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Child maltreatment evaluations

Summary

This paper describes three types of child maltreatment prevention efforts (primary, secondary and tertiary prevention). The relative importance and uses of child maltreatment evaluations in each type of intervention are discussed. Conceptual issues and research problems associated with the investigation of risk factors and the use of risk factors in the development of child maltreatment assessment procedures are described. The major approaches (with examples) used to assess the likelihood or presence of child maltreatment are outlined. Limitations related to the use of the different assessment approaches are discussed.

Conceptual and measurement issues

A review of several decades of research reveals that there are surprisingly few assessment methods that have adequate psychometric data to justify their use in making individual predictions about the likelihood or presence of child maltreatment (Milner, Murphy, Valle & Tolliver, 1998). Nevertheless, the need for accurate methods of assessing a caretaker's potential for child maltreatment is substantial. In many countries when child maltreatment reports are made, child protective service workers must investigate and make decisions regarding the occurrence of child maltreatment. If child maltreatment is confirmed, case workers must estimate the likelihood of future maltreatment when they make a decision about whether or not to remove a child from the home. In situations where the child is removed, case workers must determine if and when the child should be returned. Assessments about the likelihood of future maltreatment are especially difficult because professionals must predict events (child maltreatment) that may occur at a later date, and intervening variables, such as stress, that occur after the assessment can affect future parenting behavior.

Types of Prevention and Assessment

The use of child maltreatment evaluations vary as a function of the type of intervention that is being considered and the purpose of the evaluation (e.g. post hoc, concurrent, future prediction). Traditionally, prevention/intervention programs have been divided into three types: primary, secondary, and tertiary prevention. Primary prevention programs, which attempt to prevent child maltreatment prior to its occurrence, assume that all parents are at some risk for child maltreatment. Thus, when primary prevention programs are implemented, procedures for determining the likelihood of child maltreatment are not necessary because prevention efforts are directed at all members of the community. Primary prevention programs often focus on beliefs, practices, and conditions in the individual, community, and culture that are thought to increase the likelihood of child maltreatment.

Like primary prevention programs, the goal of secondary prevention programs is to prevent child maltreatment prior to its occurrence. However, secondary prevention programs assume that some parents are more at risk for child maltreatment than other parents and that at-risk individuals can be identified. Thus, when secondary prevention programs are implemented, procedures for determining risk status (concurrent and/or future risk) are needed because intervention efforts are directed only at the high-risk members of the community. Once identified through risk assessment screening, parents thought to be at risk are offered some type of intervention (e.g. parenting education, home visitation) designed to decrease the risk for child maltreatment. In secondary prevention programs, child maltreatment risk assessment may also be used to demonstrate the program impact (i.e. degree of concurrent and/or future risk reduction).

The challenge for secondary prevention programs is to find methods that identify at-risk parents with sufficient sensitivity and specificity to allow interventions to be effectively focused. The low base rate of child maltreatment makes predicting who is at risk for current and future child maltreatment difficult. For example, in a 5 year, prospective study of 14,525 births in England, a child maltreatment incidence rate of 7 in every 1000 births was found (Browne & Herbert, 1997). Based on a 12-item checklist administered to each family at the time of birth, 68% of the families who were later investigated for child maltreatment were correctly identified as at risk (68% sensitivity). Thus, 32% of the families who were investigated were missed (i.e. false negatives) in classifications based on the checklist. Ninety-four percent of families not investigated were correctly classified as low risk based on the checklist (i.e. 94% specificity).

Since most families in the population were nonmaltreating, even with a high level of specificity, the risk checklist indicated that a large number of families (i.e. 892) were at risk when they were not (i.e. false positives). Thus, out of the total of 964 families identified as at risk, only 72, or 7.46%, were reported for child maltreatment. This means that within the group of at-risk families the error rate was 92.54% false positives for child maltreatment.

Some have argued that the challenges inherent in risk screening necessary for secondary prevention make it an impractical endeavor. These authors suggest that efforts aimed at primary prevention, which does not require risk assessment, are a wiser investment of our limited

resources (e.g. Caldwell, Bogat & Davidson, 1988). Unfortunately there is little evidence to suggest that broadly based primary prevention efforts are effective in addressing the needs of high risk families. There is, however, a growing body of literature which suggests that targeted, intensive, secondary prevention programs may be effective in reducing the occurrence of maltreatment (e.g. Olds et al., 1997; Wekerle & Wolfe, 1993). Thus, the development of risk assessment procedures with good predictive validity is an important part of the continued refinement of these promising secondary prevention programs.

Tertiary prevention programs provide interventions (e.g. legal intervention, parent education, therapy) after child maltreatment has occurred. The goal of tertiary intervention is to prevent the reoccurrence of child maltreatment (i.e. recidivism). Following a report of child maltreatment, assessment procedures are used to help confirm that child maltreatment has occurred. This form of post-hoc prediction (i.e. did child maltreatment occur in the past) is difficult because events that follow a report of child maltreatment may affect the variables used in the assessment (e.g. stress, hostility).

After confirmation of maltreatment, risk assessment may be a part of the tertiary intervention process. Child maltreatment risk assessment may be used to determine treatment effects (degree of risk reduction) and to predict recidivism. With regard to recidivism, evaluators must determine which characteristics measured at one point in time are the best predictors of later child maltreatment. The problem is that some factors, such as the current level of caretaker distress, may be good predictors of the likelihood of current child maltreatment, but, because they are not stable across time, may not be very good predictors of the likelihood of future child maltreatment.

Child maltreatment models

At the broadest level, an organizational model developed by Belsky (1980, 1993) describes four ecological levels that may contain risk factors for child maltreatment: the ontogenic, microsystem, ecosystem and macrosystem levels. At the ontogenic (individual) level, child maltreatment models tend to focus on parent factors. At the microsystem (family) level, models target factors such as parent-child interactions and the quality of family relations. At the ecosystem (community) and macrosystem (culture) levels, models focus on factors such as community structure, rates of unemployment, and cultural values.

Another organizational model developed by Cicchetti and Rizley (1981) suggests that factors can be classified along two dimensions of influence: Type (potentiating or compensatory) and temporal (transient or enduring) influence. Thus, factors at each of the ecological levels described by Belsky (1980, 1993) can be described as either potentiating or compensatory factors of a short- or long-term nature. Taken together, these organizational models suggest that techniques used to determine a parent's risk for child maltreatment should include the assessment of multiple factors at multiple levels across time. Risk assessment techniques should also consider the possibility that many factors (both potentiating and compensatory) may interact to increase or decrease risk status.

Types of child maltreatment

The first step in developing or selecting a child maltreatment assessment procedure is making a decision about which type of child maltreatment is the focus of interest. Second, a decision must be made as to what the prediction criterion (e.g. child physical abuse by a parent confirmed by social services) will be. The prediction criterion should represent what the assessment procedure is attempting to predict. Third, an attempt should be made to determine which factors are associated with each specific type of child maltreatment of interest. For example, a list of individual and family risk factors that the literature suggests are associated with child physical and child sexual abuse are presented in Tables 1 and 2, respectively. The literature upon which these factors are based is reviewed elsewhere (e.g. Hanson, Lipovsky & Saunders, 1994; Milner, 1998; Milner & Crouch, 1999; Milner & Dopke, 1997).

Although attempts have been made to construct a single list of risk factors that will screen for all forms of child maltreatment, data presented in Tables 1 and 2 support the need for risk assessment procedures for each type of child maltreatment. For example, being female, single, and young are risk factors for child physical abuse, whereas being male, married, and, relatively speaking, being older are risk factors for child sexual abuse. There are other differences between child physical and child sexual abuse which are evident when the risk factors in Tables 1 and 2 are surveyed.

However, it is also clear from Tables 1 and 2 that a number of risk factors are similar, such as a childhood history of abuse in the family of origin, low self-esteem, isolation, distress, depression, anxiety, and alcohol and drug problems. Further, both child physical and child sexual abusers are more likely to have interactional problems with members of their current family. Because many characteristics for different types of child maltreatment are similar, some have attempted to develop global risk assessment procedures for child maltreatment. The problem with this approach is that many of the factors that are common to the different types of child maltreatment are high base rate characteristics in the general population. When these factors are used without child maltreatment specific characteristics, they produce excessively high false positive classification rates.

In addition, in the development or selection of a risk assessment tool, a decision should be made as to whether static risk factors (e.g. gender, childhood history of abuse, mental health history) should be part of the risk assessment approach. If static variables are included as part of the assessment, they increase the likelihood that those with the characteristics will be detected as at-risk and those without the characteristic will, on a relative basis, be underdetected. Further, since static variables by definition do not change across time, assessment procedures that contain static variables will not have utility in intervention evaluations.

Research problems inhibiting the development of valid and reliable risk assessment procedures

Historically, a major problem that has limited our ability to describe and predict child maltreatment is the way the term child maltreatment has been defined. Initially, child maltreat-

ment was not carefully divided into subtypes. Even today, when child physical abuse is separated from child neglect for research purposes, child physical abuse cases may or may not exclude sexual and/or emotional child abuse. In addition to investigating the specific types (and combinations) of child maltreatment, the study of differences within each type of child maltreatment, as well as whether the case is situational or chronic, is needed. For example, within groups of physically abusive parents, parents who impulsively spank their children and produce minor bruises may be psychologically different from parents who intentionally and repeatedly burn their children.

Even if concise definitions of child maltreatment are used, research problems remain because the existence of maltreatment must be indicated by some criterion. Unfortunately, there is always some attenuation in whatever criterion is used. In addition, when child protective services cases are used in research, child maltreatment that is not reported is not studied. Many experimental studies use only volunteer participants from social service agencies, which further limits the representativeness of the results. Finally, most studies of risk factors use self-report data, and many studies do not control for possible response distortions (e.g. attempts to fake good).

Other problems in child maltreatment research contribute to the likelihood of classification errors. Often matched comparison groups are not used, so it is impossible to determine the extent to which group differences are due to the occurrence of child maltreatment or to group demographic differences (e.g. gender, ethnic background, age, educational level, marital status, number of children). In addition, cross-validation research using a broad array of participants is needed because risk factors may vary for parents from demographically (e.g. ethnically) different populations. The question also arises: Is abuse by biological parents different from child abuse by other caretakers? Further, do risk factors vary as the developmental level of the child varies? Finally, most studies do not provide information on whether a risk factor is a marker or a causal factor. Although marker factors have utility in predicting the risk for child maltreatment, some practitioners may assume that all risk factors are causally related to child maltreatment, which is not the case.

Approaches to child maltreatment risk assessment

This section provides an overview of strategies that have been used to collect information about the occurrence of and risk for child maltreatment. The strategies include the use of interviews, observational measures, general personality measures, offender specific measures, and risk assessment models. As part of the discussion of the latter three assessment approaches, examples will be given of frequently used child physical and child sexual abuse measures.

Interviews

The use of interview procedures to evaluate suspected cases of child maltreatment as well as possible risk for child maltreatment remains a common practice. Interviews are often used as the sole source of information despite a substantial body of empirical literature which indicates

that the interviewing process is fraught with difficulties that threaten the reliability and validity of this procedure.

Concerns regarding reliability and validity of interview data are paramount in interviews aimed at obtaining information from child victims of maltreatment (see Bruck, Ceci & Hembrooke, 1998, for a review of the difficulties inherent in interviewing children). In response to this growing concern with the interview as an assessment technique in child maltreatment cases, a literature detailing sound interview techniques for use with children (e.g. Saywitz & Camparo, 1998; Saywitz & Snyder, 1996; Yuille, Hunter, Joffe & Zaparniuk, 1993) has begun to emerge.

With adult informants, structured interviews are preferred because they tend to generate more reliable data than unstructured interviews. In structured interviews, information is gathered through a planned process, in a systematic effort to ask questions about different domains of interest, such as depression, how parents view their children, and victimization history.

Unfortunately, there is a paucity of research on the relative predictive power of specific interviewing procedures in child maltreatment evaluations. However, for more than 50 years, evidence has indicated that the information gathered and the decisions made in the interview process can be contaminated by interviewer bias (e.g. Rice, 1929). In addition, interactionist theory suggests that responses to child maltreatment case data are socially constructed and are impacted by many factors, including the characteristics of the observer (Hawkins & Tiedeman, 1975). Supporting this view, studies indicate that many factors unrelated to the abuse event can impact the interviewing process, information integration, and reporting decisions.

For example, personal characteristics of the interviewer can impact the estimation of whether abuse has occurred. Nuttall and Jackson (1994) found that professionals (clinical social workers, pediatricians, psychiatrists, and psychologists) who had been sexually and/or physically abused as children were more likely to believe allegations of child sexual abuse. With respect to personal acceptance of corporal punishment, Morris, Johnson, and Clasen (1985) reported that physicians who indicated a high tolerance for physical discipline were less likely to report child physical abuse.

Studies indicate that evaluator gender can impact the interpretation of interview data. Herzberger and Tennen (1985) reported that females were more likely than males to view harsh discipline as inappropriate. Kendall-Tackett and Watson (1991) and Jackson and Nuttall (1993) reported that female, relative to male, professionals were more convinced that abuse had occurred when they evaluated stories describing possible child sexual abuse. Attias and Goodwin (1985) and Crenshaw, Lichtenberg, and Bartell (1993) reported female, compared to male, professionals were more likely to report suspected child sexual abuse. In contrast, in a group of psychologists, Kalichman (1992) failed to find gender differences in the likelihood of reporting child abuse. Similarly, in a sample of nurses, O'Toole, O'Toole, Webster, and Lucal (1993) failed to find gender differences in the recognition of child abuse and the likelihood of reporting child abuse. Thus, although gender effects are frequently reported, gender may selectively interact with other factors, such as professional affiliation, and study results appear to vary based on the type of dependent variable (confidence that abuse had occurred, likelihood of reporting) under investigation.

Table 1. *Individual and Family Risk Characteristics for Child Physical Abuse*

Individual Characteristics
    Parent demographic characteristics
        Female
        Single parent
        Younger parent (teens and early 20's)
        Lower levels of education
        Nonbiological parent
        Childhood history
            Physical abuse, sexual abuse and/or neglect
            Poor relationships with parents
            Lack of nurturing parents
        Lower SES status (poor housing, unemployment, etc.)
    Physiological factors
        More physiological (nonsexual) reactivity to child stimuli
        Physical health problems
    Cognitive/affective characteristics
        Low self-esteem and poor ego-strength
        Differences in child-related information processing
            Perceptions of child
            Attributions related to children's behavior
            Evaluations of children's behavior
            Expectations of children's compliance
        Less empathy
        Negative affectivity
            Distress
            Depression
            Anxiety
            Hostility/anger
            Psychopathology
        Behavioral characteristics
            Alcohol and drug use
            Social isolation
            Problematic parent-child interactions
            Aversive parental disciplinary strategies
                More power assertion (verbal and physical assault)
                Less induction (talking and reasoning)
                Less frequent use of rewards
            Inadequate coping skills

Family Characteristics
    Sociological characteristics
        Lack of resources
        Large number of children
        Lack of support systems
        Multiple environmental stressors
    Social isolation
    Value the use of force
    Lack of cohesion in current family
    Marital relationship problems
        Communication problems
        Verbal and physical conflict
    Child factors
        Appearance
        Behavior

Table 2. *Individual and Family Risk Characteristics for Child Sexual Abuse*

Individual Characteristics
    Parent demographic characteristics
        Male
        Married
        Age (20's and 30's)
        Lower levels of education
        Nonbiological parent
        Childhood history
            Physical abuse and sexual abuse
            Poor relationship with father
            Lack of nurturing parents
        Modestly correlated with lower SES status
    Physiological factors
        Sexual arousal to children
        No data on possible hyperreactivity to nonsexual child stimuli
    Cognitive/affective characteristics
        Low self-esteem and poor ego-strength
        Differences in child-related information processing
        Shy, introverted, and withdrawn
        Passive, dependent, and immature
        Dominant, authoritarian, and controlling
        Lonely
        Negative affectivity
            Distressed
            Depressed
            Anxious
        Sexual beliefs/emotions
            Rigid moral attitudes
            Inappropriate sexual expectations
            Poor sexual identity
            Sexual functioning fears
        Sociopathic/antisocial personality
        Denial or cognitive distortions of the abuse incident
    Behavioral characteristics
        Alcohol and drug problems
    Social isolation
    Poor peer relationships
    Problematic parent-child interactions
        Distorted perceptions of parent-child relationship
        Role confusion, role reversal
        Fewer early childcare behaviors
    Sexual problems
        Paraphilias (exhibitionism, frotteurism, voyeurism)
        Sexual dysfunctions
    Lack of social skills

Family characteristics
    Social isolation
    Crisis proneness
    Lack of family cohesion, fear of family separation
    Marital relationship problems
        Communication problems
        Marital conflicts
        Lack of spousal support
        Spousal sexual problems

Supporting this possibility, Boat and Everson (1988) found that the profession of the evaluator was related to the type of information viewed as important. In evaluating the likelihood of child sexual abuse, child protection workers, mental health workers and physicians were more convinced by specific indicators (e.g. medical evidence, child's verbal description of abuse) than were law enforcement officers. In contrast, Kendall-Tackett and Watson (1991) found that when general victim symptoms, such as depression, aggression, and fear were present, law enforcement professionals, compared to mental health workers, were more convinced that child abuse had occurred.

Observational methods

The reports of behavioral differences between offenders and nonoffenders (e.g. see Tables 1 and 2) suggest that direct observations of parent-child interactions may have utility as a strategy for collecting information in child maltreatment evaluations. For example, physically abusive parents have been observed to exhibit a number of behavioral differences, including being more aggressive, negative, and controlling, relative to nonabusive parents (Wolfe, 1985). The parent-child interaction in physically abusive versus nonabusive dyads has been noted to be qualitatively and quantitatively different (Browne & Saqi, 1987). Further, abused children, compared to nonabused children are less likely to exhibit secure attachment behaviors toward their caregiver (Browne & Saqi, 1988; Egeland & Sroufe, 1981).

Although observational methods often show group differences, studies using observational measures to individually classify parents as abusive and nonabusive have yielded mixed results, with sensitivity and specificity ranging from chance to adequate levels (e.g. Deitrich-MacLean & Walden, 1988; Starr, 1987; Tuteur, Ewigman, Peterson & Hosokawa, 1995; Walden, Grisaff & Deitrich-MacLean, 1990). Given the problem with individual classifications, some have argued (e.g. Morton & Browne, 1998) that observational measures might best be utilized in conjunction with other risk assessment strategies, in the form of multi-domain, multiple-measure, and multi-stage assessment.

General psychological assessment

A variety of standardized personality measures have been used to assess for child physical and sexual abuse (see Ammerman & Hersen, 1992; Hansen & MacMillan, 1990; Milner, 1991b; Milner et al., 1998; Straus, 1993, for reviews). However, a review of the literature on child physical and sexual abusers indicates that there is no single personality profile that has been consistently found in these heterogeneous populations (APA, 1995; Milner et al., 1998). For most general personality measures, sensitivity and specificity data are lacking or, as might be expected, the data suggest inadequate individual classification rates.

Nevertheless, numerous personality characteristics thought to be associated with child physical abuse have been assessed using standardized questionnaires in an attempt to confirm child maltreatment in a reported case. Of the characteristics that have been explored, measures of distress have received considerable attention in the theoretical and empirical literature

on child maltreatment (e.g. Hillson & Kuiper, 1994; Milner, 1993, in press). One standardized measure of parents' perceptions of stress is the Parenting Stress Inventory (PSI, Abidin, 1995).

The PSI is a 120-item self-report measure designed to assess three sources of stress: Parent, child, and general life stress. Adequate internal consistency and test-retest reliabilities have been reported for the PSI (Abidin, 1995). Further, higher PSI scores are associated with at-risk (Abidin, 1995; Holden & Banez, 1996; Milner, 1986) and physical abuse offender (Abidin, 1995; Mash, Johnston & Kovitz, 1983) status.

Although the PSI has shown an ability to detect group differences between abusers and nonabusers, data are not available on the PSI individual classification rates (sensitivity and specificity) for child physical abusers and matched comparison parents. Another concern regarding the PSI is the fact that PSI scale scores are elevated for a variety of nonabusive parent groups; hence, elevated PSI stress scores are not specific to abusive parents (Abidin, 1995). Although the PSI has limited predictive utility when used alone, the PSI may be an important component of a multidomain assessment, particularly when other risk factors (e.g. negative attitudes and beliefs toward children, poor parent-child attachment) are present.

With regard to sexual abuse, the literature has described a number of offender and familial factors thought to be associated with child sexual abuse (see Table 2). As was the case with child physical abusers, information regarding individual classification rates based on measures of general psychological functioning is largely unavailable for the prediction of child sexual abuse and when it is available it is not adequate.

Of the general psychological measures used to assess child sex abuse, the Minnesota Multiphasic Personality Inventory (MMPI) has received considerable attention as a means of assessing personality characteristics of perpetrators. Several studies have suggested that child sexual abusers produce consistent group mean MMPI profiles. However, a number of problems are encountered when the MMPI is used to classify individual sex offenders (see Milner et al., 1998, for a review). One problem is that group mean MMPI profiles are not highly reflective of the individual members of the group and, thus, can be misleading. Another problem is that the profiles observed in studies with offenders against children are not specific to this group. Thus, existing MMPI profile data do not support the use of the MMPI as a screening device for differentiating child sex offenders from other deviant individuals and/or from general population adults. However, use of the MMPI in treatment planning for offenders remains a valuable application.

Specialized offender assessment techniques

Self-report measures

In this section, two assessment techniques (the Michigan Screening Profile of Parenting and the Child Abuse Potential Inventory) that were specifically designed to assess child physical abuse risk are presented. Then, two specialized assessment techniques (the Abel-Becker Cognition Scale and the Multiphasic Sex Inventory) that were designed to assess some of the factors related to child sexual abuse are briefly reviewed.

The Michigan Screening Profile of Parenting (MSPP, Schneider, Helfer & Pollock, 1972), is a 77-item self-report questionnaire initially designed to screen for 'child abuse and/or neglect' (Helfer, Hoffmeister & Schneider, 1978). The MSPP items assess four factors: Emotional Needs Met, Relationship With Parents, Expectations of Children, and Coping. The MSPP scoring is complex and requires computer analysis. According to the manual, the Emotional Needs Met factor, which produces the fewest misclassifications, is scored first to detect parents with problems in parenting. A second step in scoring involves a procedure called 'convergence analysis,' which is also used to screen parents as having problems in parenting.

Although the MSPP was developed as an objective screening scale for child abuse and/or neglect, excessive levels (30% to 60%) of false positive classifications of general population and low-risk parents led the authors to recommend that it should be used only as a screen for problems in parenting (Schneider, 1982). At present, the most appropriate applications of the MSPP include using the scale in conjunction with other screening measures to assess problems in parenting or using the scale to assist in treatment planning.

The Child Abuse Potential (CAP) Inventory is a 160-item questionnaire that is widely used as a child physical abuse screening device (Milner, 1986, 1994a, 1994b). The CAP Inventory contains a physical abuse scale and six factor scales: distress, rigidity, unhappiness, problems with child and self, problems with family, and problems from others. The CAP Inventory also contains three validity scales to detect response distortions.

Numerous studies support the reliability and validity of the CAP as a screening tool for child physical abuse (see Milner, 1986, 1994, for reviews). Individual classification rates for abusive and nonabusive parents in social service settings is high with overall correct classification rates in the mid-80% to low-90%. Several studies examining the abuse scale specificity indicate 100% correct classification rates for low-risk caregivers, although under certain conditions (e.g. presenting with a child with a medical problem) the scale's specificity is reduced (Milner, 1991a). Unlike most other child maltreatment assessment techniques, the CAP Inventory tends to have more false negative classifications than false positive classifications.

In addition, the CAP abuse scale's ability to prospectively identify maltreating parents has been examined, and a significant relationship between abuse scores and subsequent physical abuse has been found (Milner, Gold, Ayoub & Jacewitz, 1984). The CAP abuse scale also has been used successfully to evaluate a variety of secondary and tertiary prevention programs.

The Abel-Becker Cognition Scale (Abel et al., 1984) is a 29-item questionnaire designed to assess the cognitive distortions characteristic of perpetrators of child sexual abuse. The reliability of the scale appears to be adequate, and initial validity work indicated that the subscales were meaningfully associated with certain child sexual abuse case characteristics (i.e. duration of child molestation, number of different categories of molestation involved; Abel et al., 1989).

Several studies have reported on the scale's ability to produce expected group differences in comparisons of child molesters and a number of types (e.g. normal, rapists, clinicians, lawyers, police) of comparison groups (Abel et al., 1989; Stermac & Segal, 1989). However, these findings have not always been replicated (e.g. Pithers, 1990), and individual classification rates are not available. Nonetheless, the Abel Becker Cognition Scale is a rich source of information regarding offender cognitions and may be useful in treatment planning.

The Multiphasic Sex Inventory (MSI, Nichols & Molinder, 1984) is a 300-item multidimensional scale that contains specific paraphilia subscales (child molestation, rape, and exhibitionism) along with subscales measuring sexual obsessions, social/sexual desirability, cognitive distortions and immaturity, justifications, sexual knowledge and beliefs, and sexual inadequacies. The MSI also contains a Lie Scale and a Treatment Attitudes Scale. The MSI Child Molestation Scale measures the extent of child molestation by sampling specific behaviors, whereas the MSI Justifications Scale measures excuses used by offenders. The MSI Cognitive Distortion and Immaturity (CDI) Scale, however, is more complex and has been suggested to measure self-accountability and early childhood cognition. Overall, the MSI has adequate reliability, substantial face validity, is sex offender specific, and points to a variety of areas thought to be important in sex offender treatment. At present, however, psychometric data are limited, and the authors state that the MSI should not be used for screening general population samples.

Measures of physiological reactivity

A number of studies have reported differences in physiological reactivity between child physical and sexual abusers and nonabusers (see Milner et al., 1998, for a review). Physiological functions that have been explored in child physical abusers include measures of heart rate, blood pressure, respiration, skin conductance, and for child sexual abusers penile tumescence has been examined.

Findings regarding physical abuse suggest that child physical abusers, compared to nonabusers, display greater physiological reactivity in response to child related stimuli (e.g. smiling or crying child; Frodi & Lamb, 1980). Further, individuals at risk for child physical abuse display heightened reactivity to nonchild-related stressors (e.g. cold pressor; Casanova, Domanic, McCanne & Milner, 1992). Although group differences have been established between abusive and at-risk parents in laboratory settings, questions regarding the generalizability of these findings remain. Further, the utility of physiological measures, either alone or in conjunction with other screening procedures, in correctly classifying abusive individuals remains to be explored.

Studies of physiological reactivity in child sexual abusers have focused primarily on measures of sexual arousal (i.e. penile tumescence) to deviant sexual stimuli. Group differences in deviant sexual arousal have been reliably obtained in comparisons of nonabusers and extrafamilial (but not intrafamilial) offenders (see Milner et al., 1998, for a review). Studies of classification rates based on deviant sexual arousal suggest some promise, however classification rates vary considerably across studies. The fact that some individuals may intentionally alter their responsiveness to measures of deviant sexual arousal clearly contributes to the variability in this measure's utility in classifying individual respondents. The use of physiological measures is further compromised by the fact that special laboratory equipment and technical training is required, making this risk assessment strategy impractical in most field applications.

Specialized risk assessment models

Traditionally, risk assessment in child protective services relied heavily on worker expertise and agency policies and guidelines (Cicchinelli, 1995). In the past 15 years, however, specialized risk assessment models have been developed and implemented in CPS agencies in most states in the United States. The specialized systems, compared to traditional CPS assessment methods, tend to be more systematic and structured in defining the criteria used to determine risk of abuse (Doueck, English, DePanfilis & Moote, 1993).

Although limited research has been generated on many specialized risk assessment models, problems with reliability and validity appear to be common (English & Pecora, 1994). Also, in rationally (versus empirically) derived risk assessment models, the variables included may not account for unique variance in relation to other factors in the model or may not even be predictive of abuse. For example, Johnson (1991) compared an empirically validated risk assessment model with a face-validated risk assessment model and found that the empirically derived model accurately predicted recurrence of abuse in 73.3% of cases, whereas the face-validated model accurately predicted abuse in 50% of the cases. The face-validated instrument included 14 items, 3 of which were statistically related to reabuse, whereas the empirically derived model contained 5 items, all of which were related to abuse recurrence.

Unfortunately, the correct classification rates for existing specialized risk assessment models range from 15% to 83%, with no models having sufficiently high sensitivity and specificity for use as the sole determinant of risk status (Pecora, 1991). Further, the methods used to combine various risk factors in some models may result in inaccurate estimates of risk by ignoring the intercorrelations and interactions between factors (Murphy-Berman, 1994; Wald & Woolverton, 1990).

Conclusions

Current models of child maltreatment suggest that risk status might best be conceptualized as a dynamic construct that is determined by a variety of factors from multiple domains. Although many risk factors appear to be common to different forms of child maltreatment, there also appear to be many risk factors that are unique to specific types of child abuse. Existing risk assessment strategies cover a variety of domains and some type-specific strategies have been developed. Unfortunately, most existing techniques fall short of providing adequate individual classification rates with regard to maltreatment risk. The most consistent problem faced with most strategies is the lack of measure specificity. This problem, in combination with the low base rate of child maltreatment, results in high rates of nonmaltreating parents being misclassified as at risk.

Assessment procedures that produce high rates of false positive classifications are problematic for both secondary and tertiary prevention programs. For example, in secondary prevention programs, one problem is the loss of valuable resources when intervention efforts are focused on parents who do not need the intervention. Although there appears to be increasing confidence in the effectiveness of secondary prevention efforts (e.g. Leventhal, 1996), for con-

fidence to continue to grow, it is increasingly important to accurately target these efforts. In tertiary prevention programs, the problem with high rates of false positive classifications is that many parents will be falsely accused of child maltreatment. However, it should be remembered that false negative classifications still occur and these errors contribute to the likelihood that some maltreated children will not receive needed protection.

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