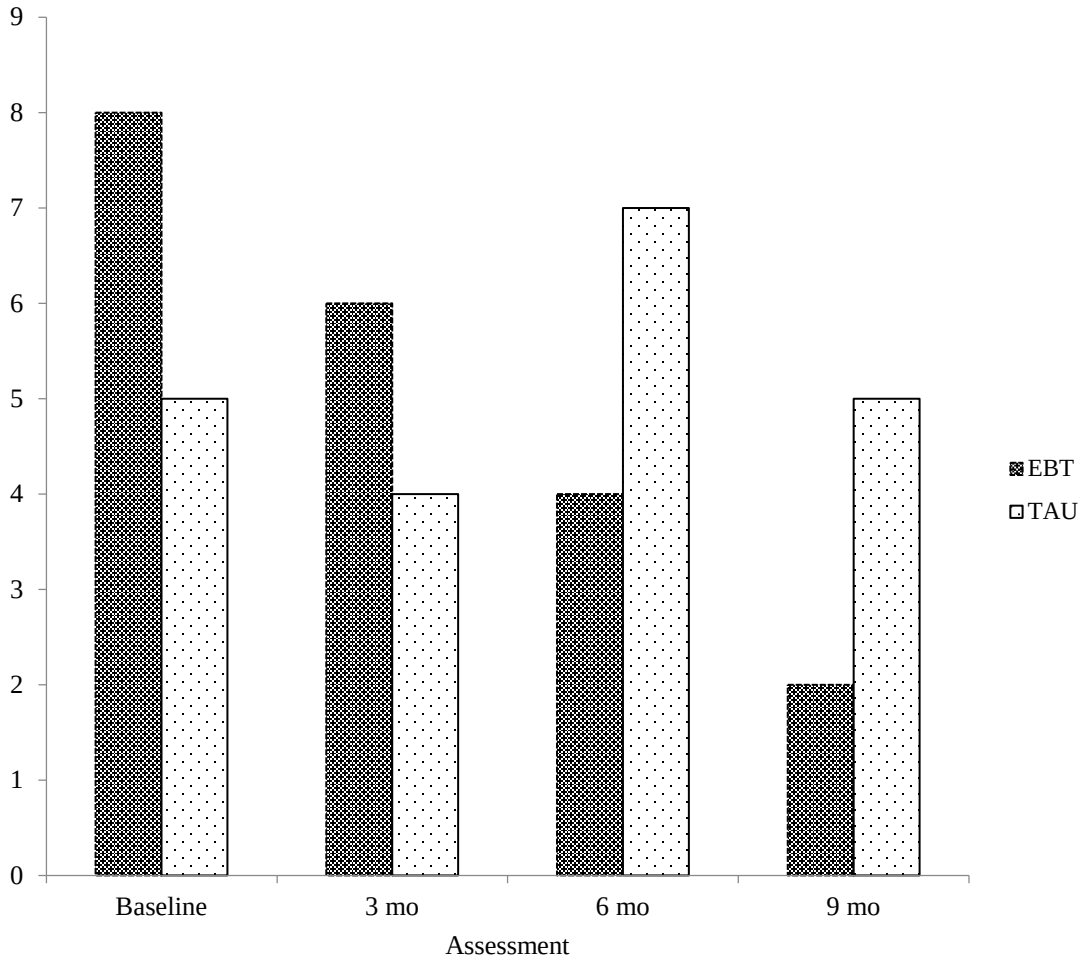

Figure 4. Number of mothers who reported being victimized over time.

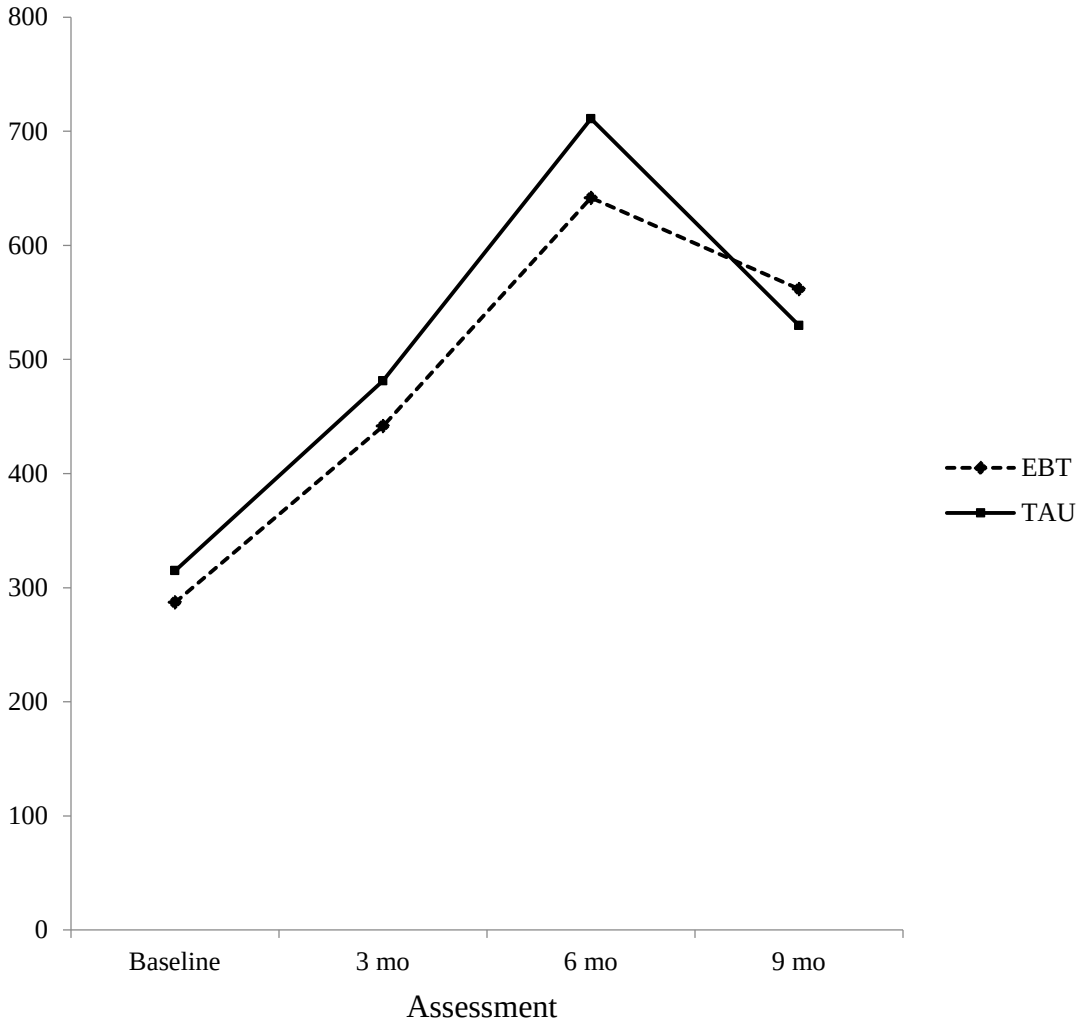

Figure 5. Average monthly income of mothers over time.

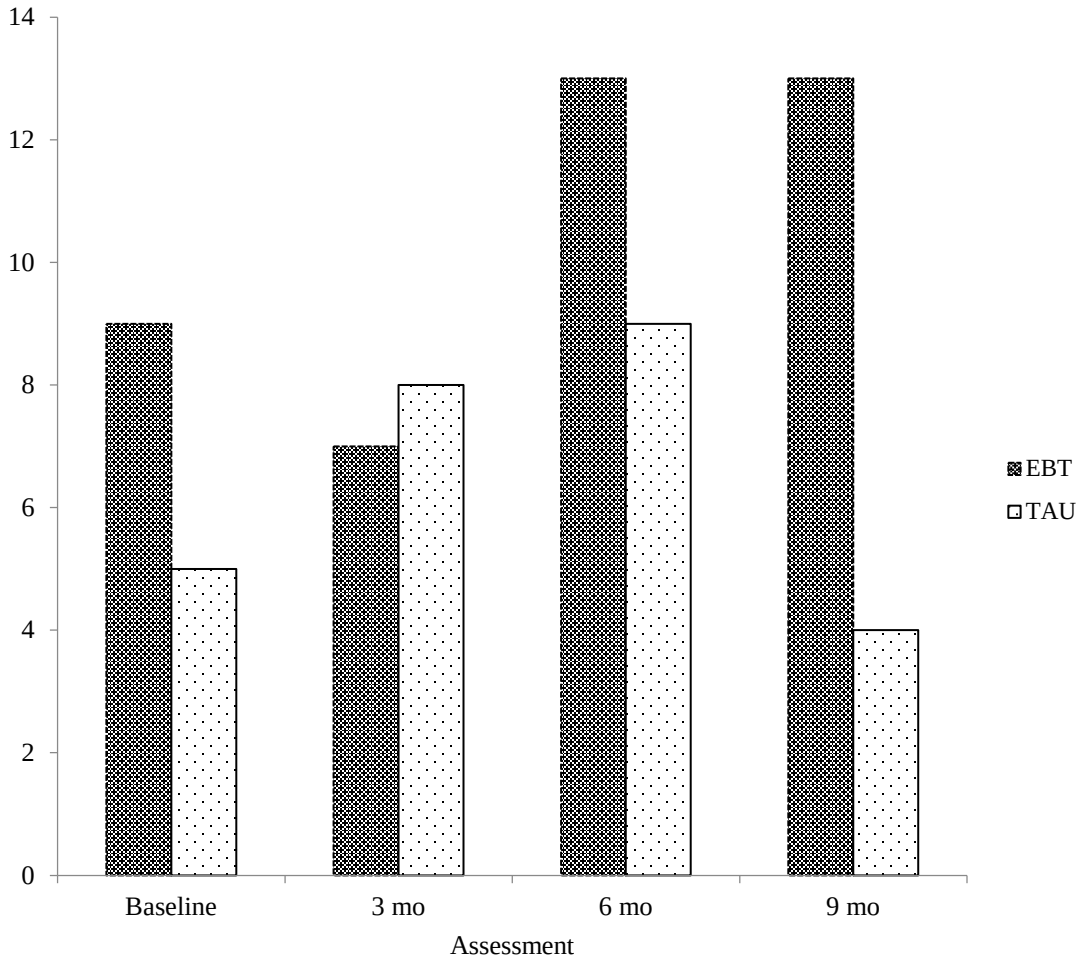

Figure 6. Number of mothers who reported having a full/part time job over time.

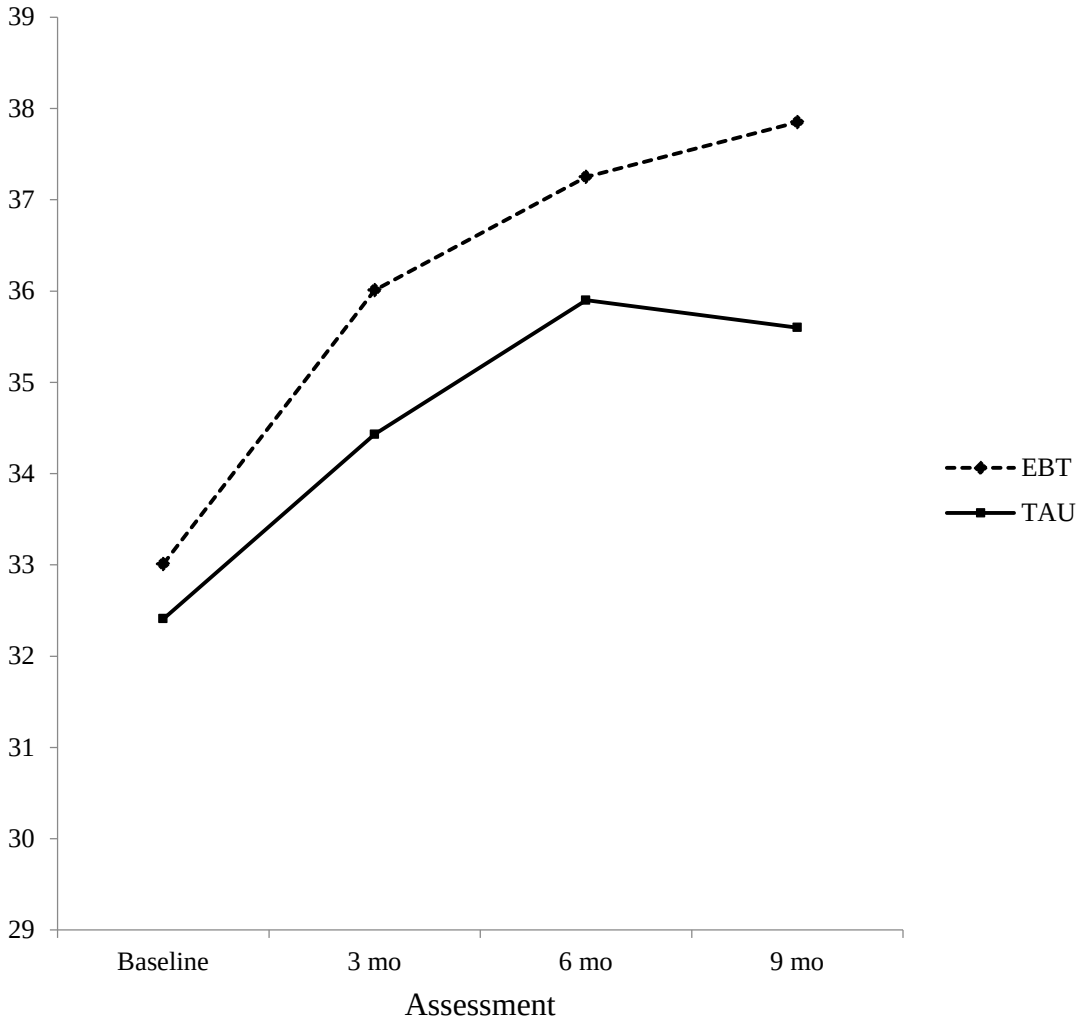

Figure 7. Average health-related quality of life scores of mothers over time.

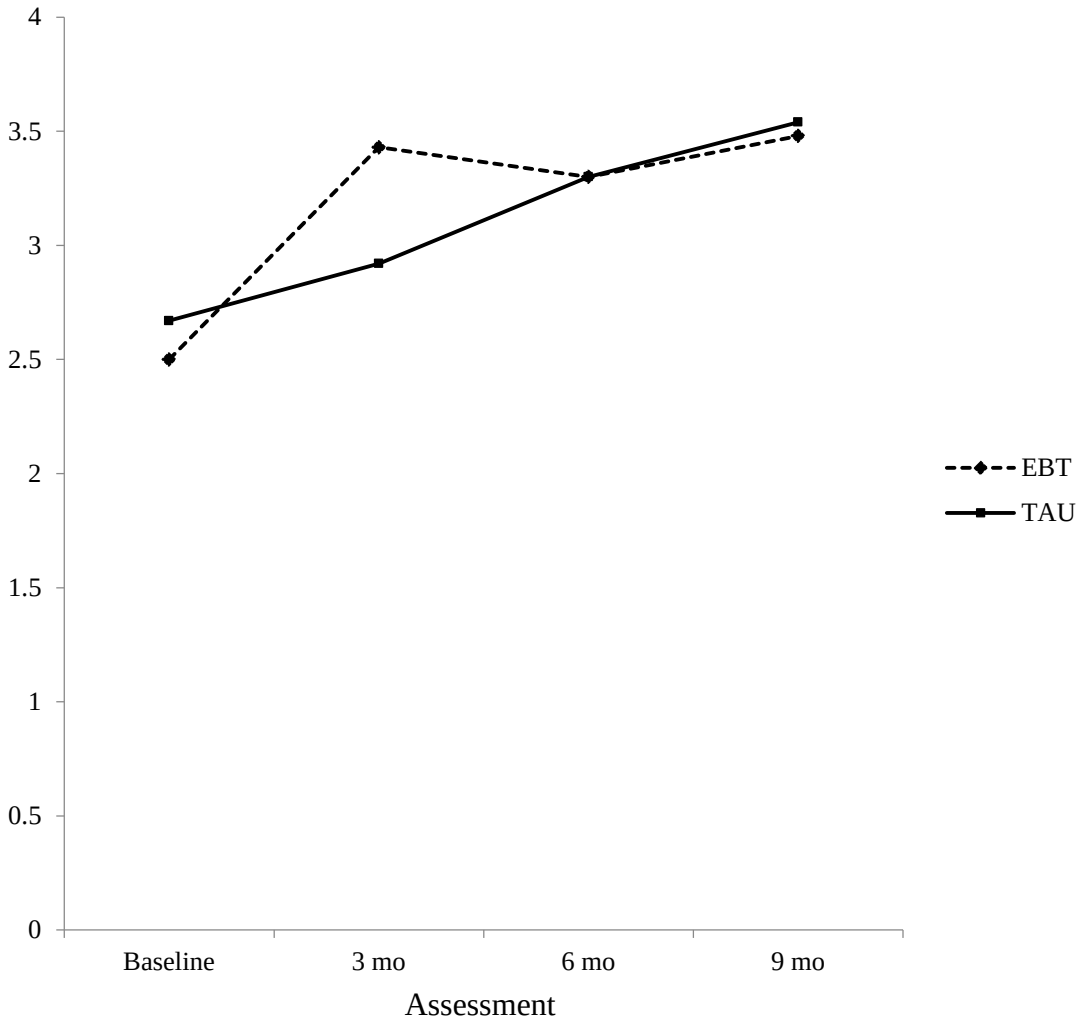

Figure 8. Average happiness scores of mothers over time.

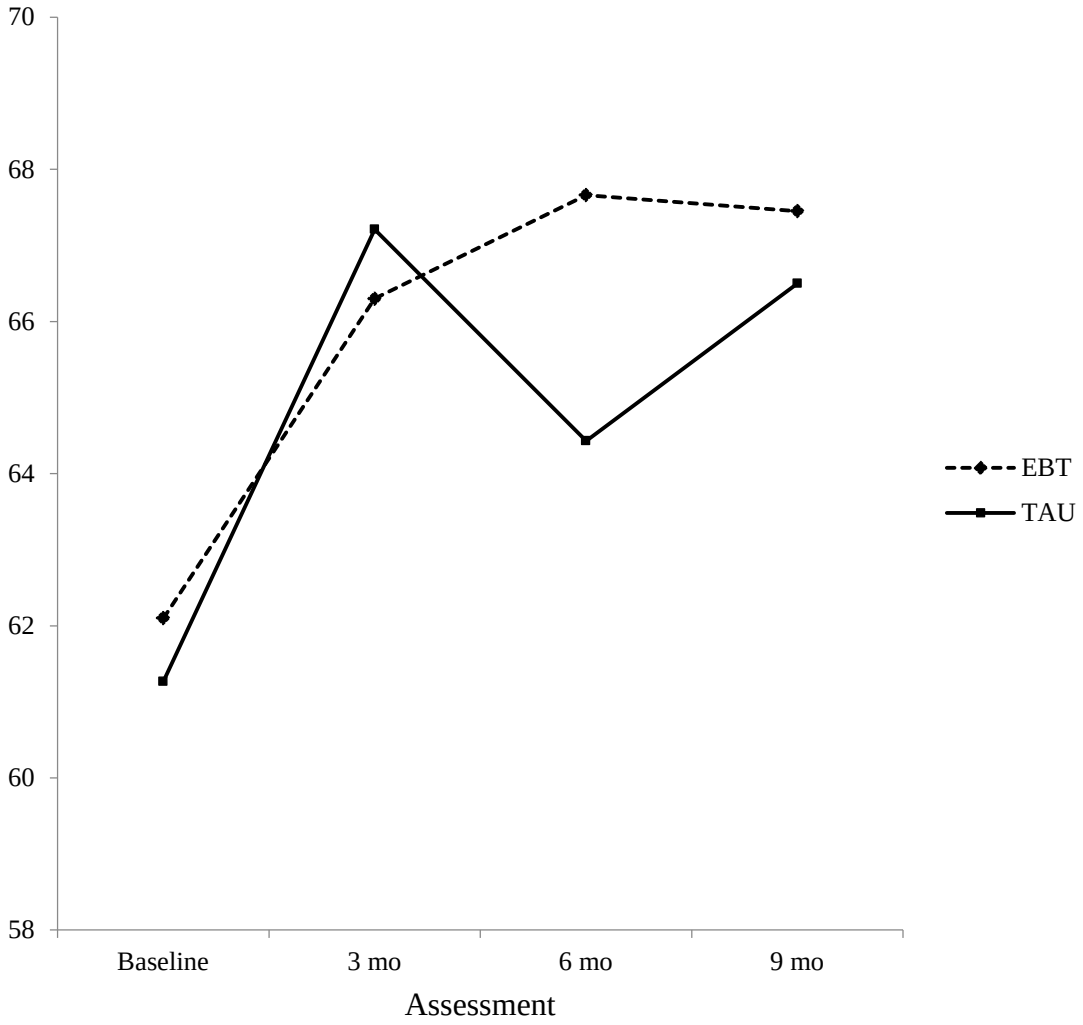

Figure 9. Average self-efficacy scores of mothers over time.

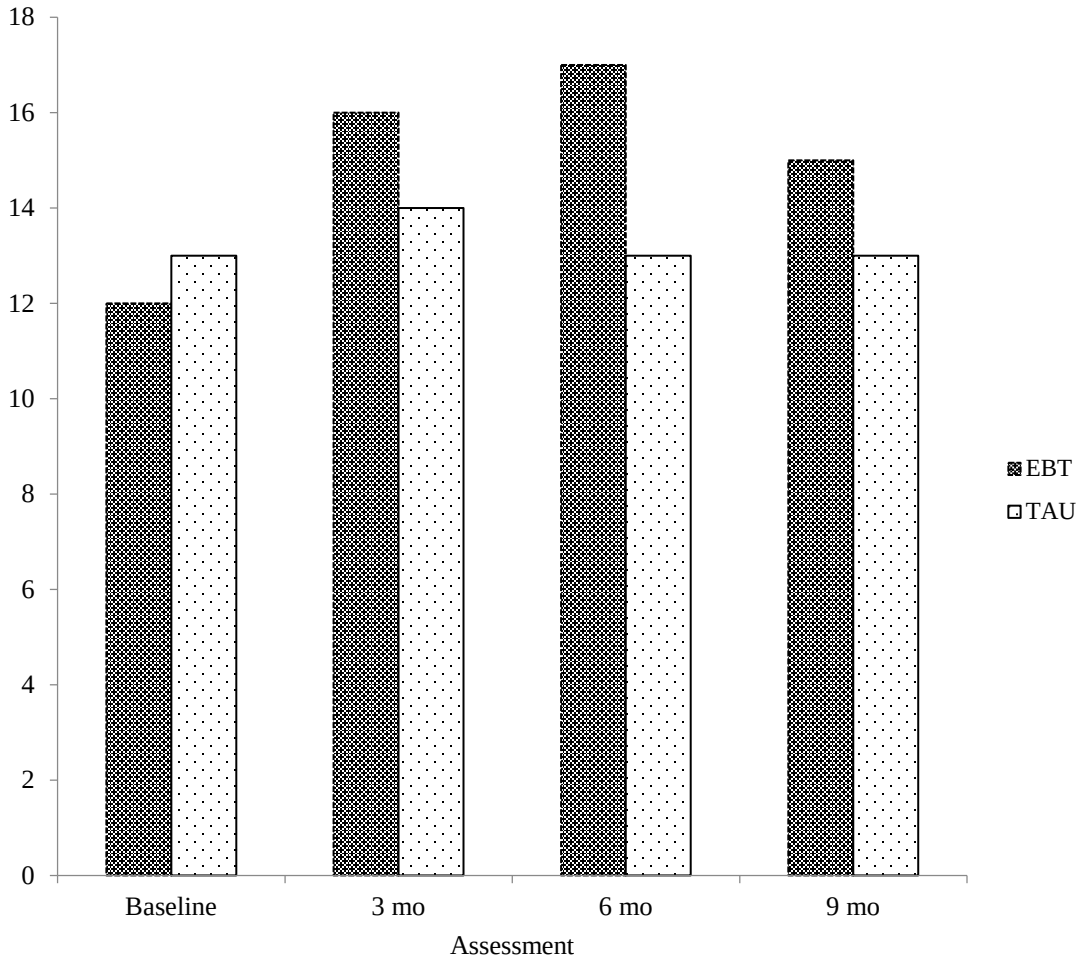

Figure 10. Number of mothers who reported seeking medical care in the past 90 days.

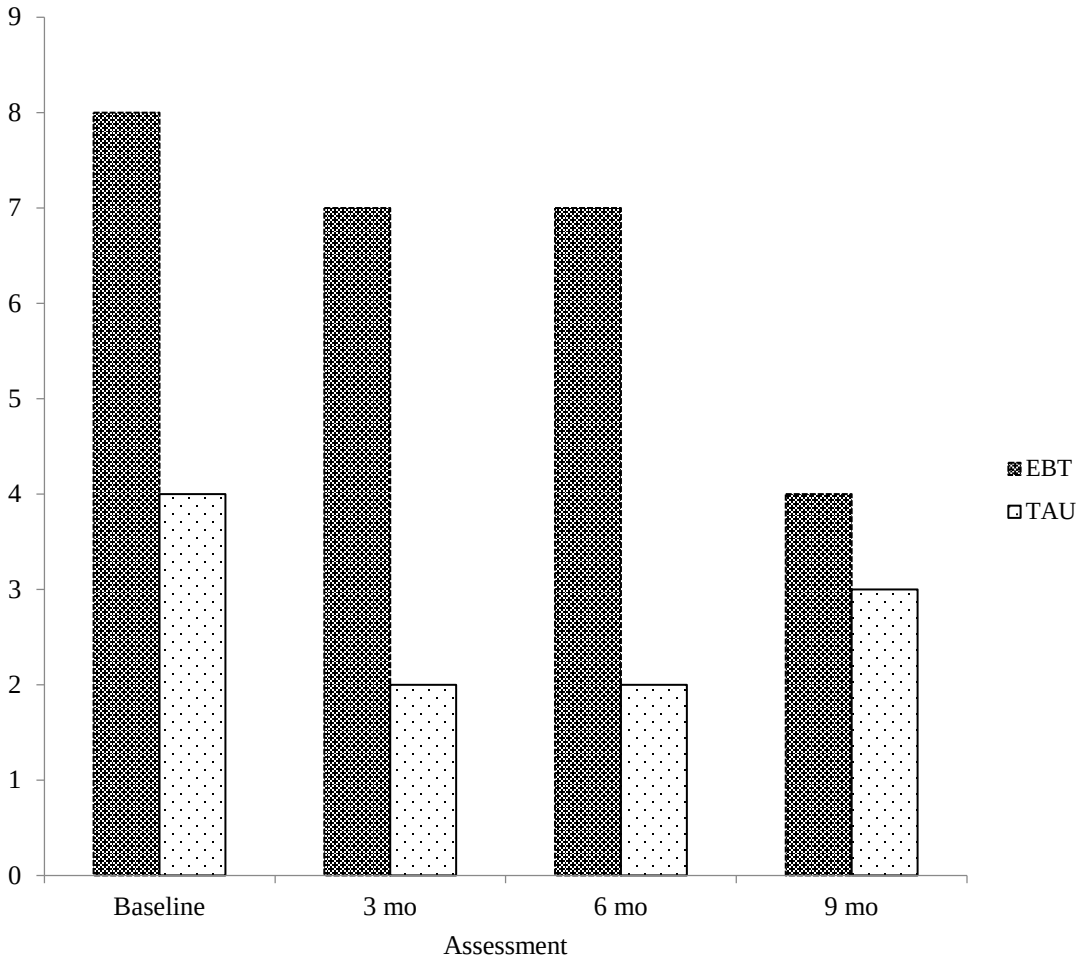

Figure 11. Number of mothers who reported attending school or training in the past 90 days.

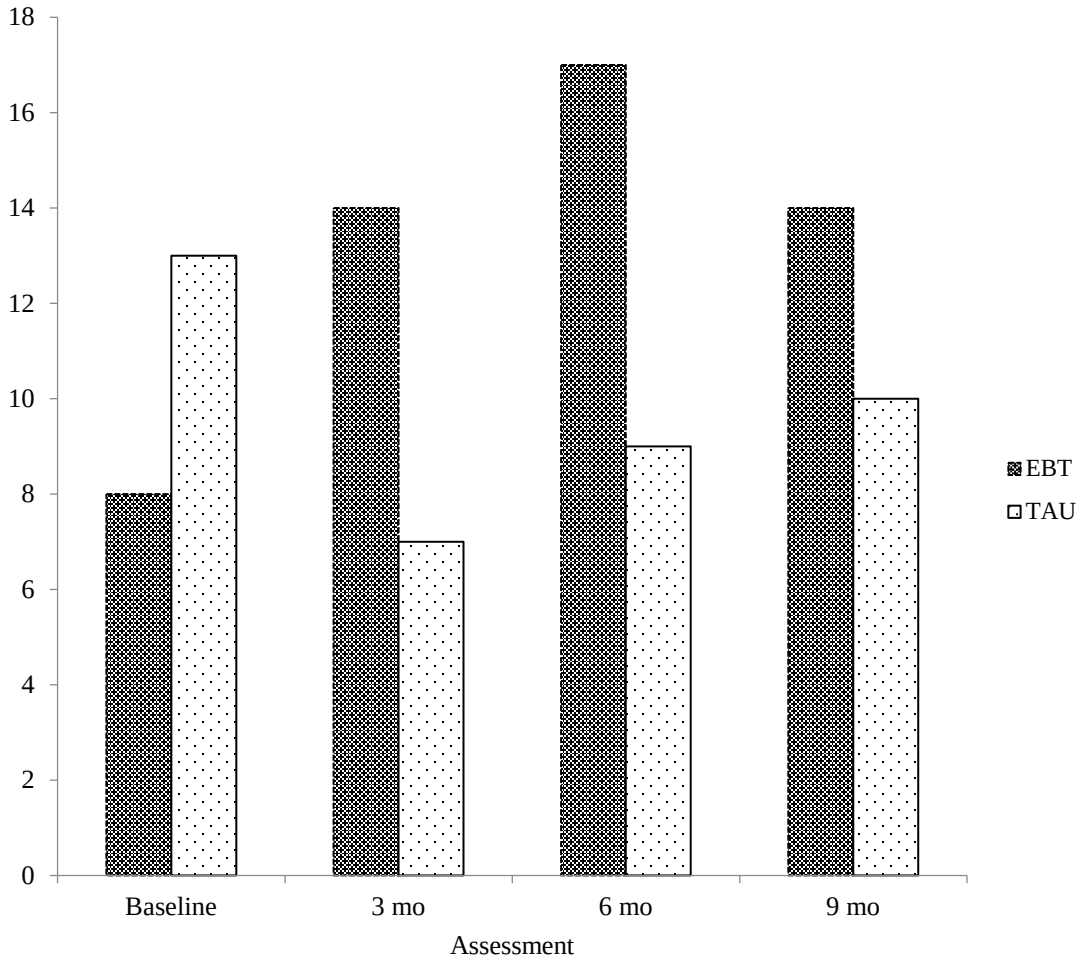

Figure 12. Number of mothers who reported attending religious ceremonies in the past 90 days.