NCFAS-R

North Carolina Family Assessment Scale
for Reunification

Research Report

National Family
Preservation Network

Safe children. Strong families.

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The NCFAS-R is a Family Assessment Scale intended for use by programs using intensive family preservation service intervention methods to reunify families following the removal of children from their homes.

The National Family Preservation Network (NFPN) is the sole distributor of the NCFAS-R training package. All inquiries should be directed to NFPN.

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Introduction

The North Carolina Family Assessment Scale for Reunification (NCFAS-R) is an assessment instrument intended to assist case practitioners using intensive family preservation service strategies to effect successful reunifications of families where children have been removed following substantiated abuse and or neglect, juvenile delinquency, or to receive mental health services in a "closed" treatment setting. The NCFAS-R was developed during a collaborative effort between the National Family Preservation Network and the Scale developer, with funding provided by the David and Lucile Packard Foundation.

The NCFAS-R provides family functioning assessment ratings on seven domains relevant to the reunification effort: Environment, Parental Capabilities, Family Interactions, Family Safety, Child Well-Being, Caregiver/Child Ambivalence, and Readiness for Reunification. Ratings are obtained at Intake and again at case Closure. Intake ratings should be used for case planning. Closure ratings should be used to document the status of the family at the end of intensive reunification services and for post-intensive service planning. Change scores (the difference between the Intake and Closure ratings) illustrate the amount of "change" achieved during the intensive reunification service period.

This Research Report discusses the development of the NCFAS-R, the field study that demonstrated the reliability (as measured by internal consistency) and the validity (as measured by concurrent validity relating to success or failure of reunification cases), and the use of the instrument in case practice. This Report was prepared especially to accompany the Basic Orientation and Training Video for the NCFAS-R that is distributed by the National Family Preservation Network.

History

Intensive Family Preservation Services (IFPS) have been used in reunification cases, and its use has been studied. However, a review of published studies of the use of IFPS in reunification cases indicates much variation among IFPS strategies from study to study. However, the research literature does suggest that IFPS might be effective in accelerating case progress and increasing the likelihood of successful reunification and as an alternative to long-term foster care or termination of parental rights. Specific findings among studies suggested that the effectiveness of IFPS in these cases would be enhanced if it were tailored to address specifically some of the unique features of reunification cases.

The endeavor of advancing IFPS interventions for reunification cases was determined to be not only worthwhile, but also to be critical in light of recent changes in federal policy affecting child welfare. The National Family Preservation Network, with funding from the David and Lucille Packard Foundation, implemented a national agenda to re-emphasize ***reunification*** under the Adoption and Safe Families Act of 1997 (ASFA). ASFA places time limits on certain aspects of publicly-funded case practice, and went so far as to mandate the initiation of termination-of-parental-rights (TPR) proceedings under certain circumstances (e.g., when a child has been in out-of-home care for 15 of the preceding 22 months). There was, and remains, a growing concern among child welfare practitioners that the legal community may focus too myopically on time limits and TPRs, rather than aggressively promoting the concepts of placement prevention and reunification that were previously articulated in Public Law 96-272, the Adoption Assistance and Child Welfare Act of 1980.

The application of IFPS intervention strategies in reunification cases is concordant with NFPN's traditional promotion of child safety and family continuity through intensive placement prevention services. NFPN is concerned that reunification cases be addressed with a level of intensity similar to the level of intensity that placement prevention cases received using original IFPS strategies.

To advance the NFPN/reunification agenda, NFPN partnered with the developer of the North Carolina Family Assessment Scale (NCFAS). For several years, programs throughout the country delivering IFPS interventions in placement prevention cases have had access to the NCFAS to assist in the initial assessment of families, case planning for those families, and the measurement of change occurring in those families during the IFPS intervention. The NCFAS was developed specifically for use in IFPS program settings in order to assess changes in family functioning associated with treatment, and potentially associated with the placement decision made at the end of IFPS. The NCFAS measures family functioning in five domains: Environment, Parental Capabilities, Family Interactions, Family Safety, and Child Well-Being. The Scale comprises 31 areas of interest (sub-scales) into the five domains (Domains and SubScales are presented in Table 1). It is a practice-based instrument that has been validated for use in IFPS programs (Reed-Ashcraft & Kirk, 2001).

Table 1. Domains and Sub-Scales of the NCFAS, Version 2.0.

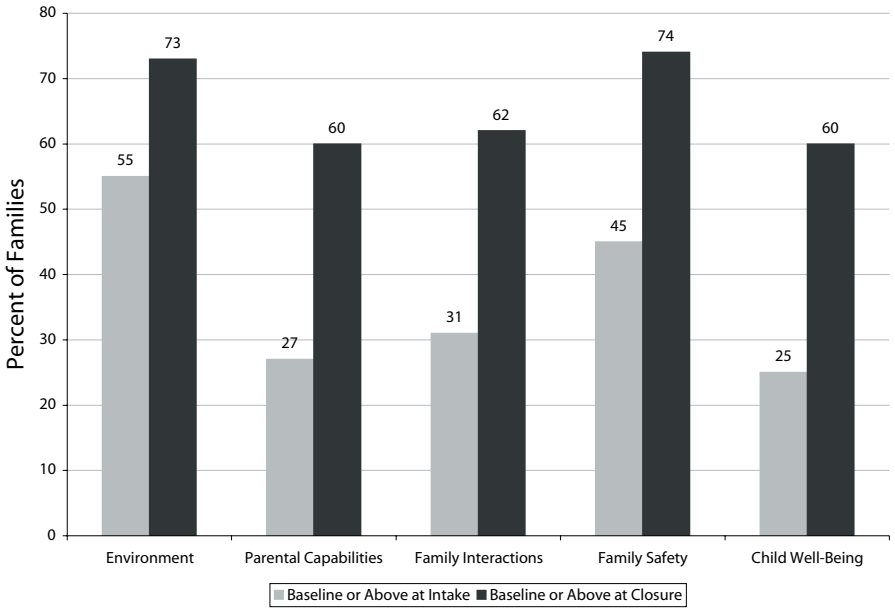
Domain	Sub-Scales
Environment	Overall environment Housing stability Safety in the community Habitability of housing Income/employment Financial management Food and nutrition Personal hygiene Transportation Learning environment
Parental Capabilities	Overall parental capabilities Supervision of child(ren) Disciplinary practices Provision of developmental/enrichment opportunities Parent(s')/caregiver(s') mental health Parent(s')/caregiver(s') physical health Parent(s')/caregiver(s') use of drugs/alcohol
Family Interactions	Overall family interactions Bonding with the child(ren) Expectations of child(ren) Mutual support within the family Relationship between parents/caregivers
Family Safety	Overall family safety Absence/presence of physical abuse of child(ren) Absence/presence of sexual abuse of child(ren) Absence/presence of emotional abuse of child(ren) Absence/presence of neglect of child(ren) Domestic violence between parents/caregivers
Child Well-Being	Overall child well-being Child(ren's) mental health Child(ren's) behavior School performance Relationship with parent(s)/caregiver(s) Relationship with sibling(s) Relationship with peers Cooperation/motivation to maintain the family

Using the assessment information gathered at the beginning of family preservation cases, workers plan interventions designed specifically to focus upon family strengths and ameliorate family problems. Assessment data gathered at the end of the intervention provides an indication of the progress, or lack thereof, that occurred during the intervention. By measuring family functioning at the beginning and the end of services, a "difference score" can be calculated that can be used to inform the placement decision at the end of services, as well as provide information for step down service planning and referral.

NCFAS data also are used for program evaluation purposes, and the NCFAS scale ratings have been shown to be statistically associated with placement prevention outcomes for placement prevention

cases. Figure 1 presents an example of the North Carolina IFPS data excerpted from the 2001 IFPS annual report to the Governor, the General Assembly, and the Advisory Committee on Family Centered Services (Kirk & Griffith, 2001).

Figure 1. Overall Change on the NCFAS (N = 1260)



The figure shows the percent of families rated at "Baseline/Adequate or above" at intake and closure. Each "intake/closure" comparison indicates substantial positive change in the population of families served, although approximately one-quarter to two-fifths of families remain below baseline (i.e., in the problem range of ratings) on one or more domains at the time of case closure.

Compelling changes in domain ratings are noted on all five domains. While the progress that families experience on the NCFAS ratings during IFPS services is interesting in its own right, it is more meaningful when the changes in the scale ratings are related to other treatment outcomes. Of particular interest is the relationship between NCFAS ratings and placement prevention.

When the closure ratings on the NCFAS are cross tabulated with placement *a positive, statistically significant relationship is observed between strengths and the absence of placement, and between problems and out-of-home placement* on all domains. On each of the domains, families in the "baseline/adequate to strengths" range at IFPS service closure are statistically over represented among families that remain

intact. Similarly, at the end of service, families in the problem ranges at IFPS service closure are statistically over represented in families where an out-of-home placement occurred during or after IFPS service. The strength of these relationships is quite compelling. For the 1,260 families served during SFY 2000 and 2001, the results are:

- Environment: Chi Square = 38.150, df = 5, p < .001;
- Parental Capabilities: Chi Square = 66.642, df = 5, p < .001;
- Family Interactions: Chi Square = 85.530, df = 5, p < .001;
- Family Safety: Chi Square = 102.226, df = 5, p < .001
- Child Well-Being: Chi Square = 103.148, df = 5, p < .001

These results indicate that *IFPS interventions are capable of improving family functioning across all the measured domains, albeit incrementally, and these improvements in family functioning are statistically associated with placement prevention.* These are important findings to IFPS providers, administrators, policy executives and the legislature. They are important because the "prevention" of these placements is linked to measurable changes in family skills, strengths, circumstances, support, interaction patterns, and a variety of other factors that comprise "family functioning."

It should be noted that these statistical relationships are obtained even though the number of children who are placed out of home at the end of IFPS service is very small, and placement decisions may be influenced by a variety of factors *outside the control of IFPS programs*. Both of these factors tend to mitigate the strength of the statistical relationships, yet they remain strong. The NCFAS has demonstrated its value to IFPS practitioners to identify areas of service need, to identify family strengths, and to measure changes in family functioning that occur during IFPS interventions.

The findings are important because, as previously noted, ASFA has changed the emphasis of federal policy towards time limits and terminations of parental rights. However, basic policy goals of PL96-272 (the Child Welfare and Adoptions Assistance Act of 1980) are still intact: ***placement prevention*** and ***reunification***. Thus, services that expeditiously prevent the unnecessary dissolution of families are more important than ever. In turn, the findings relate directly to family reunification cases because reunification remains the preferred policy objective following out-of-home placement, even under ASFA. It must be recognized, however, that reunification is a different issue

than placement prevention, and the longer a child remains in foster care, the less likely is successful reunification. In his analysis of foster care placement histories, George (1990) found strong evidence that the longer a child is in out-of-home care prior to reunification, the more likely is reunification not to occur or to fail. He credits family preservation programs with making intensive, early investments in the service histories of children before they are "irreparably harmed by unstable foster care" (George, 1990, p. 432). Thus, the application of the NCFAS, or a similar instrument, to reunification cases would likely assist workers to be more successful with reunification cases and further the objectives of federal policy with respect both to child safety and family continuity.

In order to explore the use of the NCFAS for reunification cases, it was necessary to understand what features of reunification cases may distinguish them as different from placement prevention cases and to assure that the original NCFAS domains were both relevant and comprehensive. To accomplish this task, a review of the research and treatment literature was conducted. The full discussion of the findings of that review would be lengthy and will not be presented here, although the reviewed studies and other relevant readings are listed in Appendix A, at the end of this report.

The literature revealed a number of variables that are important to reunification cases, in addition to those comprising the original five domains of the NCFAS. The variables clustered around dynamics within families where separation has occurred, and around practical issues such as resources, legal issues, and resolution of pre-existing needs. Taken as a whole, the literature review supported the idea that the NCFAS could be modified or tailored specifically for reunification cases. The final result of the process was the addition of two new domains focusing on reunification-specific issues. These two domains are named ***Ambivalence***, and ***Readiness for Reunification***. These two domains and their attendant subscales are presented in Table 2, opposite.

Table 2. Domains and Sub-scales Added to the North Carolina Family Assessment Scale That Focus on Reunification Issues

Domain	Sub-Scales
Caregiver/Child Ambivalence	Overall caregiver/child ambivalence Parent/caregiver ambivalence towards child Child ambivalence towards parent/caregiver Ambivalence exhibited by substitute care provider Disrupted attachment Pre-reunification home visitations
Readiness for Reunification	Overall readiness for reunification Resolution of significant CPS, MH, or delinquency risk factors Completion of case service plans Resolution of legal issues Parent/caregiver understanding of child treatment needs Established back-up supports and/or service plans

In addition to the clinical, skill-based, resource-based, and situational issues that comprise the domains specified in Table 2, the literature review also indicated that there are stages to the typical reunification case that occur in a more logical and predictable manner than the typical, crisis-driven circumstances of placement prevention cases. The studies that seemed to produce the best results for families recognized that reunification begins with family preparation some number of days before the child's return, and progresses to a period of intensive service when the child is returned. Finally, there follows a period of less intensive service to assist the families' transitions through periods of stress, confrontation, or untoward circumstances that occur during the weeks or months following reunification.

Although there were numerous variations on the basic model, reviewed studies suggest a generic 3-stage model for implementing IFPS-based reunification services. Stage-1 is a family preparatory stage that precedes the return of the child(ren) to the caregiver's home. This stage is marked by interactions between the reunification family worker and the caregiver(s) of the returning child or children that address the issues of ambivalence and readiness (in addition to the original five NCFAS domains). This period of time is also used to anticipate issues that may require intensive work following the return of the child(ren). Ideally, this period of time should include home visitations by the returning child(ren), observed by the IFPS–Reunification worker, although variations in state and local DSS and judicial practices do not always permit this sort of deliberate pre-reunification preparation.

Stage-1 is also the time when "pre-reunification" family assessment is conducted by the intensive reunification worker, using the NCFAS-

Reunification instrument. The time spent by intensive reunification workers preparing families for the return of the child(ren) should also be spent exploring the issues embodied in the NCFAS-Reunification instrument, and resolving urgent issues that may negatively affect reunification. The information available from the intake assessment ratings on the NCFAS-Reunification instrument should be used to help workers anticipate the likely demand for services during Stage-2, and should also guide service plans and resource management during that stage. The intake assessment ratings also serve as the basis for measuring change that occurs in the family during Stage-2.

Stage-2 is marked by intensive service delivery to the family immediately following the return of the child(ren). This phase should closely resemble the typical IFPS intervention, with services available 24 hours per day, 7 days per week; low caseloads; face-to-face service in the family's home; etc. Although families should not be in the midst of crisis when reunification occurs, families experiencing reunification may experience crises as part of the reunification process.

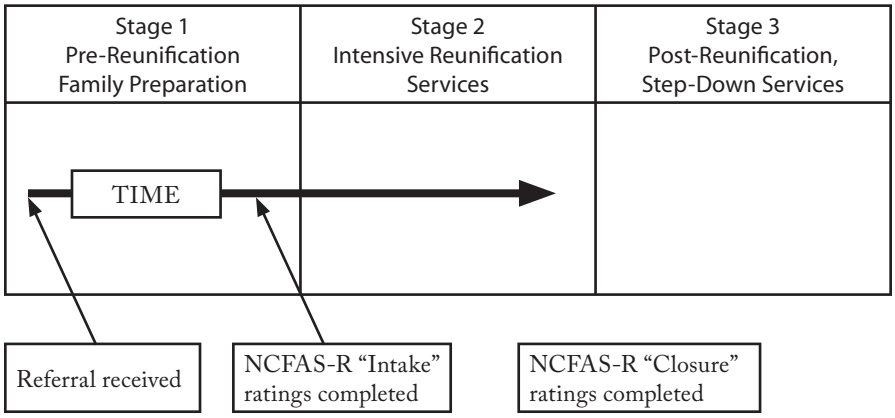
Stage-2 should culminate with a Closure Assessment using the NCFAS-Reunification instrument. Ratings recorded on the NCFAR-Reunification instrument at the close of Stage-2 serve a variety of purposes. They serve as the "snapshot" of family functioning at the close of intensive services. They serve as the basis for calculating "change scores" which indicate the amount of progress made by families on the seven measurement domains as a result of the intervention. They can serve as an indicator of the amount of step-down services likely to be needed during Stage-3. Finally, they can serve as guiding information with respect to case decision relating to child safety and the likelihood of successful, continued reunification of the family.

Stage-3 is the "step-down" stage, during which services generally are not available 24/7, and these services need not necessarily be provided by the intensive reunification workers, or even by the same program that delivered the intensive reunification services. However, some form of "on call" assistance should be available to assist caregivers in resolving issues that arise following the removal of intensive services. Whoever provides these services may assist families by phone, by home visit, by referral, or by any other reasonable means. During Stage-3 families are monitored and assisted with respect to continued child safety and family functioning. Families may request services that they feel they need during this stage. Alternatively, workers may take a more proactive position of addressing circumstances that they observe

and that may threaten continued reunification, but which families do not observe themselves or are not yet ready to acknowledge. Whether passive or proactive, the step-down services provide a "safety net" for reunification cases.

The 3-Stage IFPS-Reunification model is a generic one, and is presented in Figure 2. It remains generic because there is insufficient research available to be more specific or proscriptive about issues like optimal duration of stages, levels of intensity of service, caseloads, etc. However, the most successful models in the research literature employed time-limited interventions consistent with current IFPS intervention models, i.e., 60 to 90 days for the equivalent of stages 1 and 2, combined.

Figure 2: Generic 3-Stage Model for IFPS-Reunification Cases



Summary

The research literature on the use of IFPS intervention strategies in reunification cases as well as other child welfare studies relating to reunification:

- Confirmed that IFPS interventions are appropriate for reunification cases;
- Suggested that IFPS interventions for reunification cases needed to focus on issues not previously part of typical IFPS interventions;
- Guided the development of specific domains of relevance focusing on the unique features of reunification cases;
- Guided the adaptation of a pre-existing family assessment instrument (NCFAS) to tailor it specifically for IFPS-Reunification cases;
- Led to the realization that a 3-stage model of IFPS-Reunification was more likely than other models to succeed;

- Guided specification of key components of a generic, 3-stage model for IFPS-base reunification interventions; and
- Culminated with the development and field testing of the NCFAS-Reunification instrument in three sites, focusing on:
  1. The instrument's ease of use in the practice setting;
  2. The reliability of the scale information with respect to reunification cases; and
  3. The concurrent validity of the scale with respect to measures associated with successful and unsuccessful reunification cases.

Field Testing the NCFAS-R

Participating Programs

The field test of the NCFAS-R began in December 2000, and was accomplished with the cooperation of three reunification programs previously employing IFPS intervention strategies with reunification cases. The three participating IFPS-Reunification programs include those operated by the Institute for Family Development, Federal Way, Washington; the Division of Social Services, St. Louis, Missouri; and the Family Court Project, Indianapolis, Indiana. This group of providers offers a good cross-sectional representation of private/non-profit and publicly operated programs, as well as a cross-section of families involved with child protection services, the juvenile justice system, and the mental health system.

The programs operate slightly different models, with variations among the models tending to relate to the vicissitudes of the child welfare systems in which they operate. For example, one program serves primarily children being released from juvenile justice settings or residential mental health settings. Although this program performs "Stage-1" activities with the caregiver(s), the opportunity for pre-reunification home visitation does not occur. The duration of Stage-1 for this same program is six weeks, primarily due to the length of time needed to construct school-reintegration plans for the child(ren) rather than due to a higher-than-normal intensity of pre-reunification services to the family. Another program frequently receives referrals from DSS on the day that the court returns children to a family or origin, which essentially precludes Stage-1 activities. The program much prefers to have some lead time (2 to 3 weeks) to conduct Stage-1 activities, but the courts and custodial agencies do not always oblige. Consistent among the models, however, was a firm adherence to the

notion of time-limited interventions, low caseloads, etc., consistent with traditional IFPS interventions. The intensive reunification models used at these sites ranged from 60 to 90 days for the equivalent of stages 1 and 2 of the generic 3-stage model.

Participating Program Orientation and Training

During the Fall of 2000, each of the sites received on-site orientation and training on the use of the NCFAS-R. The training sessions included:

- General information on measurement theory and scale construction.
- Background information on the development of the NCFAS-R, per se.
- Specific instruction on the use of the NCFAS-R in practice.
- Use of the NCFAS-R scale rating information for case planning.
- Reporting NCFAS-R and other pertinent case information required for the reliability and validity research effort.

Confidentiality and Protection of Participants

The NFPN circulated a confidentiality agreement assuring participating agencies that the data reported to the researcher would not contain any family or child identifying information. Program directors at each site reviewed the agreement and signed it, as did the researcher and the Executive Director of the NFPN. Specific procedures for "cleansing" data prior to reporting data to the researcher were also developed as part of the orientation and training visit.

Research Protocol

In order to test both the reliability and the concurrent validity of the NCFAS-R, information was required that described the families and children receiving reunification services. This information included general demographics of families and child welfare information, such as the children's placement experiences, and identified treatment needs of the families prior to service. Case closure data were needed describing the status of the child(ren) and family at the end of the intensive reunification process.

Worker reactions to the NCFAS-R, as well as their perceptions of its usefulness in each case were solicited, as were worker comments on particular scale items and domains. In addition to reactions to the NCFAS-R in case practice, workers were also asked to rate the likelihood that the reunification would or would not be successful over time. Rating scales and comment spaces were developed for

these purposes and were requested to be filled out for each case at the conclusion of Stage-2.

Finally, the NCFAS-R data were required in order to determine Intake and Closure ratings of families, calculate difference scores, determine the internal consistency of scale items relative to domain ratings, and test scale reliability by examining the predictive associations between NCFAS-R ratings and reunification case outcomes.

Data Analysis

Data were analyzed by the Scale developer. Data were sent by each program director using the procedures described above, and data were entered into a relational database program. All data were analyzed using SPSS-X to calculate reliability statistics and test the NCFAS-R domains for validity, with respect to reunification treatment outcomes. Graphic presentations of data (see below) were constructed using Chart Wizard in Microsoft Excel.

Results of Field Test

The results of the field test of the NCFAS-R are very encouraging, in every respect. Analyses of data relating to reliability and validity show that each of the domains of the NCFAS-R is reliable, particularly so with respect to the two domains added to the instrument to tailor it to reunification cases. In every case, Chronbach's Alpha, the accepted measure of scale reliability, was 0.90 or above on the closure ratings.

The NCFAS-R also appears to be valid, in that each of the hypotheses tested to assess the concurrent validity of the instrument was found to be statistically significant, and robust. Both closure ratings and change scores were statistically related to successful reunifications.

Worker comments were favorable with respect to the use of the NCFAS-R in practice, indicating that the instrument helps focus attention on important issues, helps assure resource allocation to the areas of specified need, and helps workers document changes that occur during the reunification intervention.

Worker concerns were voiced in a helpful manner that permitted the scale developer to adjust definitions and content accordingly, resulting in revised versions of both the NCFAS-R (Version R2.0) and the Scale Definitions (for Version R2.0). Further, the information on the treatment outcomes of the reunification cases served by the participating agencies suggests strongly that IFPS-based interventions for reunification cases are effective. Workers comments suggest that

the assistance of the NCFAS-R in identifying both problem areas and family strengths may increase the efficacy of IFPS-based interventions for reunification cases.

It is necessary to know that of the 81 families contributing data to the field test database, 70% were successfully reunified at the end of the intensive reunification period, and 30% were either "replaced" during or at the end of the intensive reunification period, or were never returned during the service period. The reliability and validity of the instrument with respect to these outcome data are discussed below, and the figures used to present the data may be considered as models for how other users of the NCFAS-R may present the data from their own programs and families.

Reliability of the NCFAS-R

The reliability analysis is based on a sample of 63 cases with complete data, out of the total of 81 cases submitted by program study sites. In some of the attrited cases data relating to the reliability analysis were missing, even though the basic case demographics were present. Sometimes this was the absence of a page of the NCFAS-R form, or in spite of the on-site training, the misuse of the form such that only the domain ratings were entered. The sample of 63 complete cases provides very robust and convincing evidence that the NCFAS-R is reliable.

The calculation of Chronbach's Alpha is the most frequently used and accepted method of expressing scale reliability. In this case, alphas were calculated for the scale during use at Intake, and also at Closure. Thus, two sets of Alphas are presented: one set describing the scales reliability at Intake, when the worker is developing his or her knowledge about the family, and the second at Closure, when, presumably, the worker has more experience with and knowledge of the family. The Chronbach's Alphas for both Intake and Closure are presented in Table 3.

The Alphas at intake range from .76 to .93, and at closure, all Alphas are .90 or higher. As explained in the footnote to Table 3, Alphas above .90 are considered to be very high. These results indicate that the retained subscales contribute substantially to the constructs being measured, and that the internal consistency is very high. With respect to the original five domains of the NCFAS, these results are confirmatory, and suggest that the original NCFAS domains are also appropriate for reunification cases. With respect to the two domains

added to the NCFAS to produce the NCFAS-R (Ambivalence and Readiness for Reunification), the results indicate that the development efforts were successful in identifying new subscales selected to comprise the constructs to be measured.

Table 3. Reliability of Scale Items for the Domains on the NCFAS-R (N=63)

Domain	Time of Rating	Number of Scale Items	Cronbach's Alpha*
Overall Environment	Intake	10	.89
	Closure	10	.90
Overall Parental Capabilities	Intake	7	.83
	Closure	7	.91
Overall Family Interactions	Intake	5	.87
	Closure	5	.92
Overall Family Safety	Intake	6	.76
	Closure	6	.92
Overall Child Well-Being	Intake	8	.93
	Closure	8	.93
Overall Caregiver/Child Ambivalence	Intake	6	.85
	Closure	6	.90
Overall Readiness for Reunification	Intake	6	.89
	Closure	6	.94

*Cronbach's Alpha is a measure of internal consistency, and therefore reliability, of the items comprising each domain. Alpha ranges from 0 to 1.0. Alphas above .4 are considered acceptable for scale development purposes, Alphas above 0.7 are considered to be acceptable for social science research, Alpha's above 0.9 are considered to be very high and are appropriate for clinical applications.

Validity of the NCFAS-R

While a high degree of reliability has heuristic value, the true value of a reliable scale is only achieved after its validity is established. To determine the validity of the NCFAS-R, the results of the domain ratings at Intake and at Closure, as well as the change scores calculated from intake to closure, were analyzed for dispersion and discriminability with respect to the eventual case outcomes (reunification or failed reunification).

Figures 3 through 9 present the aggregate scale ratings for the seven domains of the NCFAS-R. Each of these figures employs the same presentation strategy, displaying the six possible domain ratings (Clear Strength to Serious Problem) on the x-axis, with the display bars illustrating the percent of families at each rating both at Intake (the end of Stage-1) and at Closure (the end of Stage-2). The light bars are the intake ratings and the dark bars are the closure ratings.

Figure 3. Environment
Change in Family Ratings Between Intake and Closure (N = 63)

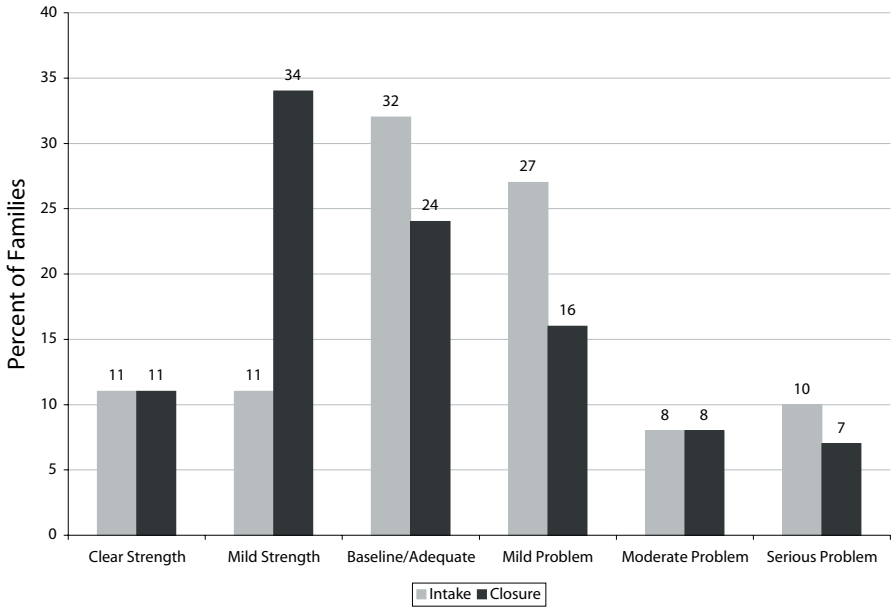
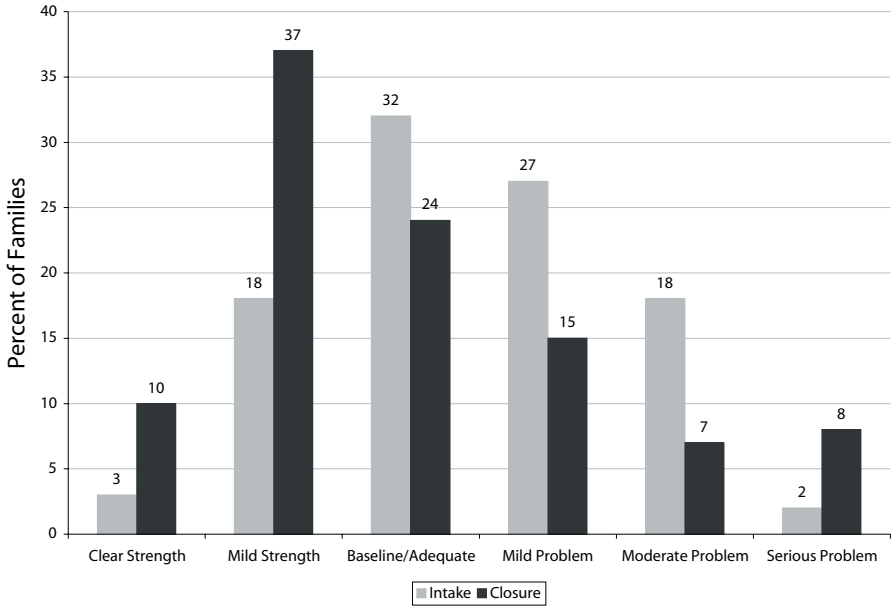


Figure 3 presents the ratings for the Environment domain. Although there does not appear to be much movement of families who begin reunification services with moderate or serious problems on this domain, there does appear to be substantial movement out of the mild problem and baseline range such that 69% of families are rated at baseline/adequate or above at closure.

Figure 4. Parental Capabilities
Change in Family Ratings Between Intake and Closure (N = 63)



Parental Capabilities, presented in Figure 4, indicate more dramatic movement at all rating levels. Nearly half (47%) of all families are rated as being in the problem range at intake, yet 71% of families are rated at baseline/adequate or better, at closure. Indeed, nearly half of all families (47%) are rated in the strengths range with respect to parental capabilities at closure.

It is noteworthy that the NCFAS-R demonstrates the ability to assess both improving and deteriorating perceptions of family functioning on its measurement domains. In Figure 4, only 2% of families are rated as having a serious problem at intake, yet 8% are so rated at closure. This change may be due to more accurate perceptions on the part of the worker based upon better or more complete information, or it may reflect true deterioration, such as might occur in some cases involving a caregiver's deteriorating mental health.

Figure 5. Family Interactions
Change in Family Ratings Between Intake and Closure (N = 63)

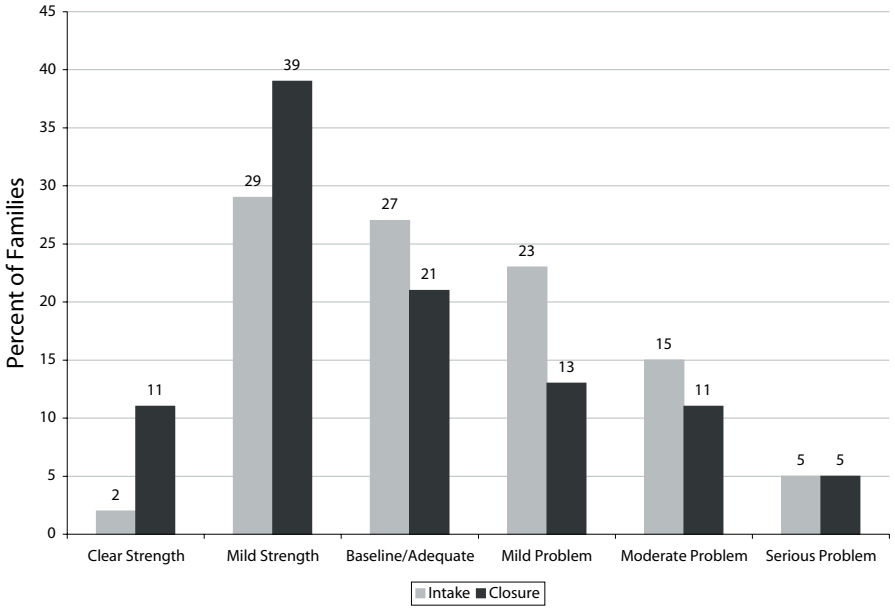
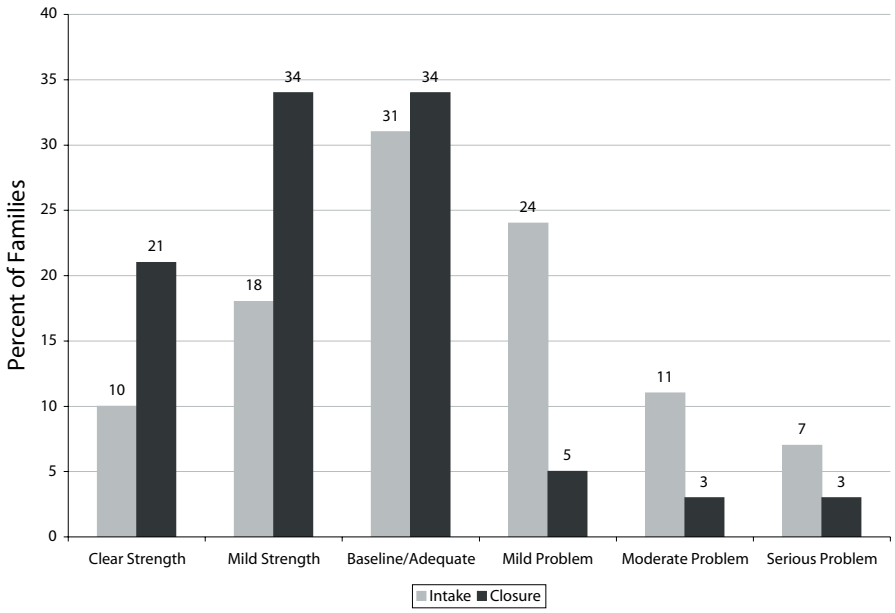


Figure 5 presents the domain ratings on family interactions and shows a shift in the population ratings away from problems and towards baseline and strengths. At closure, 71% of families are at baseline or above, and half (50%) are rated in the strength categories.

Figures 6 and 7 depict the most dramatic shifts on the measurement domains among families studied. These figures present ratings on family safety and on child well-being. The shift on family safety is perhaps the largest, and is important because ASFA has given special emphasis to the concept of safety, although it has always been at the

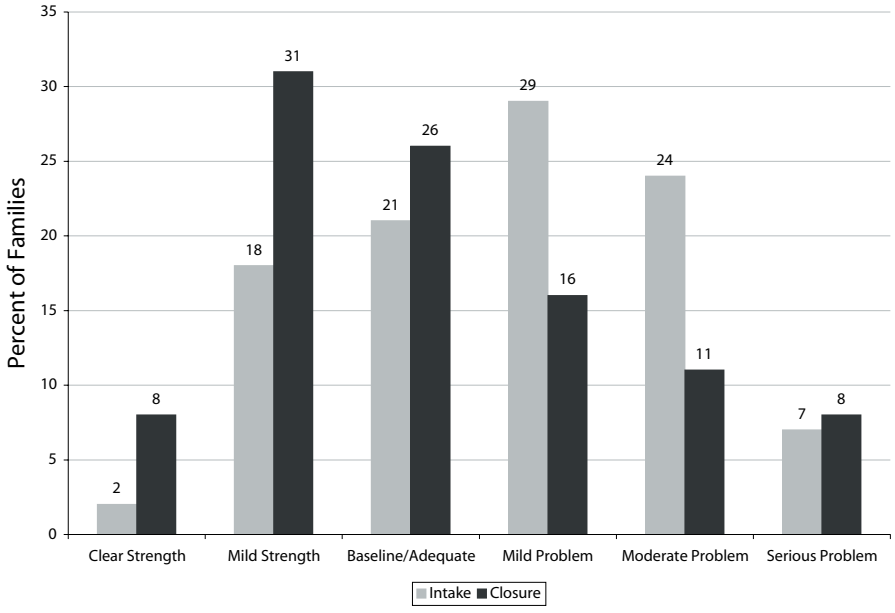
heart of IFPS interventions. Only 11% of cases close with domain ratings in the problem range, compared with 42% in the problem range at intake.

Figure 6. Family Safety
Change in Family Ratings Between Intake and Closure (N = 63)



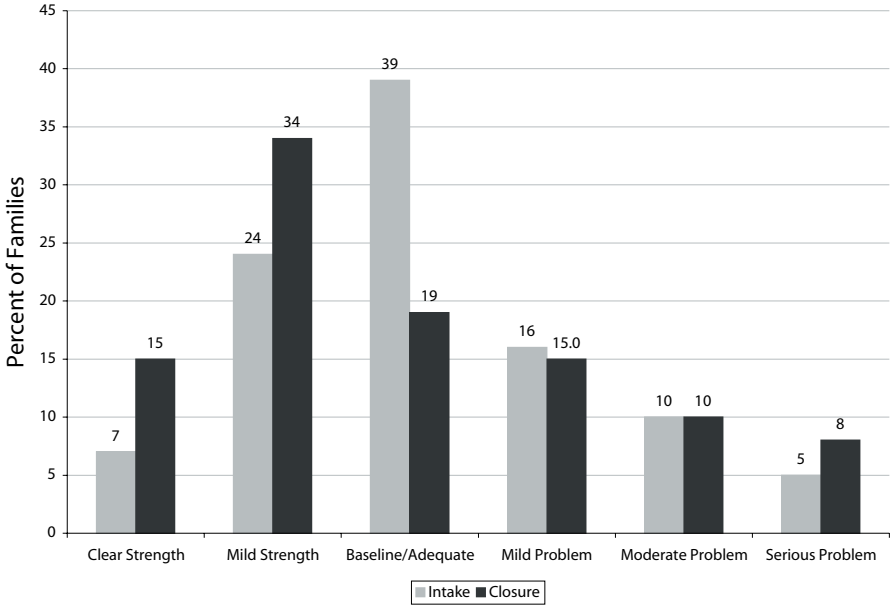
As can be seen in Figure 7, three-fifths (60%) of families are rated at intake in the problem range with respect to child well-being. This number is reduced to 35% at case closure, indicating a substantial shift in child well-being in the positive direction during IFPS-based intervention.

Figure 7. Child Well-Being
Change in Family Ratings Between Intake and Closure (N = 63)



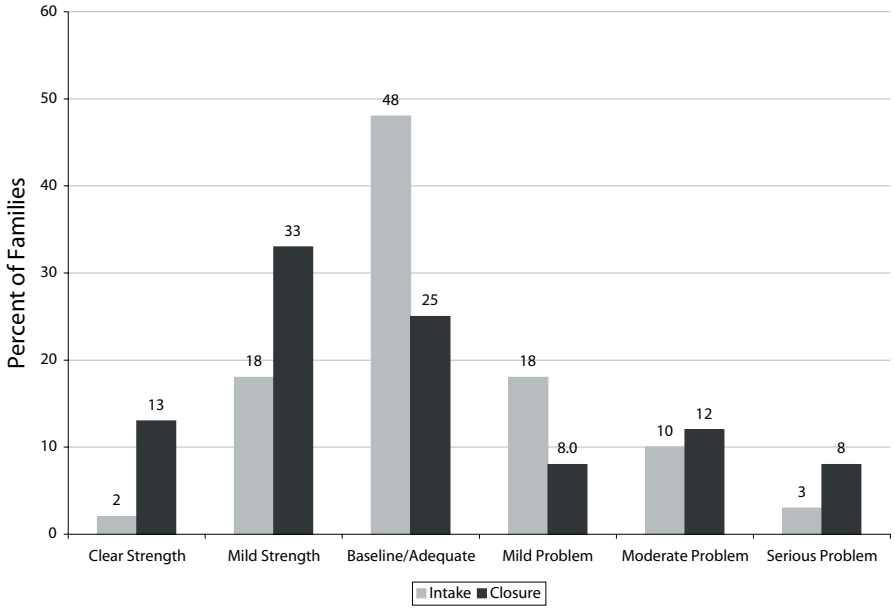
The domain ratings presented in Figures 3 through 7 are similar to domain ratings obtained when IFPS interventions are applied to placement prevention cases, where the greatest shifts occur on parental capabilities, family interactions, and child well-being. However, the remaining two domains (Ambivalence and Readiness for Reunification) are of special interest as they were developed with the intention of focusing on reunification-specific issues. The results of family ratings on these two domains are presented in Figures 8 and 9.

Figure 8. Caregiver/Child Ambivalence
Change in Family Ratings Between Intake and Closure (N = 63)



Examination of Figure 8 reveals that the Ambivalence domain is capable of assessing the full range of intended measurement. The figure also reveals a positive shift in population ratings towards the strengths categories. However, it also appears that there is little movement among families in the problem ranges. In fact, there is movement among those families, but there is movement in both directions (this is also true, to a lesser degree, on all domains). That is, families that might not appear to be ambivalent at intake, or who deny ambivalence at intake, may become ambivalent or reveal ambivalence as the reunification process occurs, particularly during Stage-2. This dynamic is very important with respect to the success of the reunification, and will be tested in subsequent analyses.

Figure 9. Readiness for Reunification
Change in Family Ratings Between Intake and Closure (N = 63)



A similar dynamic appears in Figure 9, which presents the data on the Readiness for Reunification domain. Indeed, the Closure ratings on these last two domains (Ambivalence and Readiness for Reunification) are the strongest predictors of reunification success. Testing the strength of these relationships requires cross tabulating the individual "strength to problem" ratings on each domain with the treatment outcome of the intervention (success or failure of the reunification effort), and testing that relationship for statistical significance. The results of this analysis are presented in Table 4, next page.

Table 4. Association Between Intake and Closure Ratings on the NCFAS-R and the Success of the Reunification Effort
(N= 61: 43 families reunified, 18 families not reunified)

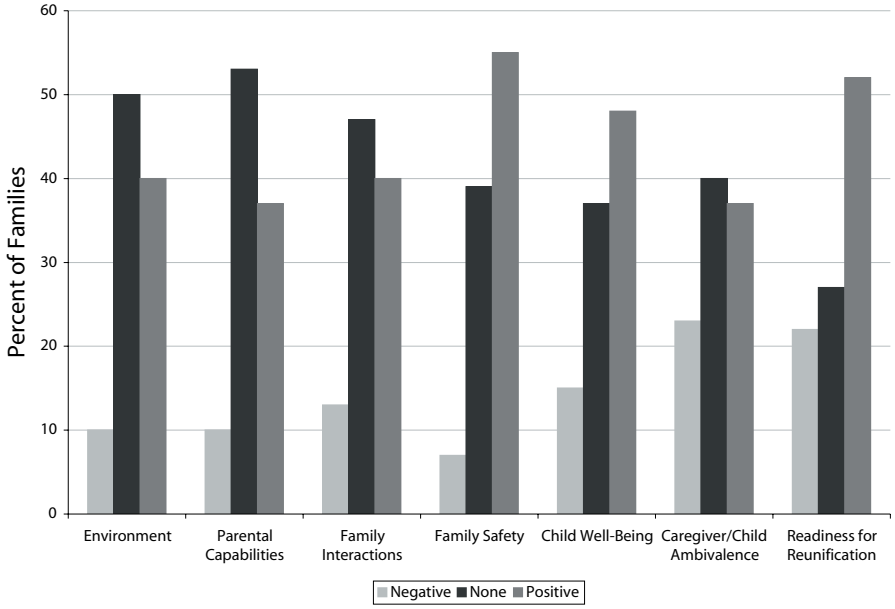
Domain	Time of Rating	Chi-Square	df	P Value
Overall Environment	Intake	2.951	5	ns
	Closure	13.211	5	p < .05
Overall Parental Capabilities	Intake	8.068	5	ns
	Closure	12.102	5	p < .05
Overall Family Interactions	Intake	3.490	5	ns
	Closure	19.643	5	p < .01
Overall Family Safety	Intake	1.358	5	ns
	Closure	11.817	5	p < .05
Overall Child Well-Being	Intake	7.557	5	ns
	Closure	20.201	5	p < .01
Overall Caregiver/Child Ambivalence	Intake	5.647	5	ns
	Closure	26.563	5	p < .001
Overall Readiness for Reunification	Intake	4.681	5	ns
	Closure	24.635	5	p < .001

The results in Table 4 indicate that none of the intake ratings is statistically predictive of success or failure of the reunification. This is not surprising, and is, in fact, a positive finding. The intake ratings are intended to identify both strengths and problems needing attention during the intervention. Hopefully, strengths do not change during intervention, except perhaps to become stronger. On the contrary, areas of service need are the focus of the intervention and should change in the positive direction. If they do not, or if there is deterioration, then closure ratings will *become* predictive based on the success or lack of success of the intervention in addressing the problem areas for the family. Decreasing rating dispersion by bringing ratings more into alignment with baseline to strengths ratings should be associated with successful reunification. Decreasing rating dispersion that results from ratings being brought more into alignment with problem ratings should be associated with failed reunifications. The results in Table 4 confirm this hypothesis. On all seven domains, the closure ratings are statistically significantly associated with treatment outcomes. Interestingly, the two domains with the largest strength-of-association statistic are the two that were developed to focus on reunification-specific issues: the Ambivalence domain (Chi-Square = 26.563, p < .001) and the Readiness for Reunification domain (Chi-Square = 24.635, p < .001).

It was suggested during the discussion of domain rating data presented in Figures 8 and 9, that there was more movement among

family ratings on the Ambivalence and Readiness for Reunification domains than was evident in the graphic displays, and that this was due to movement occurring in both directions, thus masking the true extent of movement. It was further suggested that this same phenomenon occurs on all domains. In fact, both of these suggestions are true, and seeing this dynamic requires a different presentation strategy for the data. Figure 10 presents that data from all seven domains, plotted as a function of the occurrence and directionality of change.

Figure 10. Percent of Families Experiencing Negative Change, No Change, or Positive Change on NCFAS-R Domain (N = 63)



Specifically, in Figure 10 the left-most bar of the three bars above each domain label presents the percent of families rated as having experienced a negative change on that domain during the intervention. The center bars present the percent of families that experienced no change, and the right-most bars present the percent of families where the rating improved during the intervention. When these results are cross-tabulated with success or failure of the reunification at case closure, the direction of change is statistically significantly associated with the treatment outcome. These statistical test results are presented in Table 5.

Table 5. Association Between Change Scores on the NCFAS-R Domain Ratings and the Success of the Reunification Effort
(N= 61: 43 families reunified, 18 families not reunified)

Domain	Pearson Chi-Square	df	P Value
Overall Environment	18.021	2	p < .001
Overall Parental Capabilities	11.031	2	p < .01
Overall Family Interactions	13.478	2	p < .01
Overall Family Safety	8.955	2	p < .05
Overall Child Well-Being	7.188	2	p < .05
Overall Caregiver/Child Ambivalence	10.632	2	p < .01
Overall Readiness for Reunification	13.179	2	p < .01

In each case, the improvement between intake and closure on the domain rating is statistically significantly associated with successful reunification, and deterioration on the domain rating is statistically significantly associated with failed reunification.

Each method of presenting the information in the figures results in trade-offs or limitations with respect to interpretation. For example, Figures 3 through 9 show the aggregate intake and closure ratings, but cannot show the direction or magnitude of changes occurring within the aggregate. The presentation strategy used in Figure 10 shows occurrence and directionality of change within the aggregate, but does not consider whether family ratings ended in the strength or problem range of ratings. Figure 11 employs a third presentation strategy.

Figure 11. Percent of Families Rated at Baseline or Above at Intake and Closure (N = 63)

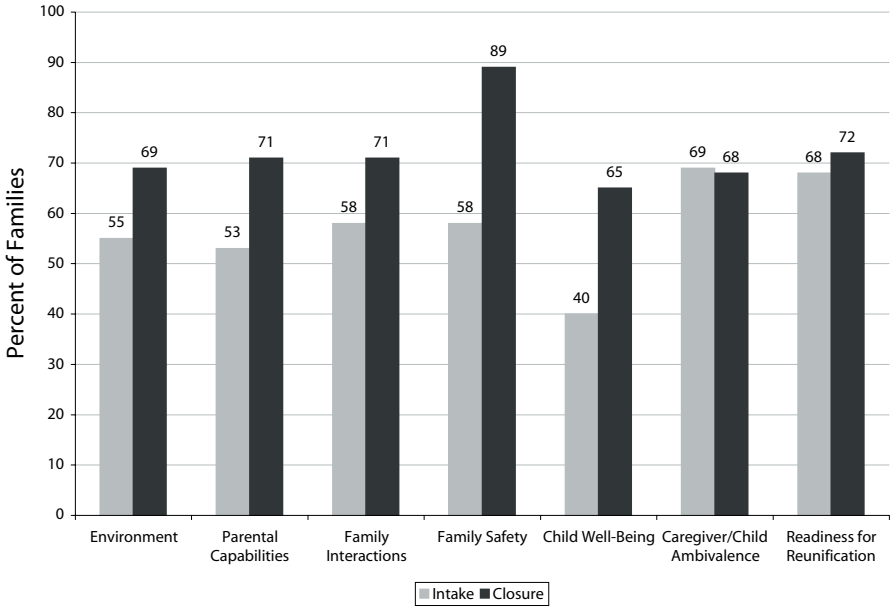


Figure 11 presents the percent of families that were rated as being at or above baseline at intake, compared to those at or above intake at closure. Observation of the domains of Environment, Parental Capabilities, Family Interactions, Family Safety, and Child Well-Being all suggest that families tend to improve during the intervention period, and that the large majority of them are at or above baseline at closure. In fact, a smaller majority of families is at or above baseline at intake on all domains, except Child Well-Being. Although the large majority of families are rated as being above baseline on the remaining two domains, Ambivalence and Readiness for Reunification, there does not appear to be as much positive movement on these domains as on the others. However, it has already been demonstrated that movement occurs in both directions on these domains. Therefore, the validity of being at or above baseline at intake and at closure must be tested separately to see if these ratings are predictive of the treatment outcome of successful reunification. The results of these statistical tests are presented in Table 6.

Table 6. Association Between Being Rated at Baseline or Above on the NCFAS-R and the Success of the Reunification Effort
(N= 61: 43 families reunified, 18 families not reunified)

Domain	Time of Rating	Pearson Chi-Square	df	P Value
Overall Environment	Intake	.173	5	ns
	Closure	4.232	5	p<.05
Overall Parental Capabilities	Intake	4.434	5	p<.05
	Closure	8.329	5	p<.01
Overall Family Interactions	Intake	2.242	5	ns
	Closure	14.037	5	p<.001
Overall Family Safety	Intake	.046	5	ns
	Closure	6.680	5	p<.05
Overall Child Well-Being	Intake	1.841	5	ns
	Closure	11.758	5	p<.01
Overall Caregiver/Child Ambivalence	Intake	2.739	5	ns
	Closure	10.690	5	p<.01
Overall Readiness for Reunification	Intake	2.373	5	ns
	Closure	18.095	5	p<.001

The results in Table 6 show that on each domain, being at or above baseline at the time of case *closure* is statistically significantly predictive of successful reunification. Like the aggregate intake and closure ratings discussed in Table 4, being at or above baseline at *intake* is generally not predictive of successful reunification (this does *not* mean that it is

predictive of failed reunification). The only intake ratings predictive of successful reunification at closure are those indicating being at or above baseline on Parental Capabilities. The strength of association is modest (Chi-Square = 4.434, $p < .05$), but it is statistically significant. Because "parenting problems" was the most frequently cited problem among referred families at intake, it is not surprising that being absent this problem might predict successful reunification. It is also logical from the perspective that the reunification may rely less on resolving parenting issues than on resolving resource issues, legal issues, or environmental issues (e.g., housing) that may be more easily addressed if parenting issues do not need as much attention. Of course, this possible explanation is speculative, but is illustrative of the types of questions that arise when standardized, reliable, and valid measures of family functioning are available to caseworkers conducting practice, or administrators and researchers studying or evaluating program efficacy.

Conclusion

The work performed during the field test of the NCFAS-R focused on demonstrating the reliability and validity of the instrument. The field test was conducted under "real world" conditions by experienced practitioners in three different sites, implementing IFPS-based interventions for reunification cases. The field test was successfully conducted, and the results are very supportive of the efficacy of the NCFAS-R, and also supportive of the efficacy of the use of IFPS-based interventions for reunification cases.

Reliability analyses based on Chronbach's Alphas suggested that the internal consistency of the NCFAS-R subscales is high—high enough for use with confidence in clinical applications. Alphas for domain ratings made a case closure (the ratings of greatest importance) ranged from 0.9 to 0.94. Alphas for the domain ratings at intake were also high, with all but one (Family Safety) above .82. The Alpha for Family Safety was .76, still high enough for use, by convention.

Scale reliability was also examined, using concurrent validity as the analytic approach. Three different methods of demonstrating concurrent validity have been presented:

- Establishing the relationship between treatment outcomes and overall aggregate domain ratings at intake and closure;
- Establishing the relationship between treatment outcomes and improvement or deterioration on domain ratings during intervention; and

- Establishing the relationship between treatment outcomes and at or above the baseline threshold rating at intake and closure.

In each case the hypothesized relationships were demonstrated to be statistically significant and robust. Thus, the NCFAS-R appears to be both reliable and valid for use in IFPS-based reunification interventions. Like all scales, continued reliability and validity testing is desirable, and is ongoing. Part of the continuing effort will focus on the durability of IFPS-based reunifications, relating the findings to the NCFAS-R closure ratings to determine predictive validity.

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