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The influence of concrete support on child welfare program engagement, progress, and recurrence

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ABSTRACT

Families living in poverty are significantly more likely to become involved with child welfare services, and consequently, referred to interventions that target abusive and neglectful parenting practices. Program engagement and retention are difficult to achieve, possibly because of the concrete resource insufficiencies that may have contributed to a family's involvement with services in the first place. Various strategies have been used to enhance program completion, such as motivational interventions, monetary incentives, and financial assistance with concrete needs. This study examines the influence of adjunctive concrete support provided by home visitors on families' ($N = 1754$) engagement, retention, and satisfaction with services as well as parenting outcomes. Using propensity stratification, mixed modeling procedures revealed that increasing concrete support predicted greater engagement, satisfaction, goal attainment, and lower short-term recidivism. Results suggest that adjunctive concrete support is a potentially beneficial strategy for promoting service engagement and satisfaction and increasing short-term child safety.

1. Introduction

Child welfare systems serve a disproportionate number of poor families (Boyer & Halbrook, 2011; Drake & Pandey, 1996). Children living in poverty suffer a range of detrimental outcomes relative to their higher-income counterparts (Case & Paxson, 2002; Mayer, 1997). They have poorer health; miss more days of school; score lower on standardized tests; are more likely to develop serious chronic health problems, have a teenage pregnancy, drop out of school; and are less likely to achieve economic self-sufficiency (Case & Paxson, 2002; Mayer, 1997). Poverty likely influences maltreated children's well-being directly through limited access to quality health care and housing, for example, but perhaps to a greater extent *indirectly* through its effects on safety, permanency, and parenting. Indeed, families living below the poverty line are over 40 times more likely to enter child welfare than median-income families and the greatest predictor of maltreatment and child welfare entry is income (Drake & Pandey, 1996; Sedlak et al., 2010).

Within high-risk populations, hardships such as utility shut-offs, difficulty paying for housing, food insecurity, and self-reported material economic stress have been shown to increase the risk of involvement with the child welfare system (Courtney, Dworsky, Piliavin, & Zinn, 2005; Dworsky, Courtney, & Zinn, 2007; Slack, Holl, McDaniel, Yoo, & Bolger, 2004; Slack et al., 2003). When poor families enter the child welfare system, children most often remain in the home and the families are then referred to—and perhaps court-mandated to—behavioral or social interventions designed to reduce harsh, abusive, or neglectful behavior, improve the living environment, and enhance caregiving capacity. These services often are delivered in the home. Compliance and retention are challenging given that families may already be burdened with stressors that accompany poverty. Thus, in addition to program content, child welfare service programs may assist families in meeting immediate concrete needs insufficiencies as a strategy to promote engagement and retention, and to support families and prevent removal or re-abuse during the service interval.

Concrete support potentially can serve at least three service-related purposes. First, providing relief from an immediate concrete needs crisis may be preferable to removing a child from the home due to insufficiency. For example, it may be better to provide funds to prevent the utilities from being cut off than to remove a child from a home because there are no utilities. Second, offering help with an immediate concrete needs crisis may facilitate engagement with services. Third, relief from an immediate needs crisis may bolster family stability and reduce stress, allowing better compliance with and progress toward goals. These potential benefits (better child retention in the home, better service engagement, and greater progress) presume that the concrete support provided is matched to the actual needs insufficiencies experienced by the family. Based on this assumption, some home-based child welfare service programs include provisions for funding immediate concrete resource assistance on a discretionary basis. The hypothesized benefits of this practice have received little empirical evaluation.

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1.1. The influence of poverty on child welfare involvement

There is an inverse association between income and child maltreatment rates (Bath & Haapala, 1993; Eckenrode, Smith, McCarthy, & Dineen, 2014; Sedlak & Broadhurst, 1996; Sedlak et al., 2010; Yang, 2010). In the Fourth National Incidence Study, children from families with low socioeconomic status (SES) were five times more likely to experience child maltreatment and seven times more likely to be neglected than children in households with higher SES (Sedlak et al., 2010). Other indicators of economic hardship, including welfare receipt and benefit levels (Brown, Cohen, Johnson, & Salzinger, 1998; Jones & McCurdy, 1992; Martin & Lindsey, 2003; Paxson & Waldfogel, 2002); unemployment (Gillham et al., 1998; Jones, 1990; Sidebotham, Heron, Golding, & Team, 2002); and single-parent family structure (Berger, 2005; Chaffin, Kelleher, & Hollenberg, 1996; Sedlak & Broadhurst, 1996) are also associated with child maltreatment risk. Further, child maltreatment has been shown to correlate with community- or state-level poverty rates (Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007), and family-level poverty increases the risk for virtually every form of child abuse and neglect, regardless of whether it is reported to CPS (Sedlak & Broadhurst, 1996). Inverse relationships between income and child welfare involvement are not universal (e.g., Slack et al., 2003; Slack et al., 2004), depending on the sample.

Perhaps the more salient finding is that movement out of poverty, presumably resulting in adequate resources through which to meet concrete needs, appears to affect risk. Studies suggest that a stronger association exists between a change in income status (i.e., income loss versus income level) and risk of child welfare system involvement (Shook, 1999; Slack, Lee, & Berger, 2007). For example, a study conducted by Slack et al. (2007) revealed that a reduction in welfare benefits was associated with increased risk for child welfare system reports. Similarly, increasing income by providing additional financial support to single mothers was found to reduce risk of child maltreatment (Cancian, Slack, & Yang, 2010). This might suggest that economic supports used to avert basic needs crises may impact child welfare report or re-report risk, which is one hypothesis we will test in this study.

1.2. Program engagement, progress, and retention

Parents cannot benefit from services and interventions they do not receive. Program progress and outcomes are impeded when parents receive an insufficient dose, and those who drop out of programs have poorer outcomes. Progress and consumer-provider relationships in these services vary considerably, and poor engagement and premature exit from supportive or rehabilitative services are possibly due to the same strains and concrete resource insufficiencies that contributed to abuse or neglect and parents' involvement with child welfare systems in the first place. Effective strategies that can be implemented to promote program engagement and retention are recognized priorities for child welfare service providers. A range of strategies have been examined, including monetary incentives, the provision of transportation, on-site childcare and meals, home-based service location, and motivational interventions implemented before the start of, or in the early sessions of, a program (Chaffin et al., 2009; Dumas, Begle, French, & Pearl, 2010; Heinrichs & Jensen-Doss, 2010; Loman & Siegel, 2012).

Many of these strategies are predicated on research into the facilitators and barriers to program engagement and retention, most of which has focused on participant demographics (Ingoldsby, 2010). Not surprisingly, economic hardship is a significant barrier to participation as limited access to transportation, inability to afford childcare during program participation, and employment in multiple jobs, for example, can interfere with the ability to attend sessions (Ingoldsby, 2010; Muzik et al., 2014). Single-parent and ethnic minority families may also be less likely to engage and stay engaged in services (Ingoldsby, 2010). Further, families involved with child welfare who drop out of services report more parental stress, harsher and less consistent discipline, and a lack of social support (McWey, Holtrop, Wojciak, & Claridge, 2014).

1.2.1. Program engagement and retention strategies

A variety of strategies have been implemented with families in poverty or involved with the child welfare system to improve engagement and retention, most of which have not been rigorously examined; a few of those strategies commonly implemented in child welfare settings are discussed below.

The provision of monetary incentives tends to be the most regularly implemented strategy to improve retention across a variety of programs and has been hypothesized to be particularly helpful in engaging low-SES families (Ingoldsby, 2010). Monetary incentives often come in the form of payment for sessions or study participation and are often in conjunction with the provision of transportation, childcare, and meals (Dumas et al., 2010; Loman & Siegel, 2012). Although hypothesized to be an effective retention strategy, many studies suggest that monetary incentives for program participation produce little to no improvements in program engagement, retention, and outcomes; however the form in which monetary compensation is received varies, and thus, results are mixed.

A randomized trial found that the provision of incremental monetary compensation for session attendance did not significantly improve attendance in a group-based community parenting program compared to a non-incentive condition (Dumas et al., 2010). The compensation did significantly influence potential participants' intent to enroll, although this difference disappeared when those parents who did not attend any sessions were excluded from analyses. In a similar study, compensation for session attendance and program completion enhanced the initial enrollment of families offered payment compared to those who were not, but did not significantly influence program engagement (Heinrichs, 2006). Both studies suggest that the offer of monetary incentives may be beneficial for recruiting parents into programs, but may not affect program engagement and retention.

Another study examining the influence of payment on program outcomes also showed that payment was not related to changes in self-reported parenting skills (Heinrichs & Jensen-Doss, 2010). It has been noted that people who receive money for their participation in programs may be less intrinsically motivated to participate, and consequently, less engaged with the curriculum, which in turn, results in less positive program outcomes. These studies examined monetary incentives, which differ from the focus of this study of the provision of immediate short-term resource provision. Both strategies involve cash support, but one uses cash as a reward and the other delivers support on a needs-based criterion designed to bolster child caregiving. A study examining the provision of needs-based financial assistance to low-income families showed that assistance with concrete needs (e.g., utilities, food or clothing, and other financial assistance) increased the number of days to a subsequent report to the child welfare system (Loman & Siegel, 2012). Collectively, these studies suggest that simply compensating parents for program participation may be helpful in getting parents in the door, but may not be helpful in facilitating successful program completion and promoting positive outcomes. On the other hand, assisting families with insufficiencies in a concrete resource crisis—such as when money is needed for rent, utilities, food or clothing, and assistance with other financially related needs—may be a more impactful alternative in engaging and retaining parents, and in turn, improving parenting outcomes. To our knowledge, this later type of assistance has not been tested for its impact on improving retention and engagement in home-based child welfare services programs, and this is a hypothesis we will test in this study.

1.3. Study setting

This study makes use of existing data from a study of families with open child welfare cases, mostly related to child neglect, who were

receiving home-based services, and who were eligible for discretionary short-term needs-based concrete resource provision from their home visitor. Eighty percent of families had incomes below the federal poverty line. The home-based services' contractual budgets included discretionary funds (up to $600 per family) that home visitors could access to help their families with emergency needs insufficiencies, such as utility payments, food, clothing for children, or transportation assistance. This was designed as a short-term supplement to prevent crisis, support service goal attainment, and keep children safely at home. Although it was not designed primarily as a retention or engagement tactic, it may have also served this purpose. Some cases never accessed any funds, and those that did received them in different amounts and for different purposes. This study will examine the hypothesis that receipt of this type of support provided by home visitors is associated with improved family engagement, retention, and satisfaction with services, parenting outcomes (i.e., parental stress, goal attainment), and short-term reduction in re-reports to child welfare.

2. Methods

2.1. Participants

The sample for the current study included 1754 parents or caregivers enrolled in home-based services delivered by community-based agencies under contract with the child welfare system in one Southern state. Eligible parents were all involved with child welfare services for reasons other than sexual abuse, and were referred to the programs by child welfare services personnel. On average, the sample had 2.86 (SD = 2.71) prior reports to child welfare services. All participants included in the sample were the primary caregiver, most of whom were women (92%) and white (67%). The average age of participants was 29.4 years. Most participants were unmarried (69%) with 2.9 children on average, most of whom were preschool-aged. Few participants had any education beyond high school (27%), while most were below the poverty line (80%). Finally, 41% of the sample had a history of sexual abuse and 40% had a history of physical abuse. The project was approved by the Institutional Review Board at the University of Oklahoma Health Sciences Center, and received privacy assurances afforded by a Federal Privacy Certificate.

2.2. Measures

Participant self-report, home visitor report, and administrative data were used to measure study constructs. All self-report measures were completed in private using computer assisted touch screen interviewing devices, administered by a trained data collector. Results were kept confidential and were not shared with service providers or the child welfare system. In addition to basic demographic information (including income), a battery of measures were administered to obtain responses on various aspects of parenting and the service experience.

2.2.1. Parenting distress

Distress was measured using the Child Abuse Potential Inventory (CAPI; Milner, 1994) Distress Scale, which is a standardized and widely used self-report measure of attitudes and behaviors that are associated with child maltreatment. The CAPI has high internal consistency (KR-20 = 0.92 to 0.95).

2.2.2. Social support

Social support was measured at baseline and program completion using the Social Provision Scale (SPS; Cutrona & Russell, 1987). The SPS assesses six types of social relationships including guidance (advice or information), reliable alliances (assurance that others can be counted on in times of stress), reassurance of worth (recognition of one's competence), attachment (emotional closeness), social integration (a sense of belonging to a group of friends), and opportunities for nurturance (providing assistance to others). Internal consistency for the SPS reported in the literature range from 0.63 to 0.94.

2.2.3. Sufficiency of resources

The Family Resources Scale (FRS; Van Horn, Bellis, & Snyder, 2001) was administered at baseline and program completion as an inventory of basic needs sufficiency. The FRS was developed to assess the adequacy of concrete resources in households with young children and provide a basis for identifying appropriate intervention targets and strategies. Among this study sample, the observed Cronbach's alpha was 0.90.

2.2.4. Depressive symptoms

The 21-item Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988) was used as a rapid screening measure of baseline depression within the study sample. Internal consistency of the scale has been published at 0.93.

2.2.5. Program engagement

Service engagement was measured at program completion with the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989). The WAI is a 36-item scale that measures three aspects of the therapeutic relationship including agreement on therapeutic tasks (task), emotional bond (bond), and agreement on therapeutic goals (goals). Alphas reported in the literature for the WAI range from 0.68 to 0.87.

2.2.6. Program satisfaction

Participant satisfaction with services was measured at program completion using the Client Satisfaction Survey (CSS; Chaffin, Bard, Bigfoot, & Maher, 2012), which was developed to measure parents' perceptions of how much home-based services have helped their family. The questionnaire comprises items reflecting the process and outcome goals of the home visiting service system. The Client Cultural Competence Inventory (CCCI; Switzer, Scholle, Johnson, & Kelleher, 1998) was used as a second indicator of client satisfaction and is a self-report measure of perceptions about the cultural competence of services. The CCCI has a reported Cronbach's alpha of 0.76 and is designed to measure cultural competence across diverse cultures rather than using items with culturally specific content. The CCCI was also administered after the intervention.

2.2.7. Program completion, goal attainment, and child welfare recurrence

Administrative data were examined to determine participant completion (i.e., the participant was coded in administrative data as dismissed if there were three consecutive failed visits without case reactivation). Home visitor reported progress ratings were also collected in administrative data and coded as full, partial, or no goals met. Following completion of the program, the home visitor rated the extent to which the participant attained goals established prior to services, with regard to safety threats that brought the family into the child welfare system (e.g., dirty home, parent using substances, insufficient parental supervision); these ratings were used as an indicator of goal attainment. Child welfare administrative data (including prior child welfare entry) were used to track child welfare re-entry, defining a re-entry event as a report involving the parent receiving services as the perpetrator, aggregated across maltreatment types, children, and dates to yield unduplicated events, and time to event, beginning at program enrollment.

2.3. Statistical approach

Because participants were not randomly assigned to receive variable amounts of concrete support (the independent variable in this study), propensity stratification was employed in order to manage imbalances across levels of assistance receipt. Concrete needs assessment was discretionary and intended to be needs-based as assessed by the individual home visitor. However, there was considerable variation in the amount of money expended by different home visitors and by the same home

visitor on different clients. In addition, the total budget for discretionary funds varied by annual budget period. Given that clients were not assigned to home visitors or to budget years based on client characteristics, clients of comparable objective need might receive very different levels of concrete assistance support. Our aim was to capitalize on this variation by identifying homogeneous subgroups within which the amount of support received was reasonably independent of objective need and client characteristics.

Propensity scores permit quasi-experimental comparisons between participants in naturally occurring "treatment" and "control" groups with approximately equivalent covariate characteristics (Shadish, Cook, & Campbell, 2002). This allows a less biased estimation of the possible causal effect of support on outcomes than standard regression approaches (Rubin, 1997). Propensity scores were derived to predict the likelihood that families would have received various amounts of money given multiple demographic variables. Because the distribution of financial assistance was irregular, grouping was used, and participants were divided into three groups based on how much concrete support (in total dollars) they received from their home visitor: received no money ($n = 736$); received less than or equal to $300 ($n = 524$); and received greater than $300 ($n = 494$). Very few clients received in excess of $600, which was the soft cap on discretionary spending. Propensity score models included a range of covariates selected for their potential influence on concrete support receipt: age, household income, education, employment status, marital status, number of children, age of youngest child, number of prior child welfare reports, whether participant had a cell phone or car, size of community, and baseline scores for self-report measures including social support (SPS), adequacy of family resources (FRS), child abuse potential (CAPI), and depression (BDI). Covariates were limited to those risk variables measured for the study, and thus other unobservable risk factors that may have influenced concrete support and program outcomes are not included. See Table 1 for distribution of demographics across levels of concrete support. K-means clustering was then applied to derive five strata from the propensity scores. See Table 2 for the distribution of demographic variables, comparing the three concrete support levels, across the five propensity strata.

Major outcomes (i.e., engagement, retention, satisfaction, parenting, goal attainment, and recidivism) were tested using two-level (clients within home visitors; n's = 1754 and 214, respectively) multi-group models (stratified by the five propensity strata) regressing outcome variables on concrete support level by employing maximum likelihood estimation with robust standard errors in MPlus 7.2 software. Raw propensity scores were used to weight observations. Irregular distributions were analyzed as ordered categories, and child welfare recidivism was analyzed using a Cox survival model for up to the first year after enrollment. The relatively short survival window was selected on the assumption that the impact of brief concrete support would be most evident during the service interval itself and immediately afterwards. This assumption was confirmed by examining hazard plots extending out to six years, which showed that differences between payment levels occurred early on and became indistinguishable after the first year. The concrete needs coefficients for propensity stratums were then pooled and weighted by the number of participants within a given stratum to produce an overall weighted average coefficient for each dependent variable for the entire sample.

3. Results

3.1. Program retention

Program completion was high overall, with 88.2% of participants not being dismissed due to three consecutive missed visits. The propensity-score weighted estimate for the overall sample ($N = 1750$) of concrete support level on program completion was not statistically significant (estimate = 0.143, SE = 0.099, $p = 0.149$), suggesting that concrete support did not affect program retention. See Table 3 for estimates for all outcome variables.

3.2. Program engagement

Because the distribution for the WAI was negatively skewed (i.e., most participants reported higher scores), the distribution was divided into four ordered categories of WAI scores. The overall estimate for the entire sample for whom WAI's were obtained ($N = 1029$) was statistically significant (estimate = 0.209, SE = 0.073, $p = 0.004$). Results suggest that increasing the amount of money a family received from their home visitor increased the level of program engagement as measured by the WAI.

3.3. Program satisfaction

The pooled estimate for payment level predicting client satisfaction (i.e., CSS) was marginally statistically significant for the entire sample from whom satisfaction scores were obtained ($N = 774$, estimate =

Table 1
Distribution of demographics by concrete support group.

	Full sample	Payment = 0	Payment = 1	Payment = 2
N	1754	736	524	494
Age	29.42 (8.10)	29.47 (8.72)	29.00 (7.91)	29.79 (7.27)
% Female	91.6	91.3	92.7	90.9
Number of children	2.86 (1.79)	2.73 (1.55)	2.85 (1.89)	3.06 (2.00)**
Age of youngest child	1.24 (0.45)	1.26 (0.46)	1.20 (0.41)	1.27 (0.46)*
% Married	30.7	30.0	30.9	31.4*
% White	66.8	66.3	65.6	68.6
Income	1210.03 (1153.68)	1403.45 (1291.67)	1052.73 (1048.61)	1088.71 (990.91)***
% Below poverty line	79.8	72.4	84.9	85.2***
% HS diploma	20.6	19.4	21.9	21.1
% Employed	62.5	64.9	59.4	62.3
Prior CW referrals	2.86 (2.71)	2.76 (2.66)	2.93 (2.52)	2.94 (2.99)
FRS	3.82 (0.57)	3.94 (0.57)	3.78 (0.55)	3.70 (0.55)***
CAPI (Abuse)	161.65 (105.84)	150.67 (100.96)	163.97 (105.60)	175.55 (111.46)***
SPS	3.16 (0.50)	3.19 (0.49)	3.18 (0.49)	3.10 (0.51)**
BDI	12.96 (11.64)	11.79 (10.93)	13.11 (11.55)	14.54 (12.56)***

Note: Percentage or mean (and standard deviation) presented. Payment = 0 received no money; Payment = 1 received less than or equal to $300; Payment = 2 received greater than $300. FRS = Family Resources Scale; CAPI = Child Abuse Potential Inventory; SPS = Social Provisions Scale; BDI = Beck Depression Inventory.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

Table 2
Distribution of demographics by propensity strata.

	Payment = 0	Payment = 1	Payment = 2
Propensity Strata 1			
N	146	137	68
Age	27.31 (7.67)	26.70 (6.97)	28.84 (7.68)
% Female	94.5	98.5	94.1
Number of children	2.50 (1.27)	2.47 (1.34)	2.59 (1.32)
Age of youngest child	1.09 (0.29)	1.07 (0.26)	1.21 (0.41)**
% Married	21.2	22.6	25
% White	57.5	54.7	63.2
Income	865.27 (548.68)	761.85 (487.98)	879.28 (552.45)
% Below poverty line	95.2	94.9	95.6
% HS diploma	19.9	21.9	22.1
% Employed	54.1	38.7	51.5*
Prior CW referrals	2.92 (2.55)	2.93 (2.14)	3.25 (4.28)
FRS	3.95 (0.43)	3.94 (0.39)	3.87 (0.36)
CAPI (Abuse)	143.92 (97.51)	152.10 (100.34)	151.71 (96.68)
SPS	3.29 (0.47)	3.30 (0.45)	3.34 (0.44)
BDI	9.84 (9.35)	10.98 (10.40)	9.52 (9.20)
Propensity score	0.42 (0.05)	0.41 (0.05)	0.40 (0.05)
Propensity Strata 2			
N	138	38	24
Age	31.35 (10.40)	30.63 (8.95)	31.71 (8.25)
% Female	89.1	89.5	87.5
Number of children	2.24 (1.19)	2.00 (1.54)	2.71 (1.97)
Age of youngest child	1.43 (0.59)	1.32 (0.47)	1.38 (0.58)
% Married	35.5	23.7	33.3
% White	67.4	68.4	45.8
Income	2873.70 (1974.39)	2798.55 (2624.55)	3178.04 (2714.88)
% Below poverty line	15.2	21.1	8.3
% HS diploma	15.2	10.5	8.3
% Employed	80.4	81.6	75
Prior CW referrals	2.14 (2.16)	2.39 (2.43)	3.21 (3.18)
FRS	4.37 (0.39)	4.34 (0.33)	4.36 (0.42)
CAPI (Abuse)	104.55 (85.92)	107.74 (82.82)	110.92 (87.28)
SPS	3.30 (0.45)	3.27 (0.48)	3.32 (0.54)
BDI	8.12 (9.62)	7.75 (8.06)	7.96 (7.80)
Propensity score	0.66 (0.07)	0.65 (0.06)	0.66 (0.06)
Propensity Strata 3			
N	126	151	133
Age	28.30 (7.43)	29.07 (7.68)	28.68 (6.59)
% Female	94.4	92.7	96.2
Number of children	3.04 (1.41)	3.33 (2.14)	3.22 (1.67)
Age of youngest child	1.17 (0.38)	1.12 (0.33)	1.13 (0.34)
% Married	38.9	39.7	38.3
% White	66.7	69.5	70.7
Income	796.44 (591.34)	725.44 (533.91)	750.09 (548.36)
% Below poverty line	96	98.7	98.5
% HS diploma	26.2	26.5	26.3
% Employed	52.4	60.9	52.6
Prior CW referrals	3.60 (2.92)	3.09 (2.82)	3.02 (2.52)
FRS	3.45 (0.55)	3.42 (0.49)	3.45 (0.47)
CAPI (Abuse)	190.72 (102.79)	187.85 (105.33)	198.78 (110.41)
SPS	3.12 (0.47)	3.16 (0.47)	3.08 (0.51)
BDI	15.79 (11.78)	16.45 (11.93)	18.62 (13.20)
Propensity score	0.32 (0.05)	0.30 (0.06)	0.31 (0.05)
Propensity Strata 4			
N	107	84	144
Age	31.79 (8.19)	31.19 (7.50)	30.98 (6.80)
% Female	87.9	86.9	86.1
Number of children	3.55 (2.16)	3.38 (2.28)	3.66 (2.72)
Age of youngest child	1.35 (0.48)	1.42 (0.50)	1.35 (0.49)
% Married	25.2	34.5	29.9
% White	72.9	77.4	72.2
Income	1022.95 (646.45)	962.79 (559.89)	969.90 (619.68)
% Below poverty line	95.3	97.6	93.8
% HS diploma	15.9	25	19.4
% Employed	65.4	67.9	61.8
Prior CW referrals	2.87 (2.79)	3.08 (2.67)	3.26 (3.19)
FRS	3.51 (0.53)	3.54 (0.56)	3.43 (0.55)
CAPI (Abuse)	208.11 (106.15)	204.49 (103.17)	209.85 (115.90)
SPS	2.95 (0.50)	2.97 (0.53)	2.91 (0.46)
BDI	17.85 (12.41)	17.28 (12.39)	17.81 (13.26)
Propensity score	0.33 (0.07)	0.32 (0.07)	0.31 (0.07)
Propensity Strata 5			
N	219	114	125

Table 2 (*continued*)

	Payment = 0	Payment = 1	Payment = 2
Age	29.28 (8.74)	29.50 (8.60)	29.74 (7.88)
% Female	90.4	91.2	89.6
Number of children	2.62 (1.46)	2.57 (1.64)	2.54 (1.38)
Age of youngest child	1.27 (0.46)	1.26 (0.46)	1.33 (0.49)
% Married	29.7	28.9	28.8
% White	68	64	69.6
Income	1370.93 (850.87)	1320.17 (767.90)	1306.71 (742.03)
% Below poverty line	68.5	66.7	70.4
% HS diploma	19.6	17.5	19.2
% Employed	69.4	68.4	76.8
Prior CW referrals	2.52 (2.66)	2.80 (2.43)	2.26 (2.15)
FRS	4.15 (0.42)	4.05 (0.43)	4.07 (0.38)*
CAPI (Abuse)	133.13 (87.38)	135.47 (103.31)	136.72 (99.36)
SPS	3.20 (0.48)	3.18 (0.50)	3.17 (0.50)
BDI	10.14 (9.53)	9.96 (10.52)	10.43 (10.60)
Propensity score	0.50 (0.05)	0.49 (0.04)	0.48 (0.05)

Note: Percentage or mean (and standard deviation) for each propensity score stratum presented. Payment = 0 received no money; Payment = 1 received less than or equal to $300; Payment = 2 received greater than $300. FRS = Family Resources Scale; CAPI = Child Abuse Potential Inventory; SPS = Social Provisions Scale; BDI = Beck Depression Inventory.
* $p < 0.05$.
** $p < 0.01$.

0.058, SE = 0.023, $p = 0.011$). A second indicator of program satisfaction was participants' perceived cultural competence of services (CCCI; Switzer et al., 1998). The pooled estimate for payment level predicting participants' perceptions of culturally competent service delivery was statistically significant ($N = 774$, estimate = 0.079, SE = 0.033, $p = 0.018$). That is, increasing concrete support provided by the home visitor predicted an increase in client satisfaction with services and greater perceived cultural sensitivity of services.

3.4. Child welfare re-entry

A two-level Cox proportional hazards survival analysis was conducted to examine the influence of payment level on child welfare recidivism over the first year from the start of services, accounting for home visitor cluster and incorporating county report proneness and a historical recidivism risk indicator as control variables, as described in the (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012) study. A significant reduction in recidivism was found for the pooled sample ($N = 1747$, estimate = −0.116, SE = 0.052, $p = 0.026$, HR = 0.890), suggesting that as payment level increased one level, the odds of a first-year re-report went down about 11%. Using a dichotomous grouping (i.e., did not receive support versus received support), the odds of a first-year re-report were reduced even further, to nearly 17% (estimate = −0.185, SE = 0.085, $p = 0.030$, HR = 0.831).

3.5. Parenting stress

As an indicator of parenting distress, the Distress subscale of the CAPI (Milner, 1994) was used. The estimate for payment level for the pooled estimate for the entire sample was not statistically significant ($N = 1028$, estimate = 3.671, SE = 3.186, $p = 0.249$), indicating that concrete support did not reduce parenting stress as hypothesized.

3.6. Home visitor-reported goal attainment

Perhaps the strongest finding for the predictive utility of payment level was for goal attainment, or the extent to which the participant met his or her goals, as rated by the home visitor (estimate = 0.322, SE = 0.046, $p < 0.001$). Thus, as the money a family received for concrete needs increased, so did the extent to which the home visitor rated the family's attainment of pre-treatment service plan goals.

4. Discussion

Families living below the poverty line are significantly more likely to become involved with child welfare services due to reports of child abuse and neglect (Sedlak et al., 2010). Unfortunately, poor families may be difficult to engage and retain in services as their challenging living circumstances (e.g., lack of transportation, money to pay bills), which may have contributed to their involvement with child welfare services in the first place also may contribute to difficulty actively participating in and completing services. Rates of re-reports back into child welfare are high, particularly during earlier time periods after entry. It is important to identify strategies that are effective in engaging parents in services, and that can affect early re-reports. The findings from this study provide some evidence for the benefits of adjunctive concrete support (e.g., utility bills, rent, clothing) provided by a home visitor in enhancing program engagement and satisfaction among

Table 3
Propensity score-weighted regression results across outcomes.

	Estimate	SE	Estimate/SE	*p*-Level
Program retention[a]	0.143	0.099	1.443	0.149
Program engagement[a]	0.209	0.073	2.876	0.004
Client satisfaction[a]	0.058	0.023	2.545	0.011
Perceived cultural competence of services[a]	0.079	0.033	2.375	0.018
Child welfare re-entry[b,c]	−0.116 (0.89)	0.052	−2.220	0.026
Child welfare re-entry (Binary grouping)[b,c]	−0.185 (0.83)	0.085	−2.175	0.030
Parenting stress[a]	3.671	3.186	1.152	0.249
Home visitor-reported goal attainment[a]	0.322	0.046	6.959	<0.001

[a] Two-level (clients within home visitors; *n*'s = 1754 and 214, respectively) multi-group models (stratified by the five propensity strata) regressing outcome variables on concrete support level.
[b] Cox survival models, controlling for county report proneness and a historical recidivism risk indicator ($n = 1754$).
[c] Hazard ratio displayed in parentheses.

low-income families mandated to participate in services. Further, the provision of concrete support predicted some improvements in parenting outcomes, as indicated by greater goal attainment reported by the home visitor and a small but meaningful reduction in short-term recidivism to child welfare services over the first year.

Many of these associations were in the areas of client-perceived working alliance, service satisfaction, and perceived cultural competence of the services, which are interrelated outcome measures. Anecdotally in narrative comments provided on the CSS, clients often noted concrete assistance as an appreciated aspect of the service conveying that the home visitor cared about their family's welfare. These more positive aspects of engagement did not translate into greater service completion rates, although completion rates were generally high in this sample overall. Completion rates might be difficult to raise above the ceiling observed in the sample, which could be attributable to the home-based nature of the service combined with the compulsory nature of services and the definition of completion used (i.e., absence of a treatment dismissal). In terms of goal attainment, however, the expected effect was observed, and this may prove a more accurate and important indicator of seeing services to a successful completion than absence of a treatment dismissal. The fact that a small but still meaningful reduction in short-term child welfare re-entry was observed tends to support this conclusion. Our results are consistent with other research supporting the effectiveness of providing families financial assistance for concrete needs while they participate in parenting programs, as the provision of money increased the days to a re-report to child welfare services (Loman & Siegel, 2012). Finding even a small impact on short-term child welfare re-reports is noteworthy. Maltreatment re-reports are high-impact downstream events, with implications for child safety, permanency, and well-being. Finding any impact on child welfare re-entry rates has historically been elusive, so identifying this type of bottom-line impact is noteworthy.

Maltreatment re-reports also have significant cost implications for child welfare systems. Even a small reduction in re-report rates may offset the cost of a one-time expenditure of a few hundred dollars. Follow-up analyses suggest that the receipt of concrete support may provide not only an effective strategy to promote family engagement, completion of services, and parenting outcomes, but also a cost-effective one. Families receiving concrete support in this study received an average amount of $314.26. Using a hazard ratio of 0.83 (calculated for the dichotomous grouping) and a survival rate of 0.55, we estimate a $3361 expenditure for concrete support would avert one maltreatment report to child welfare during the first year after service enrollment (i.e., average dollar amount received / (survival rate for group 0 − [survival rate ∗ hazard ratio]); $314 / (0.55 − [0.55 ∗ 0.83]). A report conducted in Missouri estimated the costs of direct services over five years for families frequently reported to child welfare services at $5300 for each family with one to three subsequent reports and $13,000 with four or more (Loman, 2006). These estimates suggest that the expenditure of $3361 per re-report event averted could potentially be offset by the considerable costs of repeat involvement with child welfare services, not to mention any costs attributable to the effects of recurrent maltreatment on the child or the family's well-being. Because the first-year re-report differences between payment levels disappear after the first year, it should be emphasized that the impact of this limited kind of concrete support and its cost-effectiveness seems to be short-term. Nonetheless, our results—in conjunction with previous research—advocate for the allocation of funds to be provided to families during immediate concrete needs crises and for insufficiencies that interfere with service engagement and goal attainment.

5. Limitations and future directions

There are a few limitations that restrict our ability to infer definitive conclusions about the benefits of adjunctive concrete support. First, the study design did not incorporate random assignment of families to receive various amounts of financial assistance for concrete needs, and therefore, inferring causal effects should be done with caution. While propensity stratification was utilized to approach the rigor of true experimental comparisons by testing concrete support effects within approximately equivalent groups, a subsequent study with a priori random assignment would better permit conclusions about the true causal benefits of providing families financial support to pay for bills, food, rent, and other concrete needs for program engagement, retention, and outcomes.

Second, factors that contributed to each home visitors' decision to assist families with financial insufficiencies were not measured and so their influence on program engagement and other outcomes cannot be examined. It is likely that each home visitor's decision to provide financial assistance to their clients in a concrete needs crisis was affected by personal dispositions and perceptions. For example, a home visitor may be more likely to provide assistance to a family in crisis if the home visitor perceives a greater alliance between the home visitor and the family as well as increased motivation to engage in and complete the program. Indeed, many clients noted that the home visitor providing concrete support enhanced their perception of their home visitor as caring and invested in the family's welfare. To account for this possibility, home visitor cluster was entered in the first level of each model to explain any variability in outcome variables attributable to families' respective home visitor. We believe this type of variability was small given that residual home visitor variability in outcomes did not reach significance in any of the two-level models.

Finally, it was not possible in this study to compare concrete support to other potential strategies to increase engagement and program completion to determine if concrete support is most effective. Future research could elucidate whether the provision of financial assistance for resource insufficiencies to low-income families is superior to brief motivational interventions in enhancing client engagement. Similarly, the combination of a brief motivational intervention preceding the parenting intervention and the provision of concrete support throughout participation may be more effective than either strategy alone. More research comparing the effectiveness of various strategies, and combinations of strategies, is needed.

One strength of the study is that effects were found in a bona fide field service setting, as opposed to a laboratory setting, using real-world child welfare clients and home-based service providers, including clients with significant challenges including extensive prior child welfare histories. The study context supports strong external validity and potential generalizability to other similar service systems.

This research examined the effectiveness of concrete support provided by home visitors in enhancing client engagement, satisfaction, completion, goal attainment, and reducing maltreatment report recurrence in a sample of low-income families. Results indicated that providing financial assistance to families during a concrete needs crisis may be an effective strategy to help families engage in programs. Because low-income families are often burdened by considerable financial difficulties and other stressors, eliciting engagement and retention in these programs is a challenge. Therefore, it is important to understand which strategies work best in helping families complete programs that improve parenting behaviors and prevent future involvement with child welfare services. This study provides one potential strategy for enhancing program engagement, progress, and completion, and improving the lives of vulnerable children and their families. Additional research using rigorous designs is needed to further identify whether concrete support has a clear causal effect on engaging families in parenting interventions and reducing future involvement with child welfare services.

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