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Neglected Issues in Research on In-Home Services in Child Welfare: Final Report

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NEGLECTED ISSUES IN RESEARCH ON IN-HOME SERVICES IN CHILD WELFARE:
FINAL REPORT

February 2002

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EXECUTIVE SUMMARY

This study considers several previously unexamined issues that affect the delivery and outcomes of intensive, in-home services for families of abused and neglected children. In this report, we present new, empirical data on parents' and other primary caretakers' readiness for change, their alliances (working relationships) with in-home services caseworkers, and the nature and extent of their substance use. We look at these issues--and at caretakers' tendencies to give socially desirable responses--in relation to change over time in caretaker and family functioning, housing and economic conditions, social support, child well-being, the recurrence of child maltreatment, and out-of-home placement.

Conducted as a supplement to a large evaluation of in-home services in child welfare (the Evaluation of Family Preservation and Reunification Services), our study includes 353 families who were referred for intensive family preservation services in Philadelphia County between March 1997 and June 1999. All of these families were the subject of at least one substantiated report of child abuse or neglect prior to referral. For purposes of the Evaluation of Family Preservation and Reunification Services (EFPRS), the families were randomly assigned to intensive, in-home family preservation services (FPS) or less intensive Services to Children in their Own Homes (SCOH). Longitudinal data were gathered by Westat, Inc. via interviews with primary caretakers and FPS/SCOH caseworkers, self-administered surveys of caseworkers and intake workers, and administrative databases. Interviews with caretakers were conducted at three points in time: within a few weeks of random assignment (Time 1), at approximately four months (Time 2), and at one year after random assignment (Time 3).

Most of the primary caretakers in the study are African-American (81%) women (95%) who were unmarried (90%) and unemployed (83%). At the time of referral, their average age was 32 (the range is 19 to 78) and they had 3.4 children on average. More than half (53%) of the caretakers were the only adult in their household. Approximately 70% were receiving TANF at referral; hence, most had annual household incomes under \$10,000. At least 20% had difficulty buying food for their families and paying rent. Nearly 40% reported difficulty paying electric and heating bills and buying clothes for their children.

FPS and SCOH caseworkers were predominately women (70%) and two-thirds were African-American. Almost half had some graduate-level education. On average, the caseworkers had 9 years of social work experience and 6 years of experience in child welfare.

Unanticipated delays in the assignment of FPS and SCOH caseworkers to cases in the study affected service delivery and data collection. We encountered more problems than expected with missing data, particularly from caseworkers and on alliances.

Clients' Readiness for Change

The popular stages of change model (Prochaska & DiClemente, 1984, 1986, 1992) suggests that psychological and behavioral change occur in a series of discrete stages, whether within or outside of formal treatment and in relation to virtually any problem behavior. Using a modified version of the University of Rhode Island Change Assessment (URICA) scale,

- we do not find evidence of discrete stages of change in relation to parenting problems.
- Instead, we find two unrelated dimensions: Precontemplation (PC) is the opposite of problem admission and Contemplation/Action (CA) represents intentions or efforts to change.

Two scales were used to represent these dimensions. Like other researchers, we also computed an overall "readiness" score from responses to the URICA.

- At all three points in time, average PC scores were in the middle range on that scale, indicating ambivalence about the presence of parenting problems, and average CA scores were slightly elevated, indicating that caretakers wanted to improve their parenting.

In our sample, both PC and CA are associated with several caretaker and family characteristics, but

- PC and CA are not related to social desirability bias.
- Younger caretakers and those with severe depression tend to admit problems more readily (have lower PC scores) and express greater intentions to change (have higher CA scores) than others.
- Greater problem admission is also more common among caretakers with more recent negative life experiences and less social network support than others.
- The number of recent caseworker contacts is positively associated with caretakers' expressed intentions to change (CA).
- At baseline, caretakers with substance abuse problems are more likely to admit that they have parenting problems (have lower PC scores) and express readiness for change than others, although they are significantly less likely to admit that they have parenting problems four months later and their overall readiness for change appears to decline over one year.
- Caretakers who were receiving TANF at the outset showed greater problem admission within the next few months and more overall readiness for change at one year than other caretakers.

High baseline PC scores predict increases in some caretaker and family problems during the first four months after referral, while high CA scores predict some improvements in family living conditions, social

support, and children's school problems. PC and CA scores are related to the likelihood of subsequent maltreatment reports and substantiation of these reports, but these findings are not consistent over the entire observation period. PC and CA do not predict the likelihood of out-of-home placement. Hence,

- there is some evidence that PC and CA predict some changes in caretaker and family functioning, usually in the directions expected; inconsistent evidence regarding associations between PC and CA and further maltreatment; and no evidence that PC or CA predict placement.

We find no clear advantages of an overall readiness score in terms of its predictive validity and it has less explanatory power than using the PC and CA scales separately.

Alliance Formation

A client's assessment of the quality of his or her alliance (working relationship) with a clinician has been a good predictor of outcomes in traditional psychotherapy (Horvath & Greenberg, 1994; Martin, Garske & Davis, 2000) and is thought to be important in intensive, in-home services in child welfare (Kinney, Haapala & Booth, 1991; Dore & Alexander, 1996). Using Horvath's Working Alliance Inventory (Horvath, 1981; Horvath & Greenberg, 1989), we find that

- caretakers and caseworkers in our sample tend to report very positive alliances.

Caretaker alliance reports are associated with the number of caseworker contacts, social desirability bias, the caretaker's intentions to change, the number of substantiated reports of maltreatment prior to referral, and social network size. Specifically,

- More contacts with caseworkers predict more positive caretaker alliance reports.
- Social desirability bias appears to inflate some caretakers' alliance reports.
- Caretakers with higher baseline CA scores (intentions to change) tend to report more positive alliances than others at the beginning.
- Caretakers with higher baseline CA scores, those with more previous substantiated reports of maltreatment, and caretakers with relatively small social networks tend to report more negative views of the alliance at four months than at baseline.
- Caretakers who showed significant increases in overall readiness for change in the first four months had more positive alliance reports at one year.

More positive caretaker alliance reports at baseline predict increases in caretaker reports of parenting problems, depression, and

network size at four months. More positive alliance reports at four months predict more reported school problems, negative life events, and caretaker depression at one year. However, caretaker alliance reports do not predict changes in caseworker assessments of the adequacy of the caretakers' parenting skills. Hence,

- it is not clear whether caretaker alliance reports predict actual changes in functioning or changes in self-reports.
- More positive caretaker alliances predict significant reductions in the likelihood of further, substantiated reports of child maltreatment. This finding is consistent over the entire observation period.

We had relatively little alliance data from caseworkers. Available data indicate that caseworkers tend to report more positive alliances with older caretakers, those with housing problems, and caretakers who showed greater problem admission at the outset. At four months, caseworkers report more positive alliances with caretakers who had high baseline CA scores. More positive alliances were reported by female caseworkers, those with lower scores on a burnout scale, and caseworkers who felt relatively well prepared for case planning and treatment tasks. Caseworker alliance reports are unrelated to their assessments of the caretaker's parenting skills and are not consistent predictors of subsequent maltreatment or out-of-home placement.

- In sum, caretaker alliance reports predict increases in reported problems and significant reductions in further child maltreatment, while caseworker alliance reports do not predict outcomes.

Substance Use and Abuse

In this sample, very different estimates of the prevalence of substance abuse problems are obtained from different sources. At intake, Child Protective Services (CPS) workers reported that 52% of the cases had adults in the household with drug or alcohol problems, compared with 38% identified by FPS/SCOH caseworkers, and 18% by caretakers. Although we expected some under-reporting of substance abuse among caretakers, none of our sources came close to the prevalence estimates of 80% to 90% that workers gave us at the beginning of the evaluation.

Social Desirability Bias

Social desirability bias is the tendency to avoid negative appraisals and present oneself in a favorable light. Average scores on a measure of social desirability bias are higher in our sample of caretakers than in samples of the general population. As expected, caretakers with higher social desirability scores tend to report more positive alliances, good parenting practices, and positive behaviors in their children. On average, caretakers who have more children, those with older children, and single heads of households tend to have higher social desirability scores than others. Low social desirability scores are associated with caretaker depression and self-reported substance abuse. We use social desirability scores to control for this bias in other analyses.

Readiness, Alliance, Intervention, and Outcomes

Preliminary analyses of interrelationships among readiness for change, alliance formation, intervention characteristics, and outcomes indicate that:

- Problem admission is not affected by service characteristics (number of caseworker contacts, concrete services, service information and referrals, and topics of discussion), but might increase with more positive caretaker alliance reports.
- Caretakers' intentions/efforts to change (CA scores) appear to increase with discussion of a wider range of personal issues and more caseworker contacts, but do not seem to be affected by the range of concrete services or amount of referral information that caretakers receive.
- Baseline problem admission does not affect alliance formation or service characteristics.
- Greater intentions/efforts to change (high CA) at baseline predict weaker alliances at Time 2, discussion of more personal issues with caseworkers, and receipt of more referral information.
- The alliance is closely linked to four service characteristics; i.e., more positive caretaker alliances at Time 2 are predicted by the number of caseworker contacts, discussion topics, concrete services, and referrals received prior to that time.

Discussion and Implications

Clients' readiness for change, the formation of working alliances between clients and caseworkers, substance use and abuse, and social desirability bias are important and underinvestigated issues in research on child welfare services. Our study sheds some light on each of these topics and suggests directions for policy, practice, and further research.

It is not clear that psychological and behavioral change occur in stages. If readiness for change is an internal state (or set of states), its cognitive and affective components are not well-defined. Problem-specific and situational aspects of readiness for change have been largely ignored. Some of the problems that families face, particularly economic and housing problems (and, perhaps, some mental disorders), may have little to do with individual intentions or efforts to change. Readiness for change may depend on the nature of the problem and the perceived relevance and difficulty of solutions at hand. Therefore,

- Current stage models and available measures of readiness for change are not adequate for assessment, treatment, or case decision-making purposes.
- Clinicians should evaluate clients' understandings of the nature of their problems and clients' intentions and efforts to change in light of clients' social, economic, and cultural contexts.

- Readiness for change should not be confused with readiness to work with a particular caseworker or participate in a specific program.
- Further research and conceptual work are needed to clarify the meanings and components of readiness for change in relation to different problems and social service contexts.

Alliance formation appears to be important in in-home services in child welfare.

- The Working Alliance Inventory can be used to assess alliances in a child welfare sample.
- Caretakers and caseworkers in our sample tend to report positive alliances.
- More positive alliances between caretakers and in-home services caseworkers predict increases in some problems reported by caretakers and significant reductions in subsequent, substantiated reports of child maltreatment.

There is anecdotal evidence that alliance formation is facilitated by focusing on family strengths as well as problems, developing shared understandings of the situation, and offering hope that the situation can be improved.

- There is need for more systematic information on the development, role, and impact of alliances in in-home services and other child welfare settings.
- Further research on alliance formation and the kinds of alliances that are most effective in child welfare settings is clearly warranted. Social desirability bias should be considered in these studies.

Identification of substance abuse problems is not as straightforward as we would like.

- Different sources produce wildly different estimates of the prevalence of these problems.
- In the absence of biologic measures or clear evidence of the negative impact of substance use on parenting, clinicians should use caution in evaluating potential substance abuse.

Together with mounting evidence on the outcomes of intensive, in-home services in child welfare, our findings suggest that:

- More attention should be paid to intervention processes in relation to specific program objectives.

As currently conceived, the goals of intensive, in-home services may be too broad. In-home services can be used for assessment, prevention, or treatment purposes, but different purposes call for different program designs (i.e., differences in the timing, intensity, length, and types

of service provided to families). The role of caretaker readiness for change and alliance formation may depend, in part, on the context and goals of intervention.

- Policy makers and practitioners should experiment with more focused uses of in-home services. These should be carefully evaluated.

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We are grateful to family members who participated in this project and dedicate it to them.

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I. OVERVIEW

Intensive, in-home services are provided for some families of abused and neglected children in attempt to ameliorate conditions that lead to child maltreatment, protect children from further harm and, if possible, keep them safe in their own homes. Previous research has focused on outcomes, client characteristics, and structural features of in-home services in child welfare.

In the context of a large, controlled study of the effects of intensive, in-home services in Philadelphia County, we examine several issues that have not been addressed in previous research in this area. We assess parents' and other primary caretakers' readiness for change, the development of alliances (working relationships) between caretakers and caseworkers, and the extent of substance use and abuse by caretakers and others adults in their households. We also examine the extent of social desirability bias in caretakers' self-reports. Readiness for change, alliance formation, substance abuse, and social desirability bias are then considered in relation to changes in parent and family functioning, housing and economic conditions, social support, child maltreatment, and out-of-home placement.

Background

In the last decade there has been a great proliferation of home-based services for families of abused and neglected children (General Accounting Office, 1997; National Evaluation of Family Preservation Services, 1995). Following the Child Welfare and Adoption Assistance Act of 1980 (P.L. 97-272), which compelled states to make "reasonable efforts" to preserve families, the initial intent of intensive, in-home services was to ameliorate conditions that led to child maltreatment,

enable families to provide adequate care for their children, and, thus, reduce the need for out-of-home placement. Federal funding for these "family preservation" services was first provided under the Omnibus Budget Reconciliation Act (OBRA) of 1993 [P.L. 103-66], which established funds for states to use for family preservation or family support services. Funding for these services was continued under the Adoption and Safe Families Act (ASFA) of 1997 (P.L. 105-89), which created the Safe and Stable Families (SSF) program (Title IV-E, Subpart b). Under ASFA, federal priorities shifted to an emphasis on child protection and "permanency planning" (i.e., the development of permanent living arrangements for children) rather than family preservation per se. Reauthorized with the Promoting Safe and Stable Families Amendments of 2001 (H.R. 2873), the SSF program provides funds for a range of services for children and families including in-home services for children in their families of origin.

The 1993 OBRA made funds available for a rigorous evaluation of intensive family preservation services (FPS). Results of previous research on the effects of intensive, in-home services in cases of child abuse and neglect have been mixed (for reviews, see Blythe, Salley, & Jayaratne, 1994; Fraser, Nelson, & Rivard, 1997; Littell & Schuerman, 1995; Pecora, 1991; Rossi, 1992; Schuerman, Rzepnicki, & Littell, 1994). Controlled studies show that FPS have not resulted in dramatic reductions in subsequent child maltreatment or out-of-home placement. Recently, the Evaluation of Family Preservation and Reunification Services replicated and extended previous research on the outcomes of FPS in cases of child maltreatment (Westat, 2001).

Previous attempts to identify predictors of positive outcomes have not met with much success, but these efforts have focused on easily-

measured case characteristics (see, for example, Feldman, 1991; Schuerman et al., 1994; Szykula & Fleischman, 1985) and the structural features of family preservation programs, rather than service delivery processes. A previous study (funded by the Smith Richardson Foundation) indicated that certain structural "hallmarks" of family preservation services--brevity, intensity, and a mixture of concrete and clinical services--do not appear to be related to overall outcomes (Littell, 1997) or outcomes for specific subgroups of cases (Littell & Schuerman, in press).

Another study (also funded by the Smith Richardson Foundation) showed that greater collaboration between caretakers and caseworkers in the development of treatment plans was associated with better caseworker ratings of caretaker compliance (i.e., attendance, completion of assigned tasks, and cooperation with caseworkers). Better compliance ratings predicted some outcomes (fewer new reports of maltreatment and fewer out-of-home placements) and not others (new, substantiated reports of maltreatment). It is not clear whether the link between compliance and outcomes is mediated by changes in caregiving behaviors or by casework decisions (Littell, 2001). In any case, caretaker participation in FPS appears to be affected by caseworker and program characteristics, as well as client characteristics, and by interactions among client, caseworker, and program variables (Littell & Tajima, 2000).

Although intensive, in-home services are thought to have some benefits for some families, empirical support for this assumption is lacking. There is little systematic information about the intentions, activities, and interactions of caretakers and caseworkers in these

settings. Hence, there is need for greater attention to program processes in relation to specific objectives and outcomes.

In this study we try to get inside the black box of intensive, in-home services in child welfare in several ways. We look at what the caretaker brings to these interactions in terms of her readiness to change. We examine the strength of the relationship between the caretaker and caseworker. We explore the extent of substance use and abuse in a population in which substance abuse is assumed to be rampant. We study the nature of readiness for change, alliance formation, substance abuse, and social desirability bias and their relationships with outcomes. These issues have not been adequately examined in prior research in child welfare settings (Dore & Alexander, 1996; Dore, Doris & Wright, 1995; Gelles, 1996).

Organization of the Report

Our report is divided into several major sections. In Section II, we discuss the central issues in this study and the instruments we used to measure readiness for change, alliance formation, substance abuse, and social desirability bias. Section III describes our research methods and sample characteristics. In Section IV, we present findings on social desirability bias in caretaker reports. Section V considers substance use and abuse among caretakers and other adult household members in the study. Our analysis of data on caretaker readiness for change is presented in Section VI. Data on alliance formation are examined in Section VII. Section VIII presents preliminary analyses of interrelationships among measures of caretaker readiness for change, alliance formation, service delivery characteristics, and outcomes. In Section IX we summarize our main findings and discuss their

implications for policy, practice, and further research. Section X describes our efforts to date and plans to disseminate results of the study.

Appendices include our data collection instruments (Appendix A), explanation of analytic methods (Appendix B), tables (Appendix C), and a list of other products and presentations generated by this project to date (Appendix D).

II. ISSUES AND INSTRUMENTS

Some parents and other primary caretakers (hereafter referred to as caretakers) of abused or neglected children become involved in child welfare services following official investigations of allegations of child maltreatment. Hence, they are not voluntary clients. While child abuse and neglect occur in all socioeconomic and ethnic groups, poor families, African Americans, young parents, and single-parent families are over-represented in the child welfare system. Even so, the families involved in child welfare services have diverse characteristics, interests, and needs. Some have problems with substance abuse, chronic mental illness, social isolation, skills deficits, or severe environmental deficits. Some families have a long history of involvement in child welfare and other social service systems; others, especially young mothers and those with acute problems, are new to "the system."

Caretakers and caseworkers often have very different views of the nature of family problems and child maltreatment. Caretakers vary in terms of their interests in changing the behaviors or situations that led to their involvement in the child welfare system. Caretaker and caseworker dyads vary in terms of their ability to form a constructive working relationship. These issues--the severity and types of family problems, caretaker readiness for change, and the nature of the working relationship between caretakers and caseworker--are likely to affect the processes and outcomes of in-home services.

Readiness for Change

In cases of child maltreatment, parental motivation and readiness for change are of considerable interest to child welfare workers.

Caretakers who are ready to change abusive or neglectful practices are thought to pose less risk of future harm to children and are expected to be more responsive to treatment than those who are not ready to change. Hence, readiness for change is considered an important component of risk assessment, case planning, decision-making, and allocation of treatment and out-of-home placement resources in child welfare (Gelles, 1995, 1996, 2000).

Some caretakers are open to learning new ways of coping with the demands of parenthood and daily living. Others see nothing wrong with their current parenting and coping styles. And there are caretakers whose judgement about their parenting and coping styles may be attenuated by their chronic addictions and other mental health problems, especially depression. For these latter two groups of caretakers, certain cognitive changes may be prerequisite to substantial behavioral changes in parenting and coping. In these cases, short-term, intensive, in-home services may have little impact on behaviors and conditions related to child maltreatment, but might be successful in helping caretakers acknowledge their addiction or mental health problems, become more aware of the effects of these problems on their children, and begin to take steps to deal with these problems.

More substantial behavioral changes might be expected in the first group we mentioned: caretakers who are already open to change. In other words, the kinds of outcomes that can be expected in a short-term intervention may depend, in part, on caretaker's readiness for change at the outset. Increased readiness for change may be a legitimate target of intervention and an important indicator of progress (a proximal outcome) in some cases. Hence, we view caretakers' readiness

for change as both a moderator of program outcomes and a proximal outcome in its own right.

We expected caretakers who reported more readiness for change at the beginning to show more improvement in targeted outcomes and be more likely to maintain those gains. For those expressing little readiness for change at baseline, the major outcome of intervention may be to enhance the caretaker's readiness for change. These caretakers may require additional (aftercare) services to make and maintain positive changes. In this second group, we hoped to see some increase in readiness for change after referral for in-home services.

The Stages of Change

Client motivation or readiness for change has been conceptualized in a variety of ways. Readiness for change is a central component of the popular "stages of change" model developed by Prochaska, DiClemente, and their colleagues (Prochaska & DiClemente, 1984, 1986, 1992). According to their Transtheoretical Model, readiness for change and behavioral change occur in a series of stages (Prochaska & DiClemente, 1984; 1986; 1992). Whether within or outside of formal treatment and in relation to virtually any problem behavior, this model suggests that people move from precontemplation (not thinking about change) to contemplation (thinking about change) to preparation (getting ready to change) to action (making changes) to maintenance of the desired change. If maintenance strategies fail, individuals may relapse, returning to a previous stage.

The "stages of change" are considered to be an ordered sequence of discrete states. Although stage status changes over time, at any given moment a person is assumed to be in a single stage; hence, the stages

are thought to be mutually exclusive (Martin, Velicer & Fava, 1996, p. 69). Individuals "pass through each stage" in an orderly fashion (Prochaska, DiClemente, Velicer & Rossi, 1992, p. 825, emphasis in the original). This progression is not always linear; people relapse and may cycle through the stage sequence more than once, but stage-skipping is not expected (Prochaska, DiClemente, Velicer & Rossi, 1992).

Widely used in health psychology (Weinstein, Rothman & Sutton, 1998) and in the study and treatment of addictions (Davidson, 1992; Sutton, 1996), the stages of change model also appears in the literature on community-based mental health services (e.g., McConaughy, Prochaska & Velicer, 1983; McConaughy, DiClemente, Prochaska & Velicer, 1989; O'Hare, 1996a, 1996b), and intimate partner violence (Begun, Weinstein & Strodthoff, 1998). Most studies concern smoking cessation, drug and alcohol problems, or adult mental health problems. Readiness-for-change studies are also located within clinical drug trials involving persons with anxiety disorders, and in research on exercise acquisition, weight control, skin cancer prevention (via sun screen use), HIV risk reduction, adolescent delinquency, and the management of diabetes mellitus (for a review, see Littell & Girvin, 2002). Although most studies focus on problem reduction, some investigators use the stages of change to describe the acquisition of problem behaviors, such as tobacco use.

Most studies of the stages of change have been cross-sectional, although longitudinal evidence is beginning to appear, particularly in areas related to cancer prevention (smoking cessation and sun screen use) and substance abuse. Convenience samples (clinic attendees and volunteers) are used in all but a few studies. Sample sizes vary, but

most published reports involve over 200 subjects and several include well over 1,000 (Littell & Girvin, 2002).

Proponents claim that there is strong empirical support for the stages of change across a wide range of populations and problems (Prochaska, DiClemente, Velicer & Rossi, 1992; Prochaska & Velicer, 1997; Prochaska, Velicer, Rossi et al., 1994; Velicer, Hughes, Fava, Prochaska & DiClemente, 1995; Velicer, Rossi, Prochaska & DiClemente, 1996). However, the model has its critics (e.g., Bandura, 1997, 1998; Davidson, 1992, 1998; Sutton, 1996), and a recent review of over 150 empirical studies suggests that there is reason to question the model's most basic assumptions (Littell & Girvin, 2002).

Child welfare professionals have suggested that the stages-of-change model can be used along with risk assessment tools to make important service and referral decisions (Gelles, 1996). In some states, the model has been used as a heuristic device in training child welfare workers. To date, there are no published studies of the stages of change in child welfare samples. This project begins the process of empirically evaluating the applicability of the stages-of-change model in child welfare.

We expected many of the caretakers in our study to score at the precontemplative or contemplative stages at the beginning of home-based intervention. It was hoped that most of them would move "up" a stage during in-home services. Because of the greater intensity and scope of the FPS intervention, we also expected more movement during this period among caretakers in the FPS group, compared with those in SCOH. However, we did not expect to find a simple, linear relationship between intensity of the intervention and progression through the stages-of-change. Rather, we thought more intensive services might be

productive in some cases and not others. Our study examines factors associated with readiness for change and the predictive validity of measures of caretaker readiness for change.

University of Rhode Island Change Assessment (URICA) Scale

The stages of change are commonly assessed with an algorithm (i.e., a set of decision rules), based on yes or no answers to a few questions about current behavior and future intentions, or with the University of Rhode Island Change Assessment (URICA) scale or one of its variants. Compared with the algorithms, the URICA "is longer but has the advantage of being more subtle and less susceptible to misreporting in contexts... where people may feel pressured to report that they are more prepared to take action" (Prochaska & DiClemente, 1998, p. 40). It is assumed that either approach is appropriate for measuring the stages of change (Norman et al., 1998; Martin et al., 1996; Prochaska, DiClemente, Velicer, & Rossi, 1992).

Originally developed for use in research on psychotherapy (McConaughy et al., 1983, 1989), the URICA has been used to assess readiness for change across a range of behaviors from weight reduction and smoking cessation to recovery from alcohol and cocaine addictions (Prochaska, DiClemente & Norcross, 1994), and in a comparison of court-ordered versus voluntary clients in a community mental health center (O'Hare, 1996b). It is a self-report scale, completed by the client. The instrument's four subscales are thought to correspond to stages of precontemplation, contemplation, action, and maintenance (there is no preparation subscale, because preparation was not viewed as a distinct stage when the URICA was developed). Items are rated on a 5-point scale

(from 1=strongly disagree to 5=strongly agree). Sample items from these subscales are shown below.

Precontemplation: "As far as I'm concerned, I don't have any problems that need changing," "I guess I have faults, but there's nothing that I really need to change," "I have worries but so does the next person. Why spend time thinking about them?"

Contemplation: "I've been thinking that I might want to change something about myself," "I have a problem and I really should work on it."

Action: "I am actively working on my problems," "At times my problems are difficult, but I'm working on them," "Even though I'm not always successful in changing, I am at least working on my problems."

Maintenance: "I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it," "I'm here to prevent myself from having a relapse of my problem," "After all I had done to try and change my problem, every now and again it comes back to haunt me."

There have been several criticisms of the construction of the URICA. All items in each scale are scored in the same direction, which increases the likelihood of response sets; some items are double-barreled; some items are worded using negatives, which requires formulation of a double negative for some responses; and there is

semantic overlap among items, which can inflate measures of internal consistency (Davidson, 1998; Jefferson, 1991). Further, the URICA was normed on middle-class, Caucasian subjects and may not perform well in other samples (Hutchison, 1996; Jefferson, 1991).

In an initial study, the URICA subscales showed strong internal consistency (Chronbach's alphas ranged from .88 to .89) in a sample of psychotherapy clients (McConaughy et al., 1983). However, the URICA and its variants seem to have somewhat uneven levels of internal consistency across samples and problems. Some studies reported Chronbach's alphas between .7 and .9 (Cady, Winters, Jordan et al., 1996; Carney & Kivlahan, 1995; Elder, DeMoor, Young et al., 1990; Hilburger, 1995; Jefferson, 1991; O'Hare, 1996a; McConaughy et al., 1983, 1989; Rollnick, Heather, Gold & Hall, 1992), while others found one or more alpha's under .7 (Belding, Iguchi & Lamb, 1996; Costa, 1990; DiClemente & Hughes, 1990; Lerner, 1990; Lamb, Belding, & Festinger, 1995; Rosenbloom, 1991; Tsoh, 1995).

Several kinds of analysis have been performed to test the construct validity of the stage categories. Evidence from studies that performed factor analysis on the URICA items is mixed (Carey, Purnine, Maisto & Carey, 1999). While some of these studies generally confirm the four-stage structure (Carney & Kivlahan, 1995; DiClemente & Hughes, 1990; Hilburger, 1995; Lerner, 1990; McConaughy et al., 1989; O'Hare, 1996a; Rollnick et al., 1992), typically some of the expected factor loadings are weak and a few items load on the "wrong" factor (see, for example, Hilburger, 1995; McConaughy et al., 1989). Cluster analysis has often been used to test the stage model, but studies using this approach have produced wildly varying results (for a review, see Littell & Girvin, 2002).

Evidence for the URICA's predictive validity is also mixed. Some studies found no significant relationships between the stages of change and measures of treatment attendance, duration, or program completion (e.g., Cady et al., 1996; Hutchison, 1996; Isenhardt, 1994; Kavanagh, Sitharthan & Sayer, 1996; Lamb et al., 1995; Willoughby & Edens, 1996). In others, high precontemplation scores predict drop-out (Smith, Subich & Kalodner, 1995), but sometimes in the "wrong" direction (i.e., high PC scores predict longer retention in treatment; Belding, Iguchi, Lamb, Lakin & Terry, 1995; Jefferson, 1991). Similarly, baseline stage has been predictive of outcomes in some studies (e.g., Beitman, Beck, Deuser, Carter, Davidson & Maddock, 1994; Crittenden, Manfredi, Warnecke, Cho & Parsons, 1998; DiClemente, Prochaska, Fairhurst, Velicer, Velasquez & Rossi, 1991; McConaughy, 1984; Wilson, Bell-Dolan & Beitman, 1997), but not others (Farkas, Pierce, Gilpin, Zhu, Rosbrook, Berry & Kaplan, 1996; Farkas, Pierce, Zhu, Rosbrook, Gilpin, Berry & Kaplan, 1996); and there are mixed results within some studies (Belding, Iguchi & Lamb, 1997; Heather, Rollnick & Bell, 1993; Kavanagh et al., 1996; Reid, Nair, Mistry & Beitman, 1996; Tsoh, 1995). In their review of prospective studies of the stages of change, Belding, Iguchi, and Lamb conclude that "none clearly and consistently supports the predictive validity of the model" (1997, p. 65).

A search for other measures of clients' readiness for change yielded several instruments that were based on the URICA,¹ but none that were substantially different from the URICA or had performed better in field studies.

¹ Related instruments include the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES; Miller & Tonigan, 1996) and the Readiness to Change Questionnaire (Rollnick, Heather, Gold, & Hall, 1992).

We used a modified version of the URICA to assess caretakers' readiness for change. Beginning with a 24-item version of the scale (developed and tested by Carbonari, DiClemente, Addy, & Pollak, 1996), we revised the instructions so that the items refer to "problems you have in taking care of your children" (see Appendix A). After consulting with one of the developers of the URICA,² we dropped the maintenance subscale, reducing the 24-item scale to 18 items.

Some authors have argued that readiness for change develops in movement along a continuum, rather than a passage through discrete stages (Bandura, 1997; Sutton, 1996; Weinstein et al., 1998). Hence, some investigators have created overall readiness scores from URICA subscales (e.g., Carbonari et al., 1996; Hutchison, 1996; Tsoh, 1995). Typically, the overall score is the sum of the means of the contemplation (C), action (A), and maintenance (M) scales, minus the mean of the precontemplation (PC) scale (C+A+M-PC). In our study, the overall score is C + A - PC (because we did use a maintenance scale). Questions can be raised about whether either formula represents readiness for change (e.g., how well do the URICA items capture readiness for change? should each subscale be weighted equally?). We used the overall score in order to compare its performance with the URICA subscales.

² DiClemente noted that all of the items in the maintenance subscale are worded negatively (i.e., they focus on problems in maintenance and vulnerability to relapse, not maintenance of change itself) and told us that other researchers had dropped the maintenance scale if they thought that there would be few "maintainers" in a study population (Carlo DiClemente, personal communication, September 17, 1996). The maintenance items did not appear to be relevant for our population.

Alliance Formation

The therapeutic alliance, assessed early in treatment (between the 3rd and 5th session in office-based treatment), has been one of the most potent predictors of favorable treatment outcomes for adults across a broad range of interventions, including behavioral and cognitive-behavioral therapies, and with a range of diagnostic groups, including people with depression and anxiety, substance abuse, borderline and antisocial personality disorders, and even schizophrenia (for reviews, see Horvath & Greenberg, 1994; Horvath & Luborsky, 1993; Martin, Garske, & Davis, 2000). Outcome measures with which the alliance has been positively associated include treatment participation, reduction in symptomatology, and some measures of functioning. A recent metaanalysis indicates that the alliance has an overall effect size of .22 across instruments, data sources, and outcomes (Martin et al., 2000).

While the formation of an early positive alliance is thought to be important in all forms of treatment, it may be particularly important in short-term interventions (Gelso & Carter 1994; Koss & Shiang, 1994), including behavioral and cognitive-behavioral interventions (Raue & Goldfried, 1994), the predominant approaches used in FPS (Henggeler, Schoenwald, Pickrel, Rowland & Santos, 1994).

Despite conceptual and programmatic variation and differences in populations served among prevailing models of family preservation services (Henggeler et al., 1994; Nelson, Landsman & Deutelbaum, 1990), an essential component of any of these interventions is the formation of an alliance between the caretaker and worker which may influence the process of change. The alliance is viewed both as a facilitative condition, providing a positive context for the enhancement of a

variety of interventions, and a beneficial therapeutic agent in its own right. Although the significance of the helping relationship is widely acknowledged by family preservation clinicians (e.g., Kinney, Haapala, & Booth, 1991) and implicit in the literature on treatment technologies (Dore & Alexander, 1996), there have been no empirical studies describing alliance formation in FPS or its relationship to outcomes.

To date, most alliance investigation has occurred in clinical research settings, with mostly white, middle-class, voluntary clients, professional therapists, and in structured weekly sessions of standard length. How different concentrations and location of services--such as those found in FPS--affect alliance formation is unknown and are explored in this research.

More recent alliance research in adult intensive case management and substance abuse has expanded the definitions of helper to include other service consumers (Solomon, Draine & Delaney, 1995) and drug counselors who do not have the formal credentials usually found in traditional psychotherapy studies (Luborsky, Barber, Sigueland et al., 1996). As Bordin pointed out in 1979, there is no reason to expect that most of the widely used alliance measures cannot be applied equally well with professional and paraprofessional staff, an important consideration in FPS. Recent alliance research in adult intensive case management with entry-level workers in community settings has reported positive predictions between the alliance and some intervention outcomes (Chinman, Rosenheck & Lam, 2000; Neale & Rosenheck, 1995; Solomon et al., 1995), providing preliminary support for the predictive validity of the alliance in community-based services.

If the alliance has similar positive predictive capacity in FPS, such knowledge might be used to refine FPS for different subgroups of

families. A better understanding of and ability to influence the alliance formation process seems to be an important component in heightening the effectiveness of therapeutic interventions in general and needs to be examined in the context of FPS. Therefore, both to improve services to families and to further evaluate efforts in FPS, a better understanding of this particular process variable, as yet unexamined in FPS, is both important and timely.

Instruments that measure the alliance typically assess two basic components: (a) a bonding or relational dimension; and (b) a collaborative dimension between therapist and caretaker. Typical items reflecting the bonding dimension are: "My therapist likes me;" "My therapist understands me;" and "I feel I can depend on my therapist." Typical items reflecting the collaborative dimension include those related to agreement on specific goals and tasks of treatment. For example, "My therapist wants me to achieve my goals," "I believe we have similar ideas about the nature of my problems," and "What I am doing with my therapist gives me new ways of looking at my problems." With modifications in wording (e.g., changing "therapist" to "caseworker"), these dimensions are highly compatible with FPS practice. Regarding bonding, the founders of Homebuilders, the premier FPS model, focus on the importance of "liking caretakers" and "helping caretakers like us" (Kinney et al., 1991, pp. 58-62). Regarding collaboration, they view caretakers as "colleagues in a joint venture of change" (1991, p. 65).

Working Alliance Inventory (WAI)

There are now over a dozen different instruments, developed and tested in psychotherapy research settings, to empirically assess the

alliance. These instruments are beginning to be tested in community-based services and with populations similar to those found in the child welfare system. Most alliance instruments are short, direct caretaker and therapist self-report measures, with considerable, favorable reliability and validity assessment (Horvath & Greenberg, 1994; Horvath & Luborsky, 1993).

Our study employs the Working Alliance Inventory (WAI), a 36-item self-report alliance measure, which uses a 7-point, fully-anchored, Likert-type rating scale (1=never to 7=always) (Horvath, 1981; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). This is probably the most widely used alliance measure in the research literature and it is used in the few studies of the alliance in community-based services. There are parallel versions for both the client and worker. We use both. This scale assesses three primary components of the caretaker-caseworker relationships: (a) goals and (b) tasks of treatment, comprising the collaborative dimension, and (c) bonds, which reflect a complex network of personal attachments between caretaker and helper, including mutual acceptance, liking, trust, and confidence.

There is a large body of literature confirming the reliability of the WAI (Chronbach's alphas range from .84 to .93 for the whole instrument with slightly lower alphas for the subscales; test-retest reliability is .80 for the whole scale and between .66 and .74 for the subscales within a 3-week interval). There is also good evidence for its convergent and discriminant validity (for a review, see Horvath & Greenberg, 1994). In terms of predictive validity, eight studies relating the WAI to a series of treatment outcomes report an average effect size of .33 for the client-based measure.

Tracey and Kokotovic (1989) examined the factor structure of the WAI and found a general alliance factor plus 3 second-level factors corresponding to the bond, goal, and task scales. Numerous studies have shown that the three subscales are highly inter-correlated; hence, most investigations use the global score (Connors, Carroll, DiClemente, Longabaugh & Donovan, 1997).

For purposes of the present study, we modified the original WAI items by changing the word "therapist" to "caseworker." Caretaker and caseworker versions of the modified WAI are shown in Appendix A.

Substance Abuse

It is estimated that 8.3 million children in the United States live in households in which at least one parent is either alcoholic or in need of substance abuse treatment (U.S. Department of Health and Human Services [HHS], 1999). Each year, approximately 221,000 infants are born after prenatal exposure to illicit drugs (HHS, National Institutes of Health, National Institute on Drug Abuse [NIDA], 1994, cited in HHS, 1999). Relatively few of these children come into contact with the child welfare system, but substance abuse is widely recognized as a significant problem in many child welfare cases, and families with substance abuse problems are often more troubled than other families in the child welfare system (HHS/Children's Bureau, 1997).

Estimates of the prevalence of substance abuse in child welfare cases are inconsistent. These inconsistencies arise from variations in the populations studied, differences in how drug and alcohol "problems" are construed, and variations in the instruments and assessment methods used (HHS, 1999). Most studies report that between one third and two-thirds of children involved in the child welfare system come from

families in which substance abuse is a problem (HHS, 1999). For example, Merrick (1993, cited in Besinger, Garland, Litrownik & Landsverk, 1999) reports that alcohol and illicit substances were involved in 64% of a cohort of child maltreatment cases in the New York City Family Court. Famularo, Kinscherff and Fenton (1992) found evidence of substance abuse in 67% of a random sample of substantiated maltreatment cases brought before a juvenile court. Murphy, Jellinek, Quinn, Smith, Poitras and Goshko (1991) found that 43% of the families in 206 juvenile court cases involving allegations of child maltreatment had documented problems with alcohol or other drugs.

There is evidence that substance abuse is an important contributing factor to the maltreatment of children (Dore et al., 1995). Research indicates that the parenting styles of substance-abusing parents differ from those of parents with no history of drug or alcohol dependence in ways that leave children at greater risk (McMahon & Luthar, 1998). There are many theories about the connections between child maltreatment and substance abuse (for a review, see Besinger, et al., 1999). Some argue that violent behaviors might result from the disinhibitory effects of alcohol and other substances (Mitchel & Savage, 1991, cited in Besinger et al., 1999). Alternatively, it may be that alcohol and some illicit substances have a sedating effect on users, resulting in their inability to respond to children's needs (Hindman, 1977, cited in Besinger et al., 1999). Others theorize that mediating factors such as stress, poverty, or maltreatment experienced by the parents might account for both substance abuse and the abusive or neglectful behaviors exhibited by some caretakers (Orme & Rimmer, 1981, cited in Besinger et al., 1999). Several researchers (e.g., Kearney, Murphy & Rosenbaum, 1994, cited in McMahon & Luthar, 1998)

have described often unsuccessful attempts of drug-dependent parents to balance their addiction with their responsibilities to care for their children.

While both drugs and alcohol are linked to child maltreatment, the abuse of alcohol is more prevalent among caretakers in the child welfare system than the abuse of illicit drugs (HHS, 1999). According to a 1993 report, among caretakers who abuse alcohol and/or drugs, alcohol was a problem for 77%, and was the most harm-causing substance for 64%; cocaine was the most harm-causing substance for 23% (HHS/National Center on Child Abuse and Neglect [NCCAN], 1993).

Of the 25 largest Metropolitan Statistical Areas (MSAs) in the U.S., Philadelphia ranked 6th in rates of alcohol use, 13th in illicit drug use, and 17th in cocaine use in 1991 through 1993 (Substance Abuse and Mental Health Services Administration [SAMHSA], September 1996). These SAMHSA estimates indicate that from 1991 to 1993, an average of 59% of those age 12 and older in the Philadelphia MSA reported use of alcohol in the past month, compared with 50% for the U.S. as a whole. In terms of illicit drug use, Philadelphia MSA residents were more typical of the U.S. population in general: 6% used illicit drugs and 1% reported use of cocaine within the past month. Data on drug dependence and treatment were also similar to figures for the U.S.: 1% of the Philadelphia MSA residents over 12 were dependent on illicit drugs in the past year; 3% dependent on alcohol. Less than 1% received treatment for drug or alcohol use (SAMHSA, September 1996).

As in other cities, in Philadelphia parental substance abuse often leads to involvement with public child welfare services (Abraxas Foundation, 1995). The inclusion of cases of caretaker substance abuse in intensive, in-home services has been the subject of some controversy

in the U.S. Known substance abuse cases have been screened out of FPS in many jurisdictions because they are thought to be too difficult or because their treatment needs (e.g., in-patient treatment and group work) are considered incompatible with home-based services. However, most of the FPS programs in Philadelphia were designed to deal with cases with substance abuse problems.

Many, if not most, of the caretakers in the Philadelphia study were expected to have significant problems resulting from heavy substance abuse, particularly alcoholism and crack-cocaine addiction. DHS and FPS staff estimated that substance abuse problems were present in 80 to 90 percent of FPS cases, but there were no hard data on the nature and severity of these problems prior to our study.

We gathered information on the specific types of drugs that caretakers use, frequency and duration of use for each substance (including alcohol), and perceived effects of substance use on various aspects of psychosocial functioning in general and on parenting in particular.

Chemical Use, Abuse, and Dependence (CUAD) Scale

The most widely used self-report measure of substance abuse, the Addiction Severity Index (ASI; McLellan, Luborsky, O'Brien & Woody, 1980), was too lengthy for our study. The Chemical Use, Abuse, and Dependence (CUAD) scale (McGovern & Morrison, 1992) "has potential as a screening device in child welfare" because it is relatively brief, captures polydrug use, and can be administered with minimal training (Dore, Doris, & Wright, 1995, p. 538). After consulting with one of the developers of the CUAD (Mark McGovern, personal communication, September 10, 1996), we made several modifications to this instrument.

Information on street drugs in use in Philadelphia was obtained in interviews with service providers that specialize in treatment of substance abuse in Philadelphia, and we substituted local street names for various drugs listed on the CUAD. We dropped questions about amounts and mode of drug use, since these items do not affect scoring of the CUAD. We adapted two questions from the ASI on the perceived effects of drug and alcohol use on psychosocial functioning. We developed 22 items of our own on parents' perceptions of the effects of substance abuse on their parenting because we could find no available measures of this. The final version of our measurement tool for substance abuse--which includes portions of the CUAD, ASI, and our own items--is shown in Appendix A.

Social Desirability Bias

Social desirability bias is systematic distortion of responses, that results from the tendency to deny socially undesirable characteristics and claim socially desirable ones (Nederhof, 1985; Paulhus, 1984). Our early work on this project suggested that caretakers might provide socially desirable responses to certain questions. Analysis of data on the first 70 cases suggested that relatively few caretakers reported substance use (including alcohol use); most caretakers were ready for change, although few thought they had problems; and most were engaged in positive working relationships with their caseworkers. After several months of data collection, we began to assess caretakers' tendencies to give socially desirable responses.

In decades past, social desirability bias was a subject of investigations in its own right. After the development of measurement

instruments such as the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960, 1964) and the Edwards Social Desirability Scale (Edwards, 1957), this construct was extensively studied, especially in personality research (Nederhof, 1985).

Paulhus (1984) showed that there are two components of social desirability bias: "Self-deception" occurs when the respondent actually believes his or her inflated self-reports. "Other-deception" involves misrepresentation of the truth as a form of "impression management" and in order to avoid negative appraisals. Thus, social desirability bias has both personal and situational components. Paulhus (1984) thought researchers should be concerned with the potential effects of impression management on self-reports, rather than self-deception.

Ross and Mirowsky (1984) suggested that impression management is a learned, adaptive strategy that is more common among persons of lower socioeconomic status, in groups that are relatively powerless, and in cultures that emphasize the importance of a proper image.

In the last few decades, with growing awareness of sources of systematic bias that can affect the validity of social science research, investigators have assessed the impact of social desirability bias on self-report measures of a range of constructs (Reynolds, 1982). A review of the literature (searches of PsychInfo and Social Work Abstracts for the years 1986-2000) suggests that during the 1980s and '90s social desirability bias was examined as an adjunct measure in studies of a variety of problems and behaviors across different populations. Measures of social desirability bias have been used, for example, to assess the validity of reports of depression among college students (Clark, Crewdson & Prudon, 1998), to explore counselor preferences among Mexican-American college students (Abreu & Gabarain,

2000), to assess the multicultural competence of counselors (Constantine, & Ladany, 2000), and to examine defensive under-reporting on the Minnesota Multiphasic Personality Inventory-2 in a sample of parents involved in custody dispute litigation (Bagby, Nicholson, Buis, Radovanovic & Fidler, 1999). Although social desirability bias was not the central focus of these studies, they offer examples of the range of areas in which this potential source of bias has been examined recently. Such investigations have rarely been conducted in child welfare samples.

Although social desirability is considered one of the most common sources of bias in social science research (Nederhof, 1985), there have been few attempts to synthesize information about the actual impact of social desirability bias on self reports. A recent metaanalysis suggests that social desirability bias has low to moderate effects (mean $r = -.18$) on reporting of involvement in intimate partner violence (Sugarman & Hotaling, 1997).

Several studies examined social desirability bias in relation to measures of parenting attitudes and behaviors. Robertson and Milner (1985) examined the construct validity of the Child Abuse Potential Inventory (CAP) lie scale by assessing its relationship to the Marlowe-Crowne Social Desirability Scale. Subjects (187 college students and 31 parents) were instructed to complete the instruments three times: truthfully, in a socially desirable manner, and in a socially undesirable manner. Both the CAP lie scale and the Marlowe-Crowne were useful in discriminating truthful from fabricated responses; social desirability scores were lowest in "honest" responses, slightly higher for "undesirable" responses, and extremely high for "desirable" responses.

Ferguson and Schneider (1999) used the Marlowe-Crowne to assist in the development of the Test of Parenting Skills. The authors found that two of this instrument's subscales needed modification to reduce their correlations with the measure of social desirability bias. Ross and Hill (2000) used a short version of the Marlowe-Crowne in a study of the reliability and validity of the Family Unpredictability Scale. They reported that social desirability bias did not influence parents' responses on this Scale.

In a study of parental stress and anxiety, LaFiosca and Loyd (1986) equated social desirability bias with "defensiveness." Their sample included mothers of children who were referred to a developmental evaluation clinic and mothers of "well-adjusted" children who were working up to their academic potential. In both the clinic and non-clinic samples, scores on the anxiety measures decreased as levels of defensiveness (as measured by the Marlowe-Crowne Social Desirability Scale) increased. The authors conclude that defensiveness is an important consideration in the interpretation of self-report measures of parental stress and anxiety. Similarly, Lovejoy, Verda and Hays (1997) examined the validity of three instruments which assess parenting efficacy and locus of control in a nonclinical sample of mothers. Correlations between the Marlowe-Crowne and two of the three instruments indicate that these measures may reflect parental distress and socially desirable responding as well as beliefs about parenting.

While measures of social desirability bias appear in studies with a variety of populations, this construct has been under-studied in child welfare. We found only two studies that examined social desirability bias in samples of child maltreating parents. Shindler and Arkowitz (1986) used the Marlowe-Crowne scale in a comparison of

abusing and non-abusing parents. Contrary to the authors' expectations, results indicated that abusing mothers were significantly less likely to portray themselves in a socially desirable light than non-abusing mothers. In another study of both maltreating and non-maltreating parents, Hansen, Pallotta, Christopher, Conaway and Lundquist (1995) found that social desirability bias (measured with the Edwards Social Desirability Scale) was negatively correlated with the Eyberg Child Behavior Inventory, the Hassles Scale, and one of the Parental Anger Inventory scales (Pearson's $r_s < -.4$, $p < .01$), suggesting that parents' assessments of their children's behaviors and daily problems and coping skills were excessively influenced by socially desirable response styles. Parents with high social desirability scores tended to report fewer child behavior problems, hassles, and situations in which they were angry at children. At the same time, the authors reported no significant differences between maltreating and non-maltreating parents in social desirability bias.

Several studies examined relationships between self-reported readiness for change and social desirability bias. Although none of these studies were conducted in child welfare samples, all found that stage of change assessments were not related to social desirability bias as assessed with the Marlowe-Crowne scale. For example, in a study of physical exercise acquisition among 235 adult volunteers, Cardinal (1997) found that the stages of change were not associated with social desirability bias. Using the Stages of Change, Readiness, and Treatment Eagerness Scale (SOCRATES), Isenhardt (1994) found no significant differences among three "motivational subtypes" (Ambivalent, Uninvolved, and Active subjects) in an inpatient sample of 165 substance abusers. Similarly, Willoughby and Edens (1996) identified

two clusters, which represent Precontemplation and Contemplation-Action, in a sample of 141 patients entering an alcohol treatment program; there were no significant differences between the groups on the Marlowe-Crowne scale.

We know of no studies that assess social desirability bias in relation to reports of the therapeutic alliance.

Studies cited above provide examples of the range of problems and populations in which the role of social desirability bias has been explored. As a whole, these studies reflect concern about the potential impact of systematic response biases on the validity of self-report measures. Results of these studies suggest that, across problem and population, respondents may tailor their responses to avoid disapproval or place themselves in a positive light. In particular, several studies demonstrate the influence of social desirability bias on some measures of parenting attitudes, beliefs, and stress. However, we know of no evidence that maltreating parents are more likely than others to offer socially desirable responses.

Marlowe-Crowne Social Desirability Scale

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960, 1964) is easily the most popular measure of social desirability bias in both psychological and sociological research (Nederhof, 1985). It describes behaviors that are "culturally sanctioned and approved, but improbable" (Crowne & Marlowe, 1964). The original Marlowe-Crowne scale is comprised of 33 items, and uses a true/false response format. Socially desirable responses are counted and scores range from 0 to 33, with means of about 14 or 15 in most samples of normal subjects (Crowne & Marlowe, 1960; O'Grady, 1988; Reynolds, 1982).

Reynolds (1982) developed short forms of 11, 12, and 13 items to stimulate the use of this instrument in social and psychological research. The 13-item Marlowe-Crowne demonstrates an acceptable level of reliability (Kuder-Richardson formula 20 reliability=.76), and compares favorably with the reliability of the standard 33-item form. Strong concurrent validity is reported between the 13-item Marlowe-Crowne and the 33-item version (Reynolds, 1982). Reynolds reported a mean of 5.67 (sd=3.2) on the 13-item scale in a sample of 608 undergraduate students.

We used the 13-item version of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982). Like the original version of the scale, the short form has two subscales (see Appendix A). The "deny-bad" subscale includes 8 statements that reflect negatively on the respondent, but are likely to be true for most people (a false response is considered the socially desirable one). The "agree-good" subscale is comprised of 5 items that reflect positively on the respondent, but are probably not true. Subscale scores and a total score are created by dividing the number of socially desirable responses by the number of valid responses.

Although attempts have been made to distinguish between attribution (agree-good) and denial (deny-bad) responses, Paulhus (1984) and others have shown that the denial and attribution subscales are essentially equivalent measures of the same construct. The Marlowe-Crowne is thought to be a better measure of other-deception than self-deception, making it a useful tool for detecting social desirability bias in social science research (Nederhof, 1985; Paulhus, 1984). Criticisms of the Marlowe-Crowne have centered its use of dichotomous response categories, rather than ordinal scales, and on the development

and validation of the scale on a small, homogenous sample of undergraduate psychology students (Nederhof, 1985).

III. METHODS

Our longitudinal study of 353 child welfare in-home services cases was conducted in conjunction with the Evaluation of Family Preservation and Reunification Services (EFPRS), funded by the U.S. Department of Health and Human Services (HHS) and conducted by Westat, Inc. and its subcontractors, the Chapin Hall Center for Children and James Bell Associates. Although the EFPRS was conducted in several states, our study was limited to Philadelphia County. In this section we provide an overview of the design and implementation of the EFPRS in Philadelphia (for additional information, see Westat, 2001). We then describe the design and methods used in the present study.

The EFPRS in Philadelphia

Between March 1997 and June 1999, staff of the Philadelphia Department of Human Services (DHS) identified 362 cases of child abuse and neglect in which there was thought to be some "moderate risk" of further maltreatment and need for in-home services.³ For purposes of the EFPRS, these families were randomly assigned (by Westat) to intensive family preservation services (FPS) or less-intensive Services to Children in their Own Homes (SCOH). DHS then referred cases to FPS or SCOH programs in selected private agencies. Two private agencies provided FPS and three private agencies provided SCOH services to cases in the evaluation.

Some cases did not receive the services to which they were randomly assigned (see Table 3-1 in Appendix C). Four cases that were

³ In Philadelphia, "high risk" cases typically involve the removal of a child from the home, while "low risk" cases often do not receive further intervention.

assigned to SCOH received FPS; 63 cases originally assigned to FPS received "minimal services," which were roughly equivalent to SCOH. Nine cases were classified (by Westat) as inappropriate referrals and are not included in our analysis.

Westat collected extensive data on cases in the EFPRS, including information about the nature of family problems and strengths, caseworker characteristics and attitudes, services provided, changes in caretaker and family functioning over time, new reports of child maltreatment, and out-of-home placements. Westat obtained these data from primary caretakers, public and private agency caseworkers, and administrative records.

Three in-person interviews were conducted with primary caretakers over a one-year period following random assignment. These interviews usually occurred in the caretaker's home. On average, initial (Time 1) caretaker interviews occurred 4 weeks after random assignment, interim (Time 2) interviews occurred at 16 weeks, and follow-up (Time 3) interviews were conducted at one year after random assignment (Westat, in preparation). Response rates were 75% at Time 1, 74% at Time 2, and 64% at Time 3 (N=353). Most (88%) of the caretakers in the study participated in at least one interview; 172 (49%) participated in all three interviews.

The EFPRS design called for telephone interviews with the private agency FPS or SCOH caseworker who was assigned to the case at Time 1 and Time 2. However, due to case coordination and staff turnover problems in the agencies, there were often delays in assigning FPS or SCOH caseworkers to the families in the study. In SCOH cases, the delays were substantial; it was not unusual for 7 or 8 weeks to elapse between random assignment to the SCOH group and the initial meeting

between family members and a SCOH caseworker. Similar delays were also problematic in one of the family preservation programs in the study. In addition to the practical concerns these delays created, the EFPRS was affected because it was not always possible to get initial data on the case from the worker. If the caseworker had not seen the family within the first three weeks, Westat gathered initial data from the caretaker and later attempted the interim interviews with the caseworker and caretaker.

On average, initial caseworker interviews occurred 5 weeks after random assignment and interim interviews with caseworkers occurred at 18.5 weeks (thus, caseworker interviews tended to follow caretaker interviews by an average of one week at Time 1 and 2.5 weeks at Time 2). Caseworker interviews were obtained for 46% of the cases at Time 1 and 71% at Time 2. At least one caseworker interview was available for 253 of the study cases; 3 cases had Time 1 interviews only, 90 cases had Time 2 interviews only, and both caseworker interviews were completed in 160 cases. In 17 of these cases, a new caseworker was assigned to the family between Time 1 and Time 2; hence, the two interviews were completed by different caseworkers.

FPS and SCOH caseworkers were expected to complete a one-page checklist every time they had in-person contact or significant telephone contact with a family member in an EFPRS case. This "contact report" documents the location and duration of contact, presence of family members and others, specific topics discussed, and types of material aid and other services provided. One or more contact reports is available for 209 (59%) of the 353 cases in the study. It appears that many contacts were not reported.

FPS and SCOH caseworkers completed a staff questionnaire, providing information on their demographic characteristics, experience and training, and attitudes about their work and the families they serve. Of the 84 FPS and SCOH caseworkers who provided data on one or more of the cases in the study, the staff questionnaire is available for 62 (73%).

Westat also obtained information from DHS Intake (child protective services) workers on their observations of the family during the most recent investigation of an official report of child maltreatment. Intake workers provided data on 275 (78%) of the cases in the study.

Event history data on maltreatment reports, findings of child protective services investigations of these reports, out-of-home placements, and case openings and closings were obtained by Westat from DHS administrative records. Administrative data are available on almost all (350) of the study cases.

Design of the Present Study

We added four instruments (shown in Appendix A) to the EFPRS data collection protocols. As indicated above, these instruments measure 1) readiness for change, 2) alliance formation, 3) substance use and its perceived effects on parenting, and 4) social desirability bias. Table 3-2 shows the number of cases with valid data on these instruments at various points in time. The first three instruments were included in all interviews with caretakers. The social desirability scale was added to caretaker interviews in February 1998, 11 months after data collection began. After each telephone interview about a case (at Time 1 and Time 2), FPS and SCOH caseworkers were expected to complete the Working Alliance Inventory (WAI).

Delayed caseworker assignments affected completion of data on the WAI, which could not be obtained from either the caretaker or caseworker if they had not met. Thus, even when initial interviews were completed with caretakers, they could not always answer the alliance questions.

Caseworkers often failed to complete the WAI, even if they had begun to work with the caretaker. The caseworker WAI forms were sometimes collected by administrative assistants or the site coordinator, but there was no consistent follow-up to obtain missing forms during most of the study period. As a result, we have relatively few caseworker WAI reports at Time 1 and Time 2.

Analytic Strategy

We used data from the EFPRS and from the instruments we added to the EFPRS to develop analyses of caretaker readiness for change, alliance formation, caretaker substance abuse, and social desirability bias. After examining descriptive data on each of these topics, we looked for variables that were associated with variations in measures of these constructs across cases and over time.

We then looked at the predictive validity of measures of readiness for change and alliance formation. That is, we examined the extent to which our readiness and alliance measures predict outcomes, controlling for social desirability bias and other factors related to outcomes. Outcome measures were selected to reflect the goals of the FPS and SCOH programs. These programs hoped to improve parenting practices, strengthen family functioning by improving economic and housing conditions and bolstering social support for parents, reduce the

recurrence of child abuse and neglect, enhance child well-being, and (to a lesser extent) prevent out-of-home placements.

The selection of control variables for use in these analyses was based, in part, on prior research on the kinds of case characteristics, caseworker characteristics, and service characteristics related to these outcomes in home-based services in child welfare (Littell, 1997, 2001; Littell & Schuerman, in press; Littell & Tajima, 2000; Schuerman, Rzepnicki & Littell, 1994). These include caretaker substance abuse and other mental health problems, especially depression; caretaker age; the chronicity of child maltreatment; caseworkers' education, work experience, and attitudes toward their work and their clients; caseload size; and amount of contact between caseworkers and caretakers. As indicated above, social desirability bias in caretaker reports was also treated as a control variable.

We used hierarchical linear models (HLM; Bryk & Raudenbush, 1992) to assess change over time in criterion variables and estimate effects of predictor variables. HLM captures the nested structure of our data (i.e., there are multiple observations per case, and multiple cases per worker) and is useful in analyses of repeated measures with missing data on some cases at some points in time. Cox proportional hazard models and logistic regression were used in analyses of event history data on subsequent child maltreatment and out-of-home placements. These statistical methods are described in greater detail in Appendix B.

Power analysis (with g*power software) showed that a minimum of 157 cases is needed to detect medium effects (ES of .15 or higher) of a single predictor in a regression analysis with 20 predictors, $\alpha = .05$, and $\text{power} = .8$. With 10 predictors (holding α and power levels constant), at least 118 cases are needed to detect medium

effects of a single predictor. All of our multivariate analyses should have sufficient statistical power to detect medium effects, except those that include caretaker alliance reports at Time 1 or caseworker reports at Time 1 or Time 2. Analyses of caseworker reports and early alliance data are included for exploratory purposes.

Sample Characteristics

Caretakers

Of the 263 caretakers who participated in initial interviews, most are African-American (81%) women (95%) who were unmarried (90%) and unemployed (83%) at the time (see Table 3-3). More than half (53%) were the only adult in the household at Time 1. Their average age was 32 (the range is 19 to 78). Caretakers had an average of 3.4 children, ranging in age from newborn to 18.

Most caretakers (70%) reported annual household incomes below \$10,000. At least 20% reported that they had difficulty buying food for their families and paying rent; nearly 40% reported difficulty paying electric and heating bills and buying clothes for their children at Time 1.

Approximately one-third of the caretakers had lived at their current address less than one year. Thirty-seven percent reported that they had been abused or neglected in childhood. One-fifth had children placed outside of their home at Time 1 (including informal placements with kin). One-tenth of the caretakers indicated (in the evaluation interview or in response to questions in the CUAD scale) that they had a substance abuse problem; 8% said that another adult in their household had a substance abuse problem (substance abuse is defined in a subsequent section of this report).

Table 3-4 shows the percentage of cases with participation in various social programs within three months prior to the Time 1 interview. Approximately 70% were receiving AFDC or TANF at or shortly before the beginning of the study and 80% were receiving food stamps.

Caseworkers

Fifty-three caseworkers provided services to one or more of the SCOH cases in the study, 20 caseworkers provided services to FPS cases, and 9 caseworkers served both FPS and SCOH cases. Caseworker characteristics were obtained from the self-administered staff questionnaire completed by FPS, SCOH and DHS staff. These data are available for 62 (76%) of the 82 FPS/SCOH caseworkers who served one or more of the families in this study. Responses indicate that most (70%) of the caseworkers are female, 66% are African-American, and 48% have some graduate-level education (Table 3-5). On average they had approximately 9 years of experience in social work, 6 years in child welfare, and 2 years in family preservation services.

Variables in the Analysis

In addition to the caretaker and caseworker characteristics mentioned above, other variables for this analysis were derived from data collected for the EFPRS in Philadelphia. Computed variables are described below.

Caretaker Reports

For the EFPRS, caretakers were asked whether certain events had occurred in their lives during the past three months (see Table 3-6). Like most items in the caretaker interviews, these questions were asked

at all three points in time. Caretaker responses were used to create measures of positive life events (from 6 items) and negative life events (8 items). Both measures are expressed in terms of the proportion of items endorsed (ranging from 0 to 1). Within both scales, the life events in question are not closely related (Kuder-Richardson formula 20 (KR-20) reliability coefficients $< .4$).⁴

A measure of housing problems was derived from responses to 10 items (shown in Table 3-7) that describe conditions in caretakers' homes during the three months prior to the interview (KR-20 $r > .7$ at all three points in time). An index of economic problems was created from the items shown in Table 3-8 (KR-20 $r \geq .67$). As with life events, these measures are expressed as the proportion of items endorsed.

Caretaker depression is measured with the 13-item Depression Subscale of the SCL-90-R mental health inventory, shown in Table 3-9. Responses range from 0 to 4, where 0=not at all, 1=a little bit, 2=moderately, 3= quite a bit, and 4=extremely. Mean scores are used in our analysis. The sample mean is 1.05 (sd=.91), which falls between the norms for outpatient clinical and nonclinical samples of adult women (Derogatis, 1994). The depression subscale has quite good internal consistency in this sample (Chronbach's alphas $> .9$ at all three points in time).

⁴ Measures of the internal consistency of scales and indices (Chronbach's alpha for ordinal and interval scales, and Kuder-Richardson formula 20 coefficients for indices with dichotomous response categories) are reported here for several reasons. Strong internal consistency (alphas or $r_s > .7$) is desirable in scales that are intended to measure variation among subjects on a single continuum (e.g., depression, burnout). Internal consistency is not expected in indices comprised of items that do not necessarily co-occur (e.g., life events, parenting problems), but is reported here for descriptive purposes.

Network size is defined as the number of close family members (parents and siblings) and friends who have contact with the caretaker at least once a month. On average, caretakers in this sample had monthly contacts with 5 family members and/or friends at Time 1 (the range is 0 to 12; see Table 3-10). Social network support is expressed as a proportion; it is the number network members the caretaker can rely on for emotional support, material aid, or advice, divided by network size. On average, caretakers reported that 81% of their network members provided some form of support at Time 1 (mean=.808, sd=.274, N=263).

Several indices of parenting behavior were derived from caretaker reports. Each is computed as the proportion of items endorsed. An index of parenting problems is comprised of 8 items that reflect approaches to parenting and discipline that could be viewed as problematic (see Table 3-11). Because these problems do not necessarily co-occur, the index has little internal consistency, as assessed with the KR-20 reliability coefficient. Positive parenting practices include 4 of the items in Table 3-11. Questions can be raised about the content and construct validity of these measures, because they tap a limited set of parenting problems and practices.

Caretakers' reports of their children's characteristics and behaviors are shown in Table 3-12. From these reports, we created composite measures of positive child behaviors/characteristics (from 9 items), children's school problems (5 items), children's behavior problems (7 items), and children's emotional problems (3 items). These measures are expressed as the proportion of items endorsed. Since many of the families had young children, the index of school problems was not applicable in some cases.

Caretakers' reports on the types of services they received from their FPS/SCOH caseworker are shown in (Table 3-13). This information was only gathered at Time 2 and Time 3, but the number of cases with valid data at Time 3 was too low for use in most multivariate analyses. We computed the proportion of different services the caretaker had received at Time 2 (KR-20 $r = .80$). These services also were subdivided into three types: concrete services (including financial aid, material aid, and practical help), referral information and advice about access to other services, and discussion of personal and family issues. Reliability coefficients for these measures range from .50 (for concrete services) to .76 (for referral help).

At Time 2 and Time 3, caretakers were asked to rate the overall change in their family life since the previous interview. Results are shown in Table 3-14.

Caseworker Reports

At Time 1 and Time 2, caseworkers rated the caretaker's parenting skills on 9 items shown in Table 3-15. Ratings range from 0 to 4, where 0=not adequate and 4=very adequate. The mean score is used as a measure of perceived adequacy of parenting skills. The scale has strong internally consistency (Chronbach's alphas $>.9$).

Caretaker compliance in FPS/SCOH services is the mean of caseworker responses to 3 items (shown in Table 3-16) on the extent to which the caretaker kept appointments, responded positively, and carried out suggestions. In principal factor analysis, these items loaded on one factor. This scale has good internal consistency (Chronbach's alpha $=.77$) and is virtually identical to the measure of caretaker compliance

developed from data from a large evaluation of family preservation services in Illinois (Littell, 2001).

Caseworkers were asked about the extent to which they felt prepared for various aspects of their work. Responses shown in Table 3-17 indicate that most caseworkers felt well-prepared for most casework tasks. Based on results of principal factor analysis of these items, we created two scales that represent the extent to which caseworkers felt prepared to 1) assess family problems and risk and 2) conduct other case planning and treatment tasks (Chronbach's alphas $>.78$).

Measures of the caseworkers' job satisfaction are shown in Table 3-18 (Chronbach's alpha $=.69$). A "burnout" scale was created from the mean of items shown in Table 3-19 (alpha $=.56$).

Caseworkers' "usual" caseload size was 7.2 families on average ($sd=4.1$, range is 0 to 17).

Measures of Service Provision

Caseworker contacts. Estimates of numbers of in-person contacts between caseworkers and primary caretakers were developed, based on data from several sources. First, using the contact reports, we counted the number of face-to-face contacts between the caseworker and primary caretaker that occurred 1) prior to the first caretaker interview, 2) between the first and second caretaker interviews, and 3) between the second and third caretaker interviews (when a caretaker interview was missing, we used the caseworker interview date if possible). Then we compared these counts with information from the caretaker interviewers. As a screening question for the WAI, caretakers were asked how many times they had met with the caseworker; this question was included at all three points in time. As part of the EFPRS, at Time 1 caretakers

were also asked how many times they had met with the caseworker in the past two weeks; at Time 2 they were asked how many times they had met with the caseworker since the last interview; and at Time 3 they were asked whether they had met with the caseworker at all since the last interview.

We used these caretaker interview data in conjunction with caseworker contact reports to estimate the number of contacts that occurred during the three time intervals mentioned above. Each estimate is the highest number of contacts reported by either the caseworker or caretaker for a given time period. The estimate is zero only if there are no caseworker contact reports for a given time period and the caretaker indicated that there had been no contact in that period. The estimate is missing if there was no contact data from any source. On average, caretakers had about 1.33 in-person contacts with caseworkers before the first interview (sd=2.47, range=0 to 16), 8.69 contacts between Time 1 and Time 2 (sd=11.16, range=0 to 60), and 1.69 contacts between Time 2 and Time 3 (sd=3.71, range=0 to 24).

Service Groups. Prior to Time 2, caretakers who received FPS services had significantly more contacts (as defined above) with caseworkers and reported that they received more casework services than those in the SCOH or "minimal service" groups. There were no significant differences between SCOH and minimal service cases in terms of contacts or casework services. Since we are focusing on caretaker and caseworker attributes and relationships as they relate to service provision and outcomes (not the main effects of FPS versus SCOH), we are concerned with the final group assignment (i.e., where cases wound up) not the group to which the case was randomly assigned. Hence, SCOH and "minimal services" cases are combined in the remainder of this report. In all,

150 cases were served in FPS and 203 in SCOH (Table 3-1). Although service group is used in some analyses, in the multivariate analyses we prefer more specific measures of service provision (i.e., number of contacts and proportion of services received).

Administrative Data

Information on reports of child maltreatment, the findings of official investigations of those reports, and the occurrence of out-of-home placements was derived from computerized databases developed and maintained by DHS. Data were available on case events from April 28, 1992 through December 31, 1999. After random assignment, the observation period ranges from 191 days (for the last case enrolled in the study) to 1023 days (for the first case enrolled); that is a range of 6.3 to 33.6 months.

From these data, we computed the number of substantiated maltreatment reports and number of out-of-home placements (known to DHS) that occurred prior to random assignment. We were also able to determine whether contracted child welfare services had been provided in the case prior to random assignment.

Outcomes derived from administrative data are shown in Table 3-20. These include maltreatment reports, substantiated maltreatment reports, and placements that occurred at various points in time after random assignment. Within one year after random assignment, new reports of child maltreatment were filed in one-third of the cases; there were new, substantiated maltreatment reports in about 17%; and one or more children were removed from the home in 17% of the cases.

IV. SOCIAL DESIRABILITY BIAS

As indicated above, we used a short version of the Marlowe-Crowne (MC) scale to assess social desirability bias. Because the MC scale was added to caretaker interviews approximately 11 months after data collection began, we are missing a substantial amount of MC data, especially at Time 1 (see Table 3-2).

On average, caretakers provided socially desirable responses on about 9 of the 13 MC items (see Table 4-1). The mean proportion of socially desirable responses was .66 at Time 1, .70 at Time 2, and .71 at Time 3. These rates (of two-thirds or more) are higher than those obtained in studies of undergraduate students, who provided socially desirable responses on fewer than half (.42 to .47) of the MC items on average (Crowne & Marlowe, 1960; O'Grady, 1988; Reynolds, 1982). Thus, as expected, it appears that social desirability bias is more common in our sample than in samples from the "general population."

Shown in Appendix A, the MC has two subscales that tap the tendency to deny socially undesirable traits (the deny-bad subscale) and attribute socially desirable traits to oneself (the agree-good subscale). Caretakers in our sample were slightly more likely to deny socially undesirable traits than agree with statements that would make them look good. That is, mean deny-bad scores were slightly higher (.68 to .74) than those on the agree-good subscale (.64 to .57; see Table 4-1). On average, caretakers denied 5 or 6 of the 8 statements on the deny-bad scale and agreed with 3 of the 5 agree-good items.

As shown in Table 4-2, the agree-good subscale had weak internal consistency (KR-20 reliability coefficients were about .4), while the deny-bad scale was more consistent (KR-20 rs ~ .7). In contrast to studies of college students, which showed high correlations between the

MC subscales (Paulhus, 1984), in our sample deny-bad and agree-good scores were not correlated at Time 1 or Time 3 and were very weakly correlated at Time 2 (Pearson's $r < .2$; Table 4-3). Deny-bad scores were more consistent over time than those on the agree-good subscale or the full scale (Table 4-4).

The deny-bad items appear to be more relevant than those on the agree-good scale for our sample and, perhaps, for child welfare samples and involuntary clients in general. Our respondents may not care whether interviewers (or caseworkers) like them, but may be motivated to deny socially undesirable traits. For this reason and because it has better psychometric properties in this sample, the deny-bad subscale is used to measure social desirability bias in the remainder of our analysis. For ease of interpretation, we converted raw deny-bad scores to standardized z-scores (mean=0 and sd=1).

There were no significant differences between the FPS and SCOH service groups in caretakers' deny-bad scores at any point in time (Table 4-5). There were also no significant differences between caseworkers in terms of their clients' (caretakers') mean deny-bad scores (Table 4-6). This indicates that neither the type of service nor the caseworker to which the caretaker was assigned was associated with the caretaker's tendency to give socially desirable responses.

Factors Related to Social Desirability Bias

We developed hierarchical linear models (HLMs) of standardized deny-bad scores to identify factors related to this potential bias in caretaker reports. The simplest (fully-unconditional) three-level HLM enables us to partition the total variance in deny-bad scores into three portions: the amount of variance that occurs over time (within cases),

variance between cases (i.e., cases served by the same worker), and variance between groups of cases served by different caseworkers. The proportion of variance associated with each of these levels is shown in Table 4-7. Approximately one-third of the variance in deny-bad scores is associated with fluctuations over time (within cases) and two-thirds is associated with differences between cases. Virtually none of the variance in caretaker deny-bad scores is due to systematic differences between caseworkers (this is consistent with results reported in Table 4-6).

We developed a more complex two-level HLM to identify factors associated with deny-bad scores. At the first level (time), there are multiple reports (from caretaker interviews) per case; the number of reports varies across cases. Each level-1 record includes a deny-bad score and predictor variables measured at a specific point in time. The second (case) level includes caretaker and family characteristics at referral. As explained in Appendix B, we started with a fairly large set of predictor variables and used backward elimination to identify those that are significantly related to deny-bad scores, controlling for effects of other predictors. Results are shown in Table 4-8.

As shown in Table 4-8, the intercept is not significantly different from zero, because we used standardized deny-bad scores and centered interval-level predictors around their grand means. At level 1, the coefficients for time 2 and time 3 are not significantly different from zero, meaning that there were no significant changes in deny-bad scores over time, after controlling for changes accounted for by other variables. Two time-sensitive (level 1) measures are associated with within-case variations in deny-bad responses over time. Greater caretaker depression is associated with lower caretaker deny-bad scores,

while more negative life experiences are associated with higher deny-bad scores. Looking at case-level (level 2) data, we find that single parents, older parents, and those who have more children tend to have higher deny-bad scores at Time 1 than other caretakers. Caretakers with substance abuse problems (as defined in the following section) have significantly lower mean deny-bad scores than other caretakers at Time 1. None of the variables in our analysis were related to changes in deny-bad over time (i.e., none predicted variations in the slopes for change from Time 1 to Time 2 or from Time 2 to Time 3). This model explains 29% of the variance in deny-bad scores, although there is still a significant amount of unexplained variance across cases (at level 2).

Because we are missing a substantial amount of deny-bad data at Time 1 and there is no significant change over time in deny-bad scores, we used case-level mean deny-bad scores in subsequent analyses. Case-level means were converted to standardized z-scores.

V. SUBSTANCE USE AND ABUSE

Data on substance use and abuse by caretakers and other adult household members are derived from caretaker responses to the modified CUAD (shown in Appendix A) and from questions asked of caretakers, FPS/SCOH caseworkers, and CPS intake workers for the EFPRS. In this section we present data on substance use, discuss definitions of substance abuse (versus use), and compare reports of substance abuse across data sources.

Caretaker Reports of Substance Use

Table 5-1 shows the percentage of caretakers who reported monthly, weekly, and daily use of alcohol, marijuana, and "hard" drugs (cocaine or crack, heroin, and amphetamines). Polydrug use is defined as the use of any two or more of these substances. The frequency of "hard" drugs is broken down by substance in Table 5-2.

Of the 259 clients who provided some data on their substance use at Time 1, 37% reported that they has used alcohol at least once in the past month, 14% said they had used marijuana, 8% used cocaine, 3% used heroin, and 1% (2) said they had used amphetamines in the past month (Tables 5-1 and 5-2). The percentage of caretakers who reported alcohol and other drug use declined from Time 1 to Time 2, as did the reported frequency of use. At Time 3, reported alcohol use had increased.

Since some respondents reported using more than one substance, we collapsed these reports to get an unduplicated count of substance users (see Table 5-1). At Time 1, 43% (111) of the respondents reported some alcohol or drug use in the past month, 19% (50) said they had used at least one drug other than alcohol. All together, 32% (82) of the respondents reported some substance use in the past month at Time 2. At

Time 3, 35% (78) reported some use of alcohol or drugs in the past month.

To take a closer look at changes in reported substance use over the study period, we limited the next analysis to cases with valid data on substance use at all three points in time. Results for 166 cases are shown in Tables 5-3 and 5-4. In this subsample, self-reported monthly and substance use dropped from 39% at Time 1 to 30% at Time 2, and was stable from Time 2 to Time 3. There was little change in daily or weekly substance use from Time 1 to Time 3.

Relatively few caretakers reported that they were troubled or affected by alcohol or drug problems. At Time 1, 10% said they were at least "moderately" troubled or bothered by drug or alcohol problems, compared with 6% at Time 2 and 4% at Time 3 (Table 5-5). At Time 1, 11% of respondents reported that their alcohol or drug use had some (at least "a little") effect on their health, work, relationships, or parenting; 8% reported some effects at Time 2; 6% reported effects at Time 3 (Tables 5-6 and 5-7).

According to caretakers, then, substance use is not nearly as prevalent or problematic in their families as service providers had thought.

Definitions of Substance Abuse

What constitutes substance abuse (versus substance use) depends largely on social conventions and individual judgement. Current conceptualizations of substance abuse tend to focus on the effects of substance use on biopsychosocial functioning, rather than frequency or amount of substance use alone.

According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), substance abuse is

"a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following...: recurrent substance use resulting in failure to fulfill major role obligations..., recurrent substance use in situations in which it is physically hazardous ..., recurrent substance-related legal problems, (and/or) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance" (American Psychiatric Association, 1994, pp. 182-183).

What constitutes "significant impairment or distress" or "failure to fulfill major role obligations" is largely a matter of judgement. Hence, DSM criteria may be applied differently by different clinicians.

Although we were not able to determine whether caretakers met DSM IV criteria for substance abuse, we used available data to approximate this definition. For purposes of our study, caretakers were classified as substance abusers if they reported any of the following: 1) daily or weekly use of cocaine/crack, heroin, or speed; 2) having "too much to drink" several times a week (based on data from the EFPRS); 3) being at least moderately troubled or bothered by drug or alcohol problems; or 4) being somewhat or very much affected by drug or alcohol problems in the past month. We are cognizant of the arbitrary nature of this definition (e.g., daily use of alcohol or marijuana is not classified as substance abuse, while weekly use of "hard" drugs is). We are not concerned with substance use per se, but are concerned with its potential negative

effects on parenting. Hence, we focus on drugs that have a high potential for abuse (e.g., those that are not consumed in small quantities with meals or as refreshment) and on evidence that substance use is affecting a caretakers' psychosocial functioning.

Reports of Substance Abuse by Data Source

A summary of available data on substance abuse is presented by data source in Table 5-8. Caseworkers and intake workers were asked to identify "problems with alcoholism or drug abuse" among caretakers and other adult household members, although the criteria used to identify these problems were not specified.

Table 5-9 shows the percentage of cases with reports of caretaker or household substance abuse by data source. Based on their own reports, 11% of the caretakers appeared to have substance abuse problems at Time 1. In contrast, FPS and SCOH caseworkers identified caretaker substance abuse in over one-third of the cases. According to caretaker reports, in 18% of the cases at least one adult household member abused substances at Time 1. In comparison, FPS/SCOH caseworkers identified substance abuse problems in 38% of the households and intake workers reported these problems in over half (52%) of the cases.

Although caretakers and caseworkers were in agreement about the presence (or absence) of substance abuse in 71% of the cases, some caretakers identified these problems when caseworkers did not and vice versa (see Table 5-10). There was very modest agreement among caretakers, caseworkers, and intake workers in their reports of substance abuse at Time 1 (Tables 5-11 and 5-12). All three reporters agreed in 54% of the cases (N = 108 cases with valid data from all three sources). In part, lack of higher agreement may be because the questions

asked of caretakers were quite different from those asked of caseworkers and intake workers. However, caseworkers and intake workers were asked very similar questions about household substance abuse--with different results (56% agreement). Their reports are probably based on disparate kinds of evidence and are filtered through different perspectives, since they encounter and interact with families under very different circumstances.

Caretaker disclosure of substance abuse is important for clinical reasons, but self-reports on this topic are not particularly reliable. While there are probably few if any "false positives," there are likely to be many "false negatives." Some caretakers may try to hide substance abuse problems for fear that disclosure would have unpleasant consequences, including possible loss of child custody.

Intake workers may over-estimate the prevalence of substance abuse for the same reason that caretakers under-estimate it: to protect themselves. In the intake role, workers probably try to avoid false negatives (i.e., not identifying a substance abuse problem when it exists). In very serious cases, false negatives can lead to termination from the child welfare agency.

As indicated above, we do not know what criteria FPS and SCOH caseworkers use to define substance abuse or the kinds of information upon which their reports are based. Compared with intake workers, FPS and SCOH caseworkers certainly had more contact with caretakers and more in-depth knowledge of these cases.

Because our study is largely concerned with caretakers' readiness for change and alliance formation, in subsequent analyses we focus on caretaker substance abuse, not on substance abuse among other adults in the household. To balance under-reporting of substance abuse by

caretakers, we combined caretaker and FPS/SCOH caseworker reports of caretaker substance abuse. Since there were fewer caseworker reports at Time 1 and caseworkers knew the family better by Time 2, we included Time 2 reports of caretaker substance abuse as well. Hence, caretaker substance abuse is defined as the identification of this problem by either the caretaker or the FPS/SCOH caseworker (according to the criteria in Table 5-8) at Time 1 or Time 2. Of the 353 study cases, data on caretaker substance abuse from at least one of these sources at one or both points in time are available for 324 cases (91.8%). Of these 324 cases, we classified 114 (35.2%) as having a caretaker with a substance abuse problem.

It is interesting to note that the questions we asked caretakers about substance use produced a three-fold increase in the estimate of the prevalence of substance abuse among adult household members. That is, EFPRS data indicate that caretakers reported substance abuse in 6% of the households. Our estimate, from caretaker reports alone, is 18%. Thus, it appears that asking additional questions results in greater acknowledgment of substance abuse. However, ours is not an ideal way to assess substance abuse. Had we used the ASI or another lengthier measure, caretaker reports of substance abuse might have been higher. Biologic measures would have been even better.

VI. READINESS FOR CHANGE

Descriptive Data

Items from the University of Rhode Island Change Assessment (URICA) Scale were used to create three scales called precontemplation, contemplation, and action (see Appendix A). Caretakers' scores on these scales range from 1 (which represents strong disagreement with each item) to 5 (strong agreement with each item). Sample means are shown in Table 6-1. At all three points in time, caretakers were more likely to agree with contemplation and action items than with items intended to measure precontemplation. Average precontemplation scores were in the middle of the 5-point scale, indicating that many caretakers were ambivalent about whether they had problems in taking care of their children. Average contemplation and action scores were close to 4 on the 5-point scale, indicating that caretakers tended to agree with statements that they were thinking about and making changes in relation to their parenting problems.

Although precontemplation scores were unrelated to contemplation and action scores (Table 6-2), contemplation and action scores were highly correlated at all three points in time (Pearson's r ranges from .57 to .68, $p < .05$).

In previous studies, factor analysis has been used to examine the underlying structure of the URICA (for a review, see Littell & Girvin, 2002). If the URICA measures discrete stages of change, each stage should emerge as a distinct factor (i.e., the items that represent one stage should all load on the same factor and different factors should emerge, representing different stages). Results of principal axis factor analysis are presented in Table 6-3. (Here, we present results of varimax rotation; similar results are obtained with promax rotation.)

Factors 1 and 2 appear to be linear combinations of contemplation and action items. Four precontemplation items load at .4 or higher on Factor 3. Two action items load at .4 or higher on Factor 4. Overall, three action items and one contemplation item load on more than one factor; two precontemplation items do not load on any factor. Hence, the three stages, represented by the URICA subscales, do not emerge as distinct dimensions or states in this analysis. While responses to precontemplation items appear to be distinct from those on other items, contemplation and action items do not seem to tap two different dimensions or states in this sample. This pattern is consistent with findings of other factor analytic studies that do not replicate the stages-of-change structure (Littell & Girvin, 2002).

Cluster analysis has also been used to determine whether there are subgroups of subjects with distinctive profiles on the URICA subscales. The stage model predicts that there will be subgroups of cases with high means on one subscale (representing involvement in one stage) and low means on the other subscales. We performed k-means cluster analysis on Time 1 responses to the 18 URICA items in our study. Two- to nine-cluster solutions were examined. Results were difficult to interpret. We then ran cluster analysis using raw scores on the three URICA subscales. Results are shown in Tables 6-4 through 6-6. The four- and five-cluster solutions are easiest to interpret and are discussed below.

In the four-cluster solution (Table 6-4), the first group has 102 cases. On average, members of this cluster appear to be undecided on precontemplation items (mean=2.96) and tend to agree with contemplation

and action items (means ≈ 4).⁵ Members of the second cluster (with only 14 cases), tend to disagree with items on all three scales (means < 2). Members of the third group (N=118) tend to agree with contemplation and action items and disagree with precontemplation items. Members of the fourth group (N=24) generally agree with contemplation items, are somewhat undecided about action, and disagree with precontemplation items.

In the five-cluster solution (Table 6-4), the first two groups resemble clusters 4 and 2 in the previous solution. The third cluster appears undecided on all three scales, with slight agreement on action. In both the fourth and fifth groups, there is a tendency to agree with contemplation and action items, but members of the fourth cluster appear to be largely undecided on precontemplation items, while those in the fifth group tend to disagree with precontemplation items.

Distinct clusters that represent the stages of change do not emerge in this analysis. As before, responses to precontemplation items appear to be distinct from responses to questions meant to tap contemplation and action, but contemplation and action responses are not very distinct.

Given the strong association between the contemplation and action scales, we combined them in subsequent analyses and utilized two subscales: PC (precontemplation) and CA (the mean of contemplation and action items). PC and CA scores are not related (Pearson's $r = .01$ at

⁵ Had we followed the convention of using standardized scores (instead of raw scores) in the cluster analysis, this group would be above average on precontemplation and average on the other two scales. Similar groups have been termed "precontemplators" in other studies, although group means indicate that the group members tend to be undecided on that scale.

Time 1 (N=258), $r = -.12$ at Time 2 (N=252), and $-.02$ at Time 3 (N=224); $p > .05$).

We also computed an overall readiness score. This is the mean of the contemplation items plus the mean of the action items minus the mean of precontemplation items. As indicated above, some authors have argued that readiness for change is best represented by a continuum, rather than stages, and other investigators have used URICA subscales to create an overall score. We were interested in whether an overall score performed better than our two unrelated scales.

As presented in Table 6-7, the overall readiness scale and the PC and CA scales have acceptable levels of internal consistency (Chronbach's alphas $> .7$), although the PC scale is not as consistent (alpha $< .7$) at Time 1.

At Time 1, there were no associations between our measures of readiness for change and social desirability bias (i.e., the deny-bad scale; Table 6-8). At Time 2, there was a weak, but statistically significant negative correlation ($r = -.2$) between CA and deny-bad scores. This suggests that caretakers who said they were working on their parenting problems were somewhat less likely than others to deny socially undesirable traits. Overall readiness scores are also negatively associated with deny-bad scores at Times 2 and 3 ($r_s = -.21$).

Differences Between Service Groups

There were no significant differences between service groups in precontemplation scores at any point in time, but the FPS group had slightly higher mean contemplation/action ($p = .1$) and overall readiness ($p = .04$) scores at Time 2 (Table 6-10). Group differences were not significant at Time 3.

Differences Between Caseworkers

Within service groups, there were no significant differences between caseworkers in average precontemplation and contemplation/action scores for the caretakers they served (Table 6-11). In the SCOH group, there were differences between caseworkers in caretakers' overall readiness scores at Time 1 ($p=.08$); these differences did not persist and were not observed in the FPS group.

Variance Decomposition

We used three-level, fully-unconditional HLMs to estimate the proportions of variance in caretaker-reported readiness for change that can be attributed to change over time (within cases), differences between cases (served by the same caseworker), and differences between caseworkers in terms of the cases they served (See Appendix B). For ease of interpretation, we converted PC, CA, and overall readiness scores into z-scores (mean=0, sd=1); these standardized are used in the remaining analyses.

Results shown in Table 6-12 indicate that caseworkers do not account for any significant portion of the variance in caretaker PC, CA, or overall readiness scores. Rather, these scores are most likely to fluctuate over time (i.e., 67% of the variance in PC scores, 73% of the variance in CA scores, and 62% of the variance in overall readiness scores occurs within cases over time) and between cases (case-level differences account for 33% of the variance in PC, 25% of the variance in CA, and 38% of the variance in overall readiness scores).

We did not expect these scores to be stable over time; in fact, it was hoped that readiness for change could be influenced by intervention. It is interesting to note that, in this sample, CA scores were more

likely to fluctuate over time (within cases) than PC scores. Perhaps clients' admission or denial of parenting problems is less likely to change than their expressed willingness to think about and act on these issues.

Correlates of Readiness for Change

When we tried to identify factors associated with caretakers' readiness for change, three-level HLMs didn't work (most failed to converge after 2500 iterations) because there was so little variation in readiness scores between groups of clients served by different caseworkers. Hence, we dropped the third (worker) level and used two-level HLMs to identify factors that relate to differences in caretaker readiness for change over time and between cases. In subsequent sections, we look at relationships between caretaker readiness, alliance formation, and service delivery characteristics. Here we focus on case characteristics that relate to readiness for change.

Precontemplation

Results of a two-level conditional HLM of precontemplation scores are shown in Table 6-13. Although precontemplation scores tended to increase from Time 1 to Time 2 and decrease from Time 2 to Time 3, overall, these changes were not statistically significant ($p > .1$). Greater caretaker depression and more negative recent life experiences were associated with significantly lower PC scores at all three points in time (level 1).

At the case level (level 2), the tendency to deny undesirable traits (i.e., the deny-bad score) was not predictive of baseline precontemplation scores. On average, older caretakers, those with more

children, and caretakers with more network support had higher baseline precontemplation scores than others. Caretakers with substance abuse problems tended to have lower baseline PC scores than others, but their PC scores were likely to increase between Time 1 and Time 2.

Caretakers whose children had previously been removed from their home appeared to have more volatile PC score than others; that is, their PC scores tended to drop between Time 1 and Time 2 and then increase from Time 2 to Time 3. Caretakers who were receiving TANF at Time 1 were more likely than others to show significant reductions in PC scores between Time 1 and Time 2. Those with more housing problems at Time 1 tended to have PC scores that declined from Time 2 to Time 3.

It is important to note that HLM results cannot be used to determine whether there are causal relationships between variables or establish the direction of causality. For example, it may be that problem admission (low PC) leads to more severe depression or vice versa or that other factors account for the relationship between these two variables.

Taken together, the level 1 and level 2 predictors account for only 6.5% of the variation in precontemplation scores. There is still a significant amount of unexplained variance in PC scores at the case level.

Contemplation/Action

Results of a HLM of CA scores (shown in Table 6-14) indicate that, overall, CA scores decreased from Time 1 to Time 2 and increased from Time 2 to Time 3, although these changes were not statistically significant ($p > .1$). Greater caretaker depression and more contact with caseworkers were associated with higher CA scores at all points in time.

Baseline CA scores were not affected by social desirability bias, as measured by the deny-bad scale. On average, older caretakers had lower baseline CA scores than others. Caretakers with more children had relatively high baseline CA scores, but their CA scores tended to drop from Time 1 to Time 2. Caretakers whose children had previously been removed from the home had somewhat lower CA scores at baseline, but their CA scores tended to increase from Time 1 to Time 2. None of the case characteristics in the analysis predict changes in CA scores from Time 2 to Time 3.

As in the HLM for PC, this model explains a small proportion (6.6%) of the variance in CA scores.

Overall Readiness

Findings of a conditional HLM of overall readiness scores are shown in Table 6-15. As with PC and CA scores, there were no significant changes in overall readiness scores from Time 1 to Time 2 or from Time 2 to Time 3. Greater caretaker depression is associated with higher overall readiness scores at all points in time.

Overall readiness scores are not related to the tendency to deny socially undesirable traits. On average, single parents and caretakers with substance abuse problems had higher overall readiness scores at baseline than other caretakers. Older parents and those who had received child welfare services before tended to have lower readiness scores at Time 1.

Caretakers whose children had been removed from them in the past were likely to demonstrate increased readiness from Time 1 to Time 2, while overall readiness was likely to decrease in these first few months among caretakers with more children.

From Time 2 to Time 3, reductions in overall readiness were seen among single parents and those with substance abuse problems, two groups that had relatively high readiness scores at baseline. Caretakers who had been receiving TANF at Time 1 were likely to show increased readiness from Time 2 to Time 3.

This model explains 10.6% of the variance in overall readiness scores.

Predictive Validity

Measures derived from the URICA are supposed to represent internal states related to readiness for change. These states may or may not relate to the type or number of presenting problems. However we expected caretakers who acknowledged that they had problems (those with low PC scores at Time 1) and those who expressed interest in working on these problems (high CA at Time 1) to show more improvement (problem reduction) over time. Further, we expected an increase in measures of readiness for change (reduced PC and/or increased CA) from Time 1 to Time 2 to predict problem reduction by Time 3.

In this section, we examine relationships between measures of caretaker readiness for change (RFC) and outcomes derived from interviews with caretakers, interviews with caseworker, and administrative data. While we are interested in the extent to which measures of RFC predict outcomes, this analysis cannot determine whether there are causal relationships between these variables.

Outcomes Derived from Caretaker Reports

We use two-level HLMs to assess relationships between measures of caretaker readiness and change over time in measures of parenting,

housing and economic problems, life events, social support, child well-being, and overall family functioning. Time 1 measures of PC and CA or overall readiness are included with other predictor variables at level 2. In addition, we include measures of any change in PC, CA, or overall readiness scores from Time 1 to Time 2 to see whether increased (or decreased) readiness predicts later outcomes.

With one exception, the overall readiness score predicts outcomes only if either PC or CA also predict the dependent measure. The results for models with PC and CA scores are easier to interpret and provide more information than those with overall readiness scores; hence, we show results for the overall score only when that score predicts a dependent variable and the PC and CA scores do not.

Parenting problems. Results of a two-level conditional HLM of the proportion of parenting problems reported by caretakers are shown in Table 6-16. Overall, this model accounts for 16.7% of the variance in the dependent variable over time and between cases. The negative slope for Time 2 ($-.044$, $p < .001$) indicates that, on average, caretakers reported significantly fewer specific parenting problems at Time 2 than at Time 1. Overall, there was no significant change in reported parenting problems from Time 2 to Time 3 (the slope for Time 3, $-.007$, is not statistically significant).

On average, caretakers who were more likely to deny socially undesirable traits reported fewer problems at Time 1. Caretakers who had been maltreated in childhood and those who had more negative life experiences in the three months prior to Time 1 reported more specific parenting problems at that time.

Controlling for variations in deny-bad scores, negative life experiences, and caretaker maltreatment, PC and CA scores were not

significantly related to the proportion of parenting problems that caretakers reported at baseline (i.e., the coefficients for PC and CA in the model for the case mean are not statistically significant). Contrary to expectations, baseline PC and CA scores were not predictive of changes in reported parenting problems at Time 2 or Time 3. Further, changes in PC or CA scores from Time 1 to Time 2 did not predict changes in reported parenting problems from Time 2 to Time 3.

As indicated above, similar results are obtained when we substitute the overall readiness score for PC and CA in a HLM of parenting problems. That is, the overall score does not predict baseline reports of parenting problems, change to Time 2, or change to Time 3; and changes in the overall readiness score from Time 1 and Time 2 do not predict changes in specific parenting problems from Time 2 to Time 3.

Positive parenting practices. At Time 1, caretakers reported that they engaged in most (about 94%) of the positive parenting practices listed in Table 3-11 and there was no significant variation on this measure over time (Table 6-17). On average, caretakers with higher baseline PC scores reported significantly more positive parenting practices than others at Time 1 and significantly fewer positive parenting practices at Time 2.

Housing and economic problems. Time 1 PC and CA scores were not significantly related to the proportion of housing problems or the proportion of economic problems reported at Time 1, but higher baseline CA scores predicted significant reductions in housing problems at Time 2 (Table 6-18) and higher PC scores predicted significant increases in economic problems at Time 2 (Table 6-19). Measures of PC and CA did not affect housing or economic problems at Time 3.

Life events. The mean proportion of recent, negative life events dropped from Time 1 to Time 2 and then returned to its baseline level at Time 3 (Table 6-20). Reports of positive life events were stable from Time 1 to Time 2, followed by an increase to Time 3 (Table 6-21). PC and CA scores did not predict baseline or Time 2 measures of positive or negative life events. Caretakers whose PC scores increased from Time 1 to Time 2 were likely to report fewer negative life events at Time 3.

Social networks and social support. Caretakers with high PC scores tended to have significantly larger social networks (Table 6-22) and more network support (Table 6-23) than others at Time 1. Those with high CA scores usually had less network support than others at Time 1. Overall, it appears that network support increased from Time 1 to Time 2, although caretakers with higher baseline PC scores reported less change in social support during this period and those with higher baseline CA scores reported more change. Higher CA scores at Time 1 predicted a slight increase in network size from Time 1 and Time 2 (Table 6-22, $p=.122$), in addition to a significant increase in network support during the same period. Caretakers whose CA scores rose from Time 1 to Time 2 were likely to experience additional increases in network support from Time 2 to Time 3. Network size tended to increase from Time 2 to Time 3, but PC and CA scores were not related to these changes.

Caretaker depression. Controlling for other variables that relate to levels of caretaker depression (as assessed with the SCL-90-R depression subscale), caretakers who acknowledged that they had problems related to parenting (i.e., those with low PC scores) and those who expressed interest in working on these problems (high CA scores) appeared to be more depressed than others at Time 1 (see Table 6-24).

Although depression scores tended to drop over time, they were likely to increase (worsen) from Time 1 to Time 2 among caretakers who did not think they had parenting problems (those with high PC scores) at the beginning. Baseline PC and CA scores did not predict changes in depression from Time 2 to Time 3.

Indicators of child well-being. Caretaker reports about their children's behavior and characteristics (shown in Table 3-12) were grouped in four categories: behavior problems, emotional problems, school problems, and positive characteristics. Caretakers with higher CA scores reported significantly fewer child behavior problems at Time 1 than those with lower CA scores (Table 6-25). Although reports of child behavior problems were relatively stable over time, caretakers with higher baseline PC scores tended to report more child behavior problems at Time 2 than they had reported at Time 1. Increases in PC scores from Time 1 to Time 2 predicted additional increases in reported behavior problems from Time 2 to Time 3.

Caretakers with higher PC scores tended to report more emotional problems among their children than other caretakers at Time 1, although this difference was not statistically significant ($p=.140$; Table 6-26). None of the relationships between PC and CA scores and caretaker reports of children's emotional problems were significant at $p<.1$.

Among caretakers with school-age children, those with higher baseline CA scores tended to report more school problems at Time 1. Reports of school problems declined from Time 1 to Time 2, especially from caretakers with higher baseline CA scores (see Table 6-27). Reported school problems increased from Time 2 to Time 3, although this change was not related to PC or CA scores (or to changes in PC or CA scores from Time 1 to Time 2).

PC and CA scores were not related to variations in baseline reports of children's positive characteristics, and there were no significant changes over time in the mean proportion of positive child characteristics reported by caretakers (Table 6-28). However, an increase in PC scores from Time 1 to Time 2 predicted an increase in the proportion of positive child characteristics reported by caretakers at Time 3.

Perceived changes in family life. Caretakers rated overall changes in their family life at Time 2 and Time 3 (see Table 3-14). Almost half of the caretakers said that their family life was somewhat improved at Time 2 and more than one-third reported great improvement at Time 3. As shown in Table 6-29, baseline PC and CA scores did not predict perceived changes in family life at Time 2 or Time 3. However, caretakers whose CA scores increased from Time 1 to Time 2 tended to report greater overall improvement at Time 3.

Outcomes Derived from Caseworker Reports

Caseworkers rated the adequacy of the caretaker's parenting skills in several areas (see Table 3-15) at Time 1 and Time 2. A three-level, fully unconditional HLM shows that these ratings are time-sensitive (i.e., 42% of the variance in these ratings is within cases over time), and reflect case characteristics as well as worker perceptions (39% of the variance in these ratings is accounted for by case-level differences, while 19% of the variance is attributed to differences between caseworkers; Table 6-30). In this analysis, 44 workers provided 271 sets of ratings on 152 cases. While these data are incomplete, it is important look at changes in caretakers' parenting skills from the caseworkers' perspectives, since much of the outcome data that we have

(and all that has been presented thus far) comes from interviews with caretakers.

Table 6-31 shows that baseline PC and CA scores are not related to caseworkers' assessments of the caretakers' parenting skills at Time 1 or Time 2. Similarly, overall readiness scores are not related to caseworker assessments of parenting skills at Time 1, but baseline readiness scores predict a significant reduction in skill ratings at Time 2 (Table 6-32). We expected baseline readiness to predict improvements in parenting skills, not declines.

Overall, caseworkers with larger caseloads and those who felt more adequately prepared for case planning and treatment tended to rate caretakers' parenting skills more positively, while those who scored higher on the Burnout scale provided more negative ratings. In general, caseworkers provided more positive parenting skill ratings for caretakers who had more children, more prior substantiated reports of maltreatment, and more network support than other caretakers. Negative ratings were more likely in cases with caretaker substance abuse and prior child welfare services.

Outcomes Derived from Administrative Data

As explained in Appendix B, we use logistic regression and Cox proportional hazard models to examine relationships between measures of caretaker readiness for change and the occurrence of new reports of child maltreatment, new substantiated maltreatment reports, and out-of-home placements. Logistic regressions are used to identify variables related to the likelihood of outcome events at 12 and 18 months after referral, while hazard models indicate which variables are predictive of the likelihood of events over the entire observation period. Predictor

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variables are measured at Time 1. The logistic regressions also include measures of changes in PC, CA, and overall readiness scores from Time 1 to Time 2 as predictors. In these models, we control for variations in deny-bad scores and for other variables that relate to the likelihood of outcome events.

New reports of maltreatment. Controlling for social desirability bias, caretaker age, the number of prior substantiated reports of maltreatment, and prior placement, high PC scores at Time 1 predict a significant increase in the likelihood of a new maltreatment report within 12 months after referral (see Table 6-33). The odds ratio of 1.539 suggests that a case with a PC score that was one standard deviation above the sample mean at Time 1 was 54% more likely to have a new report of maltreatment within the next 12 months than a case with an average Time 1 PC score.⁶ Although higher PC scores were also associated with increased risk of new reports at 18 months, this association only approached statistical significant ($p < .1$). As shown in the hazard model, higher PC scores predict more rapid recurrence of maltreatment over all points in time (the hazard ratio, 1.115, is greater than 1), but this trend is not statistically significant ($p > .1$).

Baseline CA scores and changes in these scores from Time 1 to Time 2 did not predict new reports of maltreatment (Table 6-33).

A 42% reduction in the likelihood of new reports at 12 months is associated with each standard deviation increase in baseline readiness scores (odds ratio = .577, $p < .05$). However, overall readiness scores were

⁶ As shown in Table 6-1, the standard deviation for raw PC scores at Time 1 is about two-thirds (.68) of one point on a five point scale.

not significant predictors of new reports at 18 months or over all points in time.

New, substantiated reports of maltreatment. Baseline PC scores did not predict new, substantiated reports of maltreatment at any point in time (Table 6-34). However, caretakers whose PC scores increased from Time 1 to Time 2 by one standard deviation were 63% more likely to have a new substantiated report at 18 months than caretakers with no change in PC scores from Time 1 to Time 2 (odds ratio=1.629, $p<.1$).

High CA scores predicted a significant reduction in the likelihood of substantiated reports at 12 months, but not at 18 months or over all points in time (Table 6-34). For caretakers whose CA scores were one standard deviation above average at Time 1, the likelihood of a new substantiated report of maltreatment at 12 months was 58% (OR=.584) of the rate for cases with average CA scores. This is equivalent to a 42% reduction in the risk of substantiated maltreatment for every increase of three-quarters of one point on the raw (unstandardized) five-point scale (Time 1 CA sd=.79; Table 6-1).

Similarly, higher overall readiness scores predict a significant reduction in the risk of substantiated reports at 12 months (OR=.537), but not at 18 months or over all points in time.

Summary of maltreatment outcomes. The inclusion of PC, CA, and their change scores in the analysis accounts for about 4% of the variance in new maltreatment reports at 12 months and about 5.5% of the variance in new, substantiated reports at 12 months. However, over all points of time (in the hazard models) these variables account for less than 1% of the variance in maltreatment outcomes.

The overall score appears to capture the significant relationships between PC and new reports (Table 6-33) and CA and substantiated reports

(Table 6-34) at 12 months. A comparison of the second and third models in Tables 6-33 and 6-34 suggests that the overall score is not a better predictor of maltreatment (i.e., it accounts for smaller proportions of the variance in these outcomes) than PC and CA.

Out-of-home placements. Baseline measures of readiness (PC, CA, and overall scores) and changes in these scores from Time 1 to Time 2 did not predict out-of-home placements (Table 6-35). Placement was less likely in cases in which the primary caretaker was inclined to deny socially undesirable traits (hazard ratios for the deny-bad scale are about .71). Placement was more likely in cases with older caretakers, caretakers with substance abuse problems, more network support, prior child welfare services, and TANF benefits. Under the watchful eyes of child welfare and TANF workers, caretakers who have already received in-home or supportive services, who abuse drugs (including alcohol) and have strong network support seem more likely than others to lose temporary custody of their children.

Summary

Analysis of data from the University of Rhode Island Change Assessment (URICA) scale did not provide evidence of discrete stages of change. Instead, responses to the URICA seem to reflect two dimensions of caretaker readiness for change, which correspond to the precontemplation and contemplation/action URICA scales. Precontemplation seems to be the opposite of problem admission. Contemplation/action seems to reflect intentions and attempts to change. It is important to note that these two dimensions are unrelated in this sample. That is, one can have high scores on both scales, low scores on both scales, or a high score on one scale and low score on the other. This is not unique

to our sample. High scores on both PC and C/A (i.e., expressed intentions or attempts to change in the absence of problem admission) have been referred to as non-contemplative or non-reflective action (McConaughy et al., 1983). Low scores on both PC and CA (problem admission with no intention or attempts to change) appear to reflect an immobile state. As indicated above, most of the caretakers in our sample were not immobile; they were ambivalent about whether they had parenting problems, but indicated that they were thinking about and working on their parenting problems.

Caretaker age, depression, number of children, and prior out-of-home placements are related to both PC and CA. Negative life events, network support, caretaker substance abuse, TANF participation, and housing problems relate to PC but not CA. The number of recent contacts with caseworkers is positively associated with CA, but not related to PC.

Baseline measures of problem admission and intentions/efforts to change predict some variations and changes in caretaker reports of caretaker, child, and family functioning. At first glance, it appears that caretakers who do not think they have parenting problems (those with relatively high PC scores) at Time 1 may be right. They appear to have more positive parenting practices, larger social networks, more social support, and tend to be less depressed than caretakers with lower PC scores at Time 1. However, high baseline PC scores predict reductions in positive parenting practices and network support, and increases in economic problems, caretaker depression, and children's behavior problems at Time 2. Hence, high PC scores could mean that the caretaker doesn't have serious parenting problems or that existing problems are being overlooked.

Caretakers with higher baseline CA scores seem to have some reasons to change and are likely to experience some short-term improvements in certain aspects of individual and family functioning. At Time 1, they report less network support, more depression, fewer child behavior problems, and more school problems than others. High baseline CA scores predict reductions in housing and school problems and increased network support by Time 2.

Baseline PC, CA, and overall readiness scores do not predict changes in caretaker, child, and family functioning after Time 2 (approximately four months). Changes in PC and CA from Time 1 to Time 2 do predict changes in a few dependent measures at Time 3. In particular, increased CA predicts increases in social support and greater perceived improvement (by the caretaker) in family life at the one-year follow-up.

PC and CA scores were not related to caseworkers' assessments of the caretakers' parenting skills. Higher overall readiness scores at Time 1 predicted more negative caseworker assessments of parenting skills at Time 2--not what we expected.

There is some indication that problem admission and intentions/efforts to change predict fewer subsequent reports of child maltreatment and fewer substantiated reports, but these findings are not consistent over time. PC, CA, and overall readiness scores do not relate to the likelihood of out-of-home placement.

Although measures of caretaker readiness predict some of the changes we expected, they account for small proportions of the variance in these outcome measures. As indicated before, this analysis cannot be used to determine whether there are causal relationships among these variables.

VII. THE HELPING ALLIANCE

In this section we describe caretaker and caseworker reports about their relationship on modified versions of Horvath's Working Alliance Inventory (WAI; Appendix A). We look at variables related to alliance reports and examine the predictive validity of these reports.

Descriptive Data

As noted above, there were some unexpected delays in caseworker assignments, which hampered data collection on the alliance at Time 1. Alliance data could not be collected if the caseworker and caretaker had not met. Further, caseworkers did not always answer the alliance questions even if they had a working relationship with the caretaker. Hence, we are missing a substantial amount of data on the alliance, particularly from caseworkers (Table 3-1). We followed Horvath's rule for handling missing data by computing WAI scores when there were valid responses on at least two-thirds of the items on each scale.

Although most studies of the WAI use raw scores, we use mean scores because we find these easier to interpret in relation to the original scale. Descriptive data on the WAI and its three subscales are presented in Table 7-1. In general, alliance reports from caretakers and caseworkers were very positive (means of about 6 on a 7-point scale). The internal consistency of the overall WAI score and subscales is quite good (Chronbach's alphas $> .7$ for subscales and $> .9$ for the whole scale; Table 7-2).

At Time 1, caretaker alliance reports were significantly and positively associated with their deny-bad scores ($r = .37, p < .05$), although this association was not evident at Time 2 or Time 3 or for caseworker alliance reports (Table 7-3). This suggests that caretakers

may have inflated their early alliance reports to make "good impressions" on others, although their later alliance reports may have been more truthful.

While caretaker and caseworker WAI reports are positively correlated at Time 1 ($r=.42$, $p<.05$), the valid number of cases in this analysis is very low ($N=29$). There is virtually no concordance between caretaker and caseworker WAI scores at Time 2 ($r=.03$, $p>.05$, $N=61$).

Understanding Caretaker Reports of the Alliance

We computed mean scores for subgroups of caretakers who provided alliance data at various points in time (see Table 7-5). Of the caretakers who provided alliance data at Time 1, those who were also interviewed at Time 2 had significantly more positive early alliance reports than those who were "lost" (not interviewed) at Time 2. This suggests that missing data are not entirely random.

Of the caretakers interviewed at Time 2, those who had provided alliance reports at Time 1 had somewhat more positive Time 2 alliance reports than those who did not provide alliance data at Time 1. However, there were no differences between cases with and without Time 1 alliance data in terms of their alliance reports at Time 3. It is possible that delays in service initiation had negative effects on the alliance, although these effects were "repaired" by Time 3.

Differences Between Service Groups

At Time 1, caretakers in the FPS group gave significantly more positive alliance reports than those who received SCOH. These differences appeared in the overall WAI scores (Table 7-6) and on all three subscales (Table 7-7). Time 1 alliance reports from the FPS group were also more consistent than those from caretakers in the SCOH group (i.e., there was more variation within the SCOH group than in the FPS group). This may reflect frequent delays in the initiation of SCOH. However, there were no significant differences between service groups in caretaker alliance reports at Time 2 or Time 3; again, this suggests that initial difficulties in alliance formation can be repaired over time.

Differences Between Caseworkers

In the FPS group, there were differences between caseworkers in caretakers' total alliance scores at Time 1 ($p=.07$; Table 7-8). Analysis of subscale scores indicates that this can be attributed to significant variation between caseworkers in FPS caretakers' scores on the Task subscale at Time 1 ($p=.01$; Table 7-9). Between-caseworker differences were not significant at other points in time, on other WAI subscales, or in the SCOH group.

Variance Decomposition

Since the WAI subscales are highly intercorrelated, we use the total scale in subsequent analyses. Total WAI scores (i.e., the average of all 36 items) scale were converted to z-scores (mean=0, sd=1).

A three-level, fully-unconditional HLM shows that two-thirds of the variance in caretaker alliance scores can be attributed to

fluctuations over time and the remainder lies between cases (Table 7-10). Again, this shows that different caseworkers account for almost none of the variance in caretaker alliance scores. That is, some caseworkers were not consistently better (or worse) at forming alliances with the caretakers in our study; instead, the alliance appears to be a dyadic phenomenon, related to the particular relationship between a caseworker and a client.

Correlates of Caretaker Alliance Reports

We developed two-level HLMs of caretaker alliance reports to see whether and how case characteristics relate to these reports. As shown in Table 7-11, caretaker alliance scores are positively associated with the number of recent contacts with caseworkers. In other words, more caseworker contacts predict more positive alliance reports at Time 1, Time 2, and Time 3. Controlling for the number of caseworker contacts, alliance reports tended to become more negative from Time 1 to Time 2, followed by a slight (not statistically significant) increase to Time 3.

Controlling for other variables in the model, higher social desirability (deny-bad) scores are associated with significantly more positive caretaker alliance reports. In other words, caretakers who were inclined to deny their socially undesirable traits provided consistently more favorable reports of their relationship with the caseworker than caretakers who were not as concerned about hiding their flaws. Again, this suggests that some caretaker alliance reports are upwardly biased by their attempts to manage the impressions they make on others. Earlier, we saw that this bias was most evident (in bivariate associations) at Time 1.

Baseline precontemplation scores were not associated with caretaker alliance reports at Time 1 or Time 2, but contemplation/action scores were. Controlling for social desirability bias, caregivers with higher baseline CA scores tended to have more positive alliance reports than others at Time 1, although their alliance reports were likely to become less positive at Time 2.

Controlling for other variables in the model, caretakers in cases with more prior substantiated reports of maltreatment tended to report slightly more positive alliances than others at Time 1, and less positive alliances at Time 2. Caretakers with larger social networks at Time 1 tended to give more negative alliance reports at Time 1, followed by more positive reports at Time 2.

None of the case characteristics in this analysis predicted change in caretaker alliance reports from Time 2 to Time 3.

We conducted another analysis to look at the potential effects of changes in PC, CA and overall readiness scores from Time 1 to Time 2 on alliance formation at Time 3. This analysis included fewer cases (because it required valid URICA data at both Time 1 and Time 2). In it, some of the effects of CA washed out; that is, baseline CA scores were not significantly related to alliance reports at Time 1, although they predicted less positive alliance reports at Time 2. As before, PC scores were unrelated to caretaker alliance reports at any point in time. Although increases in CA scores from Time 1 to Time 2 predicted a slight increase in caretaker alliance scores at Time 3, this relationship was not statistically significant (coefficient for $zca2-1$ in the Time 3 slope = .174, $p=.125$). However, results for the overall readiness score were more distinct. As shown in Table 7-12, the overall readiness score at Time 1 is associated with more positive alliance reports at baseline

fluctuations over time and the remainder lies between cases (Table 7-10). Again, this shows that different caseworkers account for almost none of the variance in caretaker alliance scores. That is, some caseworkers were not consistently better (or worse) at forming alliances with the caretakers in our study; instead, the alliance appears to be a dyadic phenomenon, related to the particular relationship between a caseworker and a client.

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and less positive alliance reports at Time 2. Although baseline readiness scores are not related to Time 3 alliance reports, increases in overall readiness from Time 1 to Time 2 predict more positive alliance reports at Time 3 (the coefficient for $z_{soc2-1} = .185, p=.084$).

Results shown in Tables 7-11 and 7-12 suggest that greater intentions/efforts to change and higher overall levels of readiness predict somewhat more volatile alliances. Although caretakers who were ready for change at the outset tended to form strong alliances at first, their relationships did not usually remain on that initial high note. These caretakers may have had high expectations and become disillusioned with the relationship if their expectations were not met; they may have experienced "ruptures" (problems) in the relationship along the way; or their alliance scores may have regressed toward the sample mean over time (a purely statistical phenomenon).

Predictive Validity

Next we use HLMs to assess the predictive validity of caretaker alliance reports in relation to measures of parent and family functioning. In half of these models, we examine relationships between Time 1 WAI scores and 1) baseline measures of a criterion variable, 2) change in the dependent variable from Time 1 to Time 2, and 3) change in the dependent variable from Time 2 to Time 3. As indicated above, early alliance reports have predicted outcomes in other settings.

Since there were fewer than 100 caretakers with valid alliance reports at Time 1, we re-ran this analysis with Time WAI 2 scores to get a sense of the predictive validity of the alliance in a larger subsample. In this second set of HLMs, we are particularly interested in relationships between Time 2 WAI scores and any changes in criterion

variables from Time 2 to Time 3. Special care should be taken in interpreting coefficients for Time 2 WAI scores in models for baseline criterion measures, since the baseline measures preceded Time 2 alliance reports.

Readiness for change. We expected more positive alliances to facilitate problem admission and readiness for change. If so, a positive caretaker alliance report at Time 1 should predict reductions in PC scores and increases in CA scores at Time 2 and, perhaps, Time 3. Similarly, more positive alliances at Time 2 should predict lower PC and higher CA scores at Time 3. Results of HLM analyses (shown in Tables 7-13 through 7-18) do not support these hypotheses. Caretaker alliance reports at Time 1 were not related to PC scores at any point in time (Table 7-13). Although caretakers with more positive alliance reports at Time 1 tended to have higher baseline CA and overall readiness scores, the alliance did not predict changes in CA or overall readiness at either Time 2 or Time 3 (Tables 7-15 and 7-17).

Positive alliance reports at Time 2 were associated with low PC scores and high CA and overall readiness scores at that time, but they predicted changes in these scores in the "wrong" directions (see Tables 7-14, 7-16, and 7-18); that is, caretakers with more positive alliance reports at Time 2 tended to show increases in PC and decreases in CA and overall readiness from Time 2 to Time 3. Again, this could be due to the effects of statistical regression or to a complex and, perhaps, somewhat volatile relationship between readiness for change and the working alliance.

In sum, stronger alliances do not necessarily lead to greater readiness for change.

Individual and family functioning. Next we examine the predictive power of caretaker alliance reports in relation to measures of individual and family functioning, as reported by caretakers. If a strong alliance facilitates positive changes, caretaker alliance reports should predict reductions in parenting problems, housing and economic problems, caretaker depression, and children's behavioral, emotional, and school problems. A strong alliance should lead to more positive parenting practices, positive life events, social support, positive views of children, and perceived improvements in overall family functioning at Time 2 or Time 3.

Parenting problems. On average, caretakers who were able to provide WAI data at Time 1 said that they had 15% of the parenting problems listed in Table 3-11 (in Table 7-19, the coefficient for the intercept, .150, represents the mean proportion of parenting problems reported). Controlling for other variables that relate to caretaker-reported parenting problems (deny-bad scores, single parent status, maltreatment of the caretaker, and caretaker substance abuse), caretakers with higher WAI scores at Time 1 tended to report fewer parenting problems at Time 1;⁷ although this difference is not statistically significant ($p > .1$).

On average, the caretakers in this subsample indicated that they had fewer parenting problems (11%) at Time 2 than at Time 1; however, caretakers with higher Time 1 WAI scores were less likely than others to report fewer parenting problems at Time 2. For a caretaker whose Time 1

⁷ The coefficient of $-.029$ for WAI scores in the model for the case mean in Table 7-19 indicates that, on average, a caretaker whose WAI score was one standard deviation above the mean reported that she had 12% of the parenting problems listed, compared with 15% for a caretaker with an average Time 1 WAI score (a difference of 3%).

WAI score was one standard deviation above the mean, the proportion of parenting problems reported at Time 2 was virtually unchanged from the proportion reported at Time 1 (the 4% average decrease to Time 2 is offset by a 4% increase associated with the higher WAI score). From Time 2 to Time 3 there was no significant overall change in the proportion of parenting problems reported by caretakers, and early alliance scores did not predict changes in parenting problems during this time.

A similar analysis shows that Time 2 caretaker WAI reports are not significantly related to the proportion of parenting problems reported at any point in time, although the association between Time 2 WAI scores and baseline reports of parenting problems approaches significance ($p=.108$; Table 7-20). We interpret this to mean that baseline parenting problems predict slightly lower Time 2 WAI scores. Controlling for this association, Time 2 WAI scores do not predict changes in parenting problems to Time 3.

Positive parenting practices, housing and economic conditions, and life events. Time 1 caretaker WAI scores do not predict significant changes in positive parenting practices (Table 7-21), housing problems (Table 7-23), economic problems (Table 7-25), negative life events (Table 7-27), or positive life events (Table 7-30) at Time 2 or Time 3. Although caretakers who reported that they used more positive parenting practices and those who had fewer housing problems than others at Time 1 tended to have higher WAI scores at Time 2 (Tables 7-22 and 7-24), Time 2 WAI reports did not predict changes over time in positive parenting practices or housing problems, or in economic problems (Table 7-26) or positive life events (Table 7-30). More positive caretaker WAI scores at Time 2 predict a slight increase in negative life events from Time 2 to

Time 3 (Table 7-28). This finding is unexpected and not easily explained.

Social networks and social support. Higher Time 1 WAI scores predict greater increases in the size of the caretaker's social network from Time 2 to Time 3 ($p=.072$; Table 7-31) and Time 1 network size predicts higher Time 2 WAI scores (Table 7-32). Hence, there may be a reciprocal relationship between network size and the formation of a positive alliance with a caseworker: Caretakers with larger social networks might establish relationships with professional helpers more easily than others and positive helping relationships might encourage caretakers to develop other social relationships. However, caretaker alliance reports (at Time 1 and Time 2) were not related to changes in the perceived availability of social support from network members (Tables 7-33 and 7-34).

Caretaker depression. Positive alliance reports at Time 1 predict an increase in depression scores from Time 1 to Time 2 (Table 7-35) and positive alliance reports at Time 2 predict a slight increase in depression from Time 2 to Time 3 (Table 7-36). These results are not what we expected.

Indicators of child well-being. Caretaker alliance reports do not predict changes in their reports of their children's behavior problems (Tables 7-37 and 7-38) or emotional problems (Tables 7-39 and 7-40). The alliance at Time 1 is not related to school problems or changes in these problems over time (Table 7-41). However, caretakers with more positive alliance scores at Time 2 tended to report more school problems at Time 3 than they had at Time 2 (Table 7-42). An early (Time 1) positive alliance predicted a reduction in the number of positive characteristics caretakers identified in their children at Time 3 (Table 7-43), but Time

2 alliance reports were not related to changes on this measure (Table 7-44).

Perceived changes in family life. More positive alliance scores at Time 1 were not significantly related to caretaker ratings of overall changes in their family life at Time 2, but predicted more negative assessments of overall change at Time 3 (Table 7-45). Positive caretaker alliance reports at Time 2 were associated with more positive views of change in family life at that point in time, but also predicted more negative assessments at Time 3 (Table 7-46).

Caseworker assessments. Controlling for other variables in three-level HLMS, caretaker alliance reports were not related to caseworker assessments of caretakers' parenting skills at Time 1 or Time 2 (Tables 7-47 and 7-48).

Outcomes from administrative data. Because there is so much missing alliance data at Time 1 and because outcomes derived from administrative data could occur after the one-year follow-up interviews, we expected Time 2 alliance reports to be better predictors of longer-term outcomes than Time 1 reports. Below, we examine the predictive ability of Time 2 caretaker alliance reports in relation to subsequent maltreatment and out-of-home placement. We expected more positive alliances at Time 2 to predict fewer maltreatment reports, fewer substantiated reports, and fewer out-of-home placements.

New reports of maltreatment. Time 2 caretaker alliance reports were not related to the likelihood of new reports of maltreatment at 12 months or 18 months after referral, and did not alter the hazard rate over all points in time (Table 7-49).

New, substantiated reports of maltreatment. More positive alliance reports were associated with significant reductions in the likelihood of

new substantiated reports of maltreatment at 12 months and 18 months after referral and a reduced hazard rate over all points in time (Table 7-50). Caretakers with alliance scores that were one standard deviation above the mean at Time 2 (i.e., approximately 6.8 on the 7-point scale) were 41% less likely than those with average WAI scores (5.7 at Time 2) to have a new, substantiated maltreatment report at one year and 18 months (odds ratios \approx .59). Since 17.1% of the cases had new, substantiated reports at 12 months, and 23.6% had substantiated reports at 18 months after referral (Table 3-20), we predict that roughly 10% of cases with high (1 sd above the mean) WAI scores had new substantiated reports at 12 months and 14% had new substantiated reports at 18 months ($17.1 * .59 = 10.1$; $23.6 * .59 = 13.9$). More accurate estimates (shown in Table 7-51) are obtained by generating predicted probabilities of substantiated maltreatment from the logistic regressions. For caretakers with low WAI scores (at least 1 standard deviation below the mean), the predicted probability of substantiated maltreatment is .266 at 12 months and .368 at 18 months. For those with high WAI scores (1 sd or more above the mean), the probabilities are .114 at 12 months and .148 at 18 months.

Out-of-home placements. Caretaker alliance reports at Time 2 were not related to the likelihood of out-of-home placements (see Table 7-52).

In sum, positive caretaker alliance reports predicted:

- increases in caretaker-reported problems in some areas of individual and family functioning,
- increases in social network size,
- no significant changes in caseworker-reported assessments of the caretaker's parenting skills,

- significant reductions in the risk of subsequent child maltreatment, and
- no changes in the likelihood of out-of-home placement.

Understanding Caseworker Alliance Reports

Caseworker alliance reports are only available at Time 1 and Time 2.

Differences Between Service Groups

On average, caseworkers reported more positive alliances with caretakers in FPS programs, compared with those in SCOH (Table 7-53). This difference was significant at Time 1 and approached significance at Time 2. Between group differences were significant on the WAI Goals subscale at both points in time and on Tasks at Time 1 only (Table 7-54). There were no significant differences on the Bonds subscale.

Differences Between Caseworkers

There were too few caseworker alliance reports for analysis of differences between workers within service groups. Across service groups, there were significant differences between caseworkers in overall WAI scores at Time 2 only (Table 7-55). Further analysis shows that differences between caseworkers appeared on all three subscales at Time 2 (Table 7-56). This indicates that some caseworkers gave consistently more positive or negative reports of their alliances with caretakers at Time 2.

Variance Decomposition

To see what proportions of the variance in caseworker alliance reports could be attributed to change over time within cases,

differences between cases, and differences between caseworkers, we performed a three-level fully-unconditional HLM analysis. It includes 124 observations (caseworker alliance reports) on 82 cases served by 32 workers. As shown in Table 7-57, 48.2% of the variance in caseworker alliance reports is at level 1 (change over time), with 38.6% at level 2 (between cases), and 13.2% at level 3 (between caseworkers).

Correlates of Caseworker Alliance Reports

As shown in Table 7-58, female caseworkers and those who felt better prepared for case planning and treatment tended to provide more positive alliance reports, while caseworkers who had high burnout scores provided less positive alliance reports than other caseworkers. On average, caseworkers tended to report more positive alliances with older caretakers and with caretakers who had more housing problems than others.

Overall, there were no significant changes in caseworker alliance scores from Time 1 to Time 2. On average, caretakers with higher baseline PC scores (more problem denial) started out with more negative alliance reports from their caseworkers, although these reports often became more positive by Time 2. Caseworkers also tended to rate their relationships with caretakers who had relatively high baseline CA scores more positively at Time 2 than Time 1 (Table 7-58). Overall readiness scores were not related to caseworker alliance reports at either point in time.

Predictive Validity

Concerns about low statistical power in analysis of caseworker alliance reports led us to limit multivariate analyses to four outcomes

that we expected to be most closely related to caseworker views of the alliance: caseworker ratings of the caretaker's parenting skills, subsequent maltreatment reports, substantiated reports, and out-of-home placements. We did not expect caseworker alliance reports to affect changes in caretaker and family functioning as reported by caretakers, since caretaker alliance reports had little impact on these measures.

We use caseworker alliance reports at Time 1 to predict changes in caseworker-rated parenting skills from Time 1 to Time 2. Time 2 caseworker alliance reports are used to predict maltreatment and placement outcomes. Note that there are fewer than 70 cases in these analyses.

Caseworkers' alliance reports at Time 1 were not related to their ratings of the caretaker's parenting skills at Time 1 or Time 2 (Table 7-59). Caseworker alliance reports at Time 2 did not predict the likelihood of new maltreatment reports or substantiated reports (Tables 7-60 and 7-61). More positive caseworker alliances at Time 2 predict an increase in the likelihood of out-of-home placement at 12 months and 18 months, but do not affect the hazard rate for placement over the entire observation period (Table 7-62).

Summary

Due to problems with staff turnover and case coordination, FPS and SCOH caseworkers did not always begin working with families as quickly as expected. Once in-home services began, most caretakers reported very positive working relationships with their FPS/SCOH caseworker. Albeit incomplete, caseworker reports indicate that they usually had positive views of their alliances with caretakers.

Caretaker alliance reports are positively associated with the number of recent contacts with caseworkers, social desirability bias, and measures of readiness for change. More positive caretaker alliance reports predict increases in the size of caretakers' social networks, increases in the proportion of problems caretakers report in several areas of individual and family functioning, and more negative caretaker assessments of overall family functioning. Caretaker alliance reports are not predictive of changes in caseworkers' assessments of the caretaker's parenting skills or the likelihood of out-of-home placements. However, more positive caretaker alliances predict significant reductions in the likelihood of subsequent, substantiated reports of child maltreatment.

Caseworker alliance reports were associated with caseworker burnout, gender, and perceived preparation for case planning and treatment; and with caretaker age, housing problems, and readiness for change. Caseworker alliance reports did not predict improvements in caseworker ratings of the caretaker's parenting skills or reductions in subsequent maltreatment or out-of-home placement.

VIII. READINESS, ALLIANCE, INTERVENTION, AND OUTCOMES

Caseworkers want to know what they can do to facilitate readiness for change, alliance formation, and positive outcomes. Service delivery characteristics, such as the nature and amount of contact between clients and caseworkers, may be important in this regard. In this section, we present results of preliminary analyses of relationships between measures of readiness for change, alliance formation, service delivery characteristics, and outcomes.

To some extent, FPS and SCOH caseworkers can tailor the services they provide to the characteristics and needs of different families. Hence, some service characteristics and case characteristics are linked. In some of the HLM analyses described above, we included estimates of the number of recent contacts between caseworkers and caretakers, because these appear to be driven by programmatic factors. But we could not include other service variables--such as the amount of concrete services, referral information, and discussion of personal and family problems--as predictors in HLM analyses. These variables are endogenous (i.e., "caused" in part by case characteristics) and HLM cannot handle endogenous predictors. Here, we use simultaneous equations (estimated with three-stage least squares) to model relationships among endogenous variables (these techniques are described in Appendix B).

The number of caseworker contacts is closely related to provision of concrete services ($r = .41$, $p < .001$, $N = 233$), and discussion of personal issues is linked to provision of referral information ($r = .47$, $p < .001$, $N = 232$). To avoid problems of multicollinearity, we developed two separate simultaneous models: one that includes caseworker contacts and discussion of personal issues, and another that includes provision of concrete services and referral information.

The models (shown in Tables 8-1 and 8-2) reflect hypothesized relationships among variables. We will describe the hypothetical models before discussing actual results. Variables in the analysis include Time 2 PC and CA scores, which are predicted by their baseline scores and by Time 2 alliance reports and service characteristics. The alliance is predicted by baseline PC and CA, and by service characteristics. Service characteristics are predicted by baseline readiness and Time 2 alliance reports. We included one outcome measure in this analysis: substantiated reports of child maltreatment within one year after referral. This may be the most robust and important outcome variable in this study, and it has been sensitive to readiness and alliance measures. We chose to look at maltreatment at 12 months because the valid number of cases in the analysis drops off after that point in time. In the three-stage least squares model, subsequent maltreatment is predicted by readiness scores, the caretaker alliance, and service characteristics.

Controlling for baseline PC scores, problem admission (PC) is not affected by service characteristics (Tables 8-1 and 8-2). Problem admission increases at Time 2 with positive caretaker alliance reports at that time, but this relationship only approaches statistical significance in one model ($p=.084$ in Table 8-1) and is not significant in the other ($p>.1$, Table 8-2).

CA scores appear to increase with more discussion of personal issues and caseworker contacts (Table 8-1), but do not seem to be affected by the range of concrete services or referral information that caseworkers provide (Table 8-2).

Baseline problem admission (PC) does not affect alliance formation or service characteristics. However, greater intentions/efforts to

change (high CA) at baseline predicts weaker alliances at Time 2, more discussion of personal issues, and more referral information.

The alliance is closely linked to all four service characteristics. That is, more positive caretaker alliances at Time 2 are predicted by the amount of contact, discussion, concrete services, and referral information provided prior to that time (Tables 8-1 and 8-2).

At one year, the likelihood of new, substantiated reports of maltreatment is significantly lower among cases with greater intentions/efforts to change (higher CA scores) and more positive alliance reports at Time 2. More caseworker contacts, discussion, concrete services, and referrals appear to increase the likelihood of maltreatment. Perhaps caseworkers provided more intensive services in difficult cases (those in which the risk of recidivism was high to begin with), or more intensive services led to the discovery (reporting and substantiation) of new incidents of maltreatment.

Similar results are obtained when we use overall readiness scores instead of PC and CA (i.e., findings for overall readiness mirror those for CA) and when we look at maltreatment reports at 18 months instead of one year.

IX. DISCUSSION AND CONCLUSIONS

This study considers several issues that have been neglected in previous research on in-home services in child welfare. It shows that readiness for change and alliance formation, two constructs that have received considerable attention in research in other populations, may be important and can be assessed--albeit imperfectly--in a sample of caretakers of maltreated children who receive in-home services. Caretaker substance abuse is more difficult to assess, as different data sources and data collection methods produce different results. In addition, we find that it is important to measure social desirability bias, as this may affect caretakers' reports on alliance formation and other issues. Before considering the findings and their implications in greater detail, we review limitations of the study.

Limitations

By adding to the data collection protocols developed for the Evaluation of Family Preservation and Reunification Services (EFPRS) in Philadelphia, we were able to acquire a wealth of longitudinal information on over 350 families. However, the design and measures used in the larger evaluation were not always ideal for our purposes. While the evaluation tried to assess many aspects of individual and family functioning, while minimizing the data collection burden on caseworkers and caretakers, it would have been better for our purposes if alliance data had been collected at more frequent intervals. It might also have been better to have more in-depth information on fewer topics related to caretaker, child, and family functioning. Although available measures have considerable face validity, questions can be raised about their content validity and other psychometric properties. These limitations

were identified and accepted at the outset, because our study is largely exploratory.

Unexpected developments in the field posed another set of limitations that we did not anticipate. In general, response rates were not as high as originally expected. In particular, delays in the start of in-home services and gaps in the collection of caseworker alliance data produced much less alliance data than we expected. As a result, we could not rely on Time 1 data as a measure of "early alliance formation," as originally planned.

In this study, missing data are not entirely random and may introduce some systematic biases in the analysis. Cases with valid data may be different in some (largely unknown) ways from those without data. Thus, our findings cannot be generalized to all families in the Philadelphia EFPRS or to Philadelphia FPS and SCOH programs, let alone other child welfare populations. Generalization was not a goal of the study.

In spite of problems with missing data and the use of measures designed for other purposes, we are able to examine issues that have not been previously studied in child welfare contexts. In combination with results of prior research in this area, our findings have implications for practice and policy, and can help pave the way for future research on the processes and outcomes of services for children and families.

Summary of Main Findings

Social Desirability Bias

Once a subject of considerable research, social desirability bias in self-reports has been largely ignored in recent years. It has rarely been studied in child welfare samples, although there is some evidence

that parents may alter their responses in attempt to present themselves in a more favorable light.

A standardized measure of social desirability bias appears to function somewhat differently in our sample than in the general population. Caretakers in our sample seem to be more inclined to deny socially undesirable traits than to attribute socially desirable traits to themselves. A measure of this tendency (the deny-bad subscale of the Marlowe-Crowne social desirability scale), which has been referred to as defensiveness (LaFiosca & Loyd, 1986), is useful as a control variable in analyses of data obtained from self-reports.

Our multivariate analyses show that caretakers with higher deny-bad scores tended to give more positive alliance reports and they reported significantly fewer parenting problems, more positive parenting practices, fewer housing and economic problems, larger social networks, more support, less depression, fewer children's problems, more positive views of their children, and greater perceived improvement in family life over time. Higher deny-bad scores also predicted more positive caseworker ratings of the caretaker's parenting skills, but deny-bad scores were not related to measures of caretaker readiness for change.

Substance Abuse

By adding questions about substance abuse to those asked in the EFPRS, we obtained more caretaker reports of the prevalence of substance abuse among caretakers and other adult members of their households. However, very different estimates of household substance abuse are obtained from caretakers (18%), caseworkers (38%) and intake workers (52%). Caretakers probably under-report their substance use and intake workers may over-estimate it. It is not clear what criteria or evidence

FPS/SCOH workers and intake workers used to identify substance abuse problems.

According to caretakers, alcohol was the most commonly used substance in this sample, followed by marijuana. Reports of hard drug use (cocaine, heroin, and amphetamines) were uncommon.

Caretakers with substance abuse problems (according to their own reports or to their FPS/SCOH caseworker) had significantly lower deny-bad scores than others. They were more likely to admit that they had problems at Time 1 (i.e., had lower baseline PC scores), but less likely to admit problems at Time 2. Caretaker substance abuse was not related to CA scores, but those with substance abuse had higher overall readiness scores at baseline and showed significant decreases in overall readiness from Time 2 to Time 3.

Caretaker substance abuse was not related to self-reported parenting problems or practices, life experiences, network size, or caretaker depression. Those with substance abuse problems reported significantly fewer housing problems and more social network support than others. Caretakers with substance abuse problems were given more negative ratings of their parenting skills by their FPS/SCOH caseworkers, and were more likely to have a child placed outside of the home at 12 months after referral (but not at other points in time).

Readiness for Change

A popular theory suggests that people pass through discrete stages of change in attempts to alter problem behaviors. Thought to apply to change efforts within and outside of formal treatment and to virtually any problem behavior, the stages of change identified by Prochaska and DiClemente (1984) include precontemplation, contemplation, and action.

Contrary to predictions based on this model, we did not find distinct stages of change. Nor did we find a single, continuous "readiness" factor. Instead, two scales were derived from standard questions used to assess the stages of change. High precontemplation (PC) scores indicated that the caretaker did not think she had parenting problems. Surprisingly, this scale was not associated with the tendency to deny socially undesirable traits. High contemplation/action (CA) scores indicated that the caretaker wanted to work on her parenting practices or was already making changes in this area. The CA scale was weakly associated with the tendency to deny socially undesirable traits ($r < .2$), but the association did not hold up in multivariate analyses.

In our sample, average PC scores were in the middle (2.4) of the 5-point scale at all three points in time, indicating that many caretakers were ambivalent about whether they had parenting problems, while average CA scores were somewhat elevated (4 on a 5-point scale), since most caretakers said that they were working on their parenting problems. We had expected higher PC scores and lower CA scores at the beginning, and thought these scores might shift over time. We did not find dramatic, overall shifts in PC or CA scores over time.

We expected but did not find significant negative correlations between PC and CA scores. The two scales were unrelated, meaning that caretakers could have high scores on both scales, low scores on both, or high scores on one scale and low scores on the other. This suggests that problem admission and readiness for change may be separate phenomena.

In this sample, problem admission (low PC) is associated with recent negative life events, substance abuse, and low social network support. Contemplation/action is associated with the number of recent

caseworker contacts. Both problem admission (low PC) and intentions/efforts to change (high CA) are associated with caretaker depression. In addition, younger caretakers are more likely than older caretakers to admit that they have problems and express intentions to change. Those with more children are less likely to admit that they have problems, but more likely to say that they intend to change at the outset; however, their intentions/efforts to change (CA score) tend to decrease from Time 1 to Time 2. Caretakers who were receiving TANF at Time 1 demonstrated increased problem admission at Time 2 and greater overall readiness for change at Time 3. Caretakers whose children had been removed from them in the past more readily admitted problems and expressed greater intentions to change at four months, although problem admission seemed to decrease in this group at one year.

Controlling for the effects of other variables, the PC and CA scales and overall readiness scores were predictive of some changes in caretakers' reports of their parenting practices, housing and economic problems, life events, social network size, social support, caretaker depression, indicators of child well-being, and overall improvements in family life (for a summary, see Table 9-1). However, the readiness variables explain very small proportions of the variance in these outcomes. PC, CA, and overall readiness predict the likelihood of new reports and substantiated reports of maltreatment at some points in time, but these findings are not consistent across the entire observation period (Table 9-2). Measures of readiness are not related to the risk of out-of-home placement.

Alliance Formation

In this sample, alliance measures performed as they have in other samples, with strong evidence of internal consistency and high correlations among the three subscales. Both caretakers and caseworkers reported fairly positive alliances at all points in time. However, as indicated above, some caretaker alliance reports appeared to be inflated by social desirability bias.

Controlling for social desirability bias, positive caretaker alliance reports are associated with more frequent contacts with caseworkers. Overall, caretaker alliances were somewhat more negative at four months than at the beginning, followed by slight improvements at one year. This indicates that there may be ruptures and repairs in the alliance over time.

Caretakers with higher baseline CA scores tended to have more positive alliance reports than others at Time 1, although their alliance reports were significantly less positive at Time 2. Caretakers who expressed increased readiness for change between Time 1 and Time 2 had somewhat more positive alliance reports at Time 3. Hence, caretakers' readiness for change and expectations may relate to the alliance.

Caretaker alliance reports predict some changes in indicators of caretaker and family functioning (net of the effects of other predictors), but these are usually in the "wrong" direction (see Table 9-3). Our initial hypothesis was that more positive alliances would predict reductions in parent and family problems. More positive Time 1 alliance reports predict increases in reported parenting problems and caretaker depression at Time 2; and larger networks, fewer positive views of children, and less overall improvement in family life at Time 3. Caretakers with more positive alliance reports at Time 2 tend to show

increases in PC and decreases in CA from Time 2 to Time 3. They are also likely to report more negative life events, more school problems, greater caretaker depression, and less overall improvement in family life at Time 3. However, caretaker alliance reports do not predict changes in caseworker assessments of the adequacy of the caretakers' parenting skills. Hence, based on the interview data, it is not clear whether the caretaker alliance predicts changes in parent and family functioning or changes in reporting behavior (i.e., increased awareness of specific problems or willingness to report these problems).

More positive Time 2 caretaker alliances predict significant reductions in the likelihood of new substantiated reports of child maltreatment over the entire observation period (Table 9-4). This is important, because subsequent maltreatment is arguably the most crucial (and perhaps the most credible) outcome measure in our study.

Although relatively few caseworker alliance reports were available, these reports indicate that the caseworkers' views of the alliance varied over time and between cases. Female caseworkers, those who felt better prepared for case planning and treatment, and caseworkers who had low burnout scores tended to report more positive alliances than others. Caseworkers reported more positive alliances with older caretakers, those with more housing problems, and caretakers with greater problem admission at Time 1. High baseline PC and CA scores predict more positive caseworker alliance reports at Time 2.

Caseworker alliance reports were not related to their assessments of the caretaker's parenting skills and did not predict subsequent maltreatment events. More positive caseworker alliances predict increased likelihood of placement at certain points in time, but this was not consistent across the whole observation period.

Readiness, Alliance, Intervention and Outcomes

Our preliminary analysis shows that readiness for change, alliance formation, service delivery characteristics, and outcomes may be linked in interesting ways.

Problem admission (low PC) is not closely linked to service characteristics (i.e., caseworker contacts, concrete services, discussion of personal and family issues, or referrals and service information), but might be aided by a closer alliance. Intentions to change (CA) seem to be affected by more frequent caseworker contacts and discussion of personal issues, and not by concrete services or referrals.

Greater intent to change (CA) at baseline predicts: weaker alliances at Time 2, more discussion of personal matters, and the receipt of more referral information from FPS/SCOH caseworkers. Initial levels of problem admission (PC) do not affect alliance formation or service characteristics.

The alliance is closely related to all of the service characteristics we looked at, but it is not clear whether more services produce more positive alliances or whether better alliances result in more services. This relationship may be reciprocal.

Again, the recurrence of child maltreatment (i.e., a new, substantiated report) seems less likely in cases with caretakers who express strong intentions to change at the outset and develop more positive alliances with caseworkers. Controlling for readiness and alliance measures, more contact and caseworker services predict increases in the likelihood of new, substantiated reports of maltreatment.

Implications for Policy and Practice

Together with mounting evidence on the outcomes of intensive, in-home services in child welfare our findings have important implications for policy, program development, and service delivery in this field. As indicated above, results of recent research on the effects of intensive, in-home services in cases of child abuse and neglect have been mixed and controlled studies show that these services have not resulted in dramatic reductions in subsequent child maltreatment or out-of-home placement (see, for example, Westat, 2001; Littell & Schuerman, 1995). Nonetheless, in-home services appear to be here to stay.

Rethinking the Processes and Goals of In-home Services

In-home services are a logical component of a system of care for maltreated children and their families. While in families' homes, caseworkers learn a great deal about the nature of family problems and potential barriers to change. This service delivery method yields observations that are simply not possible to obtain in center-based or office-based encounters.

However, as currently conceived, the goals of intensive, in-home services appear to be too broad. In-home services are used for assessment, prevention, and treatment purposes; but, different purposes call for different program designs (i.e., differences in the timing, intensity, length, and types of service provided to families). Policy makers and practitioners should experiment with more focused uses of in-home services and these should be carefully evaluated.

More attention should be paid to intervention processes in relation to specific objectives of in-home services. The role of

caretaker readiness for change and alliance formation may depend, in part, on the context and goals of intervention.

How Should Readiness for Change Be Considered in Treatment Decisions?

Current stage models and available measures of readiness for change are not adequate for assessment, treatment, or case decision-making purposes. Although the stages of change model may be a useful heuristic device, empirical evidence suggests that it is not an accurate description of how people change (Sutton, 1996; Littell & Girvin, 2002). The stage model is not supported by responses we received from the child welfare clients (primary caregivers) in our study. Policy makers and practitioners may have to let go of assumptions that psychological and behavioral change occur in discrete stages and think about readiness for change in other ways.

Instead of discrete stages, there may be several dimensions of readiness for change, but these are not yet well-defined. In our study, problem admission and intentions/efforts to change appear to be separate dimensions. Other dimensions may emerge in different samples and with other assessment tools.

If readiness for change is an internal state (or set of states), its cognitive and affective components are not entirely clear. The stage model has been considered in relation to a cognitive decision-balance; that is, a conscious weighing of the pros and cons of a problem behavior and its alternatives (Prochaska, Velicer, Rossi et al., 1994). An affective balance between discomfort with the status quo and hope that a solution can be found may also be relevant (Ripple, Polemis, & Alexander, 1964).

Problem-specific and situational aspects of readiness for change have been largely ignored. Some of the problems that families face, particularly economic and housing problems (and, perhaps, some mental disorders), may have little to do with individual intentions or efforts to change. Readiness may depend on the nature of the problem and the perceived relevance and difficulty of solutions at hand.

Therefore, clinicians should attempt to understand clients' views of the nature of their problems and clients' intentions and efforts to change in their social and economic contexts. Issues related to readiness for change may provide useful starting points for discussion. However, readiness for change should not be confused with readiness to work with a particular caseworker or participate in a specific program. Clients may be ready to work on some issues and not others, ready to work with some caseworkers and not others, and ready to participate in some interventions and not others.

Because available measures of readiness for change have serious conceptual and methodological shortcomings, practitioners and policy makers should not use the stages of change (or instruments designed to assess these stages) to classify cases or justify treatment decisions. Child welfare workers should exercise caution in assessing client motivation or readiness for change, and consider the potential impact of their own actions and the setting on clients' readiness for change.

What Role Does the Alliance Play in Child Welfare Services?

As in other fields, the alliance may be important in many child welfare settings. The early alliance is thought to play a facilitative role, enhancing the benefits of intervention by engaging clients in a constructive relationship that is aimed at solving problems. To be

Successful, efforts to enhance children's safety and well-being in their homes must enlist the help of children's caretakers. A strong alliance may be one of the means to these ends, but is certainly not an end in itself. In some cases, strong alliances between caseworkers and caretakers (e.g., those that involve collusion) may detract attention from child protection issues and changes needed to ensure children's safety and well-being. Therein lies the dilemma of alliance formation in child welfare: caseworkers must balance child protection and therapeutic goals.

Child welfare workers balance their therapeutic and authority functions in various ways (Budde, 1990; Hutchinson, 1987). The balance is often different in child protective services investigations versus other assessment situations, and in preventive versus therapeutic interventions. Since the alliance involves affective bonds (mutual trust and liking) and agreement on the tasks and goals of intervention, it probably plays quite different roles in these different situations. It can be difficult to form positive alliances with involuntary clients, especially when clients and caseworkers have different views of the problems, goals, and tasks in a case. The powerlessness that some clients feel in relation to child welfare workers (Diorio, 1992), may also make alliance formation difficult. It is encouraging that most primary caregivers in our Philadelphia sample reported positive alliances with their FPS or SCOH caseworkers (although we must note that some caretakers seemed compelled to provide socially desirable answers to questions about the alliance). We do not know whether or how these alliances differ from those in other child welfare settings, what impact more rapid caseworker assignments and consistent contacts might have had on alliance formation, or why alliance measures predicted improvements

in some areas (reductions in further child maltreatment) and not others (caretaker, child, and family functioning).

There is little systematic information on the development, role, or impact of alliances in child welfare settings. If a positive alliance--from the clients' point of view--predicts better outcomes in child welfare, it may be important for caseworkers and program administrators to consider what they can do to enhance alliance formation and address alliance problems. Anecdotal evidence suggests that alliance formation is facilitated by focusing on family strengths as well as problems, developing shared understandings of the situation, and offering hope that the situation can be improved (Kinney, Haapala, & Booth, 1991). Additional staff training, awareness, and administrative support for alliance formation in child welfare settings may be warranted.

Assessment of Substance Abuse

Identification of substance abuse problems is not as straightforward as we might like. Different sources produce wildly different estimates of the prevalence of these problems. In the absence of biologic measures or clear evidence of the negative impact of substance use on parenting, clinicians should use caution in evaluating potential substance abuse. Additional training in assessment and treatment of substance abuse and related mental health problems may be useful for child welfare workers. Brief motivational interventions may be useful for some caretakers with substance abuse problems, in combination with referrals for treatment.

Directions for Further Research

In comparison with research on client characteristics and outcomes of in-home services, there is a dearth of systematic information on intervention processes. Our study represents one foray into portions of the "black box" (the unknown, internal elements) of in-home services, but many others are needed to develop understanding of effective casework in these and other settings.

Alliance Formation

More research is needed on alliance formation in child welfare. Caseworkers' relationships with clients may be central to service delivery, but there is little systematic evidence of the predictive power of the alliance in child welfare settings and even less information on how the alliance develops, how ruptures and repairs occur, and differences between clients' and caseworkers' perspectives on the alliance. We do not know how much the alliance matters or what kinds of alliances are relatively more or less effective in different settings.

Our findings suggest that social desirability bias should be taken into account in evaluating alliance reports. Although we did not have data on social desirability bias among caseworkers, it would be useful to know whether and how their alliance reports were affected by this bias. Social desirability bias has not been assessed in studies of the alliance in psychotherapy or community-based mental health services; hence, its relationship to the alliance is largely unknown.

If future research supports hypothesized (but only partially supported) links between strong alliances and more favorable outcomes, we need to know how alliance formation relates to outcomes. That is,

what variables moderate or mediate associations between alliance reports and outcomes? Additional steps should be taken to rule out selection bias; that is, the possibility that unmeasured case characteristics account for variations in both the alliance and outcomes. Attempts should be made to distinguish changes in parent and family functioning from potential changes in reporting behavior (i.e., disclosure) that might be associated with the alliance.

Additional research is needed to identify client, caseworker, service, and environmental factors that are associated with variations in alliance formation, and with ruptures and repairs in alliances. It would be useful to know whether the alliance is affected by the extent to which caseworkers identify client strengths (as well as problems), involve clients in assessment and case planning activities, use anticipatory socialization and/or role induction techniques (Rooney, 1992), and provide hope that the situation can be improved. Future studies should assess the alliance from at least two perspectives and at more frequent intervals than ours, even if this means reducing sample size.

Readiness for Change

Further research and conceptual work are needed to clarify the meanings and components of readiness for change in relation to different problems and social contexts. In the literature, readiness for change is not well-defined. In spite of recent interest in stages of change, it is not clear whether readiness is set of discrete intra-personal states, whether it has affective as well as cognitive components, or whether it is somewhat problem-specific or situational.

Our work suggests that two aspects of readiness for change--problem admission and intentions/efforts to change--are not closely related. Other dimensions of readiness might be identified in different samples or with different instruments.

Problem admission appears to involve evaluative judgements about the current situation, based on personal and cultural beliefs about the nature and locus of individual, family, and social problems. That is, to what extent is the caretaker's behavior problematic versus within the range of acceptable parenting practices? If there is a problem, who is responsible for it (e.g, the caretaker, her partner, a child, their landlord, the community, society)? Readiness for change, on the other hand, seems to involve perceptions of future alternatives to the status quo and the desirability and feasibility of those alternatives. That is, to what extent can the situation be improved, how difficult will it be (what are the potential costs and benefits of change), and who is capable of bringing about change?

It is not necessarily illogical or inconsistent to say that one doesn't have "problems" in parenting and is working on becoming a better parent. In some cases, readiness for change may reflect a caretaker's interest in personal growth or self-improvement, or keeping up with the daily challenges involved in caring for children who are constantly growing and changing.

In relation to specific parenting "problems," readiness for change may have to do with the caretaker's level of comfort or discomfort with the status quo and hope that the situation can be improved. Even if she is uncomfortable with the status quo, a caretaker may not believe that there are any real alternatives (this is "just how things are") and, hence, not be ready to change.

The phenomenological experiences and meanings of readiness for change among clients have not been the subject of careful inquiry. Is readiness for change a real phenomenon? Is it important to clients? Or is it a construct that appeals largely to helping professionals? Qualitative research is needed to understand what readiness means (if it is meaningful) to clients and caseworkers in different cultural and programmatic contexts.

Another important line of inquiry concerns how caseworkers (and other helping professionals) take perceived readiness for change into account in treatment and referral decisions. Is there an over-emphasis on assessment of clients' readiness for change at the outset versus efforts to develop readiness in relation to specific intervention contexts and goals? To what extent is readiness for change a product of interactions between clients and caseworkers? And to what extent is it affected by characteristics of the treatment setting, and by larger social and economic variables?

As with the alliance, readiness for change is not an end in itself. Evidence of the predictive validity of measures of readiness is mixed (Littell & Girvin, 2002); hence, additional research is needed to understand relationships between various aspects of readiness and outcomes. In child welfare, it is important to know whether and how caretakers' readiness for change relates to actual improvements in caregiving, child protection, and individual and family functioning. If the concept of readiness holds up and is shown to predict better outcomes, research should focus on identifying variables that moderate or mediate relationships between readiness and outcomes. Again, efforts to rule out selection bias would be needed.

Finally, it may be useful to determine whether certain cognitive-behavioral or motivational techniques are effective in enhancing readiness and improving outcomes in child welfare cases.

Other Issues

Future studies should address potential social desirability bias in self-reports from both clients and caseworkers. As Nederhof (1985) notes, there are two main modes of coping with social desirability bias: detection and measurement versus attempts to prevent or reduce this bias. Although available measures exist, their psychometric properties should be closely examined in child welfare samples. To the extent that it is adequately measured, social desirability bias can be used as a control variable. Equally important are efforts to prevent or reduce this bias. Nederhof (1985) described seven methods for reducing social desirability bias, including use of self-administered (and, if possible, anonymous) instruments; selection of "warm", person-oriented interviewers (versus professional, task-oriented interviewers); and use of "proxy subjects" (people who know the target subject well) to gather data on the behavior of a target subject.

Clear definitions and more thorough assessments of substance use and abuse in child welfare populations are needed. Further attempts to understand--if not reconcile--wildly different estimates of the prevalence of substance abuse in child welfare populations would be useful. Emphasis should continue to be placed on the effects of caretakers' substance use and abuse on the safety and welfare of their children.

In the penultimate section of this report, we began to examine inter-relationships among measure of readiness for change, alliance

formation, service provision, and outcomes. Much more work is needed to understand relationships among these constructs and other elements of intervention.

X. DISSEMINATION OF RESULTS

Presentations

Findings of the study have been presented at annual meetings of the Society for Social Work and Research, the Eastern Evaluation Research Society, the Research Conference on a System of Care for Children's Mental Health, and the American Orthopsychiatric Association for a list of formal presentations, see Appendix D).

In addition, we have held a series of formal and informal discussions of the findings with policy makers and practitioners in the Philadelphia area. An initial planning session for these meetings was held in December 2000 with DHS and private agency staff who were directly involved in the study. Subsequent conversations included high-level DHS administrators and the Executive Director of the Children, Youth, and Families Council (CYFC), an organization that represents 55 private child welfare agencies in the five-county region including and surrounding Philadelphia.

During a third planning session, in March 2001 at DHS, it was suggested that the dissemination of our research findings could be seen as an initial step in a series of efforts to better integrate research and practice through partnerships between institutions of higher education, DHS, and private social service agencies in the Philadelphia area. The discussion of the directions in which this partnership might go was far-ranging, including issues related to staff development (e.g., how might DHS, CYFC, and Bryn Mawr collaborate to enhance the knowledge and skills of staff in public and private child welfare agencies?) and further collaboration in service delivery, research, and evaluation projects.

Also at issue was how to brief policy makers and practitioners (in public and private agencies) on findings of the present study, given the need for background information on other recent research findings in this field. In a meeting at DHS on May 7, 2001, a multi-step dissemination strategy was developed.

Next, a three-hour meeting was held at DHS on June 13, 2001. The first hour was devoted to Westat's presentation on the results of the EFPRS in Philadelphia and other sites. In the second hour, we presented our findings on caretakers' readiness for change and alliance formation. In the third hour, the group (DHS administrators, CYFC executives, and representatives from the agencies that participated in the Philadelphia studies) discussed implications for policy and practice, next steps, and key points to be presented at a subsequent meeting of the CYFC agencies.

We summarized findings of both the Westat study and our research in a one-hour presentation at a membership meeting of the CYFC on June 26, 2001. In attendance were Executive Directors from about 30 private social service agencies.

Next, our findings were presented at a meeting of the Philadelphia Mayor's Summit on In-home Services on August 9, 2001. Immediately following the presentation, breakout groups generated recommendations for future directions for in-home services. There was some consensus on the following points:

- Short-term, intensive, in-home services could be useful for rapid assessment, perhaps in conjunction with DHS intake.
- There is need for more collaboration among professionals in child welfare and related services (including public and private agencies; researchers, policy makers, and practitioners; mental health, child welfare, schools and other community agencies).

Publications

In addition to a review of empirical evidence for the stages of change (in the April 2002 issue of Behavior Modification) and an article on applications of the stage model in child welfare (currently under review for Child Welfare), we have begun work on the following papers:

Substance use and abuse among primary caretakers of maltreated children. This paper includes descriptive data on nature and extent of substance use and abuse, differences in prevalence estimates by data source, difficulties involved in assessing substance use and abuse (definitional issues, problems with concurrent and criterion validity), and recommendations for practice and further research. Potential journals: Child Abuse and Neglect, Child Welfare.

Social desirability bias in self-reports of primary caretakers of maltreated children. Includes descriptive data on the nature and extent of social desirability bias, factors related to deny-bad scores, factors not related to deny-bad scores (caseworker, service group), and recommendations for further research. Potential journals: Social Work Research, Child Abuse and Neglect

Readiness for change among primary caretakers of maltreated children: Construct validity. Includes descriptive data, results of factor analysis and cluster analysis, discussion of conceptual and measurement problems, and directions for practice and further research.

Readiness for change among primary caretakers of maltreated children: Correlates of problem admission and intentions to change. Includes variance decomposition (no significant differences between caseworkers); HLMS of PC, CA, and overall readiness scores.

Readiness for change among primary caretakers of maltreated children: Predictive utility. A summary of HLMS and event history analysis of relationships between PC, CA, overall readiness, and outcomes.

Alliance formation in home-based services in child welfare. Includes descriptive data, summary of HLMS of caretaker and caseworker WAI scores.

Alliance formation in home-based services in child welfare: Predictive utility. A summary of HLMS and event history analysis of relationships between alliance reports and outcomes.

Readiness for change, alliance formation, and the delivery of home-based services in child welfare. Analysis of reciprocal relationships between measures of readiness, alliance formation,

and service delivery--and their associations with outcomes (subsequent maltreatment).

We intend to continue to work with DHS and private agency service providers in Philadelphia to implement some of the ideas that came out of this study. In particular, we are interested in the potential use of in-home services for rapid assessment at child welfare intake; staff development initiatives related to clients' readiness for change and alliance formation; and collaborative efforts to develop, implement, and evaluate innovations in child welfare and related service systems. We hope that, ultimately, the primary beneficiaries of this work will be the child welfare system in Philadelphia, including its practitioners, policy makers, and children and families.

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APPENDIX A: INSTRUMENTS

University of Rhode Island Change Assessment Scale

Answer all the following questions based on how you feel now about the problems you have in taking care of your children.

- Strongly disagree.....1
 Disagree.....2
 Undecided.....3 HANDCARD
 Agree.....4
 Strongly agree.....5

	SD	D	U	A	S
a. I'm not the problem one. It doesn't make much sense for me to consider changing.	1	2	3	4	5
b. I am finally doing some work on my problems.	1	2	3	4	5
c. I've been thinking that I might want to change something about myself.	1	2	3	4	5
d. At times my problems are difficult, but I'm working on them.	1	2	3	4	5
e. Trying to change is pretty much a waste of time for me because the problem doesn't have to do with me.	1	2	3	4	5
f. I'm hoping that I will be able to understand myself better.	1	2	3	4	5
g. I guess I have faults, but there's nothing that I really need to change.	1	2	3	4	5
h. I am really working hard to change.	1	2	3	4	5
i. I have a problem and I really think I should work on it.	1	2	3	4	5
j. Even though I'm not always successful in changing, I am at least working on my problems.	1	2	3	4	5
k. I wish I had more ideas on how to solve my problems.	1	2	3	4	5
l. Maybe someone or something will be able to help me.	1	2	3	4	5
m. I may be part of the problem, but I don't really think I am.	1	2	3	4	5
n. I hope that someone will have some good advice for me.	1	2	3	4	5
o. Anyone can talk about changing; I'm actually doing something about it.	1	2	3	4	5
p. As far as I'm concerned, I don't have any problems that need changing.	1	2	3	4	5
q. I have worries but so does the next person. Why spend time thinking about them?	1	2	3	4	5
r. I am actively working on my problems.	1	2	3	4	5

Precontemplation = a, e, g, m, p, q
 Contemplation = c, f, i, k, l, n
 Action = b, d, h, j, o, r

	N	R	Oc	S	Of	VO	A
I feel that (CASEWORKER) is not totally honest about his/her feelings toward me.	1	2	3	4	5	6	7
I am confident in (CASEWORKER)'s ability to help me.	1	2	3	4	5	6	7
(CASEWORKER) and I are working towards mutually agreed-upon goals.	1	2	3	4	5	6	7
I feel (CASEWORKER) appreciates me a person.	1	2	3	4	5	6	7
We agree on what is important for me to work on.	1	2	3	4	5	6	7
As a result of our meetings, I am clearer as to how I might be able to change.	1	2	3	4	5	6	7
(CASEWORKER) and I trust each other.	1	2	3	4	5	6	7
(CASEWORKER) and I have different ideas about what my problems are.	1	2	3	4	5	6	7
My relationship with (CASEWORKER) is very important to me.	1	2	3	4	5	6	7
I have the feeling that if I say or do the wrong things, (CASEWORKER) will stop working with me.	1	2	3	4	5	6	7
(CASEWORKER) and I work together on setting goals.	1	2	3	4	5	6	7
I am frustrated by the things I am doing in this program.	1	2	3	4	5	6	7
We have established a good understanding of the kind of changes that would be good for me.	1	2	3	4	5	6	7
The things that (CASEWORKER) is asking me to do don't make sense.	1	2	3	4	5	6	7
I don't know what to expect as the result of our work.	1	2	3	4	5	6	7
I believe the way we are working with my problems is correct.	1	2	3	4	5	6	7
I feel (CASEWORKER) cares about me even when I do things that he/she does not approve of.	1	2	3	4	5	6	7

Working Alliance Inventory-Modified
Caseworker Version

Please indicate how often each of the following statements applies to how you think or feel about your client.

Client's Name _____ Case # _____

Never 1	Rarely 2	Occasionally 3	Sometimes 4	Often 5	Very Often 6	Always 7								
							N	R	Oc	S	Of	VO	A	
I feel uncomfortable with (Client).							1	2	3	4	5	6	7	
(Client) and I agree about the steps to be taken to improve his/her situation.							1	2	3	4	5	6	7	
I have some concerns about the outcome of our meetings.							1	2	3	4	5	6	7	
(Client) and I both feel confident about the usefulness of our current activity.							1	2	3	4	5	6	7	
(Client) and I understand each other.							1	2	3	4	5	6	7	
(Client) and I have a common perception of his/her goals.							1	2	3	4	5	6	7	
(Client) finds what we are doing confusing.							1	2	3	4	5	6	7	
I believe (Client) likes me.							1	2	3	4	5	6	7	
I sense a need to clarify the purpose of our meetings for (Client).							1	2	3	4	5	6	7	
I have some disagreement with (Client) about the goals of our meetings.							1	2	3	4	5	6	7	
I believe that the time (Client) and I are spending together is not spent efficiently.							1	2	3	4	5	6	7	
I have doubts about what we are trying to accomplish.							1	2	3	4	5	6	7	
I am clear and explicit about what (Client)'s responsibilities are.							1	2	3	4	5	6	7	
The current goals of these meetings are important for (Client).							1	2	3	4	5	6	7	
What (Client) and I are doing is unrelated to his/her current concerns.							1	2	3	4	5	6	7	
I feel confident that the things we do will help (Client) to accomplish the changes that he/she desires.							1	2	3	4	5	6	7	
I am genuinely concerned for (Client)'s welfare.							1	2	3	4	5	6	7	
I am clear as to what I expect (Client) to do in our meetings.							1	2	3	4	5	6	7	

	N	R	Oc	S	Of	VO	A
(Client) and I respect each other.	1	2	3	4	5	6	7
I feel that I am not totally honest about my feelings toward (Client).	1	2	3	4	5	6	7
I am confident in my ability to help (Client).	1	2	3	4	5	6	7
We are working towards mutually agreed-upon goals.	1	2	3	4	5	6	7
I appreciate (Client) as a person.	1	2	3	4	5	6	7
We agree on what is important for (Client) to work on.	1	2	3	4	5	6	7
As a result of our meetings, (Client) is clearer as to how he/she might be able to change.	1	2	3	4	5	6	7
(Client) and I have built a mutual trust.	1	2	3	4	5	6	7
(Client) and I have different ideas about what his/her real problems are.	1	2	3	4	5	6	7
Our relationship is important to (Client).	1	2	3	4	5	6	7
(Client) has some fears that if she/he says or does the wrong things, I will stop working with him/her.	1	2	3	4	5	6	7
(Client) and I have collaborated in setting goals for him/her.	1	2	3	4	5	6	7
(Client) is frustrated by what I am asking him/her to do.	1	2	3	4	5	6	7
We have established a good understanding between us of the kind of changes that would be good for (Client).	1	2	3	4	5	6	7
The things that we are doing don't make much sense to (Client).	1	2	3	4	5	6	7
(Client) doesn't know what to expect as the result of our work.	1	2	3	4	5	6	7
(Client) believes the way I am working with her/his problem is correct.	1	2	3	4	5	6	7
I respect (Client) even when he/she does things that I do not approve of.	1	2	3	4	5	6	7

Chemical Use, Abuse, and Dependence Scale-Modified

1. [ASK BOTH QUESTIONS FOR EACH SUBSTANCE BEFORE GOING TO THE NEXT ROW.]

	a. In the past month, how often have you used...	b. How long have you used...
	Not at all.....1 [SKIP TO THE NEXT ROW] At least once.....2 Once a week or more.....3 3 times a week or more...4 Every day.....5	Less than 1 month..1 1 to 5 months.....2 6 months or more...3
Alcohol	1 2 3 4 5	1 2 3
Cocaine or crack (including "turbos")	1 2 3 4 5	1 2 3
Marijuana	1 2 3 4 5	1 2 3
Heroin (including "speedballs")	1 2 3 4 5	1 2 3
Speed (amphetamines)	1 2 3 4 5	1 2 3

2. How troubled or bothered have you been in the past 30 days by...

- a. Alcohol problems? Not at all.....1
 Slightly.....2
 Moderately.....3 HANDCARD
 Considerably.....4
 Extremely.....5
- b. Drug problems? Not at all.....1
 Slightly.....2
 Moderately.....3 HANDCARD
 Considerably.....4
 Extremely.....5

3. [ASK IF R USED ALCOHOL AT ALL IN THE PAST MONTH.] In the past 30 days, how has y
alcohol use affected...

Not at all.....1
A little.....2 HANDCARD
Somewhat.....3
Very much.....4

a. your health?	1	2	3
b. your job or ability to seek work?	1	2	3
c. relationships with family members or friends?	1	2	3
d. your parenting/how you take care of your children? [If #3d is 1 ("Not at all"), SKIP TO QUESTION #4]	1	2	3

Does your alcohol use affect...

e. the way you discipline your children?	1	2	3
f. your day-to-day interaction with them?	1	2	3
g. your ability to nurture and support your children?	1	2	3
h. your ability to provide for their basic needs (food, clothing, shelter education, medical needs)?	1	2	3
i. the supervision your children receive?	1	2	3
j. your children's physical health?	1	2	3
k. your children's emotional well-being?	1	2	3

4. [ASK IF R USED DRUGS AT ALL IN THE PAST MONTH.] In the past 30 days, how has your
drug use affected...

a. your health?	1	2	3
b. your job/ability to seek work?	1	2	3
c. relationships with family members or friends?	1	2	3
d. your parenting/how you take care of your children? [If #4d is 1 ("Not at all"), SKIP TO THE NEXT PAGE.]	1	2	3

Does your drug use affect...

e. the way you discipline your children?	1	2	3
f. your day-to-day interaction with them?	1	2	3
g. your ability to nurture and support your children?	1	2	3
h. your ability to provide for their basic needs (food, clothing, shelter education, medical needs)?	1	2	3
i. the supervision your children receive?	1	2	3
j. your children's physical health?	1	2	3
k. your children's emotional well-being?	1	2	3

Marlowe-Crowne Social Desirability Scale, Form C

Now I am going to read some statements that people might make about themselves. There are no right or wrong answers. Please tell me whether each of these statements is True or False for you.

	<u>True</u>	<u>False</u>
a. It is sometimes hard for me to go on with my work if I am not encouraged	1	2
b. I sometimes feel resentful when I don't get my way	1	2
c. On a few occasions, I have given up doing something because I thought too little of my ability	1	2
d. There have been times when I felt like rebelling against people in authority even though I knew they were right	1	2
e. No matter who I'm talking to, I'm always a good listener	1	2
f. There have been occasions when I took advantage of someone	1	2
g. I'm always willing to admit it when I make a mistake	1	2
h. I sometimes try to get even rather than forgive and forget	1	2
i. I am always courteous, even to people who are disagreeable	1	2
j. I have never been irked when people express ideas very different from my own	1	2
k. There have been times when I was quite jealous of the good fortune of others	1	2
l. I am sometimes irritated by people who ask favors of me	1	2
m. I have never deliberately said something that hurt someone's feelings	1	2

Deny-bad = a, b, c, d, f, h, k, l

Agree-good = e, g, i, j, m

APPENDIX B: ANALYTIC METHODS

Data Management and Preliminary Analysis

Westat provided us with data in electronic form. There were multiple data files, some containing multiple records per case. Files were matched by case IDs and case-level variables computed from multiple records.

Principal axis factor analysis with varimax and promax rotation was used to identify groups of items that seemed to tap similar constructs. Then scales and subscales were developed and their internal consistency was checked with Chronbach's alpha (for scales created from interval level data) or the Kuder-Richardson formula 20 reliability coefficient (for scales made from dummy variables).

Bivariate associations among variables were examined to identify potential multicollinearity problems in multivariate analyses. Associations among predictor variables in multivariate models are under .4|.

Hierarchical Linear Models

Our observations are nested in a three-level hierarchical structure. Since there were three waves of caretaker interviews, each case has up to three measures of most variables. Further, FPS and SCOH caseworkers served multiple cases in the study. Hence, observations (the first level) are clustered within cases (level 2) and cases are clustered within caseworkers (level 3). Hierarchical linear models (HLMs) are a class of techniques that are useful for analyzing clustered observations (Bryk & Raudenbush, 1992).

Simple HLMs provide the best estimates of the proportion of variance in criterion variables that can be attributed to each level.

More complex models are used to estimate change over time, the effects of predictor variables, and effects of cross-level interactions.

Variance Decomposition

Simple HLMs are used to partition the total variance of a dependent variable into components that can be attributed to each level. For each dependent variable, a simple (fully unconditional) HLM shows what proportion of the variance is associated with change over time within cases (level 1), differences between cases (level 2), and (in some models) differences between caseworkers (level 3).

Growth Models

When there are multiple observations per case, HLM can be used to examine change over time and variables that affect change (Bryk & Raudenbush, 1992). The logic of growth models is described below.

At level 1, the criterion (or dependent) variable is a score (e.g., on the PC or CA scale, the WAI, or an outcome variable) measured at a particular point in time. We use two dummy variables to represent time. Time 1 is the omitted category. "Time 2" is coded as: 0 = Time 1, 1 = Time 2 or Time 3. "Time 3" is coded 0 = Time 1 or Time 2, 1 = Time 3. Together, the "Time 2" variables represents the change from Time 1 to Time 2 and "Time 3" represents the change from Time 2 to Time 3. This coding scheme is shown below.

Variable	Observation Point		
	1	2	3
Time 2	0	1	1
Time 3	0	0	1

This is a Piecewise Linear Growth Model (Bryk & Raudenbush, 1992), which allows us to model nonlinear changes. Here we have a two-piece model, in which change can occur (in either direction, positive or negative) during each of the two intervals between observation points. Coefficients associated with the Time 2 variable represent the change from Time 1 to Time 2, while those associated with the Time 3 variable represent change from Time 2 to Time 3. If a time effect is not significant, that means there has been no significant overall change during that interval.

At level 1, we examine associations between time-varying predictor variables and the time-varying criterion variable. At level 2, we examine effects of case-level variables on the time-varying dependent variable and on change in that dependent variable from Time 1 to 2, and from Time 2 to 3. A third level is added in some analyses to model effects of caseworker variables on dependent variables and on change over time.

In equation form:

$$\text{Level 1: } Y = \pi_0 + \pi_1(\text{Time 2}) + \pi_2(\text{Time 3}) + e$$

$$\text{Level 2: } \pi_0 = \beta_{00} + \beta_{01}X_{01} + \beta_{02}X_{02} + \dots + \beta_{0n}X_{0n} + r_0$$

$$\pi_1 = \beta_{10} + \beta_{11}X_{11} + \beta_{12}X_{12} + \dots + \beta_{1n}X_{1n}$$

$$\pi_2 = \beta_{20} + \beta_{21}X_{21} + \beta_{22}X_{22} + \dots + \beta_{2n}X_{2n}$$

$$\text{Level 3: } \beta_{00} = \gamma_{000} + \gamma_{001}W_{001} + \gamma_{002}W_{002} + \dots + \gamma_{00n}W_{00n} + u_0$$

$$\beta_{10} = \gamma_{100} + \gamma_{101}W_{101} + \gamma_{102}W_{102} + \dots + \gamma_{10n}W_{10n}$$

$$\beta_{20} = \gamma_{200} + \gamma_{201}W_{201} + \gamma_{202}W_{202} + \dots + \gamma_{20n}W_{20n}$$

where Y is a time-varying dependent variable, π_0 is the case-level base rate, π_1 is the slope (amount of change) in the dependent variable from Time 1 to 2, and π_2 is the slope for Time 3. The X s represent case-level variables that are not time-dependent; β s are the slopes (estimated effects) of these variables. Case-level variables can be regressed on the base rate and on the slopes that represent change to Time 2 and Time 3. Similarly, worker-level variables can be used to explain variance in the base rate and/or variance in the slopes for Time 2 and Time 2. W s represent worker-level variables; their slopes are represented by γ s. Random (unexplained) variance is represented by e (at level 1), r (at level 2), and u (level 3).

Variables in the HLM analyses are shown in Table B-1. At level 1, each HLM model includes one dependent measure, two dummy variables representing time, and (when significant) an indicator of the proportion of negative life events that occurred in the past three months, caretaker depression scores, and the number of caseworker contacts prior to the caretaker interview. These three variables are often included at level 1 because they vary over time and appear to affect a number of dependent measures. Other time-varying predictors are not included because the direction of causality between these variables and dependent measures is not clear.

At Level 2, we control for variations in social desirability bias, using the case-level mean on the deny-bad scale. We also control for variations in caretaker and family characteristics at Time 1, such as caretaker age, number of children, and the number of substantiated maltreatment reports prior to random assignment. When significant, we also include dummy variables to control for single parent status (i.e.,

whether the caregiver was the only person over 18 years of age in the household), whether the caretaker was abused or neglected as a child, whether the caretaker had a substance abuse problem (according to whether the caretaker or caseworker), whether a child had been placed prior to random assignment, whether child welfare services had been purchased (by DHS) for the case prior to random assignment, and TANF receipt at Time 1.

When a third (caseworker) level is included, level 3 predictors include: caseload size, pro-placement score, burnout score (or job dissatisfaction if burnout was not significant), casework preparation score, whether the caseworker had some graduate school training, number of years of experience in child welfare, gender, and race (African American or other).

We built level 1 models, then level 2, and then (if applicable) level 3. At each level, we used backward elimination of predictor variables that were not significant at $p < .1$. Once eliminated, variables were not re-entered. Because deny-bad scores relate to a number of case characteristics, this variable remains in the HLMs at level 2 (in the equation for π_0) as a control variable, regardless of whether it predicts the dependent measure.

We centered interval-level predictors around their grand means so that the intercept represents the predicted baseline score for cases with average values on predictor variables (e.g., caretaker age, number of children), rather than the predicted score for a hypothetical case in which all predictors equal zero. Had we centered dummy variables around their grand means, the intercept would truly represent the predicted score for the "average" case, but this would have made interpretation of coefficients for dummy variables more difficult.

Because we did not center dummy variables, the intercept is the predicted value of the dependent variable at Time 1 for cases without the characteristics (e.g., caretaker drug problems, prior placement) represented by the dummy variables in the model.

To look at the impact of readiness for change (RFC) on outcomes, we included Time 1 measures of PC, CA, and overall readiness at Level 2. In the equation for π_0 , the inclusion of RFC variables allows us to look at the relationship between RFC and the baseline dependent measure. In the equations for π_1 and π_2 we include RFC measures to assess the impact of Time 1 RFC on change in the dependent variable between Time 1 and Time 2 and between Time 2 and Time 3. In the equation for π_2 we also included a measure of change in the RFC variables from Time 1 to Time 2. Hence Time 3 outcomes are predicted by Time 1 RFC plus any changes in RFC from Time 1 to Time 2.

In HLM analysis of caretaker WAI scores, CA scores remained in the model after backward elimination of other case characteristics that were not associated with caretaker alliance reports. We forced PC scores back into the models for purposes of illustration. None of the case characteristics in our analysis predicted changes in caretaker WAI from Time 2 to Time 3. We then developed HLMS that included baseline RFC measures and changes in RFC from Time 1 to Time 2 (as described above) in the equation for π_2 .

Analysis of the predictive validity of alliance reports includes a total WAI score (from the caretaker or caseworker, at Time 1 or Time 2) in equations for π_0 (baseline measure of the criterion variable), π_1 (change in the criterion variable from Time 1 to Time 2), and π_2 (change from Time 2 to Time 3).

Interpretation of HLM Coefficients

For independent variables that are expressed as standardized (z) scores (e.g., WAI, PC, CA, overall readiness, and deny-bad), the HLM coefficient is the average amount of change in the dependent variable associated with an increase of one standard deviation in the independent variable. When the dependent variable is also expressed as a score, the coefficient is equivalent to an effect size (the amount of change in the dependent variable in standard deviation units associated with an increase of one unit in the independent variable). For dichotomous independent variables (e.g., ctdrugs) the coefficient represents the average difference in the dependent variable between subjects with and without the characteristic in question (e.g., caretaker maltreatment abuse). For independent variables expressed as counts (e.g., number of maltreatment reports), the coefficient represents change in the dependent variable associated with one unit increase in the independent variable.

Interpretation of coefficients associated with proportions (e.g., probability of maltreatment) is less clear, since these associations are probably non-linear.

Confidence intervals can be computed from coefficients and their standard errors.

Analysis of Administrative Data

We used Cox proportional hazard models to examine the potential effect of readiness for change, alliance, and other variables on the likelihood of subsequent reports of maltreatment, substantiated maltreatment reports, and out-of-home placements. Hazard models make use of all observations and both left- and right-censored data.

To further illustrate relationships identified in the hazard models, we used logistic regression with robust variance estimates (Stata Corp, 1999) to assess potential effects of independent variables on the occurrence of events at 12 months and at 18 months after random assignment. In these models the dependent variables are dichotomous, indicating whether the event (maltreatment report, substantiated report, or placement) had occurred at a specific point in time. We chose the 12 and 18 month time points because many cases were still receiving FPS or SCOH prior to 12 months and there were relatively few cases with observations beyond 18 months (see Table 3-20). The Huber/White/sandwich estimator of variance is used to produce robust standard errors, which allow us to relax the assumption that observations are independent across caseworkers and service groups.

In the hazard models and logistic regressions, we begin with a base model that includes variables that predict the outcome measure. These are selected through backward elimination of case characteristics shown in Table B-1 (service variables are not included in these models to avoid problems related to endogeneity).

In analysis of the predictive validity of RFC, we force baseline measures of PC and CA, along with measures of change in PC and CA from Time 1 to Time 2, into the base model. A third model includes the overall readiness score instead of PC and CA, and change in overall readiness from Time 1 to Time 2. Comparisons of these three models are used to show the proportion of variance explained by readiness measures over and above the variance accounted for by other predictors.

In analysis of the predictive validity of the alliance, we use Time 2 alliance measures from the caretaker or caseworker, since there

relatively little alliance data at Time 1. We compare this with a model that does not include the alliance measure.

Simultaneous Equations

We used simultaneous equations to model reciprocal relationships among measures of readiness for change, alliance formation, and service user characteristics. Simultaneous equations are a class of techniques designed to handle models that include endogenous variables on both sides of the equations.

In a single-equation model, one dependent variable is expressed as a function of a set of independent variables. For example,

$$Y_1 = a + b_1Y_2 + BX + e$$

where Y_1 is an outcome (such as subsequent child maltreatment) and Y_2 is a predictor variable (e.g., problem admission, intentions/efforts to change, or alliance ratings). Since both Y_1 and Y_2 are produced by the same case and service characteristics (represented by the vector X), the parameter estimate for Y_2 will be biased and inconsistent (Berry, Pindyck & Rubinfeld, 1991). Specifically, Y_2 will be correlated with the error term and the effect of the error term will be mistakenly attributed to that variable (Wonnacott & Wonnacott, 1984).

Two-stage least squares (2sls) estimation is used to purge variables on the right side of an equation from their dependence on the error term. This approach can be used to control for selection effects (Heckman, 1978, 1979; Heckman & Robb, 1985). Here, our concern is that case and service characteristics that affect RFC and the alliance also affect outcomes; hence associations between readiness or the

alliance and outcomes may be spurious (due to certain case characteristics).

In addition, 2sls is used to model reciprocal causal relationships between variables that are measured at one point in time (e.g., supply and demand; Pindyck & Rubinfeld, 1991). For example, the alliance may affect service delivery characteristics and vice versa.

Multiple equations can be developed to account for all inter-relationships among a set of variables (Berry, 1984; Pindyck & Rubinfeld, 1991). Instead of identifying variables as independent or dependent, they are termed endogenous (caused from within the system) or exogenous (caused from outside of the system).

In simultaneous equations models, a system of inter-dependent equations is developed with one equation for each of the endogenous variables in the model. After the equations are estimated, all are solved simultaneously. In the present study, parameters are estimated with three-stage least squares (Zellner & Theil, 1962). Three-stage least squares estimation (3sls) is more efficient than two-stage least squares (2sls) and produces more precise parameter estimates because it takes cross-equation correlations into account (Pindyck & Rubinfeld, 1991). In the first stage, instrumented (predicted) values for all endogenous variables are developed by regressing each endogenous variable on all of the exogenous variables in the system. Second, these predicted values are used to get 2sls estimates for all of the equations in the system. This is done to purge endogenous variables of their dependence on error terms and control for latent (unmeasured) variables that contribute to systematic variance in the endogenous measures. To obtain correct standard errors and multiple R^2 values, the first two stages are actually computed in a single step, using a matrix

algebra formula (when the two stages are computed sequentially, 2sls estimates are incorrect; Berry, 1984). Residuals from each of the 2sls equations are then used to estimate cross-equation variances and covariances. In the third stage, generalized least squares parameter estimates are obtained, using the covariance matrix of disturbance terms from the second stage. Methods for handling dichotomous endogenous variables in simultaneous equation models were developed by Heckman (Heckman, 1978; Heckman & MaCurdy, 1985).

In this study, the endogenous variables are measures of readiness for change (PC and CA), alliance formation, service characteristics (number of caseworker contacts, concrete services, referrals/service information, and discussion of personal and family issues), and outcomes (subsequent, substantiated reports of child maltreatment). Exogenous variables include case characteristics shown in Table B-1.

To avoid multicollinearity problems within equations, we limited variables on the right side of each equation to those with intercorrelations under $|.4|$. Since service characteristics were closely linked, this led to the development of two separate 3sls models.

In the final models (shown in Tables 8-1 and 8-2), there are six equations, one for each endogenous variable. In 3sls analysis, all equations are estimated simultaneously. Negative "R-squares" are possible. However, regardless of the sign of the 3sls R-square, 3sls parameter estimates are evaluated by the size of the estimates themselves, their standard errors, and the overall significance of the equation (Stata Corp., 1999). In Tables 8-1 and 8-2, we see that each 3sls equation accounts for a significant proportion of the variance in an endogenous variable (Chi-squares are significant at $p < .001$).

Parameter estimates and their standard errors are shown in the bottom half of Tables 8-1 and 8-2. Most standard errors are low relative to parameter estimates. Three-stage least squares estimates are consistent but may be biased (Berry, 1984). Hence, the direction and significance of these estimates are more important than their numeric value.

Future Work

Our multilevel models could be refined in several ways. In the future, we plan to develop nonlinear growth models (specifically, Poisson models with equal exposure) for dependent variables that are expressed as proportions. Multilevel models can also be used to examine event history data and Bernoulli models can be used to examine multilevel influences on the likelihood of events at specific points in time. In future analyses, multilevel event history and Bernoulli models will replace the hazard models and logistic regressions shown here.

We could model the passage of time more accurately, allowing measurement points to vary over time across cases. Time 1, Time 2, and Time 3 measures could be expressed as the number of days that elapsed between random assignment and data collection.

Better structural equation models could be developed with other software programs (such as LISREL or SAS).

Table B-1: Predictor Variables in HLM Analyses

Variable name	Description	Scoring	Mean ^a	Std. Dev.
<u>Level 1</u>				
time2	Time 2 report	dummy (1=Time 2 or Time 2)	.61	
time3	Time 3 report	dummy (1=Time 3)	.28	
neglife	negative life experiences in the past three months	proportion	.07	.11
scl90dep	SCL-90-R depression subscale score	mean (range = 0 to 3.85)	.96	.87
contact	estimated number of caseworker contacts between the previous and current caretaker interviews	count	5.44	8.63
<u>Level 2</u>				
zdenym	mean deny-bad score	standardized mean	0	1
zpc1	precontemplation score at Time 1	standardized mean	0	1
zpc2-1	change in PC score from Time 1 to Time 2	integer	0	1
zca1	contemplation/action score at Time 1	standardized mean	0	1
zca2-1	change in CA score from Time 1 to Time 2	integer	0	1
zsoc1	overall readiness score	standardized mean	0	1
zsoc2-1	change in overall readiness score from Time 1 to Time 2	integer	0	1
zwai1	caretaker alliance score at Time 1	standardized mean	0	1
zwai2	caretaker alliance score at Time 2	standardized mean	0	1
zwwai1	caseworker alliance score at Time 1	standardized mean	0	1
zwwai2	caseworker alliance score at Time 2	standardized mean	0	1
nkids	number of children in the household	count	3.41	1.70

Variable name	Description	Scoring	Mean ^a	Std. Dev.
sparent	caretaker is the only adult in the household	dummy	.53	
ctage	caretaker age	integer	32.23	9.08
ctmaltx	caretaker was maltreated	dummy	.36	
ctdrugs	caretaker or caseworker reported caretaker substance abuse problem at Time 1 or Time 2	dummy	.38	
tanf1	AFDC/TANF receipt at Time 1	dummy	.71	
svcb4	Receipt of child welfare services prior to random assignment	dummy	.17	
priors	number of substantiated reports of maltreatment prior to random assignment	count	1.16	.91
placeb4	placement(s) occurred prior to random assignment	dummy	.18	
ncontm01	network size (number of network members with monthly contact) at Time 1	count	4.80	2.45
netsum01	proportion of monthly contacts who provide support at Time 1	proportion	.81	.27
ecoprob1	economic problems at Time 1	proportion	.30	.32
hhprob1	housing problems at Time 1	proportion	.11	.16
poslif1	positive life experiences prior to Time 1	proportion	.17	.16
<u>Level 3</u>				
numfam	"usual" caseload size	count	6.77	3.82
cwfemale	female caseworker	dummy	.72	
somegrad	some graduate-level training	dummy	.42	
yrscw	years of experience in child welfare	count	5.53	5.80

Variable name	Description	Scoring	Mean ^a	Std. Dev.
assess	perceived level of preparation for early assessment	standardized mean	0	1
plantx	perceived level of preparation for case planning and treatment	standardized mean	0	1
jobsat	level of job satisfaction	standardized mean	0	1
burnout	burnout score	standardized mean	0	1

^a Level 1 and Level 2 data are from the largest 2-level HLM file with 641 observations on 256 cases. Level 3 data are from the largest 3-level HLM file with data on 43 caseworkers. For dummy variables, the mean is the proportion of cases with the characteristic in question.

APPENDIX C: TABLES

Table 3-1: Cases in the Evaluation (Philadelphia County Only)

Random Assignment		Final Assignment (Service Group) (row %)		
		FPS	SCOH	Inappropriate Referral (Reunification and Other)
FPS	213	146 (68.5%)	63 (29.6%)	4 (1.9%)
SCOH	149	4 (2.7%)	140 (94.0%)	5 (3.4%)
Total	362	150	203	9

Table 3-2: Data Collected from Caretakers and Caseworkers

Data Source and Topic	Number of Cases with Valid Data		
	Time 1	Time 2	Time 3
Caretaker Interviews	263	261	225
URICA	259	254	224
WAI	105	208	194
Substance Abuse	259	256	224
Social Desirability	142	184	223
Caseworker Interviews	163	250	---
WAI (self-administered)	79	79	---

Table 3-3: Caretaker Characteristics At Time 1 (Valid N=263)

Gender	94.7% female
Age	mean=32.1, sd=9.1, range=19 to 78
Race	80.8% African-American
Education	51.9% 11 th grade or less 32.7% HS grad/GED 4.2% vocational education 11.2% some college/college graduate
Marital Status	89.7% unmarried; 53.2% are the only adult in home
Employment	83.3% unemployed; 64.6% in homes with no employed adults
Household Income	3.2% less than \$1,000 10.0% \$1,000- \$2,499 20.5% \$2,500- \$4,999 36.5% \$5,000- \$9,999 17.3% \$10,000-\$19,999 10.4% \$20,000-\$39,999 1.2% \$40,000-\$59,999 0.8% \$60,000 or more
Residential Stability	34.2% lived at current address for less than one year
Maltreated as Child	36.6% were abused or neglected in childhood
Children Placed	19.1% had one or more children placed outside of home
Depression	SCL-90 subscale mean=1.05, sd=.91, range=0 to 3.85 (mean falls between norms for outpatient clinical and nonclinical samples of adult women)
Drugs or Alcohol	10.6% report that they have drug or alcohol problems; 18.0% report substance abuse problems in the household
Number of Children	mean=3.4, sd=1.7, range=0 to 10
Children's Ages	range from 0 to 18

Table 3-4: Household Members' Participation in Social Programs in the Past Three Months ^a (Caretaker Reports at Time 1)

Variable	N of 'yes' responses	% of Valid N	Valid N
a. Has anyone received food stamps?	210	80.2%	262
b. Has anyone been in a job training program?	61	23.3%	262
c. Has anyone been in a WIC program?	120	46.2%	260
d. Has anyone received checks from AFDC [or TANF]? ^b	183	70.1%	261
e. Has anyone received help with rent from a voucher program?	19	7.3%	260
f. Has anyone received SSI checks?	66	25.2%	262
g. Has anyone been in an alcoholism program?	15	5.7%	261
h. Has anyone been in a treatment program for drug addiction?	38	14.5%	262
i. Has anyone been in a marriage counseling program?	2	.8%	252
j. Has anyone been in a community mental health program?	30	11.5%	262

^a At Time 2 and Time 3, caretakers were asked whether anyone in their household had received these services since the date of the previous interview.

^b After June 1997, when TANF (Temporary Aid to Needy Families) replaced AFDC in Philadelphia, caretakers were asked whether anyone had received AFDC or TANF. Soon after that, the reference to AFDC was replaced by TANF.

Table 3-5: Caseworker Characteristics (N=62)

Gender:	69.4% female
Race:	65.5% African-American
	25.9% Caucasian (not Latino/a)
	5.2% Latino/a
	3.4% Other
Highest Level of Education:	1.6% some college
	50.0% bachelor's degree
	22.6% some graduate study
	25.8% Master's degree
Average Number of Years of Experience in:	
Social Work	8.6 (sd=8.4, range=0 to 40)
Child Welfare	5.9 (sd=5.6, range=0 to 26)
Family Preservation	1.8 (sd=2.4, range=0 to 10)
Turnover:	39.7% want to change jobs, are looking work elsewhere, or are taking another job.

Table 3-6: Life Events^a (Caretaker Reports at Time 1)

Variable	N of 'yes' Responses	% of Valid N	Valid N
a. (Someone) received prize or special gift	36	13.7%	263
b. Lost a job	31	11.8%	263
c. Was in a bad accident and got hurt	23	8.8%	263
d. Got married	5	1.9%	263
e. Arrested for crime and convicted	18	6.9%	262
f. Got a good job that pays well	23	8.7%	263
g. Beaten up outside of house	17	6.5%	263
h. Had some property stolen	26	9.9%	263
i. Got a new appliance or new furniture	50	19.0%	263
j. Fell in love with someone really nice	30	11.4%	263
k. Failed in school or job training	30	11.4%	263
l. Received praise from someone they cared about	121	46.0%	263
m. Became pregnant	12	4.6%	263
n. Got divorced or separated	11	4.2%	263
o. Beaten up by another household member	19	7.3%	262

^a Caretakers were asked whether events happened to them or someone in their household in the past 3 months.

Positive Life Events = a, d, f, i, j, and l. Mean (proportion of items endorsed) at Time 1 = .165, sd = .159, N = 263. Kuder-Richardson formula 20 (KR-20 r) reliability coefficient = .383.

Negative Life Events = b, c, e, g, h, k, n, and o. Time 1 mean (proportion of items endorsed) = .083, sd = .117, N = 263. KR-20 r = .354.

Table 3-7: Household Problems^a (Caretaker Reports at Time 1)

Variable	N of 'yes' Responses	% of Valid N	Valid N
a. The electricity has not worked	14	5.3%	262
b. The plumbing has not worked	23	8.8%	262
c. The cooking appliances have not worked	17	6.5%	262
d. Windows or doors were broken	38	14.6%	261
e. Electrical wiring was exposed	19	7.3%	262
f. A lot of paint was peeling	38	14.5%	262
g. Heat/air conditioning has not worked	28	10.7%	262
h. Home was overcrowded	38	14.5%	262
i. Not enough basic necessities	54	20.6%	262
j. Building unsafe because of illegal acts	7	2.7%	260

^a Caretakers were asked if the problems have happened in the past 3 months, for more than a day at a time.

Mean (proportion of items endorsed) = .106, sd = .159, N = 262. KR-20 r = .704.

Table 3-8: Economic Problems^a (Time 1)

Variable	N of 'yes' Responses	% of Valid N	Valid N
a. Difficulty paying rent	66	25.2%	262
b. Difficulty paying electric/heating bills	95	36.3%	262
c. Difficulty buying food for family	51	19.5%	262
d. Difficulty buying clothes for kids	104	40.0%	260

^a Caretakers were asked if economic problems have occurred in the past three months.

Mean (proportion of items endorsed) = .302 (30.2%), sd=.332, N=262. KR-20 r = .675.

Table 3-9: Caretaker Responses on the SCL-90-R Depression Subscale (Time 1)

Presence of symptoms in past week ^a (0=not at all, 1=a little bit, 2=moderately, 3=quite a bit, 4=extremely)	Sample Mean	Standard Deviation	Valid N
1. Feeling low in energy or slowed down	1.240	1.217	263
2. Thoughts of ending your life	.217	.690	263
3. Loss of sexual interest or pleasure	.886	1.221	263
4. Crying easily	1.186	1.365	263
5. Feeling of being trapped or caught	.913	1.259	263
6. Blaming yourself for things	1.167	1.306	263
7. Feeling lonely	1.266	1.416	263
8. Feeling blue	1.179	1.278	262
9. Worrying too much about things	1.932	1.453	263
10. Feeling no interest in things	.813	1.187	262
11. Feeling helpless about the future	.878	1.263	263
12. Feeling everything is an effort	1.316	1.335	263
13. Feelings of worthlessness	.676	1.137	262

^a Includes the day of the interview.

Mean of all items = 1.052, sd=.907, N=263. Chronbach's alpha = .924.

Table 3-10: Network Size at Time 1 (Number of People With Whom Caretaker Has Monthly Contact)

Number of Network Members	Frequency	Percent	Cumulative Percent
0	1	.38%	.38%
1	17	6.46%	6.84%
2	35	13.31%	20.15%
3	30	11.41%	31.56%
4	46	17.49%	49.05%
5	36	13.69%	62.74%
6	36	13.69%	76.43%
7	28	10.65%	87.07%
8	15	5.70%	92.78%
9	7	2.66%	95.44%
10	5	1.90%	97.34%
11	3	1.14%	98.48%
12	4	1.52%	100.00%

Mean = 4.817, sd = 2.466, N=263.

Table 3-11: Parenting Behaviors (Caretaker Reports at Time 1)

Events that occurred in the past three months	N of 'yes' Responses	% of Valid N	Valid N
a. Lost your temper when child(ren) got on nerves	143	55.2%	259
b. Found that hitting was good way to get child(ren) to listen	33	12.7%	259
c. Found yourself hitting child(ren) harder than you meant to	51	19.7%	259
d. Things got out of control when punishing your child(ren)	62	24.1%	257
e. Praised child(ren) for doing something well	247	96.9%	255
f. Listened to music or did something else fun with child(ren)	241	93.1%	259
g. Punished child(ren) by tying him/her/them up	1	.4%	258
h. Gone to amusement park, pool, picnic, or playground with child(ren)	207	80.2%	258
i. Uncomfortable when child(ren) wanted to be hugged/held	27	11.2%	241
j. Encouraged child(ren) to read a book	236	96.3%	245
k. Had child(ren) handle household chores on a regular basis	191	80.6%	237
l. Punished child(ren) by not letting him/her/them into house	6	2.5%	240
m. Punished child(ren) for not finishing food	12	4.9%	243
n. Blamed child(ren) for things not his/her/their fault	60	24.6%	244
o. Allowed child(ren) to play he/she/they were not supposed to	31	12.9%	240

Parenting Problems = a, b, c, d, i, l, m, and n. Mean proportion of items endorsed = .202, sd = .186, N=244). KR-20 $r = .590$.

Positive Parenting Practices = e, f, h, and j. Time 1 mean proportion of items endorsed = .914, sd=.171, N=256. KR-20 $r = .373$.

Table 3-12: Child Behaviors, Problems, and Characteristics (Caretaker Reports at Time 1)

	N of 'yes' Responses	% of Valid N	Valid N
a. (Child/children) went through alcohol withdrawal when born?	8	3.1%	262
b. Went through drug withdrawal when born?	21	8.0%	262
c. Do(es)n't show much interest in what is going on?	43	16.6%	259
d. Is/are smaller and lighter in weight than other children his/her/their age(s)?	56	21.4%	262
e. Get(s) upset easily?	153	59.1%	259
f. Is/are funny and make(s) you laugh?	249	99.2%	251
g. Like(s) to share things with other people?	222	89.5%	248
h. Throw(s) tantrums?	176	70.1%	251
i. Is/are shy and withdrawn?	91	36.3%	251
j. Is/are outgoing and friendly?	244	96.8%	252
k. Is/are good looking?	252	100.0%	252
l. Fight(s) a lot with other kids?	76	30.8%	247
m. Has/have language problems?	44	17.9%	246
n. Is/are very aggressive toward you?	71	32.7%	217
o. Has/have a special talent in music?	111	51.2%	217
p. Like(s) animals?	205	94.5%	217
q. Is/are good at sports?	170	78.7%	216
r. Can usually be counted on to do the right thing?	187	86.2%	217
s. Hang(s) out with friends you don't care for?	54	25.1%	215
t. Gone to church regularly?	91	42.1%	216
u. Been absent from school a lot?	40	19.3%	207
v. Run away from home overnight?	9	4.3%	209
w. Been temporarily suspended from school?	46	22.4%	205
x. Been expelled from school?	8	3.9%	205
y. Taken care of younger children?	74	36.3%	204

	N of 'yes' Responses	% of Valid N	Valid N
z. Taken something that didn't belong to him/her/them?	52	24.1%	216
aa. Often been absent from school for no good reason?	19	9.3%	205
bb. Received special education services at school?	51	24.8%	206
cc. Failed any classes?	52	25.4%	205
dd. Received counseling?	57	27.8%	205
ee. In last three months has child/have children age 8 or over) been arrested?	12	6.9%	174
ff. In last three months has child/have children age 11 or over had an alcohol problem?	0	0%	115
gg. In last three months has child/have children had a drug problem?	4	3.5%	114
hh. Has girl age 12 to 18/have any of the girls ages 12 to 18 been pregnant?	2	3.5%	57
ii. Has boy age 14 to 18/have any of the boys ages 14 to 18 fathered a child?	0	0%	19

Child's Behavior Problems = l, n, s, v, z, ee, gg. Mean proportion of items endorsed = .203, sd = .233, N = 248. KR-20 r = .463

Child's Emotional Problems = c, e, i. Mean proportion of items endorsed = .369, sd = .301, N = 259. KR-20 r = .367

Child's School Problems = u, w, x, aa, cc. Mean proportion of items endorsed = .160, sd = .214, N = 205. KR-20 r = .545

Positive Child Behaviors/Characteristics = f, g, j, o, p, q, r, t, y. Mean proportion of items endorsed = .930, sd = .143, N = 249. KR-20 r = .331.

Table 3-13: Services Provided by the Caseworker^a (Caretaker Reports at Time 2)

	N of 'yes' responses	% of Valid N	Valid N
a. Helped with money for rent, electric, phone	9	3.9%	233
b. Helped with money for other things	35	15.0%	233
c. Provided transportation	103	44.2%	233
d. Discussed proper feeding of child	60	25.8%	233
e. Talked with you about discipline	103	44.4%	232
f. Talked with you about relationship with spouse	39	16.8%	232
g. Helped you clean the house	16	6.9%	232
h. Helped with painting/house repair	7	3.0%	232
i. Discussed how to get childcare	63	27.3%	231
j. Helped with welfare/food stamps	16	6.9%	232
k. Advised you how to get medical care	41	17.7%	232
l. Talked with you about how to handle anger	80	34.5%	232
m. Advised you on substance abuse	50	21.6%	232
n. Discussed with you how to get a better place to live	75	32.3%	232
o. Advised you on job training programs	71	30.7%	231
p. Talked with you about how to get a paying job	62	26.8%	231
q. Advised you on how to continue school	66	28.5%	232
r. Arranged for some childcare	16	6.9%	232
s. Told you about other agencies	101	43.7%	231

^a Refers to services provided by the FPS/SCOH caseworker since the previous caretaker interview (or random assignment date if there was no previous interview).

Services Provided by Caseworker = items a through s.
Time 2 mean proportion of items endorsed=.230, sd =.187, N=232, KR-20 r =.802.

Concrete Services = a, b, c, g, h, r.
Time 2 mean proportion of items endorsed=.134, sd =.166, N=233, KR-20 r = .502

Referral, Advice, and Advocacy for Other Services = i, j, k, m, n, o, p, q, s.
Time 2 mean proportion of items endorsed=.261, sd=.250, N=232, KR-20 r = .755.

Discussion of Personal and Family Problems = d, e, f, l.
Time 2 mean proportion of items endorsed=.303, sd=.313, N=233, KR-20 r = .649.

Table 3-14: Caretaker Assessment of Overall Change in Family Life (Since the Last Interview)

Assessment	(Score)	Time 2		Time 3	
		%	N	%	N
Great improvement	(2)	22.48	58	36.44	82
Some improvement	(1)	48.84	126	39.11	88
Just the same	(0)	21.32	55	19.11	43
Somewhat worse	(-1)	5.43	14	4.89	11
A great deal worse	(-2)	1.94	5	.44	1
Total			258		225

Table 3-15: Caseworker Assessment of Caretaker's Parenting Skills at Time 1 (0 = not adequate, 4 = very adequate)

	Sample Mean	Standard Deviation	Valid N
a. Providing enough food that is nutritionally balanced	2.942	1.110	137
b. Displaying affection toward the child(ren)	3.034	.902	147
c. Respecting child(ren)'s opinions	2.833	1.026	126
d. Responding patiently to child(ren)'s questions	2.742	1.038	132
e. Responding to child(ren)'s emotional needs	2.640	1.084	139
f. Providing learning opportunities for child(ren)	2.438	1.260	128
g. Setting firm and consistent limits and rules for the child(ren)	2.338	1.212	136
h. Providing adequate personal supervision or responsible childcare	2.635	1.257	148
i. Attending to child(ren)'s health needs	2.956	1.132	135

Time 1 mean of all items = 2.746, sd = .843, N = 139, Chronbach's alpha = .905.
 Time 2 mean of all items = 2.723, sd = .813, N = 235, Chronbach's alpha = .908.

Table 3-16: Treatment Participation (Based on Caseworker Reports at Time 2)

	Response Categories (Percent Endorsing Each Option) ^a				Valid N
	Usually (4)	Sometimes (3)	Rarely (2)	Never (1)	
a. Caseworker initiated appointments to meet with caretaker	93.9	5.3	0	.8	247
b. Caretaker initiated appointments	19.03	29.15	7.69	44.13	247
c. Caretaker kept appointments	73.28	14.17	8.10	4.45	247
d. Caretaker responded positively to you	84.96	10.16	3.66	1.22	246
e. Children responded positively to caseworker	93.4	4.9	.8	.8	243
f. Caretaker carried out your suggestions	53.47	26.12	14.69	5.71	245

^a Original items were reverse-scored.

Principal factor analysis of items b through f produced two factors. After promax rotation, items c, d, and f loaded (at >.67) on the first factor; no items loaded on the second factor.

Caretaker compliance = c, d, and f (mean = 1.464, sd = .661, N = 247, Chronbach's alpha = .765).

Table 3-17: Caseworker Ratings of Their Preparation to Perform Various Casework Tasks (5 = very well prepared, 1 = poorly prepared ^a; N=59)

	Mean	sd
a. Assessing problems	4.262	.728
b. Assessing risk	4.328	.769
c. Case planning	4.250	.795
d. Assessing family functioning	4.417	.696
e. Assessing child functioning	4.295	.760
f. Family systems	4.279	.897
G. Building client relationships	4.177	.559
h. Counseling families	4.295	.715
i. Permanency planning	3.852	1.156
j. Knowing when to terminate a case	4.169	.874

^a Original items were reverse-scored so that higher scores represent better preparation.

Principal factor analysis with promax rotation produced two factors: items a and b loaded on the first factor, all other items loaded on the second. Two scales were created: Early Assessment = standardized mean of items a and b (Pearson's $r=.807$). Planning and Treatment = standardized mean of items c through j (Chronbach's alpha = .781).

Table 3-18: Caseworker Job Satisfaction (N=58)

Degree of satisfaction (5=high, 1=low ^a)	Mean	sd
a. Salary	2.644	1.126
b. Workload	3.237	1.119
c. Supervision	3.678	1.151
d. Work difficulty	3.328	.866
e. Chances of promotion	2.780	1.233
f. Fringe benefits	3.136	1.332

^a Original items were reverse-scored so that higher scores represent greater satisfaction.

In principal factor analysis with promax rotation, all items loaded on one factor.

Job Satisfaction = standardized mean of all items; Chronbach's alpha = .691.

Table 3-19: Caseworker Burnout (N=61)

	Mean	sd
Agreement (1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree)		
a. I treat some of my clients as "impersonal objects".	3.766	.501
b. I deal very effectively with the problems of my client.	1.594	.657
c. I have become more callous toward people since being on this job.	3.382	.762
d. Many clients cannot be helped no matter what I do.	2.994	.973
e. I think clients often blame me for their problems.	3.023	.854
f. I have accomplished much that is worthwhile in this job.	1.563	.682
g. I feel "burned out" from my work.	2.734	.979

In principal factor analysis with promax rotation, all items load on one factor. The Burnout scale is the standardized mean of all items after items a, c, d, e and g were reverse-scored (high scores indicate greater burnout). Chronbach's alpha = .564.

Table 3-20: Outcomes from Administrative Data

Observation Period (Time From Random Assignment)	New Report of Maltreatment (% of Valid N)	New, Substantiated Report of Maltreatment (% of Valid N)	New Out-of-Home Placement (% of Valid N)	Valid N
6 months	19.6	9.7	10.8	362
12 months	33.2	17.1	16.8	280
18 months	44.7	23.6	22.1	199
24 months	50.4	26.0	25.2	127
30 months	53.8	25.0	34.6	52

Table 4-1: Means and Standard Deviations on Social Desirability Scales^a

	Time 1		Time 2		Time 3	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Agree-good	142	.645 (.228)	184	.639 (.223)	222	.666 (.221)
Deny-bad	142	.683 (.256)	184	.730 (.253)	223	.737 (.260)
Total Scale	142	.664 (.175)	184	.695 (.191)	223	.710 (.187)

^a Scores represent the proportion of responses that were socially desirable.

Table 4-2: Internal Consistency of Marlowe-Crowne Scales

	KR-20 Reliability Coefficients		
	Time 1	Time 2	Time 3
Agree-good (5 items)	.427	.385	.370
Deny-bad (8 items)	.672	.706	.733
Total (13 items)	.626	.672	.681

Table 4-3: Correlations Between Agree-good and Deny-bad Subscales

	Time 1	Time 2	Time 3
r	.051	.184*	.083
(Valid N)	(142)	(184)	(222)

Table 4-4: Stability of Subscale Scores Over Time (Pearson's r)

	Agree-good		Deny-bad		Full scale	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Time 2	.335***	--	.709***	--	.551***	--
Time 3	.290**	.115	.536***	.584***	.481***	.455***

Table 4-5: Differences Between Service Groups in Caretaker Deny-bad Scores

	Group	Valid N	Mean	Std. Dev.	t	p-value (2-tailed)
Time 1	SCOH	83	.69	.25	.61	.55
	FPS	59	.67	.27		
Time 2	SCOH	111	.75	.24	1.02	.31
	FPS	73	.71	.28		
Time 3	SCOH	117	.76	.24	1.19	.23
	FPS	106	.71	.28		
Mean	SCOH	153	.72	.23	.80	.42
	FPS	126	.70	.26		

Table 4-6: Variation in Deny-bad Scores Within and Between Caseworkers
(Results of One-way ANOVA)

	Source	SS	df	MS	F	p-value
Time 1	Between CWs	27.48	28	.98	.98	.52
	Within CWs	36.17	36	1.00		
	Total	63.66	64	.99		
Time 2	Between CWs	60.43	57	1.06	1.03	.45
	Within CWs	75.26	73	1.03		
	Total	135.69	130	1.04		
Time 3	Between CWs	58.26	62	.94	.91	.65
	Within CWs	112.26	109	1.03		
	Total	170.52	171	1.00		
Mean	Between CWs	56.99	70	.81	.83	.81
	Within CWs	136.45	139	.98		
	Total	193.44	209	.93		

Table 4-7: Variance Decomposition of Caretaker Deny-bad Scores

Level	N obs	Variance Component	% Total Variance	df	Chi-square	sig.
1 (Time)	285	.34863	33.64			
2 (Case)	141	.68746	66.33	97.00	689.04	<.001
3 (Worker)	44	.00026	0.03	43.00	33.94	>.5
Total		1.03635				

Table 4-8: Predictors of Deny-bad Scores (Conditional HLM Results)

Fixed Effect	Coef.	Robust SE	T-Ratio	p-value	
Intercept	.023	.099	.229	.819	
<u>Level 1 Predictors</u>					
time2	.009	.070	.129	.898	
time3	-.052	.073	-.715	.474	
neglife*	.939	.325	2.885	.004	
scl90dep*	-.459	.048	-9.558	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
sparent	.245	.098	2.495	.013	
ctage*	.011	.004	2.723	.007	
nkids*	.072	.026	2.791	.006	
ctdrugs	-.456	.104	-4.371	<.001	
<i>Model for Time 2 (π_1)</i>					
<i>Model for Time 3 (π_2)</i>					
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.614	.377	458		
Level 2	.577	.333	223	616.361	<.001

* Variable centered around its grand mean.
 6 iterations, 2 estimated parameters, deviance = 1122.857. Reliability estimate for $\pi_0 = .616$. Variance explained = 28.9%. N = 467 observations, 228 cases

Table 5-1: Frequency of Caretaker Substance Use (All Valid Responses)

Substance and Frequency of Use in the Past Month	Time 1		Time 2		Time 3	
	%	(N)	%	(N)	%	(N)
<u>Alcohol</u>						
Monthly	36.7	(95)	29.7	(76)	32.6	(73)
Weekly	17.4	(45)	15.6	(40)	18.8	(42)
Daily	2.3	(6)	0.4	(1)	0.4	(1)
<u>Marijuana</u>						
Monthly	13.9	(36)	8.2	(21)	8.0	(18)
Weekly	8.9	(23)	4.3	(11)	5.8	(13)
Daily	0.4	(1)	0.8	(2)	0.4	(1)
<u>"Hard" Drugs</u> ^a						
Monthly	10.0	(26)	6.3	(16)	4.0	(9)
Weekly	6.9	(18)	3.9	(10)	1.8	(4)
Daily	3.5	(9)	1.2	(3)	0.4	(1)
<u>Polydrug Use</u> ^b						
Monthly	13.9	(36)	10.5	(27)	7.6	(17)
Weekly	8.1	(21)	4.7	(12)	4.0	(9)
Daily	1.2	(3)	0.4	(1)	0.0	
<u>Any Substance</u>						
Monthly	42.9	(111)	32.0	(82)	34.8	(78)
Weekly	23.9	(62)	18.8	(48)	21.0	(47)
Daily	5.4	(14)	2.0	(5)	1.3	(3)
Valid N		(259)		(256)		(224)

^a "Hard" drugs include cocaine or crack, heroin, and amphetamines.

^b Use of any two or more substances.

Table 5-2: Frequency of "Hard" Drug Use (All Valid Responses)

Substance and Frequency of Use in the Past Month	Time 1		Time 2		Time 3	
	%	(N)	%	(N)	%	(N)
<u>Cocaine/Crack</u>						
Monthly	8.1	(21)	5.5	(14)	4.0	(9)
Weekly	5.8	(15)	3.5	(9)	1.8	(4)
Daily	1.9	(5)	1.2	(3)	0.4	(1)
<u>Heroin</u>						
Monthly	2.7	(7)	0.8	(2)	0.0	
Weekly	1.9	(5)	0.4	(1)		
Daily	1.9	(5)	0.0			
<u>Amphetamines</u>						
Monthly	0.8	(2)	0.4	(1)	0.0	
Weekly	0.0		0.4	(1)	0.0	
Daily			0.0			
Valid N		(259)		(256)		(224)

Table 5-3: Frequency of Caretaker Substance Use (166 Cases with Valid Data at All Points in Time)

Substance and Frequency of Use in the Past Month	Time 1		Time 2		Time 3	
	%	(N)	%	(N)	%	(N)
<u>Alcohol</u>						
Monthly	33.1	(55)	28.3	(47)	27.1	(45)
Weekly	13.9	(23)	12.7	(21)	14.5	(24)
Daily	1.2	(2)	0.0		0.6	(91)
<u>Marijuana</u>						
Monthly	14.5	(24)	7.2	(12)	6.6	(11)
Weekly	8.4	(14)	5.4	(9)	5.4	(9)
Daily	0.6	(1)	1.2	(2)	0.6	(1)
<u>"Hard" Drugs^a</u>						
Monthly	6.6	(11)	1.8	(3)	4.8	(8)
Weekly	3.0	(5)	0.6	(1)	2.4	(4)
Daily	0.6	(1)	0.6	(1)	0.6	(1)
<u>Polydrug Use^b</u>						
Monthly	12.0	(20)	7.2	(12)	6.0	(10)
Weekly	5.4	(9)	3.0	(5)	3.0	(5)
Daily	0.6	(1)	0.0		0.0	
<u>Any Substance</u>						
Monthly	38.6	(64)	29.5	(49)	29.5	(49)
Weekly	19.3	(32)	15.1	(25)	17.5	(29)
Daily	1.8	(3)	1.8	(3)	1.8	(3)

^a "Hard" drugs include cocaine or crack, heroin, and amphetamines.

^b Use of any two or more substances.

Table 5-4: Frequency of "Hard" Drug Use (166 Cases with Valid Data at All Points in Time)

Substance and Frequency of Use in the Past Month	Time 1		Time 2		Time 3	
	%	(N)	%	(N)	%	(N)
<u>Cocaine/Crack</u>						
Monthly	6.0	(10)	1.8	(3)	4.8	(8)
Weekly	3.0	(5)	0.6	(1)	2.4	(4)
Daily	0.6	(1)	0.6	(1)	0.6	(1)
<u>Heroin</u>						
Monthly	0.6	(1)	0.0		0.0	
Weekly	0.0					
Daily						
<u>Amphetamines</u>						
Monthly	0.6	(1)	0.0		0.0	
Weekly	0.0					
Daily						

=Table 5-5: How Troubled or Bothered Caretaker Has Been in the Past Month by Alcohol or Drug Problems

	Time 1		Time 2		Time 3	
	%	(N)	%	(N)	%	(N)
Not at All	84.1	(217)	89.5	(229)	92.8	(205)
Slightly	5.8	(15)	4.3	(11)	3.6	(8)
Moderately	1.6	(4)	2.7	(7)	0.9	(2)
Considerably	1.9	(5)	0.4	(1)	0.5	(1)
Extremely	6.6	(17)	3.1	(8)	2.3	(5)
Valid Ns		(258)		(256)		(221)

Table 5-6: Reported Effects of Caretaker Alcohol or Drug Use on Various Domains of Functioning in the Past Month

Domain of Caretaker Functioning	Number of Caretakers		
	Time 1	Time 2	Time 3
<u>Health</u>			
A Little	4	3	1
Somewhat	4	3	4
Very Much	4	2	1
<u>Job or Ability to Look for Work</u>			
A Little	2	2	3
Somewhat	2	0	1
Very Much	8	5	2
<u>Relationships with Family Members or Friends</u>			
A Little	3	3	1
Somewhat	6	1	4
Very Much	6	4	2
<u>Parenting</u>			
A Little	4	2	2
Somewhat	6	2	2
Very Much	4	3	1
Any Effect	29	21	13
% of respondents	11.2%	8.2%	5.8%

Table 5-7: Caretaker Perceptions of Specific Effects of Alcohol or Drug Use on Her Parenting

	Number of Caretakers		
	Time 1	Time 2	Time 3
<u>The way you discipline your children</u>			
A Little	1	2	1
Somewhat	3	1	2
Very Much	5	0	0
<u>How you deal with your children day to day</u>			
A Little	5	2	1
Somewhat	2	4	0
Very Much	6	0	1
<u>Your ability to love and support your children</u>			
A Little	2	0	1
Somewhat	1	1	0
Very Much	4	0	0
<u>Your ability to provide for their basic needs</u>			
A Little	5	1	1
Somewhat	0	2	1
Very Much	3	3	0
<u>The supervision your children receive</u>			
A Little	1	0	1
Somewhat	2	3	1
Very Much	5	2	0
<u>Your children's physical health</u>			
A Little	3	0	1
Somewhat	2	1	0
Very Much	2	0	0
<u>Your children's emotional well-being</u>			
A Little	3	1	2
Somewhat	4	0	0
Very Much	5	1	0

Table 5-8: Substance Abuse Definitions by Data Source

Data Source	Definition of Caretaker Substance Abuse	Definition of Substance Abuse in the Household	Data Collection Methods
Caretaker	In the past month the caretaker had too much to drink several times a week; used cocaine/crack, heroin or speed once a week or more; was troubled or bothered by her alcohol or drug problems; or reported that some aspect of her functioning was somewhat affected by her drug use.	Caretaker meets substance abuse criteria or someone else in the household has been in an alcoholism program or treatment program for drug addiction in the past three months.	Interviews at Time 1, 2, and 3
Caseworker	Caretaker has problems with alcoholism or drug abuse (from a problem checklist).	Caretaker or other adult household members have problems with alcoholism or drug abuse (from a problem checklist).	Interviews at Time 1 and 2
Intake Worker		Adults in the household have problems with alcoholism or drug abuse (from a problem checklist).	Self-administered report after referral to FPS/SCOH

Table 5-9: Reports of Caretaker and Household Substance Abuse by Data Source and Time

Source	Caretaker Substance Abuse			Substance Abuse in the Household		
	Time 1	Time 2	Time 3	Time 1 ^a	Time 2	Time 3
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)
Intake Worker				52.0 (248)		
Caseworker	35.7 (154)	33.1 (242)		37.7 (154)	37.2 (242)	
Caretaker	10.6 (322)	8.7 (322)	5.3 (322)	18.0 (322)	18.0 (322)	14.3 (322)

^a Kappa = .346, p < .001

Table 5-10: Comparison of Caretaker and Caseworker Reports of Substance Abuse: Cell Percentages (N)

Caretaker Reports	Caseworker Reports			
	Time 1		Time 2	
	No	Yes	No	Yes
Caretaker substance abuse?				
No	61.8 (94)	27.0 (41)	64.8 (153)	26.7 (63)
Yes	2.0 (3)	9.2 (14)	2.1 (5)	6.4 (20)
Substance abuse in the household?				
No	No	Yes	No	Yes
	57.9 (88)	24.3 (37)	58.1 (137)	24.6 (58)
Yes	4.0 (6)	13.8 (58)	4.7 (11)	12.7 (30)
Valid N ^a	(152)			
	(236)			

^a Valid N includes cases with data from both sources.

Kappas for caretaker abuse at Time 1 = .26, at Time 2 = .33; for household abuse at Time 1 = .20, at Time 2 = .30; p < .001 in all comparisons.

Table 5-11: Comparison of Caretaker, Caseworker, and Intake Worker Reports of Substance Abuse in the Household (Number of Cases) ^a

Caretaker Report	Intake Worker Report = No		Intake Worker Report = Yes	
	Caseworker Report		Caseworker Report	
	No	Yes	No	Yes
No	41	4	17	24
Yes	2	0	3	17

^a Total N is 108 cases with valid data from all three sources.

Table 5-12: Substance Abuse in the Household: Another Look at the Data in Table 5-11

Source	N of Cases
No report	41
Caretaker only	2
Caseworker only	4
Intake worker only	17
Caretaker and caseworker	0
Caretaker and intake worker	3
Caseworker and intake worker	24
All three sources	17
Total	108

Table 6-1: Descriptive Data on URICA Subscales

	Time 1		Time 2		Time 3	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Precontemplation	258	2.368 (.677)	253	2.364 (.717)	224	2.477 (.712)
Contemplation	259	3.957 (.785)	252	3.849 (.736)	224	3.753 (.759)
Action	259	3.936 (.689)	253	3.953 (.688)	224	3.903 (.687)
Contemplation/ Action ^a	259	3.946 (.675)	252	3.902 (.633)	224	3.829 (.663)
Overall Readiness Score ^b	259	3.421 (.506)	252	3.390 (.460)	224	3.379 (.497)

^a Mean of contemplation and action items.

^b Mean of contemplation items + mean of action items - mean of precontemplation items.

Table 6-2: Correlations Among URICA Subscales

	Time 1		Time 2		Time 3	
	Precont	Contemp	Precont	Contemp	Precont	Contemp
Contemp	-.042	--	-.138*	--	-.007	--
Action	.071	.679*	-.083	.570*	-.038	.682*

Table 6-3: Results of Principal Axis Factoring with Varimax Rotation (Time 1)

	Rotated Factor Matrix			
	1	2	3	4
I'm not the problem one. It doesn't make much sense for me to consider changing. (P)			.415	
I am finally doing some work on my problems. (A)	.675	.125	.112	
I've been thinking that I might want to change something about myself. (C)	.506	.339		
At times my problems are difficult, but I'm working on them. (A)	.670	.255		
Trying to change is pretty much a waste of time for me because the problem doesn't have to do with me. (P)			.604	-.227
I'm hoping that I will be able to understand myself better. (C)	.510	.407		
I guess I have faults, but there's nothing that I really need to change. (P)		-.106	.665	
I am really working hard to change. (A)	.666	.240		
I have a problem and I really think I should work on it. (C)	.362	.618	-.183	
Even though I'm not always successful in changing, I am at least working on my problems. (A)	.648	.467		.107
I wish I had more ideas on how to solve my problems. (C)	.298	.839		
Maybe someone or something will be able to help me. (C)	.359	.799		.123
I may be part of the problem, but I don't really think I am. (P)		.134	.371	.110
I hope that someone will have some good advice for me. (C)	.237	.702		.200
Anyone can talk about changing; I'm actually doing something about it. (A)	.696	.173	.125	.446
As far as I'm concerned, I don't have any problems that need changing. (P)	-.118	-.183	.558	.171
I have worries but so does the next person. Why spend time thinking about them? (P)	.128		.329	
I am actively working on my problems. (A)	.581	.242	.163	.420
% of Variance Explained	19.7%	16.8%	9.1%	3.1%

Factor loadings > .1 are shown; those > .4 are emboldened.

Cumulative percent of variance explained= 48.7%.

Table 6-4: Results of K-Means Cluster Analysis of URICA Subscales (Two- to Five-Cluster Solutions)

	Cluster					Results of Post Hoc (Scheffe) Tests ^a
	1	2	3	4	5	
Number of Cases	237	21				
Subscale Mean						
Precontemplation	2.37	2.33				1=2
Contemplation	4.13	2.00				1 > 2
Action	4.07	2.42				1 > 2
Mean Distance from Cluster Center	.83	1.30				2 > 1
Number of Cases	128	14	116			
Subscale Mean						
Precontemplation	1.93	1.95	2.90			1=2 > 3
Contemplation	4.31	1.65	3.84			1 > 3 > 2
Action	4.16	1.96	3.91			1 > 3 > 2
Mean Distance from Cluster Center	.68	1.01	.78			2 > 1
Number of Cases	102	14	118	24		
Subscale Mean						
Precontemplation	2.96	1.95	2.04	1.69		1 > 2=3 > 4
Contemplation	3.83	1.65	4.29	4.21		3=4 > 1 > 2
Action	3.94	1.96	4.28	3.32		3 > 1 > 4 > 2
Mean Distance from Cluster Center	.76	1.01	.63	.77		2 > 3
Number of Cases	23	11	36	77	111	
Subscale Mean						
Precontemplation	1.67	1.82	2.74	3.02	2.00	4=3 > 5=2=1
Contemplation	4.20	1.52	3.03	4.20	4.27	5=1=4 > 3 > 2
Action	3.31	1.64	3.67	4.09	4.26	5=4 > 3 > 1 > 2
Mean Distance from Cluster Center	.77	.80	.78	.60	.60	3 > 5

^a Between-group differences with $p < .5$ are indicated by "greater than" (>) signs. Groups that are not statistically different are grouped with equal signs.

Table 6-5: Results of K-Means Cluster Analysis of URICA Subscales (Six- to Eight-Cluster Solutions)

	Cluster								Results of Post Hoc (Scheffe) Tests ^a
	1	2	3	4	5	6	7	8	
Number of Cases	18	9	79	23	21	108			
Subscale Mean									
Precontemplation	1.97	1.74	2.87	3.43	2.27	1.91			4>3>5>6=1=2
Contemplation	4.23	1.41	4.26	3.48	2.69	4.24			6=3=1>4>5>2
Action	3.13	1.41	4.20	3.62	3.65	4.20			3=6>5=4>1>2
Mean Distance from Cluster Center	.71	.66	.58	.62	.75	.61			ns
Number of Cases	21	9	18	41	23	48	98		
Subscale Mean									
Precontemplation	2.20	1.74	2.20	1.48	3.27	3.14	2.27		5=6>7=1=3, 7>2=4, 1>4
Contemplation	4.25	1.41	2.62	4.62	3.37	4.35	4.03		4>1=7>5>3>2
Action	3.20	1.41	3.62	4.37	3.59	4.29	4.10		4>7>3=5, 7>5>1>2
Mean Distance from Cluster Center	.66	.66	.74	.63	.60	.62	.41		3>7
Number of Cases	21	9	50	15	31	30	18	84	
Subscale Mean									
Precontemplation	2.20	1.74	3.15	2.26	2.27	1.32	3.33	2.23	7=3>5=4=8=1>6, 2=6
Contemplation	4.25	1.41	4.25	2.50	4.60	4.57	3.24	3.93	5=6>3, 3=1>8>7>4>2
Action	3.20	1.41	4.16	3.58	4.54	4.30	3.53	4.04	5=6=3, 5>3=8, 5>8>4=7, 8>7=1 8>1>2
Mean Distance from Cluster Center	.66	.66	.57	.72	.51	.61	.58	.38	4=1=6=3>8

Table 6-6: Results of K-Means Cluster Analysis of URICA Subscales (Nine-Cluster Solution)

	Cluster									Results of Post Hoc (Scheffe) Tests ^a
	1	2	3	4	5	6	7	8	9	
Number of Cases	9	6	19	30	7	14	21	101	51	
Subscale Mean	1.30	2.44	2.25	1.49	1.54	2.21	3.32	2.24	3.13	
Precontemplation										7=9>2=3, 9>3=8, 9>8=6>5=4, 6>4=1, 6>1
Contemplation	4.70	1.92	3.96	4.67	1.36	2.76	3.36	4.06	4.35	1=4=9>8=3, 9>3>7>6>2=5, 6>5
Action	3.31	2.48	3.29	4.56	1.31	3.88	3.59	4.11	4.25	4>9=8, 4>8=6, 8>7=1, 8>1=3, 8>3>2>5
Mean Distance from Cluster Center	.60	.67	.54	.54	.54	.58	.59	.42	.62	9>8

^a Between-group differences with $p < .5$ are indicated by "greater than" (>) signs. Groups that are not statistically different are grouped with equal signs.

Table 6-7: Internal Consistency of Readiness for Change Scales

	Time 1		Time 2		Time 3	
	alpha	(N)	alpha	(N)	alpha	(N)
Precontemplation (6 items)	.648	(255)	.706	(249)	.712	(220)
Contemplation/Action (12 items)	.911	(255)	.879	(250)	.891	(223)
Overall Readiness Scale (18 items)	.824	(255)	.806	(249)	.801	(220)

Table 6-8: Correlations Between Social Desirability (Deny-bad) and Readiness for Change Scores

	Time 1		Time 2		Time 3	
	r	(N)	r	(N)	r	(N)
Precontemplation	.074	(148)	.096	(183)	-.136	(140)
Contemplation/Action	-.108	(149)	-.195*	(182)	-.101	(140)
Overall Readiness Scale	-.137	(148)	-.212**	(182)	-.209*	(140)

Table 6-9: Stability of Readiness for Change Scores Over Time (Pearson's r)

	Precontemplation		Contemplation/Action		Overall Readiness	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Time 2	.514***	--	.353***	--	.408***	--
Time 3	.301***	.372***	.264***	.275***	.426***	.444***

Table 6-10: Differences Between Service Groups in Readiness Scores (Results of Two-tailed t-tests)

Time	Service Group	Valid N	Mean	Std. Dev.	t	p-value
<u>Precontemplation</u>						
Time 1	SCOH	140	2.38	.66	.35	.72
	FPS	118	2.35	.70		
Time 2	SCOH	143	2.33	.71	-.89	.37
	FPS	110	2.41	.72		
Time 3	SCOH	118	2.45	.70	-.59	.56
	FPS	106	2.51	.73		
<u>Contemplation/Action</u>						
Time 1	SCOH	141	3.90	.68	-1.33	.18
	FPS	118	4.01	.67		
Time 2	SCOH	142	3.85	.72	-1.67	.10
	FPS	110	3.97	.49		
Time 3	SCOH	118	3.79	.66	-.90	.37
	FPS	106	3.87	.67		
<u>Overall Readiness</u>						
Time 1	SCOH	141	3.39	.51	-1.09	.28
	FPS	118	3.46	.50		
Time 2	SCOH	142	3.34	.52	-2.04	.04
	FPS	110	3.45	.35		
Time 3	SCOH	118	3.35	.51	-1.06	.29
	FPS	106	3.42	.48		

Table 6-11: Variation in Caretaker Readiness for Change Scores Within and Between Caseworkers, by Service Group (Results of One-way ANOVA, two-tailed)

Source	FPS Group				SCOH Group					
	SS	df	MS	F	p-value	SS	df	MS	F	p-value
<u>Precontemplation</u>										
Time 1										
Between CWS	9.05	28	.32	.57	.95	21.24	51	.42	1.05	.44
Within CWS	47.39	83	.57			15.03	38	.40		
Total	56.44	111	.51			36.28	89	.41		
Time 2										
Between CWS	13.87	25	.55	1.12	.35	21.91	52	.42	.69	.90
Within CWS	38.76	78	.50			25.14	41	.61		
Total	52.62	103	.51			47.05	93	.51		
Time 3										
Between CWS	12.45	24	.52	1.07	.40	14.25	43	.33	.69	.87
Within CWS	36.39	75	.49			14.47	30	.48		
Total	48.84	99	.49			28.72	73	.39		
<u>Contemplation/Action</u>										
Time 1										
Between CWS	6.99	28	.25	.46	.99	25.78	51	.51	1.05	.45
Within CWS	45.51	83	.55			18.83	39	.48		
Total	52.50	111	.47			44.61	90	.50		
Time 2										
Between CWS	5.60	25	.22	.93	.56	30.94	52	.60	1.20	.28
Within CWS	18.71	78	.24			19.81	40	.50		
Total	24.31	103	.24			50.76	92	.55		
Time 3										
Between CWS	11.36	24	.47	1.04	.43	23.67	43	.55	1.51	.12
Within CWS	34.18	75	.46			10.94	40	.36		
Total	45.54	99	.46			34.61	73	.47		

Source	FPS Group				SCOH Group					
	SS	df	MS	F	p-value	SS	df	MS	F	p-value
<u>Overall Readiness</u>										
Time 1										
Between CWS	3.74	28	.13	.45	.99	16.86	51	.33	1.54	.08
Within CWS	24.64	83	.30			8.35	39	.21		
Total	28.38	111	.26			25.21	90	.28		
Time 2										
Between CWS	2.89	25	.12	.90	.61	16.96	52	.33	1.40	.14
Within CWS	10.05	78	.13			9.34	40	.23		
Total	12.94	103	.13			26.30	92	.29		
Time 3										
Between CWS	6.25	24	.26	1.14	.33	11.29	43	.26	1.24	.27
Within CWS	17.22	75	.23			6.37	30	.21		
Total	23.47	99	.24			17.66	73	.24		

Table 6-12: Variance Decomposition of Readiness for Change Scores

Level	N obs	Variance Component	% Total Variance	df	Chi-square	sig.
<u>Precontemplation</u>						
1 (Time)	357	.73389	66.87			
2 (Case)	131	.36329	33.10	88	268.346	<.001
3 (Worker)	43	.00025	0.02	42	28.873	>.5
Total		1.09743				
<u>Contemplation/Action</u>						
1 (Time)	357	.74549	72.97			
2 (Case)	131	.25816	25.27	88	219.118	<.001
3 (Worker)	43	.01805	1.77	44	40.745	>.5
Total		1.02170				
<u>Overall Readiness</u>						
1 (Time)	357	.67104	61.98			
2 (Case)	131	.41104	37.97	88	298.835	<.001
3 (Worker)	43	.00060	0.06	42	29.708	>.5
Total		1.08268				

Table 6-13: Predictors of Precontemplation Scores (Conditional HLM Results)

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.102	.139	.731	.465	
<u>Level 1 Predictors</u>					
time2	.140	.131	1.070	.285	
time3	-.129	.087	-1.477	.140	
neglife*	-.624	.276	-2.261	.024	
scl90dep*	-.148	.055	-2.703	.007	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zdenym*	-.086	.064	-1.354	.176	
ctage*	.015	.006	2.526	.012	
nkids*	.053	.030	1.782	.074	
ctdrugs	-.303	.138	-2.189	.028	
netsumol*	.398	.193	2.057	.039	
placeb4	-.014	.153	-.090	.929	
tanf1	.049	.146	.335	.738	
hhprob1*	.522	.463	1.127	.260	
<i>Model for Time 2 (π_1)</i>					
ctdrugs	.268	.136	1.972	.048	
placeb4	-.305	.185	-1.642	.100	
tanf1	-.280	.136	-2.049	.040	
<i>Model for Time 3 (π_2)</i>					
placeb4	.628	.242	2.595	.010	
hhprob1*	-1.039	.487	-2.134	.033	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.764	.584	623		
Level 2	.609	.371	247	637.617	<.001

*Variable centered around its grand mean.

9 iterations, 2 estimated parameters, deviance = 1743.997. Reliability estimate for π_0 = .599. Variance explained = 6.5%. N = 641 observations, 256 cases.

Table 6-14: Predictors of Contemplation/Action Scores (Conditional HLM Results)

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.043	.064	.677	.498	
<u>Level 1 Predictors</u>					
time2	-.164	.102	-1.610	.107	
time3	.167	.106	1.573	.115	
scl90dep*	.226	.043	5.239	<.001	
contact*	.009	.005	1.699	.089	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zdenym*	-.029	.045	-.652	.514	
ctage*	-.013	.006	-2.108	.035	
nkids*	.067	.037	1.820	.068	
placeb4	-.301	.187	-1.605	.108	
<i>Model for Time 2 (π_1)</i>					
nkids*	-.096	.039	-2.464	.014	
placeb4	.482	.181	2.659	.008	
<i>Model for Time 3 (π_2)</i>					
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.848	.719	630		
Level 2	.486	.236	251	449.801	<.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = 1798.673. Reliability estimate for π_0 = .441. Variance explained = 6.6%. N = 641 observations, 256 cases.

Table 6-15: Predictors of Overall Readiness Scores (Conditional HLM Results)

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	-.083	.125	-.660	.509	
<u>Level 1 Predictors</u>					
time2	-.064	.079	-.817	.414	
time3	.101	.144	.700	.484	
scl90dep*	.281	.047	5.996	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zdenym*	.014	.053	.270	.787	
sparent	.170	.102	1.658	.097	
ctage*	-.020	.006	-3.430	.001	
nkids*	.035	.035	1.010	.313	
ctdrugs	.272	.105	2.594	.010	
placeb4	-.184	.157	-1.176	.240	
svcb4	-.218	.128	-1.702	.088	
tanf1	-.112	.120	-.932	.352	
<i>Model for Time 2 (π_1)</i>					
nkids*	-.073	.035	-2.077	.038	
placeb4	.391	.165	2.376	.018	
<i>Model for Time 3 (π_2)</i>					
sparent	-.275	.132	-2.088	.036	
ctdrugs	-.264	.138	-1.915	.055	
tanf1	.335	.135	2.471	.014	
<hr/>					
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.754	.568	624		
Level 2	.578	.334	247	609.256	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 1725.399. Reliability estimate for π_0 = .582. Variance explained = 10.6%. N = 641 observations, 256 cases.

Table 6-16: Predictors of Parenting Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.188	.015	12.922	<.001	
<u>Level 1 Predictors</u>					
time2	-.044	.011	-3.883	<.001	
time3	-.007	.013	-.555	.578	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.015	.013	-1.164	.245	
zca1*	<.001	.014	.054	.957	
zdenym*	-.057	.010	-5.822	<.001	
ctmaltx	.039	.019	2.124	.033	
neglifel*	.236	.085	2.791	.006	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.013	.012	1.124	.261	
zca1*	.003	.008	.385	.700	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.017	.014	1.169	.243	
zca1*	.004	.013	.271	.786	
zpc2-1*	.006	.010	.588	.556	
zca2-1*	.003	.013	.272	.785	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.119	.014	520		
Level 2	.098	.010	190	529.622	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -472.172. Reliability estimate for π_0 = .643. Variance explained = 16.7%. N = 534 observations, 196 cases.

Table 6-17: Predictors of Positive Parenting Practices Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.939	.013	74.733	<.001	
<u>Level 1 Predictors</u>					
time2	-.003	.013	-.245	.807	
time3	-.009	.013	-.701	.483	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.024	.009	2.684	.008	
zcal*	.014	.013	1.062	.289	
zdenym*	.015	.008	1.910	.056	
priors*	.013	.006	2.113	.034	
ncontmol*	.006	.003	1.985	.047	
hhprobl*	.094	.043	2.189	.028	
poslifel*	.121	.046	2.632	.009	
tanfl	-.029	.015	-1.922	.054	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.032	.012	-2.691	.008	
zcal*	-.001	.015	-.077	.939	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.002	.013	-.174	.862	
zcal*	.001	.015	.068	.946	
zpc2-1*	<.001	.011	-.073	.942	
zca2-1*	-.008	.012	-.636	.524	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.131	.017	541		
Level 2	.082	.007	194	399.424	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -435.728. Reliability estimate for π_0 = .511. Variance explained = 3.1%. N = 558 observations, 203 cases.

Table 6-18: Predictors of Housing Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.110	.015	7.210	<.001	
<u>Level 1 Predictors</u>					
time2	-.016	.011	-1.404	.160	
time3	<.001	.015	.029	.977	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.008	.012	.632	.527	
zcal*	.014	.010	1.469	.142	
zdenym*	-.032	.010	-3.258	.002	
sparent	.032	.014	2.238	.025	
ctage*	-.002	<.001	-2.546	.011	
nkids*	.019	.005	3.969	<.001	
ctdrugs	-.057	.016	-3.570	.001	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.005	.012	-.440	.660	
zcal*	-.021	.009	-2.376	.018	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.007	.015	.444	.656	
zcal*	-.005	.017	-.277	.781	
zpc2-1*	.006	.011	.500	.616	
zca2-1*	.005	.014	.340	.734	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.130	.017	549		
Level 2	.077	.006	196	383.752	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -462.882. Reliability estimate for π_0 = .489. Variance explained = 8.0%. N = 565 observations, 204 cases.

Table 6-19: Predictors of Economic Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.282	.025	11.334	<.001	
<u>Level 1 Predictors</u>					
time2	-.037	.023	-1.610	.107	
time3	-.024	.027	-.866	.387	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.030	.023	-1.336	.182	
zcal*	.010	.021	.482	.629	
zdenym*	-.045	.017	-2.665	.008	
ctmaltx	.097	.037	2.637	.009	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.057	.023	2.484	.013	
zcal*	-.018	.024	-.778	.437	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.024	.030	-.813	.416	
zcal*	.009	.028	.297	.766	
zpc2-1*	-.026	.027	-.959	.338	
zca2-1*	.013	.018	.701	.483	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.249	.062	552		
Level 2	.183	.033	199	496.544	<.001

*Variable centered around its grand mean.

8 iterations, 2 estimated parameters, deviance = 279.130. Reliability estimate for π_0 = .596. Variance explained = 4.1%. N = 565 observations, 204 cases.

Table 6-20: Predictors of Negative Life Events Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.082	.010	8.356	<.001	
<u>Level 1 Predictors</u>					
time2	-.026	.009	-2.758	.006	
time3	.025	.011	2.282	.022	
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.004	.007	-.503	.615	
zca1*	-.003	.006	-.417	.676	
zdenym*	.002	.005	.414	.679	
sparent	-.021	.010	-2.028	.042	
ctmaltx	.277	.012	2.362	.018	
ncontmol*	-.003	.002	-1.665	.096	
ecoprob1*	.038	.016	2.290	.022	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.003	.009	.334	.738	
zca1*	-.001	.007	-.174	.862	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.001	.010	.075	.941	
zca1*	-.001	.009	-.100	.921	
zpc2-1*	-.019	.010	-1.869	.061	
zca2-1*	-.001	.007	-.108	.915	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.101	.010	551		
Level 2	.040	.002	196	278.169	<.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = -805.501. Reliability estimate for π_0 = .305. Variance explained = 3.3%. N = 567 observations, 204 cases.

Table 6-21: Predictors of Positive Life Events Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.162	.011	14.781	<.001	
<u>Level 1 Predictors</u>					
time2	.001	.012	.095	.925	
time3	.069	.015	4.675	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.005	.012	-.406	.684	
zcal*	.002	.011	.140	.889	
zdenym*	<.001	.010	.043	.966	
ctage*	-.002	.001	-1.689	.091	
nkids*	-.016	.005	-3.247	.002	
svcb4	.046	.025	1.826	.067	
ecoprobl*	.044	.026	1.686	.091	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.009	.011	.750	.453	
zcal*	.015	.011	1.353	.176	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.018	.017	-1.058	.291	
zcal*	.003	.014	.208	.835	
zpc2-1*	.002	.014	.134	.894	
zca2-1*	<.001	.012	.017	.986	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.136	.019	551		
Level 2	.094	.009	196	456.981	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = -381.856. Reliability estimate for π_0 = .568. Variance explained = 6.9%. N = 567 observations, 204 cases.

Table 6-22: Predictors of Network Size Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	4.500	.271	16.401	<.001	
<u>Level 1 Predictors</u>					
time2	.186	.123	1.515	.130	
time3	.451	.163	2.771	.006	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.411	.167	2.465	.014	
zcal*	-.118	.139	-.851	.395	
zdenym*	.317	.175	1.810	.070	
hhprobl*	-1.533	.912	-1.682	.092	
tanf1	.626	.317	1.977	.048	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.111	.132	-.841	.401	
zcal*	.157	.102	1.544	.122	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.117	.193	.606	.544	
zcal*	-.067	.178	-.376	.707	
zpc2-1*	.188	.172	1.097	.273	
zca2-1*	-.078	.156	-.501	.616	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	1.493	2.228	544		
Level 2	2.018	4.072	198	1200.554	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = 2441.757. Reliability estimate for $\pi_0 = .833$. Variance explained = 4.3%. N = 568 observations, 204 cases.

Table 6-23: Predictors of Network Support Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.858	.027	31.913	<.001	
<u>Level 1 Predictors</u>					
time2	.054	.018	3.061	.003	
time3	.023	.016	1.464	.143	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.058	.018	3.133	.002	
zca1*	-.029	.015	-1.929	.053	
zdenym*	.032	.013	2.391	.017	
ctmaltx	-.066	.027	-2.419	.016	
ctdrugs	.054	.025	2.142	.032	
poslifel*	.133	.078	1.756	.079	
tanf1	-.071	.024	-2.971	.003	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.040	.021	-1.900	.057	
zca1*	.048	.020	2.436	.015	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.008	.016	-.533	.593	
zca1*	.016	.025	.646	.518	
zpc2-1*	.014	.019	.734	.463	
zca2-1*	.040	.017	1.781	.074	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.174	.030	552		
Level 2	.138	.019	196	540.700	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -88.739. Reliability estimate for π_0 = .634. Variance explained = 9.3%. N = 568 observations, 204 cases.

Table 6-24: Predictors of Caretaker Depression Including PC and CA

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.975	.046	20.977	<.001	
<u>Level 1 Predictors</u>					
time2	-.076	.046	-1.653	.098	
time3	-.085	.056	-1.517	.129	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.123	.054	-2.288	.022	
zca1*	.127	.034	3.768	<.001	
zdenym*	-.339	.035	-9.631	<.001	
ctmaltx	.185	.089	2.086	.037	
priors*	-.116	.039	-2.995	.003	
netsumol*	-.605	.181	-3.350	.001	
ecoprob1*	.431	.129	3.337	.001	
neglifel*	1.039	.311	3.344	.001	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.169	.047	3.617	.001	
zca1*	-.035	.045	-.777	.437	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.060	.060	-1.006	.315	
zca1*	-.063	.057	-1.093	.275	
zpc2-1*	-.007	.047	-.158	.875	
zca2-1*	-.055	.053	-1.044	.297	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.505	.255	550		
Level 2	.445	.198	195	615.122	<.001

*Variable centered around its grand mean.

7 iterations, 2 estimated parameters, deviance = 1116.017. Reliability estimate for π_0 = .679. Variance explained = 38.6%. N = 567 observations, 204 cases.

Table 6-25: Predictors of Child Behavior Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.160	.021	7.741	<.001	
<u>Level 1 Predictors</u>					
time2	-.012	.020	-.606	.544	
time3	.008	.019	.391	.696	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.022	.016	-1.400	.162	
zcal*	-.027	.013	-2.047	.040	
zdenym*	-.053	.012	-4.385	<.001	
nkids*	-.014	.008	-1.851	.064	
svcb4	.055	.027	2.018	.043	
ecoprob1*	.069	.038	1.833	.066	
neglifel*	.170	.089	1.916	.055	
tanf1	.051	.023	2.236	.025	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.031	.018	1.765	.077	
zcal*	.012	.013	.910	.363	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.014	.023	.623	.533	
zcal*	.023	.021	1.072	.284	
zpc2-1*	.028	.014	1.947	.051	
zca2-1*	.009	.014	.640	.522	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.191	.037	525		
Level 2	.105	.011	189	343.125	<.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = -51.382. Reliability estimate for π_0 = .450. Variance explained = 8.1%. N = 542 observations, 198 cases.

Table 6-26: Predictors of Child Emotional Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.392	.024	16.648	<.001	
<u>Level 1 Predictors</u>					
time2	.028	.023	1.201	.230	
time3	-.034	.025	-1.358	.174	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.031	.021	1.475	.140	
zcal*	.007	.017	.447	.655	
zdenym*	-.074	.017	-4.308	<.001	
nkids*	.028	.009	3.056	.003	
ctdrugs	-.080	.032	-2.498	.013	
ecoprobl*	.125	.049	2.550	.011	
poslifel*	.317	.091	3.481	.001	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.016	.023	-.731	.465	
zcal*	-.024	.019	-1.235	.217	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.043	.029	1.471	.141	
zcal*	.010	.026	.406	.685	
zpc2-1*	.009	.020	.437	.661	
zca2-1*	.032	.021	1.509	.131	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.243	.059	549		
Level 2	.162	.026	196	435.441	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 241.587. Reliability estimate for $\pi_0 = .547$. Variance explained = 10.6%. N = 565 observations, 204 cases.

Table 6-27: Predictors of Child School Problems Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.158	.015	10.655	<.001	
<u>Level 1 Predictors</u>					
time2	-.038	.015	-2.537	.011	
time3	.055	.019	2.828	.005	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	-.001	.014	-.066	.948	
zcal*	.026	.011	2.283	.022	
zdenym*	-.026	.014	-1.927	.054	
ctage*	.005	.001	4.271	<.001	
nkids*	.012	.006	1.865	.062	
hhprobl*	.169	.076	2.209	.027	
neglifel*	.316	.118	2.677	.008	
<i>Model for Time 2 (π_1)</i>					
zpc1*	.011	.017	.637	.524	
zcal*	-.030	.011	-2.733	.007	
<i>Model for Time 3 (π_2)</i>					
zpc1*	-.016	.018	-.859	.391	
zcal*	.018	.016	1.141	.254	
zpc2-1*	-.004	.018	-.240	.811	
zca2-1*	.015	.015	1.018	.309	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.156	.024	453		
Level 2	.113	.013	167	404.134	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -173.252. Reliability estimate for π_0 = .579. Variance explained = 9.6%. N = 469 observations, 175 cases.

Table 6-28: Predictors of Positive Child Characteristics Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.786	.014	55.230	<.001	
<u>Level 1 Predictors</u>					
time2	<.001	.010	.028	.978	
time3	-.134	.012	-1.172	.241	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpc1*	.004	.010	.419	.675	
zcal*	-.004	.009	-.412	.680	
zdenym*	.013	.007	1.760	.078	
sparent	-.039	.017	-2.352	.019	
placeb4	.056	.019	3.000	.003	
hhprobl*	.142	.053	2.688	.008	
neglifel*	-.155	.067	-2.305	.021	
<i>Model for Time 2 (π_1)</i>					
zpc1*	-.004	.011	-.385	.700	
zcal*	-.001	.007	-.161	.873	
<i>Model for Time 3 (π_2)</i>					
zpc1*	.012	.013	.934	.351	
zcal*	.002	.014	.116	.908	
zpc2-1*	.025	.013	1.961	.049	
zca2-1*	.013	.013	.981	.327	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.110	.012	540		
Level 2	.096	.009	194	595.814	<.001

*Variable centered around its grand mean.

7 iterations, 2 estimated parameters, deviance = -555.387. Reliability estimate for π_0 = .671. Variance explained = 4.1%. N = 556 observations, 202 cases.

Table 6-29: Predictors of Perceived Changes in Family Life Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	.679	.079	8.596	<.001	
<u>Level 1 Predictors</u>					
time3	.221	.089	2.487	.013	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpcl*	-.044	.066	-.671	.502	
zca1*	.044	.057	.766	.444	
zdenym*	.096	.054	1.783	.074	
sparent	.210	.096	2.187	.029	
nkids*	.054	.027	1.958	.050	
placeb4	.195	.114	1.705	.088	
ecoprob1*	-.256	.147	-1.740	.081	
<i>Model for Time 3 (π_1)</i>					
zpcl*	.001	.092	.008	.994	
zca1*	.090	.089	1.021	.308	
zpc2-1*	.040	.073	.552	.581	
zca2-1*	.128	.063	2.019	.043	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.842	.708	350		
Level 2	.298	.089	196	245.036	.010

*Variable centered around its grand mean.

326 iterations, 2 estimated parameters, deviance = 977.247. Reliability estimate for π_0 = .181. Variance explained = 5.4%. N = 363 observations, 204 cases.

Table 6-30: Variance Decomposition of Caseworker Ratings of the Adequacy of Caretaker's Parenting Skills (Results of a 3-level, fully-unconditional HLM)

Level	N obs	Variance Component	% Total Variance	df	Chi-square	p-value
1 (Time)	271	.24698	42.17			
2 (Case)	152	.22667	38.71	108	303.418	<.001
3 (Worker)	44	.11196	19.12	43	103.935	<.001
Total		0.58561				

Table 6-31: Predictors of Caseworker Ratings of Adequate Parenting Including PC and CA

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	2.764	.120	23.062	<.001	
<u>Level 1 Predictors</u>					
Time 2	.089	.068	1.304	.192	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zpcl*	-.052	.064	-.801	.423	
zcal*	.038	.074	.515	.606	
zdenym*	.030	.058	.520	.602	
nkids*	.112	.029	3.889	<.001	
ctdrugs	-.263	.149	-1.772	.076	
priors*	.089	.054	1.662	.096	
svcb4	-.278	.127	-2.180	.029	
netsumol*	.417	.214	1.947	.051	
<i>Model for Time 2 (π_1)</i>					
zpcl*	.063	.061	1.030	.303	
zcal*	-.099	.068	-1.468	.142	
<u>Level 3 Predictors</u>					
<i>Model for Case Mean (β_{00})</i>					
numfam*	.032	.019	1.698	.097	
burnout*	-.240	.076	-3.150	.004	
plantx*	.259	.109	2.381	.022	
Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.489	.239			
Level 2	.411	.169	100	285.964	<.001
Level 3	.206	.042	40	62.961	.012

*Variable centered around its grand mean.

18 iterations, 18 estimated parameters, deviance = 456.832

Reliability estimate for π_0 = .509, for β_{00} = .250

Variance explained: 23.0%. N = 271 observations, 152 cases, 44 caseworkers.

Table 6-32: Predictors of Caseworker Ratings of Adequate Parenting Including Overall Readiness Scores

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	2.759	.120	23.073	<.001	
<u>Level 1 Predictors</u>					
Time 2	.091	.068	1.330	.184	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zsoc1*	.056	.067	.840	.401	
zdenym*	.032	.058	.553	.580	
nkids*	.109	.029	3.826	<.001	
ctdrugs	-.257	.147	-1.752	.079	
priors*	.090	.054	1.665	.095	
svcb4	-.277	.126	-2.199	.028	
netsumol*	.406	.214	1.899	.057	
<i>Model for Time 2 (π_1)</i>					
zsoc1*	-.115	.057	-2.005	.045	
<u>Level 3 Predictors</u>					
<i>Model for Case Mean (β_{00})</i>					
numfam*	.032	.019	1.679	.101	
burnout*	-.240	.076	-3.179	.003	
plantx*	.259	.109	2.370	.023	
Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.489	.239			
Level 2	.413	.170	101	286.265	<.001
Level 3	.207	.043	40	63.172	.011

*Variable centered around its grand mean.

18 iterations, 16 estimated parameters, deviance = 457.143

Reliability estimate for π_0 = .511, for β_{00} = .252

Variance explained: 22.8%. N = 271 observations, 152 cases, 44 caseworkers.

Table 6-33: Predictors of Subsequent Reports of Maltreatment, Including Caretaker Readiness for Change

Predictor Variables	Odds Ratios						Hazard Ratios		
	12 Months			18 Months			Model 1	Model 2	Model 3
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3			
zpc1		1.539*		1.466+		1.115			
zpc2-1		1.188		1.265		--			
zca1		.691		.996		.957			
zca2-1		.946		1.075		--			
zsoc1			.577*			.752		.919	
zsoc2-1			.835			.860		--	
Control vars.									
zdenym	1.125	1.117	1.095	1.171	1.182	1.153	1.002	.991	
ctage	.927**	.915**	.917**	.954*	.950*	.949*	.979+	.979+	
priors	1.476*	1.524*	1.508*	1.311	1.342	1.324	1.195+	1.199+	
placeb4	1.535*	1.513*	1.461*	1.327	1.331	1.317	1.237*	1.209+	
MODEL Valid N	176	176	176	135	135	135	255	255	
Chi-square	16.60**	24.44**	21.09**	7.94+	12.23	9.88	9.61*	11.05+	
Pseudo R ² (Change from Model 1)	.081	.120	.115	.043	.062	.052	.009	.010	
		(.039)	(.034)		(.019)	(.009)	(.001)	(.001)	

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 6-34: Predictors of Substantiated Maltreatment Reports, Including Caretaker Readiness for Change

Predictor Variables	Odds Ratios						Hazard Ratios		
	12 Months			18 Months			Model 1	Model 2	Model 3
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3			
zpc1		1.286		1.429		.931			
zpc2-1		1.178		1.629+		--			
zca1		.584*		.901		.848			
zca2-1		1.002		1.275		--			
zsoc1			.537*		.676			.874	
zsoc2-1			.949		.951			--	
Control vars.									
zdenym	1.338	1.314	1.321	1.282	1.290	1.042	1.026	1.022	
ctage	.944+	.927*	.929**	.944+	.934*	.967+	.964+	.965+	
priors	1.585*	1.660*	1.676**	1.391	1.418	1.228	1.236	1.236	
placeb4	1.142	1.059	1.021	1.051	1.092	1.361*	1.347*	1.330*	
netsumo1	5.983*	4.957+	4.716	7.913*	7.774*	2.586	2.547	2.453	
MODEL Valid N	176	176	176	135	135	255	255	255	
Chi-square	17.23**	23.71**	23.52**	13.63*	18.84*	13.97*	15.94*	14.87*	
Pseudo R ² (Change from Model 1)	.090	.145 (.055)	.142 (.052)	.082	.129 (.047)	.026	.030 (.004)	.028 (.002)	

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 6-35: Predictors of Out-of-home Placements, Including Caretaker Readiness for Change

Predictor Variables	Odds Ratios						Hazard Ratios		
	12 Months			18 Months			Model 1	Model 2	Model 3
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3			
zpc1		.820			.703		.935		
zpc2-1		.898			.623		--		
zca1		.887			.791		.840		
zca2-1		.936			1.037		--		
zsoc1			.980			1.102		.862	
zsoc2-1			1.014			1.443		--	
Control vars.									
zdenym	.718	.712	.717	1.013	1.040	1.040	.713*	.710*	.705*
ctage	1.039+	1.038	1.038+	1.034	1.029	1.030	1.036**	1.031*	1.032*
ctdrugs	2.630*	2.689+	2.644+	1.491	1.457	1.446	1.446	1.492	1.503
netsumol	3.559	3.577	3.456	7.427*	6.738*	6.855*	4.519*	4.467*	4.158*
svcb4	2.688+	2.733+	2.677+	2.303	2.629	2.328	1.674+	1.626	1.594
tanf1	5.062**	5.082*	5.083**	2.725+	2.566+	2.911+	2.157*	2.260*	2.190*
MODEL Valid N	174	174	174	134	134	134	253	253	253
Chi-square	24.41***	24.15**	24.37**	13.03*	18.22+	16.33*	30.02**	32.49**	31.27**
Pseudo R ² (Change from Model 1)	.158	.163 (.005)	.158 (<.001)	.091	.125 (.034)	.113 (.022)	.047	.051 (.004)	.049 (.002)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-1: Caretaker and Caseworker Alliance Reports (Total Scores and Subscales)

Source	N	Time 1		Time 2		Time 3			
		Mean	(SD)	N	Mean	(SD)	N	Mean	(SD)
<u>Caretaker</u>									
Total	97	5.747	(1.050)	205	5.690	(1.073)	193	5.860	(1.149)
Bonds	96	5.795	(1.130)	204	5.857	(1.121)	193	5.998	(1.240)
Goals	99	5.662	(1.069)	204	5.570	(1.142)	193	5.769	(1.182)
Tasks	99	5.718	(1.172)	206	5.642	(1.150)	193	5.811	(1.198)
<u>Caseworker</u>									
Total	76	5.642	(.646)	76	5.575	(.735)	--	--	--
Bonds	76	5.677	(.670)	76	5.640	(.748)			
Goals	76	5.530	(.847)	76	5.437	(.843)			
Tasks	76	5.719	(.676)	76	5.650	(.784)			

Table 7-2: Internal Consistency of Alliance Reports

Source	Time 1		Time 2		Time 3	
	alpha	(N)	alpha	(N)	alpha	(N)
<u>Caretaker</u>						
Total	.944	(86)	.940	(198)	.954	(188)
Bonds	.852	(86)	.860	(199)	.904	(189)
Tasks	.873	(95)	.841	(202)	.866	(189)
Goals	.816	(93)	.828	(198)	.855	(191)
<u>Caseworker</u>						
Total	.918	(73)	.924	(70)	--	--
Bonds	.703	(73)	.665	(70)	--	--
Tasks	.827	(73)	.843	(74)	--	--
Goals	.870	(73)	.860	(74)	--	--

Table 7-3: Correlations between Caretaker Deny-bad Scores and Alliance Reports (Total Scores) from Caretakers and Caseworkers

Source	Time 1		Time 2		Time 3	
	r	(N)	r	(N)	r	(N)
Caretaker	.371*	(39)	.130	(141)	.055	(122)
Caseworker	.067	(42)	.283	(40)	--	--

Table 7-4: Stability of Total Alliance Scores Over Time

	Caretaker				Caseworker	
	Time 1		Time 2		Time 1	
	r	(N)	r	(N)	r	(N)
Time 2	.292*	(74)	--	--	.462**	(38)
Time 3	.188	(68)	.491***	(147)	--	--

Table 7-5: Mean Caretaker Alliance Scores, by Available Data and Time

Subgroup	Valid data at...	(N)	Mean Caretaker Alliance Score		
			Time 1	Time 2	Time 3
A.	All points in time (60)	(60)	6.02	5.80	5.87
B.	Time 1 & Time 2 only (14)	(14)	5.41	5.86	--
C.	Time 1 & Time 3 only (8)	(8)	5.74	--	6.29
D.	Time 1 only (15)	(15)	4.99	--	--
E.	Time 2 & Time 3 only (87)	(87)	--	5.59	5.79
F.	Time 2 only (44)	(44)	--	5.67	--
G.	Time 3 only (38)	(38)	--	--	5.95
Total			5.75	5.69	5.86
			(226)	(97)	(205)
				(205)	(193)

Results of two-tailed, paired t-tests:

@ T1 (A&B) ~=(C&D) (N=97), $t=-2.31$, $p=.03$

@ T2 (A&B) ~=(E&F) (N=205), $t=-1.24$, $p=.22$ (one-tailed A&B > E&F, $p=.11$)

@ T3 (A&C) ~=(E&G) (N=193), $t=-.49$, $p=.63$

T1 ~ T2 (A&B, N=74), $t=.67$, $p=.51$

T2 ~ T3 (A&E, N=147), $t=-1.42$, $p=.16$ (one-tailed T2 < T3, $p=.08$)

T1 ~ T3 (A&C, N=68), $t=.44$, $p=.66$

Table 7-6: Differences Between Service Groups in Caretaker Alliance Scores
 (Results of two-tailed t-tests)

	Group	Valid N	Mean	Std. Dev.	t	p-value
Time 1	SCOH	31	5.27	1.32	-2.73	.01
	FPS	66	5.97	.82		
Time 2	SCOH	99	5.64	1.05	-.60	.55
	FPS	106	5.73	1.09		
Time 3	SCOH	91	5.89	1.12	.31	.76
	FPS	102	5.84	1.18		

Table 7-7: Differences Between Service Groups in Caretaker Alliance Subscale Scores (Results of two-tailed t-tests)

	Group	Valid N	Mean	Std. Dev.	t	p-value
<u>Bonds</u>						
Time 1	SCOH	31	5.25	1.33	-3.04	.004
	FPS	65	6.05	.93		
Time 2	SCOH	98	5.84	1.09	-.25	.80
	FPS	106	5.88	1.15		
Time 3	SCOH	91	5.97	1.21	-.29	.77
	FPS	102	6.02	1.27		
<u>Goals</u>						
Time 1	SCOH	33	5.22	1.33	-2.62	.01
	FPS	66	5.88	.84		
Time 2	SCOH	99	5.53	1.14	-.48	.63
	FPS	105	5.61	1.15		
Time 3	SCOH	91	5.82	1.14	.61	.54
	FPS	102	5.72	1.22		
<u>Tasks</u>						
Time 1	SCOH	33	5.21	1.45	-2.77	.008
	FPS	66	5.97	.92		
Time 2	SCOH	100	5.54	1.14	-1.20	.23
	FPS	106	5.74	1.16		
Time 3	SCOH	91	5.87	1.17	.60	.55
	FPS	102	5.76	1.23		

Table 7-8: Variation in Caretaker Alliance Scores Within and Between Caseworkers, by Service Group (Results of One-way ANOVA, two-tailed)

Source	FPS Group				SCOH Group					
	SS	df	MS	F	p-value	SS	df	MS	F	p-value
Time 1										
Between CWS	20.81	23	.90	1.69	.07	29.74	18	1.65	.82	.66
Within CWS	22.48	42	.54			10.05	5	2.01		
Total	43.30	65	.67			39.79	23	1.73		
Time 2										
Between CWS	34.29	25	1.37	1.18	.28	40.78	45	.91	.89	.65
Within CWS	90.63	78	1.16			34.76	34	1.02		
Total	124.92	103	1.21			75.54	79	.96		
Time 3										
Between CWS	14.40	24	.60	.35	.99	54.71	38	1.44	1.10	.41
Within CWS	125.33	73	1.72			31.55	24	1.31		
Total	139.73	97	1.44			86.26	62			

Table 7-9: Variation in Caretaker Alliance Subscale Scores Within and Between Caseworkers, by Service Group (Results of One-way ANOVA, two-tailed)

Source	FPS Group				SCOH Group					
	SS	df	MS	F	p-value	SS	df	MS	F	p-value
<u>Bonds</u>										
Time 1										
Between CWS	23.22	24	.97	1.22	.28	27.90	18	1.55	.66	.76
Within CWS	31.60	40	.79			11.71	5	2.34		
Total	54.82	64	.86			39.60	23	1.72		
Time 2										
Between CWS	39.37	25	1.57	1.23	.24	51.86	45	1.15	1.08	.41
Within CWS	99.86	78	1.28			36.21	34	1.07		
Total	139.23	103	1.35			88.07	79	1.11		
Time 3										
Between CWS	22.52	24	.94	.49	.98	56.15	38	1.48	.89	.63
Within CWS	141.02	73	1.93			39.66	24	1.65		
Total	163.54	97	1.69			95.81	62	1.54		
<u>Goals</u>										
Time 1										
Between CWS	19.69	23	.85	1.39	.18	31.39	19	1.65	.97	.56
Within CWS	25.81	42	.61			10.17	6	1.70		
Total	45.41	65	.70			41.56	25	1.66		
Time 2										
Between CWS	33.54	25	1.34	1.01	.47	45.13	45	1.00	.83	.73
Within CWS	102.55	77	1.33			41.23	34	1.21		
Total	136.09	102	1.33			86.35	79	1.09		
Time 3										
Between CWS	18.93	24	.79	.45	.98	61.71	38	1.62	1.25	.29
Within CWS	127.28	73	1.74			31.28	24	1.30		
Total	146.20	97	1.51			92.99	62	1.50		

Tasks	Source	FPS Group					SCOH Group				
		SS	df	MS	F	p-value	SS	df	MS	F	p-value
Time 1	Between CWS	30.38	23	1.32	2.26	.01	42.47	19	2.24	.95	.58
	Within CWS	24.57	42	.59			11.75	5	2.35		
	Total	54.95	65	.85			54.22	24	2.26		
Time 2	Between CWS	38.13	25	1.53	1.18	.29	48.31	45	1.07	.89	.65
	Within CWS	101.10	78	1.30			41.08	34	1.21		
	Total	139.23	103	1.35			89.38	79	1.13		
Time 3	Between CWS	13.89	24	.58	.31	.99	61.67	38	1.62	1.17	.34
	Within CWS	134.31	73	1.84			33.15	24	1.38		
	Total	148.20	97	1.53			94.82	62	1.53		

Table 7-10: Variance Decomposition of Caretaker Alliance (Total Scores)

Level	N obs	Variance Component	% Total Variance	df	Chi-square	sig.
1 (Time)	307	.65600	65.53			
2 (Case)	146	.34457	34.42	103.00	307.87	***
3 (Worker)	43	.00047	0.05	42.00	40.55	>.5
Total		1.00104				

Table 7-11: Predictors of Caretaker Alliance Reports (HLM results with PC and CA scores)

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.051	.098	.523	.601	
<u>Level 1 Predictors</u>					
time2	-.215	.127	-1.700	.089	
time3	.141	.114	1.236	.217	
contact*	.014	.005	2.504	.013	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zdenym*	.210	.060	3.479	.001	
zpcl*	-.127	.087	-1.460	.144	
zca1*	.131	.066	1.969	.049	
priors*	.127	.088	1.441	.150	
ncontmol*	-.013	.031	-.429	.668	
<i>Model for Time 2 (π_1)</i>					
zpcl*	.082	.103	.797	.425	
zca1*	-.190	.074	-2.565	.011	
priors*	-.178	.095	-1.870	.061	
ncontmol*	.059	.037	1.626	.104	
<i>Model for Time 3 (π_2)</i>					
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.802	.643	403		
Level 2	.592	.350	209	427.190	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 1184.106. Reliability estimate for π_0 = .492. Variance explained = 5.1%. N = 416 observations, 215 cases.

Table 7-12: Predictors of Caretaker Alliance Reports (HLM results with Overall Readiness Scores)

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.097	.106	.913	.361	
<u>Level 1 Predictors</u>					
time2	-.365	.132	-2.763	.006	
time3	.120	.120	.997	.319	
contact	.013	.006	2.233	.025	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zdenym*	.240	.061	3.958	<.001	
zsoc1*	.124	.072	1.726	.084	
<i>Model for Time 2 (π_1)</i>					
zsoc1*	-.181	.098	-1.840	.065	
<i>Model for Time 3 (π_2)</i>					
zsoc1*	.096	.100	.961	.337	
zsoc2-1*	.185	.107	1.724	.084	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.812	.659	366		
Level 2	.556	.310	181	351.370	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 1053.037. Reliability estimate for π_0 = .472. Variance explained = 7.7%. N = 375 observations, 184 cases.

Table 7-13: Predictors of Precontemplation Scores Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.019	.120	.155	.878	
<u>Level 1 Predictors</u>					
time2	-.003	.120	-.022	.982	
time3	-.119	.129	-.921	.357	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.125	.092	-1.370	.171	
zdenym*	.094	.077	1.217	.224	
placeb4	-.354	.167	-2.123	.034	
svcb4	.563	.209	2.698	.007	
netsum01	1.005	.237	4.239	<.001	
<i>Model for Time 2 (π_1)</i>					
zwail*	-.057	.113	-.507	.612	
<i>Model for Time 3 (π_2)</i>					
zwail*	.115	.140	.820	.412	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.775	.601	226		
Level 2	.547	.299	89	197.443	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 636.621. Reliability estimate for π_0 = .537. Variance explained = 9.7%. N = 236 observations, 95 cases.

Table 7-14: Predictors of Precontemplation Scores Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.030	.070	.424	.671	
<u>Level 1 Predictors</u>					
time2	.008	.076	.107	.915	
time3	-.066	.093	-.712	.476	
neglife*	-.721	.336	-2.146	.032	
scl90dep*	-.123	.063	-1.938	.052	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.062	.069	-.890	.374	
zdenym*	-.047	.069	-.689	.491	
ctage*	.010	.006	1.730	.083	
netsumol*	.709	.219	3.234	.002	
hhprobl*	.791	.433	1.827	.067	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.141	.080	-1.767	.077	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.194	.081	2.376	.018	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.754	.569	453		
Level 2	.566	.320	163	413.567	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 1238.319. Reliability estimate for π_0 = .602. Variance explained = 7.5%. N = 465 observations, 169 cases.

Table 7-15: Predictors of Contemplation/Action Scores Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	-.111	.111	-1.000	.318	
<u>Level 1 Predictors</u>					
time2	.070	.163	.427	.669	
time3	-.002	.168	-.012	.991	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.143	.087	1.637	.101	
zdenym*	-.103	.076	-1.367	.172	
priors	-.103	.063	-1.648	.099	
<i>Model for Time 2 (π_1)</i>					
zwail*	-.017	.170	-.099	.922	
<i>Model for Time 3 (π_2)</i>					
zwail*	.157	.172	.914	.361	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.959	.919	226		
Level 2	.389	.151	91	124.183	.012

*Variable centered around its grand mean.

21 iterations, 2 estimated parameters, deviance = 694.813. Reliability estimate for π_0 = .284. Variance explained = 5.6%. N = 236 observations, 95 cases.

Table 7-16: Predictors of Contemplation/Action Scores Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.151	.097	1.547	.122	
<u>Level 1 Predictors</u>					
time2	.046	.088	.521	.602	
time3	.021	.095	.217	.828	
scl90dep*	.224	.051	4.412	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.088	.073	-1.214	.225	
zdenym*	-.046	.055	-.836	.403	
ctage*	-.020	.007	-2.733	.007	
tanfl	-.232	.110	-2.102	.035	
<i>Model for Time 2 (π_1)</i>					
zwai2*	.175	.084	2.073	.038	
<i>Model for Time 3 (π_2)</i>					
zwai2*	-.138	.079	-1.751	.079	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.812	.659	455		
Level 2	.500	.250	164	333.350	<.001

*Variable centered around its grand mean.

7 iterations, 2 estimated parameters, deviance = 1272.605. Reliability estimate for π_0 = .506. Variance explained = 8.8%. N = 465 observations, 169 cases.

Table 7-17: Predictors of Overall Readiness Scores Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	-.123	.104	-1.182	.238	
<u>Level 1 Predictors</u>					
time2	.066	.153	.432	.665	
time3	.074	.138	.539	.590	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.163	.082	1.975	.048	
zdenym*	-.089	.079	-1.136	.256	
ctage*	-.013	.007	-1.793	.072	
<i>Model for Time 2 (π_1)</i>					
zwail*	.014	.158	.086	.932	
<i>Model for Time 3 (π_2)</i>					
zwail*	.095	.162	.587	.557	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.845	.715	226		
Level 2	.553	.306	91	184.486	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 675.704. Reliability estimate for π_0 = .501. Variance explained = 9.2%. N = 236 observations, 95 cases.

Table 7-18: Predictors of Overall Readiness Scores Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	-.016	.071	-.231	.817	
<u>Level 1 Predictors</u>					
time2	.017	.086	.202	.840	
time3	.057	.084	.676	.499	
scl90dep*	.255	.061	4.180	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.046	.075	-.607	.543	
zdenym*	-.027	.063	-.429	.667	
ctage*	-.019	.006	-3.008	.003	
netsumol*	-.446	.219	-2.034	.042	
<i>Model for Time 2 (π_1)</i>					
zwai2*	.221	.086	2.584	.010	
<i>Model for Time 3 (π_2)</i>					
zwai2*	-.196	.072	-2.709	.007	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.757	.573	455		
Level 2	.553	.305	164	403.325	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 1238.121. Reliability estimate for π_0 = .590. Variance explained = 12.2%. N = 456 observations, 169 cases.

Table 7-19: Predictors of Parenting Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.150	.025	5.986	<.001	
<u>Level 1 Predictors</u>					
time2	-.039	.019	-2.113	.034	
time3	-.015	.023	-.634	.526	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.029	.018	-1.591	.111	
zdenym*	-.058	.014	-4.262	<.001	
sparent	.077	.023	3.288	.001	
ctmaltx	.065	.023	2.870	.005	
ctdrugs	-.043	.022	-1.973	.048	
<i>Model for Time 2 (π_1)</i>					
zwail*	.044	.018	2.428	.015	
<i>Model for Time 3 (π_2)</i>					
zwail*	.003	.031	.092	.927	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.130	.017	216		
Level 2	.074	.005	86	155.298	<.001

*Variable centered around its grand mean.

12 iterations, 2 estimated parameters, deviance = -177.542

Reliability estimate for π_0 = .428

Variance explained = 19.8%. N=226 observations, 92 cases.

Table 7-20: Predictors of Parenting Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.209	.013	15.740	<.001	
<u>Level 1 Predictors</u>					
time2	-.049	.012	-3.937	<.001	
time3	-.011	.014	-.780	.436	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.023	.014	-1.605	.108	
zdenym*	-.049	.010	-4.865	<.001	
netsumol*	-.066	.065	-1.884	.059	
ecoprobl*	.049	.029	1.732	.083	
neglifel*	.207	.085	2.428	.015	
<i>Model for Time 2 (π_1)</i>					
zwai2*	.009	.012	.753	.451	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.001	.013	.072	.943	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.120	.014	444		
Level 2	.094	.009	159	424.764	<.001

*Variable centered around its grand mean.
 11 iterations, 2 estimated parameters, deviance = -422.014
 Reliability estimate for π_0 = .625.
 Variance explained = 17.6%. N=454 observations, 165 cases.

Table 7-21: Predictors of Positive Parenting Practices Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.915	.015	59.356	<.001	
<u>Level 1 Predictors</u>					
time2	.029	.019	1.505	.132	
time3	-.029	.019	-1.556	.119	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.002	.013	.133	.894	
zdenym*	.014	.008	1.770	.076	
ctage*	-.002	.001	-1.727	.084	
priors*	.025	.011	2.379	.017	
netsumol*	.072	.035	2.047	.040	
<i>Model for Time 2 (π_1)</i>					
zwail*	-.020	.015	-1.349	.178	
<i>Model for Time 3 (π_2)</i>					
zwail*	.021	.022	.949	.343	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.123	.015	228		
Level 2	.065	.004	89	166.664	<.001

*Variable centered around its grand mean.

18 iterations, 2 estimated parameters, deviance = -213.836

Reliability estimate for π_0 = .406

Variance explained = 3.8%. N=238 observations, 95 cases.

Table 7-22: Predictors of Positive Parenting Practices Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.920	.011	87.042	<.001	
<u>Level 1 Predictors</u>					
time2	-.006	.015	-.384	.700	
time3	-.011	.015	-.729	.466	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.017	.010	1.681	.092	
zdenym*	.012	.007	1.813	.069	
ctage*	-.002	.001	-2.176	.029	
priors*	.014	.007	2.032	.042	
poslife1*	.094	.044	2.116	.034	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.013	.014	-.904	.366	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.015	.015	.981	.327	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.130	.017	458		
Level 2	.059	.003	163	258.516	<.001

*Variable centered around its grand mean.
 14 iterations, 2 estimated parameters, deviance = -440.569
 Reliability estimate for π_0 = .357.
 Variance explained = 3.9%. N=468 observations, 169 cases.

Table 7-23: Predictors of Housing Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.158	.024	6.644	<.001	
<u>Level 1 Predictors</u>					
time2	-.030	.023	-1.297	.195	
time3	-.027	.025	-1.046	.296	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.007	.017	-.438	.661	
zdenym*	-.030	.017	-1.792	.073	
nkids*	.023	.008	2.711	.007	
ctdrugs	-.069	.025	-2.748	.006	
ncontmol*	-.009	.005	-1.773	.076	
<i>Model for Time 2 (π_1)</i>					
zwail*	.022	.018	1.201	.230	
<i>Model for Time 3 (π_2)</i>					
zwail*	-.013	.020	-.649	.516	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.150	.022	233		
Level 2	.089	.008	90	168.120	<.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = -120.202

Reliability estimate for π_0 = .458

Variance explained = 7.0%. N=243 observations, 93 cases.

Table 7-24: Predictors of Housing Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.105	.019	5.488	<.001	
<u>Level 1 Predictors</u>					
time2	-.007	.012	-.553	.580	
time3	-.002	.016	-.114	.910	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.023	.011	-1.994	.046	
zdenym*	-.026	.011	-2.310	.021	
ctage*	-.001	<.001	-1.721	.085	
nkids*	.020	.005	3.844	<.001	
ctdrugs	-.064	.016	-3.921	<.001	
tanf1	.029	.017	1.708	.087	
<i>Model for Time 2 (π_1)</i>					
zwai2*	.013	.011	1.163	.245	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.014	.013	1.017	.310	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.127	.016	462		
Level 2	.077	.006	163	329.063	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -418.621

Reliability estimate for $\pi_0 = .503$

Variance explained = 8.7%. N=473 observations, 170 cases.

Table 7-25: Predictors of Economic Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.318	.034	9.456	<.001
<u>Level 1 Predictors</u>				
time2	-.026	.035	-.741	.459
time3	-.034	.041	-.841	.401
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwail*	.045	.029	1.540	.123
zdenym*	-.074	.023	-3.193	.002
nkids*	.036	.017	2.163	.030
ncontmol*	-.027	.010	-2.807	.005
<i>Model for Time 2 (π_1)</i>				
zwail*	.017	.031	.538	.590
<i>Model for Time 3 (π_2)</i>				
zwail*	-.060	.044	-1.355	.175

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.247	.061	234		
Level 2	.183	.033	91	217.281	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 130.880

Reliability estimate for π_0 = .566

Variance explained = 10.1%. N=243 observations, 96 cases.

Table 7-26: Predictors of Economic Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.291	.028	10.563	<.001
<u>Level 1 Predictors</u>				
time2	-.039	.025	-1.557	.119
time3	-.026	.031	-.836	.403
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwai2*	.008	.024	.326	.744
zdenym*	-.046	.019	-2.468	.014
ctmaltx	.098	.040	2.479	.013
<i>Model for Time 2 (π_1)</i>				
zwai2*	.018	.026	.686	.492
<i>Model for Time 3 (π_2)</i>				
zwai2*	-.007	.025	-.296	.767

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.254	.064	465		
Level 2	.181	.033	166	400.321	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = 228.524

Reliability estimate for π_0 = .581

Variance explained = 3.8%. N=473 observations, 170 cases.

Table 7-27: Predictors of Negative Life Events Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.066	.012	5.726	<.001
<u>Level 1 Predictors</u>				
time2	-.030	.015	-2.036	.041
time3	.032	.016	1.956	.050
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwail*	-.011	.014	-.811	.417
zdenym*	-.002	.008	-.299	.765
ctmaltx	.040	.019	2.070	.038
<i>Model for Time 2 (π_1)</i>				
zwail*	.014	.014	.993	.321
<i>Model for Time 3 (π_2)</i>				
zwail*	<.001	.015	.029	.977

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.102	.010	234		
Level 2	.047	.002	91	142.547	.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = -331.283

Reliability estimate for π_0 = .343

Variance explained = 1.9%. N=242 observations, 95 cases.

Table 7-28: Predictors of Negative Life Events Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.094	.010	9.174	<.001	
<u>Level 1 Predictors</u>					
time2	-.029	.010	-2.916	.004	
time3	.027	.011	2.425	.015	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	-.011	.008	-1.306	.192	
zdenym*	<.001	.006	.048	.962	
sparent	-.023	.011	-2.051	.040	
ecoprob1*	.039	.018	2.228	.026	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.001	.009	-.085	.932	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.021	.011	1.901	.057	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.098	.010	463		
Level 2	.037	.001	164	228.044	.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -740.603

Reliability estimate for π_0 = .285

Variance explained = 3.1%. N= 472 observations, 160 cases.

Table 7-29: Predictors of Positive Life Events Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.144	.014	10.177	<.001	
<u>Level 1 Predictors</u>					
time2	.014	.020	.668	.504	
time3	.076	.022	3.391	.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.005	.016	-.341	.733	
zdenym*	-.011	.011	-.934	.350	
placeb4	.081	.034	2.358	.018	
netsumo1*	.095	.040	2.378	.018	
<i>Model for Time 2 (π_1)</i>					
zwail*	.013	.020	.661	.508	
<i>Model for Time 3 (π_2)</i>					
zwail*	-.025	.028	-.885	.377	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.139	.019	233		
Level 2	.077	.006	90	159.544	<.001

*Variable centered around its grand mean.

10 iterations, 2 estimated parameters, deviance = -173.099

Reliability estimate for π_0 = .428

Variance explained = 9.1%. N=242 observations, 95 cases.

Table 7-30: Predictors of Positive Life Events Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.158	.013	12.085	<.001	
<u>Level 1 Predictors</u>					
time2	.006	.014	.429	.668	
time3	.067	.016	4.105	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.002	.012	.142	.887	
zdenym*	-.002	.010	-.216	.929	
ctage*	-.002	.001	-1.993	.046	
nkids*	-.015	.005	-2.969	.003	
svcb4	.068	.025	2.674	.008	
ncontmol*	.009	.004	2.512	.012	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.013	.014	-8.78	.380	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.009	.017	.542	.588	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.142	.020	461		
Level 2	.086	.007	162	325.883	<.001

*Variable centered around its grand mean.

8 iterations, 2 estimated parameters, deviance = -311.674

Reliability estimate for π_0 = .500.

Variance explained = 6.7%. N=472 observations, 169 cases.

Table 7-31: Predictors of Network Size Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	5.040	.281	17.919	<.001	
<u>Level 1 Predictors</u>					
time2	.052	.208	.249	.803	
time3	1.034	.261	3.960	<.001	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.005	.186	.027	.979	
zdenym*	.013	.259	.052	.959	
nkids*	.289	.115	2.510	.012	
hhprobl*	-2.222	1.019	-2.180	.029	
<i>Model for Time 2 (π_1)</i>					
zwail*	.111	.219	.507	.611	
<i>Model for Time 3 (π_2)</i>					
zwail*	.627	.348	1.799	.072	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	1.498	2.244	233		
Level 2	1.909	3.646	90	463.727	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = 1030.952

Reliability estimate for π_0 = .788

Variance explained = 8.7%. N=242 observations, 95 cases.

Table 7-32: Predictors of Network Size Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	4.710	.183	25.792	<.001	
<u>Level 1 Predictors</u>					
time2	.059	.126	.469	.639	
time3	.485	.183	2.653	.008	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.362	.185	1.955	.050	
zdenym*	.163	.188	.863	.388	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.077	.116	-.665	.506	
<i>Model for Time 3 (π_2)</i>					
zwai2*	-.041	.200	-.205	.837	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	1.456	2.119	465		
Level 2	1.949	3.800	166	988.692	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = 199.492

Reliability estimate for π_0 = .831

Variance explained = 2.3%. N=472 observations, 169 cases.

Table 7-33: Predictors of Network Support Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.796	.028	28.745	<.001	
<u>Level 1 Predictors</u>					
time2	.081	.028	2.878	.004	
time3	-.026	.029	-.894	.371	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.021	.028	.748	.454	
zdenym*	.031	.021	1.456	.145	
ctage*	.003	.002	1.886	.059	
poslifel*	.302	.105	2.863	.005	
<i>Model for Time 2 (π_1)</i>					
zwail*	.013	.028	.469	.639	
<i>Model for Time 3 (π_2)</i>					
zwail*	.012	.034	.342	.732	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.174	.030	233		
Level 2	.161	.026	90	283.813	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -10.754

Reliability estimate for π_0 = .667

Variance explained = 6.5%. N=242 observations, 95 cases.

Table 7-34: Predictors of Network Support Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.856	.025	34.698	<.001
<u>Level 1 Predictors</u>				
time2	.045	.020	2.283	.022
time3	.022	.019	1.172	.242
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwai2*	<.001	.021	.034	.973
zdenym*	.031	.015	2.032	.042
sparent	-.045	.027	-1.700	.089
ctmaltx	-.056	.028	-1.981	.047
poslifel*	.187	.080	2.332	.020
<i>Model for Time 2 (π_1)</i>				
zwai2*	-.016	.021	-.740	.459
<i>Model for Time 3 (π_2)</i>				
zwai2*	-.019	.015	-1.247	.213

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.177	.031	462		
Level 2	.138	.019	163	441.734	<.001

*Variable centered around its grand mean.

9 iterations, 2 estimated parameters, deviance = -79.710

Reliability estimate for π_0 = .628

Variance explained = 5.2%. N=472 observations, 169 cases.

Table 7-35: Predictors of Caretaker Depression Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	1.134	.087	13.066	<.001	
<u>Level 1 Predictors</u>					
time2	-.128	.081	-1.577	.115	
time3	-.045	.083	-.544	.586	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.108	.085	-1.268	.205	
zdenym*	-.509	.054	-9.406	<.001	
nkids*	.084	.040	2.112	.034	
ctdrugs	-.190	.102	-1.873	.061	
priors*	-.176	.041	-4.261	<.001	
netsumol*	-.825	.246	-3.352	.001	
ecoprob1*	.333	.149	2.235	.025	
neglifel*	1.251	.523	2.392	.017	
<i>Model for Time 2 (π_1)</i>					
zwail*	.195	.090	2.159	.031	
<i>Model for Time 3 (π_2)</i>					
zwail*	.025	.098	.253	.800	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.511	.261	229		
Level 2	.379	.144	86	205.995	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 468.210

Reliability estimate for π_0 = .568

Variance explained = 49.6%. N=242 observations, 95 cases.

Table 7-36: Predictors of Caretaker Depression Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.989	.052	18.820	<.001	
<u>Level 1 Predictors</u>					
time2	-.102	.050	-2.039	.041	
time3	-.046	.062	-.735	.463	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.026	.040	.658	.510	
zdenym*	-.387	.039	-9.946	<.001	
ctmaltx	.026	.092	2.231	.026	
priors*	-.147	.034	-4.347	<.001	
netsumol*	-.863	.198	-4.350	<.001	
ecoprob1*	.386	.134	2.890	.004	
neglifef1*	1.020	.364	2.803	.006	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.026	.054	-.485	.627	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.094	.057	1.665	.096	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.508	.258	460		
Level 2	.454	.206	161	520.275	<.001

*Variable centered around its grand mean.

6 iterations, 2 estimated parameters, deviance = 925.500

Reliability estimate for π_0 = .687

Variance explained = 39.5%. N=472 observations, 169 cases.

Table 7-37: Predictors of Child Behavior Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.206	.030	6.830	<.001	
<u>Level 1 Predictors</u>					
time2	.005	.032	.161	.872	
time3	.018	.033	.549	.583	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.028	.023	-1.195	.233	
zdenym*	-.064	.019	-3.356	.001	
ctdrugs	-.089	.032	-2.741	.007	
priors*	-.035	.018	-1.889	.058	
placeb4	.109	.056	1.955	.050	
ecoprob1*	.121	.044	2.755	.006	
<i>Model for Time 2 (π_1)</i>					
zwail*	.043	.030	1.447	.148	
<i>Model for Time 3 (π_2)</i>					
zwail*	-.041	.036	-1.150	.250	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.202	.041	218		
Level 2	.093	.009	84	126.306	.002

*Variable centered around its grand mean.

21 iterations, 2 estimated parameters, deviance = 2.308

Reliability estimate for π_0 = .338.

Variance explained = 11.6% N= 229 observations, 91 cases.

Table 7-38: Predictors of Child Behavior Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.196	.025	7.848	<.001	
<u>Level 1 Predictors</u>					
time2	-.021	.023	-.888	.375	
time3	.010	.023	.429	.668	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.008	.070	.495	.620	
zdenym*	-.058	.014	-4.036	<.001	
nkids*	-.017	.008	-2.067	.038	
ctdrugs	-.050	.025	-1.978	.048	
svcb4	.066	.031	2.151	.031	
ecoprob1*	.086	.041	2.079	.037	
tanf1	.044	.026	1.683	.092	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.017	.019	-.856	.392	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.014	.021	.630	.528	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.204	.042	446		
Level 2	.107	.012	158	277.703	<.001

*Variable centered around its grand mean.

16 iterations, 2 estimated parameters, deviance = -3.308

Reliability estimate for π_0 = .431.

Variance explained = 7.5% N= 458 observations, 166 cases.

Table 7-39: Predictors of Child Emotional Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.293	.050	5.911	<.001	
<u>Level 1 Predictors</u>					
time2	.016	.036	.450	.653	
time3	.003	.040	.064	.949	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.040	.034	-1.168	.243	
zdenym*	-.070	.026	-2.685	.008	
ctage*	.006	.003	1.959	.050	
ctmaltx	.135	.062	2.166	.030	
nkids*	.032	.015	2.080	.037	
ctdrugs	-.147	.053	-2.747	.006	
tanfl	.136	.049	2.765	.006	
<i>Model for Time 2 (π_1)</i>					
zwail*	.010	.049	.194	.847	
<i>Model for Time 3 (π_2)</i>					
zwail*	-.032	.046	-.695	.487	
<hr/>					
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.239	.057	230		
Level 2	.195	.038	87	233.515	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 136.981

Reliability estimate for π_0 = .613.

Variance explained = 10.6% N= 242 observations, 95 cases.

Table 7-40: Predictors of Child Emotional Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.370	.022	16.535	<.001	
<u>Level 1 Predictors</u>					
time2	.041	.026	1.576	.115	
time3	-.044	.028	-1.600	.109	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.024	.020	1.169	.243	
zdenym*	-.059	.018	-3.359	.001	
nkids*	.036	.010	3.714	<.001	
ecoprob1*	.119	.056	2.109	.035	
poslifel*	.259	.100	2.603	.010	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.212	.025	-.889	.374	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.016	.027	.572	.567	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.246	.060	462		
Level 2	.170	.029	163	378.425	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = 202.866

Reliability estimate for π_0 = .566.

Variance explained = 8.5% N= 272 observations, 169 cases.

Table 7-41: Predictors of Child School Problems Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.191	.025	7.548	<.001	
<u>Level 1 Predictors</u>					
time2	-.058	.029	-2.011	.044	
time3	.040	.033	1.235	.217	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.009	.022	-.409	.682	
zdenym*	-.016	.021	-.759	.448	
ctage*	.008	.002	3.226	.002	
nkids*	.024	.014	1.759	.078	
priors*	-.044	.020	-2.233	.025	
neglifel*	.641	.238	2.690	.008	
<i>Model for Time 2 (π_1)</i>					
zwail*	-.008	.026	-.316	.752	
<i>Model for Time 3 (π_2)</i>					
zwail*	.053	.039	1.364	.173	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.173	.030	174		
Level 2	.124	.015	67	153.411	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -12.646.

Reliability estimate for π_0 = .546.

Variance explained = 10.9% N= 185 observations, 74 cases.

Table 7-42: Predictors of Child School Problems Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.172	.018	9.782	<.001
<u>Level 1 Predictors</u>				
time2	-.050	.018	-2.736	.007
time3	.053	.022	2.437	.015
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwai2*	-.015	.015	-1.001	.317
zdenym*	-.027	.014	-1.926	.054
ctage*	.004	.002	2.528	.012
hhprobl*	.217	.092	2.349	.019
neglifel*	.370	.144	2.560	.011
poslifel*	-.132	.072	-1.841	.065
<i>Model for Time 2 (π_1)</i>				
zwai2*	-.017	.014	-1.168	.243
<i>Model for Time 3 (π_2)</i>				
zwai2*	.059	.019	3.180	.002

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.163	.026	384		
Level 2	.114	.013	139	326.782	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -136.903.

Reliability estimate for π_0 = .567.

Variance explained = 10.9% N= 395 observations, 146 cases.

Table 7-43: Predictors of Positive Child Characteristics Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.793	.023	34.725	<.001	
<u>Level 1 Predictors</u>					
time2	.001	.020	.072	.943	
time3	-.059	.024	-2.473	.014	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	-.001	.016	-.043	.966	
zdenym*	.032	.010	3.017	.003	
sparent	-.062	.025	-2.501	.013	
placeb4	.096	.030	3.204	.002	
hhprobl*	.176	.055	3.191	.002	
neglifel*	-.375	.090	-4.149	<.001	
<i>Model for Time 2 (π_1)</i>					
zwail*	.028	.021	1.361	.174	
<i>Model for Time 3 (π_2)</i>					
zwail*	-.059	.024	-2.473	.014	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.125	.016	229		
Level 2	.096	.009	88	215.257	<.001

*Variable centered around its grand mean.

11 iterations, 2 estimated parameters, deviance = -183.613.

Reliability estimate for π_0 = .577.

Variance explained = 14.7% N=240 observations, 95 cases.

Table 7-44: Predictors of Positive Child Characteristics Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value	
Intercept	.784	.015	52.278	<.001	
<u>Level 1 Predictors</u>					
time2	.006	.012	.472	.637	
time3	-.018	.013	-1.376	.169	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwai2*	.013	.011	1.116	.265	
zdenym*	.015	.008	1.804	.071	
sparent	-.036	.018	-2.018	.043	
placeb4	.056	.021	2.677	.008	
hhprobl*	.194	.062	3.134	.002	
neglif1*	-.176	.075	-2.345	.019	
<i>Model for Time 2 (π_1)</i>					
zwai2*	-.018	.012	-1.495	.135	
<i>Model for Time 3 (π_2)</i>					
zwai2*	.008	.014	.582	.560	
Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.113	.013	459		
Level 2	.095	.009	162	480.145	<.001

*Variable centered around its grand mean.

7 iterations, 2 estimated parameters, deviance = -474.991

Reliability estimate for π_0 = .659.

Variance explained = 5.8% N=470 observations, 169 cases.

Table 7-45: Predictors of Perceived Changes in Family Life Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.648	.138	4.710	<.001
<u>Level 1 Predictors</u>				
time3	.215	.125	1.726	.084
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwail*	.131	.090	1.447	.148
zdenym*	.102	.075	1.353	.176
sparent	.271	.151	1.789	.073
ctdrugs	.250	.142	1.761	.078
<i>Model for Time 3 (π_2)</i>				
zwail*	-.302	.147	-2.056	.040

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.758	.575	141		
Level 2	.303	.092	76	96.795	.054

*Variable centered around its grand mean.
 21 iterations, 2 estimated parameters, deviance = 368.155.
 Reliability estimate for π_0 = .224.
 Variance explained = 6.7% N= 148 observations, 81 cases.

Table 7-46: Predictors of Perceived Changes in Family Life Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	SE	T-ratio	p-value
Intercept	.676	.087	7.732	<.001
<u>Level 1 Predictors</u>				
time3	.130	.089	1.456	.145
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwai2*	.202	.064	3.149	.002
zdenym*	.076	.057	1.322	.186
sparent	.299	.105	2.840	.005
placeb4	.213	.112	1.894	.058
ecoprob1*	-.286	.150	-1.902	.057
<i>Model for Time 3 (π_2)</i>				
zwai2*	-.316	.077	-4.115	<.001

Random Effects	Standard Deviation	Variance Component	df	Chi-Square	p-value
Level 1	.763	.582	296		
Level 2	.365	.133	163	234.615	<.001

*Variable centered around its grand mean.

26 iterations, 2 estimated parameters, deviance = 772.866.

Reliability estimate for π_0 = .288.

Variance explained = 8.5% N= 304 observations, 169 cases.

Table 7-47: Predictors of Caseworker Ratings of Adequate Parenting Including Caretaker Alliance at Time 1

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	2.709	.100	27.161	<.001	
<u>Level 1 Predictors</u>					
Time 2	.068	.077	.883	.377	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwail*	.085	.072	1.189	.235	
zdenym*	-.068	.063	-1.073	.284	
sparent	.477	.113	4.239	<.001	
nkids*	.104	.028	3.708	<.001	
ctdrugs	-.474	.235	-2.018	.043	
svcb4	-.631	.112	-5.620	<.001	
netsumol*	.500	.240	2.085	.037	
<i>Model for Time 2 (π_1)</i>					
zwail*	-.077	.093	-.825	.409	
<u>Level 3 Predictors</u>					
<i>Model for Case Mean (β_{00})</i>					
numfam*	.056	.030	1.864	.074	
burnout*	-.413	.079	-5.209	<.001	
Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.468	.219	119		
Level 2	.398	.158	38	137.750	<.001
Level 3	.272	.074	25	47.345	.005

*Variable centered around its grand mean.

15 iterations, 15 estimated parameters, deviance = 245.396

Reliability estimate for π_0 = .556, for β_{00} = .326.

Variance explained: 35.3%. N = 152 observations, 73 cases, 28 caseworkers.

Table 7-48: Predictors of Caseworker Ratings of Adequate Parenting Including Caretaker Alliance at Time 2

Fixed Effect	Coef.	Robust SE	T-ratio	p-value
Intercept	2.683	.112	24.001	<.001
<u>Level 1 Predictors</u>				
Time 2	.092	.071	1.292	.197
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zwai2*	-.001	.064	-.017	.987
zdenym*	.082	.057	1.430	.153
nkids*	.092	.036	2.583	.010
svcb4	-.216	.123	-1.758	.078
netsumol*	.401	.210	1.907	.056
<i>Model for Time 2 (π_1)</i>				
zwai2*	.028	.063	.441	.659
<u>Level 3 Predictors</u>				
<i>Model for Case Mean (β_{00})</i>				
numfam*	.043	.020	2.127	.040
burnout*	-.265	.089	-3.095	.004
plantx*	.289	.140	2.064	.045

Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.496	.246	202		
Level 2	.460	.211	82	263.434	<.001
Level 3	.238	.056	39	63.436	.008

*Variable centered around its grand mean.

13 iterations, 14 estimated parameters, deviance = 432.192

Reliability estimate for $\pi_0 = .571$, for $\beta_{00} = .261$.

Variance explained: 19.7%. N = 239 observations, 130 cases, 43 caseworkers.

Table 7-49: Predictors of Subsequent Reports of Maltreatment, Including Caretaker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwai2		.835		.918		.947
zdenym	1.012	1.061	1.048	1.067	.980	.966
ctage	.937*	.938*	.955+	9.56+	.977+	.977+
priors	1.487*	1.470*	1.345	1.334	1.214+	1.212+
placeb4	1.598*	1.639*	1.325	1.345	1.315*	1.324*
MODEL Valid N	144	144	110	110	170	170
Wald Chi-square	14.52**	15.11**	7.66	7.77	9.46+	9.67+
Pseudo R ² (Change from Model 1)	.083	.088 (.005)	.047	.048 (.001)	.013	.014 (.001)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-50: Predictors of New, Substantiated Maltreatment Reports, Including Caretaker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwai2		.590*		.585*		.754+
zdenym	1.331	1.580	1.263	1.448	1.109	1.195
ctage	.961	.966	.958	.964	.968	.969
priors	1.654*	1.625*	1.396	1.347	1.268	1.266
placeb4	1.200	1.324	1.060	1.190	1.292	1.344+
netsum01	5.964	6.815	6.784*	7.142+	4.190+	4.386+
MODEL Valid N	144	144	110	110	170	170
Wald Chi-square	13.46*	13.78*	9.50+	9.61	11.37*	14.24*
Pseudo R ² (Change from Model 1)	.089	.124 (.035)	.073	.112 (.039)	.033	.041 (.009)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-51: Predicted Probabilities of Substantiated Maltreatment Reports, by Caretaker Alliance Scores at Time 2

Time from random assignment	Standardized Caretaker WAI Scores			
	< -1	-1 to 0	0 to 1	> 1
12 months	.266	.178	.135	.114
18 months	.368	.240	.183	.148

Table 7-52: Predictors of Out-of-home Placements, Including Caretaker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwai2		.962		1.136		1.110
zdenym	.629	.637	.909	.876	.597**	.581**
ctage	1.062**	1.063**	1.046	1.045	1.053***	1.052***
ctdrugs	2.414	2.421	1.465	1.425	1.335	1.318
netsum01	3.378	3.400	10.077*	9.978*	4.351*	4.377*
svcb4	2.253	2.247	2.248	2.258	1.275	1.304
tanf1	4.675*	4.695*	3.471*	3.457*	2.681**	2.669**
MODEL Valid N	144	144	110	110	170	170
Wald Chi-square	21.90**	22.07**	13.43*	13.16+	32.60***	32.98
Pseudo R ² (Change from Model 1)	.177	.177 (<.001)	.116	.118 (.002)	.076	.076 (<.001)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-53: Differences Between Service Groups in Caseworker Alliance Scores
(Results of two-tailed t-tests)

	Group	Valid N	Mean	Std. Dev.	t	p-value
Time 1	SCOH	40	5.46	.75	-2.68	.01
	FPS	36	5.83	.44		
Time 2	SCOH	53	5.50	.79	-1.60	.11
	FPS	23	5.75	.57		

Table 7-54: Differences Between Service Groups in Caseworker WAI Subscale Scores (Results of two-tailed t-tests)

	Group	Valid N	Mean	Std. Dev.	t	p-value
<u>Bonds</u>						
Time 1	SCOH	40	5.57	.70	-1.51	.14
	FPS	36	5.80	.62		
Time 2	SCOH	53	5.60	.77	-.69	.50
	FPS	23	5.73	.70		
<u>Goals</u>						
Time 1	SCOH	40	5.28	1.02	-2.93	.005
	FPS	36	5.81	.48		
Time 2	SCOH	53	5.32	.92	-2.29	.03
	FPS	23	5.71	.56		
<u>Tasks</u>						
Time 1	SCOH	40	5.54	.78	-2.57	.01
	FPS	36	5.91	.47		
Time 2	SCOH	53	5.57	.82	-1.39	.17
	FPS	23	5.83	.68		

Table 7-55: Variation in Caseworker Alliance Scores Within and Between Caseworkers (Results of One-way ANOVA, two-tailed)

	Source	SS	df	MS	F	p-value
Time 1	Between CWs	12.48	32	.39	1.10	.39
	Within CWs	12.08	34	.36		
	Total	24.56	66	.37		
Time 2	Between CWs	27.54	37	.74	2.14	.01
	Within CWs	12.90	37	.35		
	Total	40.43	74	.55		

Table 7-56: Variation in Caseworker Alliance Subscale Scores Within and Between Caseworkers (Results of One-way ANOVA, two-tailed)

	Source	SS	df	MS	F	p-value
<u>Bonds</u>						
Time 1	Between CWs	14.13	32	.44	1.13	.37
	Within CWs	13.33	34	.39		
	Total	27.45	66	.42		
Time 2	Between CWs	30.27	37	.82	2.62	.002
	Within CWs	11.54	37	.31		
	Total	41.81	74	.57		
<u>Goals</u>						
Time 1	Between CWs	24.63	32	.77	1.55	.11
	Within CWs	16.92	34	.50		
	Total	41.55	66	.63		
Time 2	Between CWs	34.05	37	.92	1.77	.04
	Within CWs	19.27	37	.52		
	Total	53.32	74	.72		
<u>Tasks</u>						
Time 1	Between CWs	15.71	32	.49	1.21	.29
	Within CWs	13.79	34	.41		
	Total	29.50	66	.45		
Time 2	Between CWs	28.88	37	.78	1.68	.06
	Within CWs	17.21	37	.47		
	Total	46.09	74	.62		

Table 7-57: Variance Decomposition of Caseworker Alliance (Total Scores)

Level	N obs	Variance Component	% Total Variance	df	Chi-square	p-value
1 (Time)	124	.45746	48.20			
2 (Case)	82	.36617	38.58	50	146.103	<.001
3 (Worker)	32	.12537	13.21	31	43.857	0.063
Total		0.94900				

Table 7-58: Predictors of Caseworker Reports of the Working Alliance

	Coef.	SE	T-ratio	p-value
Intercept	-.039	.119	-.328	.746
<u>Level 1 Predictors</u>				
time 2	.012	.119	.105	.917
<u>Level 2 Predictors</u>				
<i>Model for Case Mean (π_0)</i>				
zpcl*	-.233	.105	-2.229	.026
zcal*	-.102	.083	-1.237	.216
zdenym*	.014	.092	.148	.883
ctage*	.019	.012	1.660	.097
hhprobl*	1.853	.566	3.277	.001
<i>Model for Time 2 (π_1)</i>				
zpcl*	.235	.133	1.769	.076
zcal*	.288	.142	2.028	.042
<i>Model for Case Mean (β_{00})</i>				
burnout*	-.350	.132	-2.757	.013
plantx*	.286	.141	2.037	.051
cwfemale	.531	.212	2.502	.019

Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.618	.382	102		
Level 2	.605	.365	45	191.144	<.001
Level 3	.005	<.001	28	30.495	.340

*Variable centered around its grand mean.
 39 iterations, 15 estimated parameters, deviance = 281.547. Reliability estimate for $\pi_0 = .555$, for $\beta_{00} = .001$. Variance explained: 21.3%. N = 124 observations, 82 cases, 32 caseworkers.

Table 7-59: Predictors of Caseworker Ratings of Adequate Parenting Including Caseworker Alliance at Time 1

Fixed Effect	Coef.	Robust SE	T-ratio	p-value	
Intercept	2.442	.124	19.623	<.001	
<u>Level 1 Predictors</u>					
Time 2	.235	.118	1.997	.045	
<u>Level 2 Predictors</u>					
<i>Model for Case Mean (π_0)</i>					
zwwail*	-.088	.069	-1.277	.208	
zdenym*	-.091	.047	-1.937	.058	
sparent	.308	.080	3.840	.001	
nkids*	.165	.035	4.688	<.001	
placeb4	.365	.136	2.682	.010	
svcb4	-.460	.109	-4.225	<.001	
netsumol*	.418	.233	1.789	.079	
<i>Model for Time 2 (π_1)</i>					
zwwail*	.074	.120	.617	.537	
<u>Level 3 Predictors</u>					
<i>Model for Case Mean (β_{00})</i>					
numfam*	.071	.021	3.411	.003	
burnout*	-.360	.104	-3.449	.003	
Random Effects	Standard Deviation	Variance Component	DF	Chi-Square	p-value
Level 1	.560	.313	91		
Level 2	.025	.001	26	64.113	<.001
Level 3	.139	.019	22	33.108	.060

*Variable centered around its grand mean.

15 iterations, 15 estimated parameters, deviance = 178.236

Reliability estimate for π_0 = .003, for β_{00} = .184.

Variance explained: 28.2%. N = 105 observations, 58 cases, 25 caseworkers.

Table 7-60: Predictors of Subsequent Reports of Maltreatment, Including Caseworker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwwai2		.760		.743		1.113
zdenym	.682	.684	.623	.621	.868	.867
ctage	.947	.956	1.003	1.009	.975	.972
priors	.952	.944	.847	.831	.938	.934
placeb4	2.593*	2.807*	2.213+	2.379+	1.636*	1.649*
MODEL Valid N	59	59	49	49	67	67
Wald Chi-square	5.76	6.18	4.18	4.83	5.03	5.27
Pseudo R ² (Change from Model 1)	.102	.112 (.010)	.071	.083 (.012)	.022	.023 (.001)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-61: Predictors of Substantiated Maltreatment Reports, Including Caseworker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwwai2		1.662		1.723		1.944
zdenym	.855	.761	.898	.834	1.235	1.168
ctage	.798**	.774**	.853*	.842*	.916	.898+
priors	2.650+	2.749*	1.553	1.599	1.137	1.103
placeb4	1.533	1.619	1.461	1.536	1.593	1.782+
netsumol	4.224	4.088	10.231	8.769	1.946	1.654
MODEL Valid N	59	59	49	49	67	67
Wald Chi-square	9.36+	11.52+	7.59	8.51	5.14	7.38
Pseudo R ² (Change from Model 1)	.190	.208 (.018)	.147	.170 (.023)	.064	.092 (.028)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 7-62: Predictors of Out-of-home Placements, Including Caseworker Alliance Reports at Time 2

Predictor Variable	Odds Ratios				Hazard Ratios	
	12 Months		18 Months		Model 1	Model 2
	Model 1	Model 2	Model 1	Model 2		
zwwai2		3.802+		3.548+		1.516
zdenym	.619	.505	2.065	2.196	.748	.715
ctage	.962	.884	.803*	.735*	1.017	1.005
ctdrugs	.932	.846	16.564	21.915+	.566	.514
netsumol	7.846	8.251	19.459+	21.245*	3.884	4.359
svcb4	11.477**	17.540**	17.488*	16.900**	2.722+	2.717+
MODEL Valid N	59	59	49	49	67	67
Wald Chi-square	10.42+	18.46**	8.27	16.83**	6.22	8.72
Pseudo R ² (Change from Model 1)	.200	.286 (.086)	.410	.484 (.074)	.049	.069 (.020)

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

Table 8-1: Three-stage Least Squares Regression with Caseworker Contacts and Discussion of Personal Issues

Equation	Obs	Parms	RMSE	"R-sq"	Chi2	P
zpc2	139	4	.9201746	0.2734	49.52927	0.0000
zca2	139	4	.9350851	0.0045	36.92159	0.0000
zwai2	139	4	1.033174	-0.0582	133.9637	0.0000
discuss2	139	3	.3286449	-0.0549	15.59865	0.0014
contact	139	3	17.38494	-0.8820	67.36878	0.0000
maltx	139	5	.5233044	-0.9831	43.52202	0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	

zpc2						
zpc1	.4978208	.0766926	6.491	0.000	.3475061	.6481354
zwai2	-.2885101	.1671751	-1.726	0.084	-.6161672	.0391471
discuss2	-.0732571	.391545	-0.187	0.852	-.8406712	.6941569
contact	.0026682	.0068374	0.390	0.696	-.0107329	.0160693
_cons	.013736	.1865144	0.074	0.941	-.3518256	.3792976

zca2						
zca1	.2556565	.065551	3.900	0.000	.1271789	.3841341
zwai2	-.2851518	.1655108	-1.723	0.085	-.609547	.0392434
discuss2	1.012465	.3691019	2.743	0.006	.2890384	1.735891
contact	.0136132	.0064938	2.096	0.036	.0008856	.0263409
_cons	-.5203805	.1796459	-2.897	0.004	-.87248	-.168281

zwai2						
zpc1	-.0135236	.0788361	-0.172	0.864	-.1680394	.1409923
zca1	-.1470465	.0747527	-1.967	0.049	-.2935592	-.0005338
discuss2	.9113247	.2661387	3.424	0.001	.3897024	1.432947
contact	.0455793	.0044669	10.204	0.000	.0368244	.0543343
_cons	-1.165995	.1343065	-8.682	0.000	-1.429231	-.9027588

discuss2						
zpc1	.0387146	.0262312	1.476	0.140	-.0126976	.0901267
zca1	.047869	.0260025	1.841	0.066	-.003095	.098833
zwai2	.1831459	.0496754	3.687	0.000	.085784	.2805078
_cons	.341837	.0270143	12.654	0.000	.2888899	.3947841

contact						
zpc1	-.4928594	1.231106	-0.400	0.689	-2.905783	1.920064
zca1	1.884491	1.195834	1.576	0.115	-.4593006	4.228284
zwai2	15.19851	1.867896	8.137	0.000	11.5375	18.85952
_cons	18.53552	1.261367	14.695	0.000	16.06328	21.00775

maltx							
zpc2		.0289769	.0504443	0.574	0.566	-.0698922	.127846
zca2		-.436846	.0759662	-5.751	0.000	-.585737	-.2879551
zwai2		-.2403647	.0824445	-2.915	0.004	-.4019529	-.0787766
discuss2		.4321893	.1898367	2.277	0.023	.0601162	.8042623
contact		.0084202	.0031389	2.683	0.007	.0022682	.0145723
_cons		-.1137704	.0901384	-1.262	0.207	-.2904383	.0628975

Endogenous variables: zpc2 zca2 zwai2 discuss2 contact maltx

Exogenous variables: zpc1 zca1 zdenymm scl90del ncontmol netsumol neglifef1
 poslifel ctage nkids ctmaltx sparent afdcl hhprobl ecoprobl priors
 svcb4 placeb4 ctrugs contact1 contact2 fin_grp concr2 refadv2

Table 8-2: Three-stage Least Squares Regression with Concrete Services and Referral Information

Equation	Obs	Parms	RMSE	"R-sq"	Chi2	P
zpc2	139	4	.960379	0.2085	51.46163	0.0000
zca2	139	4	.8834819	0.1113	30.56382	0.0000
zwai2	139	4	1.097787	-0.1947	82.11679	0.0000
concr2	139	3	.1798429	-0.2249	23.28532	0.0000
refadv2	139	3	.2719475	-0.3342	42.48098	0.0000
maltx	139	5	.5328618	-1.0562	43.20222	0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	

zpc2						
zpc1	.5266769	.0773815	6.806	0.000	.3750119	.6783418
zwai2	-.2416944	.1624833	-1.488	0.137	-.5601559	.0767671
concr2	1.550996	1.075175	1.443	0.149	-.5563089	3.658301
refadv2	-.9923123	.729073	-1.361	0.173	-2.421269	.4366445
_cons	.0696006	.192137	0.362	0.717	-.3069809	.4461822

zca2						
zca1	.3257745	.0718579	4.534	0.000	.1849355	.4666135
zwai2	-.0514063	.1656951	-0.310	0.756	-.3761627	.2733501
concr2	.0131349	1.011537	0.013	0.990	-1.96944	1.99571
refadv2	.5759642	.7186682	0.801	0.423	-.8325996	1.984528
_cons	-.0904972	.195689	-0.462	0.644	-.4740407	.2930462

zwai2						
zpc1	-.0467645	.0815057	-0.574	0.566	-.2065127	.1129836
zca1	-.2455173	.0781219	-3.143	0.002	-.3986333	-.0924013
concr2	2.409593	.7697548	3.130	0.002	.9009014	3.918285
refadv2	2.696483	.5463807	4.935	0.000	1.625597	3.76737
_cons	-1.169421	.148985	-7.849	0.000	-1.461426	-.8774154

concr2						
zpc1	-.0053269	.013829	-0.385	0.700	-.0324313	.0217774
zca1	.0205616	.0132867	1.548	0.122	-.0054798	.0466031
zwai2	.1162498	.024523	4.740	0.000	.0681856	.164314
_cons	.1614452	.0142164	11.356	0.000	.1335815	.1893088

refadv2						
zpc1	.0189218	.0200441	0.944	0.345	-.0203639	.0582075
zca1	.0581779	.0193855	3.001	0.003	.0201829	.0961728
zwai2	.2021622	.0320726	6.303	0.000	.1393011	.2650233
_cons	.2846894	.0205574	13.849	0.000	.2443977	.3249812

maltx							
zpc2		.0389561	.052222	0.746	0.456	-.0633972	.1413093
zca2		-.3739457	.0725214	-5.156	0.000	-.516085	-.2318065
zwai2		-.1804473	.0788904	-2.287	0.022	-.3350696	-.0258249
concr2		1.119578	.471599	2.374	0.018	.1952613	2.043895
refadv2		.7746617	.3332037	2.325	0.020	.1215945	1.427729
_cons		-.2055984	.0888755	-2.313	0.021	-.3797911	-.0314056

Endogenous variables: zpc2 zca2 zwai2 concr2 refadv2 maltx

Exogenous variables: zpc1 zca1 zdenymm scl90del ncontmol netsumol neglifef
poslifef ctage nkids ctmaltx sparent afdcl hhprobl ecoprobl priors
svcb4 placeb4 ctrugs contact1 contact2 fin_grp discuss2

Table 9-1: Estimated Effects of Measures of Caretaker Readiness for Change on Outcomes Derived From Interview Data (HLM coefficients with $p < .1$)

Dependent Measures	Precontemplation			Contemplation/Action			Overall Readiness		
	Time 1	T2	T3	Time 1	T2	T3	Time 1	T2	T3
Caretaker Reports	T1	T2	T3	T1	T2	T3	T1	T2	T3
Parenting Problems (P)									
Good Parenting Practices (P)	.02**	-.03**							
Housing Problems (P)				-.02*				-.02+	
Economic Problems (P)		.06*						-.04+	
Negative Life Events (P)			-.02+						
Positive Life Events (P)									
Network Size (C)	.41*						-.28+	.19+	
Network Support (P)	.06**	-.04+		-.03+	.05*	.03+	-.05**	.06**	
Caretaker Depression (R)	-.12*	.17**		.13***			.17***	-.10*	
Child Behavior Problems (P)		.03+	.03+	-.03*					
Child Emotional Problems (P)									
Child School Problems (P)				.03*	-.03**		.02*	-.03*	
Positive Child Characteristics (P)			.03*						
Overall Improvement in Family Life (R)	--			--		.13*	--		
Caseworker Reports	T1	T2	--	T1	T2	--	T1	T2	--
Parenting Adequacy (R)	--	--	--	--	--	--	--	-.11*	--

P = proportion, C = count, R = rating
+ = $p < .1$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 9-2: Estimated Effects of Measures of Caretaker Readiness for Change on Outcomes Derived From Administrative Data (Odds Ratio (OR) or Hazard Ratio with $p < .1$)

Dependent Measures	Precontemplation		Contemplation/Action		Overall Readiness	
	Time 1	T2-T1	Time 1	T2-T1	Time 1	T2-T1
Subsequent Reports of Maltreatment at						
12 months (OR)	1.54*				.58*	
18 months (OR)	1.47+					
Overall (hazard)		--		--		--
Subsequent, Substantiated Reports of Maltreatment						
12 months (OR)			.58*		.54*	
18 months (OR)		1.63+				
Overall (hazard)		--		--		--
Out-of-home Placement						
12 months (OR)						
18 months (OR)						
Overall (hazard)		--		--		--

+ = $p < .1$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 9-3: Estimated Effects of Measures of Alliance Formation on Outcomes Derived from Interview Data (HLM coefficients with $p < .1$)

Dependent Measures	Caretaker Alliance					
	Time 1			Time 2		
	T1	T2	T3	T1	T2	T3
Caretaker Reports						
Precontemplation (z)					-.14+	.19*
Contemplation (z)					.18*	-.14+
Overall Readiness (z)	.16*				.22*	-.20**
Parenting Problems (P)		.04*				
Good Parenting Practices (P)				.02+		
Housing Problems (P)				-.02*		
Economic Problems (P)						
Negative Life Events (P)						.02+
Positive Life Events (P)						
Network Size (C)			.63+	.36*		
Network Support (P)						
Caretaker Depression (R)		.20*				.09+
Child Behavior Problems (P)						
Child Emotional Problems (P)						
Child School Problems (P)						.06**
Positive Child Characteristics (P)			-.06*			
Overall Improvement in Family Life (R)	--		-.30*	--	.20**	-.32***
Caseworker Reports	T1	T2	--	T1	T2	--
Parenting Adequacy (R)			--			--

z = z-score, P = proportion, C = count, R = rating

+ = $p < .1$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 9-4: Estimated Effects of Measures of Alliance Formation on Outcomes Derived From Administrative Data (Odds Ratio (OR) or Hazard Ratio with p<.1)

	Caretaker Alliance at Time 2	Caseworker Alliance at Time 2
Subsequent Reports of Maltreatment at		
12 months (OR)		
18 months (OR)		
Overall (hazard)		
Subsequent, Substantiated Reports of Maltreatment		
12 months (OR)	.59*	
18 months (OR)	.59*	
Overall (hazard)	.75+	
Out-of-home Placement		
12 months (OR)		3.80+
18 months (OR)		3.55+
Overall (hazard)		

+ = p<.1, * = p<.05, ** = p<.01, *** = p<.001

APPENDIX D: OTHER PRODUCTS AND PRESENTATIONS

Publications

Littell, J. H. & Girvin, H. (2002). Stages of change: A critique. Behavior Modification, 26(2), 223-273.

Manuscripts Under Review

Littell, J. H. & Girvin, H. (2001). Ready or not: Uses of the stages of change model in child welfare.

Professional Presentations

"Learning from experience: Lessons from research on family preservation services." Presentation to the Philadelphia Mayor's Summit on In-home Services, Philadelphia, PA, August 9, 2001.

"Processes and outcomes of home-based services in child welfare." Presentation to the Pennsylvania Children, Youth, and Family Council, Philadelphia, PA, June 26, 2001.

"Caregivers' readiness for change and the helping alliance in home-based services in child welfare." Presentation at the Philadelphia Department of Human Services, Philadelphia, PA, June 13, 2001.

"Readiness for change in home-based services in child welfare: Validity and prediction." Peer-reviewed presentation at the 14th Annual Research Conference on a System of Care for Children's Mental Health, Tampa, FL, February 26, 2001

"The alliance in home-based services in child welfare." Peer-reviewed poster presentation at the 14th Annual Research Conference on a System of Care for Children's Mental Health, Tampa, FL, February 25, 2001

"Understanding Readiness for Change in Child Welfare: Results of a Longitudinal Study." Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Atlanta, GA, January 21, 2001

"The Predictive Capacity of the Working Alliance in Child Welfare: Results of a Longitudinal Investigation of Home-Based Services." Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Atlanta, GA, January 21, 2001

"Readiness for change and the working alliance in home-based child welfare services." Peer-reviewed presentation at the Eastern Evaluation Research Society, Atlantic City, NJ, March 27, 2000.

"The role of readiness for change in home-based services for families of abused and neglected children in child welfare." Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Charleston, SC, January 30, 2000.

"The role of the working alliance in child welfare: Can it predict client outcomes in home-based services?" Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Charleston, SC, January 30, 2000.

"Neglected issues in child welfare: Alliance formation and readiness for change." Peer-reviewed poster presentation at the 76th Annual Meeting of the American Orthopsychiatric Association, Arlington, VA, April 9, 1999.

"Stages of change in a child welfare sample." Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Austin, TX, January 23, 1999.

"Alliance formation in a child welfare sample." Peer-reviewed presentation at the Conference of the Society for Social Work and Research, Austin, TX, January 23, 1999.