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The Utility of the Rorschach Coping Deficit Index as a Measure of Depression and Social Skills Deficits in Children and Adolescents

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Little research has evaluated the validity of the Coping Deficit Index (CDI) of the Rorschach Comprehensive System (CS). Because the CS Depression Index (DEPI) has frequently been found to yield false negatives, the CDI has been proposed as an alternative means of assessing social coping skills that may relate to depression. This study examined potential correlates of the CDI using the Personality Inventory for Children–Second Edition (PIC-2). Sixty-five children and adolescents were assessed with the Rorschach CS and the PIC-2. None of the PIC-2 clinical scales or subscales measuring withdrawal or social skills predicted a positive CDI, and none of the depression-related PIC-2 scales predicted a positive CDI or DEPI. The only significant relationship found was a negative relationship between the CDI and a PIC-2 subscale measuring sleep problems and preoccupation with death. Implications of these findings for clinicians and further research are discussed.

Keywords: Rorschach; Coping Deficit Index; childhood depression; social skills

Assessing depression effectively in children can be a complex task. Views of how or even whether depressive disorders manifest in children have undergone much change in the past 20 years. It is now widely assumed that the core features of depression are the same for patients of all ages and that those symptoms are equally recognizable in all populations, although research has continued to identify differences in how children express depression, compared to adults. Specifically, in children and adolescents, externalized behaviors or outwardly directed feelings of distress are most likely to be noticed by others. In addition, high levels of comorbid disorders (or symptoms of comorbid disorders) may increase the likelihood that depression in children will be overlooked or misunderstood. The most common comorbid disorders with depression in children are anxiety disorders and disruptive behavior disorders, both of which tend to dominate the clinical picture and obscure a child's internal suffering (Hammen & Compas, 1994). Despite the need for accurate assessment, depressive features in children may be harder to assess due to the fact that children are less able to articulate their feelings and, due to lack of patience, interest, or reading ability, are often unable to complete self-report measures frequently used with adults and adolescents.

The only formal modification made to the *Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition* (DSM-IV-TR; American Psychiatric Association, 2000) for diagnosing depression in children is an allowance for the presence of irritability as a substitute for depressed mood. However, research has identified a number of other considerations when depression occurs in children. For example, children are more likely to experience hallucinations, particularly auditory hallucinations (e.g., Mitchell, McCauley, Burke, & Moss, 1988). Consistent with the most common comorbidities, depressed children are very likely to suffer from excessive worrying and anxiety, as well as oppositional behavior and conduct problems (Goodyer & Cooper, 1993). Children and adolescents who are depressed are significantly more likely than adults to manifest somatic symptoms and complaints (Allgood-Merten, Lewinsohn, & Hops, 1990). Finally, social withdrawal and associated deficits in social capabilities appear

to be particularly salient features of depression in children, whereas adults are more likely to attempt to maintain an acceptable social façade (Kashani, Rosenberg, & Reid, 1989).

It is now widely accepted that in children, as in adults, depression can be extremely debilitating and even life threatening. In addition to potentially unrecognized inner suffering, depressed children are highly likely to experience impairment in their school performance and peer relationships (Rao, Ryan, & Birmaher, 1995; Williamson, Birmaher, Anderson, Al-Shabbout, & Ryan, 1995). Further elucidating the critical relationship between depression and social coping, children are more likely to become depressed if they are excluded by their peers beginning at an early age (Gazelle & Ladd, 2003). In addition, self-oriented and socially prescribed perfectionism appear to interact with social stress to cause depression and anxiety (Hewitt et al., 2002). Interpersonal neediness also may predict increased symptoms of depression (Little & Garber, 2000), whereas social problem-solving ability may ameliorate some symptoms of depression in adolescent girls (Frye & Goodman, 2000). The relatively recent shifts in the understanding of childhood depression have contributed to the fact that the assessment of depression in children is an evolving process with no "gold-standard" technique. Yet, as assessment attempts continue to be considered important, a number of different methods are in current use, including projective apperception tests, drawings, and tasks. Short, symptom-focused self-report measures, frequently used with adults, can also be used with children, particularly when a clinician/interviewer assists a child in their completion. However, there are often discrepancies found between a child's self-report and reports of the child's symptoms from parents, teachers, and peers. These differing results caution against using childhood self-report as a sole method of assessment. For example, the authors of the Children's Depression Index advise that it is most useful as part of a multi-instrument battery (Kazdin, Colbus, & Rodgers, 1986).

Depressed children are less likely than adults to report their depressed mood and hopelessness, making childhood self-report particularly subject to underdiagnosis. Accordingly, a number of parent and teacher reports have been developed. The Personality Inventory for Children, Second Edition (PIC-2) is one such instrument. It is a personality measure completed by parents with their child in mind, and it provides information on a broad spectrum of behavioral and emotional concerns through clinical scales that describe diagnostically related symptom clusters. The PIC-2's scales have an internal consistency ranging from .75 to .91 (median = .84) in the standardization sample, and .81 to .95 (median = .89) in a clinical sample. One concern with regard to the PIC's validity is that it may measure

the participant's personality more so than the child's (Achenbach, 1981) or that results may simply summarize the perception of the child that a participant wishes the clinician to believe he or she has (Cronbach, 1984). Lachar, Kline, and Gdowski (1987) addressed this criticism by testing mothers using the MMPI and found that maternal psychopathology was not related to the results of the PIC records provided by the mothers in the study. Wirt, Lachar, Klinedinst, and Seat (1981) have recognized the possibility of parental bias when parents report on child behavior, but the authors also point out that the PIC's validity scales appear to effectively identify invalidating response patterns. Several studies have examined the effect of instructions to "fake bad" or "fake good" on the PIC and have found that the PIC's validity scales nearly always successfully identify invalid response sets (e.g., Daldin, 1984; McVaugh & Grow, 1983).

Whereas the PIC-2 clinical scales provide information on many dimensions, there are three scales that are of particular concern to this research. External validity evidence for these scales was collected by the test developers via clinician, teacher, and self ratings, and clinician ratings were subsequently factor-analyzed. Findings from these validity studies are reported in the PIC-2 manual (Lachar & Gruber, 2001). The Social Skills Deficits Scale is a 28-item scale that assesses both the quantity and quality of peer relationships. The two subscales are Limited Peer Status (SSK1) and Conflict With Peers (SSK2). The overall SSK scale has a .41 correlation with the clinician-rating factor named Disruptive Behavior, and a .40 correlation with the factor termed Psychological Discomfort. The subscale SSK2 shows even stronger correlations with these factors, with correlations of .49 and .43, respectively. Children who elevate these scales generally have very few friends, rarely seek out social interactions, are frequently teased by peers, and are often socially isolated. The Psychological Discomfort Scale is made up of three subscales, the second of which is Depression (DIS2). The DIS scale correlates well with clinician ratings on the factors Disruptive Behavior (.52); Psychological Discomfort (.52); and Serious Psychopathology (.45). T-scores greater than or equal to 60 on this scale are often associated with mood lability or irritability. Children with scores in this range may be depressed and worried, and they often feel lonely and have poor self-esteem. T-scores greater than or equal to 70 may further suggest internalizing symptoms such as hopelessness and anxiety or nervousness. Finally, the Social Withdrawal (WDL) Scale is a 9-item scale intended to assess social withdrawal and contains the following two subscales: Social Introversion (WDL1) and Isolation (WDL2). This scale has a .34 correlation with clinician ratings on the Psychological Discomfort factor. WDL scale T-scores greater than or equal to 60 are often

obtained by children who are described as socially withdrawn and quiet. T-scores greater than or equal to 70 further suggest social discomfort, shyness, quietness, and apprehension in social situations (Lachar & Gruber, 2001).

The Rorschach CS has enjoyed widespread acceptance as a means of assessing children's personality functioning directly (e.g., Archer & Newsom, 2002; Ball, Archer, & Imhof, 1994), and it falls within the cognitive ability of most school-aged children to complete. However, the Rorschach CS has come under criticism within recent years, particularly with respect to coding reliability, normative data, cross-cultural applications, and aspects of validity, as summarized by Meyer and Archer (2001). The value of the entire Rorschach CS has recently been the subject of intense debate by many respected psychologists on both sides of the argument, as several leading personality assessment journals have devoted space to empirically driven debates in recent years. However, as Meyer and Archer also point out, the validity of the Rorschach has generally been found to be similar to that of other popular psychological tests.

The Depression Index (DEPI) has fared poorly in validity studies (e.g., Archer & Gordon, 1988; Ball, Archer, Gordon, & French, 1991; Jorgensen, Andersen, & Dam, 2000). Exner (2003) has acknowledged that the DEPI has been disappointing in its diagnostic utility, particularly within child and adolescent populations, and in an ongoing effort to improve it, Exner offered the Coping Deficit Index (CDI) as a means of identifying some characteristics of depression in the way of social skills deficits. Yet, despite a conceptual link between the CDI and aspects of depression and social competence, little research has explored whether or how the CDI may accomplish its purported goals or relate to these or other characteristics as measured by other psychological test instruments.

The Rorschach CS CDI has received little attention in published research, and more than a decade after its introduction in 1991, there is still little empirical basis for understanding how best to use or interpret a positive CDI finding. Meyer and Archer (2001) identified the CDI as one of several Rorschach variables that remain underresearched. Because it was created as a byproduct of a revision of the DEPI, the CDI has been associated with depression from its inception. However, it is unclear precisely what the relationship between these indices may be. The variables that make up the CDI are said to be associated with interpersonal skills and social comfort, and a positive CDI may signify a predisposition to distress (Exner, 1991, 2003). The relationship between the CDI and social skills and social confidence makes it theoretically well-suited for identifying cardinal interpersonal features of depression in children and adolescents, who may be more likely than adults to show social skills deficits when depressed (Kashani et al., 1989).

Following part of the research methodology that was first used to test the validity of the DEPI as a depression measure in children and adolescents (Ball et al., 1991), this investigation proposed to replicate earlier findings with the DEPI and to extend this research to determine whether there is a relationship between the CDI and one or more of several scales related to depression or social skills on the PIC-2 (Lachar & Gruber, 2001). Due to an apparent link in the research between childhood depression and social deficits, and the theory behind the development of the CDI, it was hypothesized that a positive CDI would predict a clinical elevation on one or more scales from the PIC-2 that are associated with social deficits. In an effort to compare the relative efficacy of the Rorschach (CS) CDI to the DEPI for identifying depressive features in children and adolescents, this study also examined correlations between both the DEPI and the CDI on scales measuring depression symptoms within the PIC-2.

METHOD

Participants

Participants included 65 children and adolescents who were referred for psychological evaluation to the Department of Psychiatry and Behavioral Sciences at Eastern Virginia Medical School (EVMS). The sample was obtained by selecting from archival records each patient between the ages of 6 and 16 who was given both the Rorschach CS and the PIC-2 as part of a psychological assessment between April 1, 2002, and November 15, 2003. Patient referral questions included learning or emotional/behavioral problems. Children were most frequently referred by schools, various mental health and physician specialty groups, or directly by parents.

Profile of Sample

The 65 participants fell between the ages of 6 and 16, inclusive, with a mean age of 10.85 ($SD = 2.73$). More than two thirds of the sample were male (69.2%, $n = 45$), whereas roughly 30% were female (30.8%, $n = 20$). A majority of the sample participants were Caucasian (89.2%, $n = 58$). The remainder of the sample was made up of other ethnic groups (3.1%, $n = 2$), Hispanics (4.6%, $n = 3$), and African Americans (3.1%, $n = 2$). Socioeconomic status of the sample was estimated using the employment classifications in the Barona Index for estimating premorbid intellectual functioning (Barona, Reynolds, & Chastain, 1984). Overall, the children in the sample were estimated

to come from relatively high socioeconomic status homes, with 40.0% having parents employed at the professional level (*n* = 26); 23.0% employed at the managerial level (*n* = 15); 6.2% employed at the skilled labor level (*n* = 4); and 4.6% employed at the semiskilled labor level (*n* = 3). Parental occupation information was not available for 26.2% of the sample participants (*n* = 17). A large proportion (84.6%, *n* = 55) of the PIC-2 participants were mothers, whereas some (6.2%, *n* = 4) were fathers. In a few cases (4.6%, *n* = 3), the PIC-2 was completed by both parents or by another caretaker (grandmother, uncle, foster parent; 4.6%, *n* = 3).

Participants' grade levels ranged from 1st to 11th grade. The majority of participants (89.2%, *n* = 58) had never repeated a grade, whereas 9.2% of the participants had (*n* = 6). In addition, 16.9% (*n* = 11) of the participants were receiving special education services at the time of evaluation, whereas 78.5% (*n* = 51) were not. The remaining three participants (5.0%) were being home schooled at the time they were evaluated. Information concerning intellectual potential was available for 62 participants. The mean intelligence quotient for the sample was 97.5 (range = 68–128, *SD* = 16.38).

Information was also collected with regard to past and present mental health treatment of the participants and psychiatric histories of their families, as well as any medical or psychiatric diagnoses of the participants. This information was available for 62 of the 65 participants, and all data were provided by the participants' parents. With regard to previous psychiatric treatment, 36.2% (*n* = 17) reported having had no prior treatment. Nearly two thirds (58.4%, *n* = 38) reported prior use of psychiatric medication, and slightly more than one third (36.9%, *n* = 24) reported previous outpatient treatment. The remainder of the participants had had either inpatient treatment (4.6%, *n* = 3) or some other form of psychiatric treatment (religious counseling; 3.1%, *n* = 2). With regard to current psychiatric treatment, 32.3% (*n* = 21) were reported to be receiving no treatment at the time of the evaluation. More than half of the total sample (56.9%, *n* = 37) were taking psychiatric medication, whereas nearly one third (27.7%, *n* = 18) were currently receiving outpatient treatment. Two participants (3.1%) were receiving some other form of psychiatric treatment (school guidance counselor and religious counseling). In terms of nuclear family psychiatric history, almost half (46.2%, *n* = 30) reported no psychiatric illness. Nearly one quarter (24.6%, *n* = 16) reported Attention-Deficit/Hyperactivity Disorder (ADHD) in the immediate family, and slightly fewer (20.0%, *n* = 13) reported depression. Most of the participants in the sample for whom such information was available had no diagnosed medical illnesses (76.9%, *n* = 50).

The participants in the sample were assigned a variety of psychiatric diagnoses during the original assessment, although one participant had no diagnosis, and in one case, no data were available with regard to psychiatric diagnosis. Most common was ADHD, specified in 55.4% of cases (*n* = 36). Slightly less than one quarter of these participants were diagnosed with a depressive disorder (24.6%, *n* = 16), whereas somewhat fewer were diagnosed with Adjustment Disorder (21.5%, *n* = 14). Of these Adjustment Disorder diagnoses, most were either depressed (*n* = 7) or were a mixed presentation of depression and anxiety (*n* = 4).

Procedure

The records of children who met the above criteria, and whose records contained valid Rorschach and PIC-2 protocols, were selected for inclusion. For the Rorschach, a valid protocol was defined by test administration according to standard procedures in which there was a minimum of 14 responses (Exner, 2003). For the PIC-2, the following validity criteria were used, as specified by the PIC-2 manual: Inconsistency (INC) less than 70; Dissimulation (FB) Scale scores less than 90, and Defensiveness (DEF) Scale scores less than 60. A systematic review of records yielded 66 potential participants who had been administered the two specified instruments. One individual was excluded due to an FB score of greater than 90 on the PIC-2. All remaining 65 cases met the specified inclusion criteria.

Instruments

Rorschach: Comprehensive System (CS; Exner, 1986, 1990, 1995, 2001). The Rorschach CS variables under consideration were the Coping Deficit Index (CDI) and the Depression Index (DEPI).

Personality Inventory for Children–Second Edition (Lachar & Gruber, 2001). The PIC-2 is a parent-completed, broad-spectrum personality instrument for children and adolescents ages 6 to 16. The variables used herein included the following scales and their subscales: Psychological Discomfort (DIS), Social Withdrawal (WDL), and Social Skills Deficits (SSK).

Data Analyses

Before calculating interrater reliability for the cases in the study, kappa coefficients were first obtained between each of the individual rater's codings and the codings in the Exner workbook to establish competence in the Exner system. A master's level psychometrician and an advanced graduate student (the first author) first scored 20 randomly selected responses from Exner's most recent scoring workbook (Exner, 2001). They demonstrated

TABLE 1
Rorschach Total Responses and Lambda, and Personality Inventory for Children–Second Edition
(PIC-2) Validity and Clinical Scales—Descriptive Statistics for Sample Participants

Scale or Variable	Minimum	Maximum	Mean	Standard Deviation
Rorschach variables				
R (total responses)	14	41	20.18	6.44
Lambda	.07	18.00	2.25	2.76
CDI	1	5	3.75	.94
DEPI	1	6	3.38	.96
PIC-2 scales				
INC (Inconsistency)	40	69	54.58	6.69
FB (Dissimulation)	40	89	58.69	12.19
DEF (Defensiveness)	21	63	43.34	7.92
DIS (Psychological Discomfort)	42	90	67.08	12.73
DIS1 (Fear and Worry)	40	90	60.82	12.84
DIS2 (Depression)	40	90	67.42	14.23
DIS3 (Sleep Disturbance/Preoccupation With Death)	40	90	60.34	16.08
WDL (Social Withdrawal)	40	83	55.55	10.72
WDL1 (Social Introversion)	40	80	52.60	10.72
WDL2 (Isolation)	41	89	57.55	13.37
SSK (Social Skills Deficits)	39	90	63.86	14.28
SSK1 (Limited Peer Status)	38	76	59.40	10.98
SSK2 (Conflict With Peers)	42	96	65.28	17.05

NOTE: CDI = Coping Deficit Index; DEPI = Rorschach Comprehensive System (CS) Depression Index.

competence in coding the Rorschach CS by obtaining kappa coefficients of at least .60 with the coding provided in the workbook.

Reliability between the raters for cases within the study was then established by calculating intraclass correlation coefficients between each rater's total scores on the variables pertinent to this study (i.e., *R*, *Lambda*, CDI, and DEPI). After establishing rater competence and interrater reliability, all protocols obtained from charts that were not originally scored by one of the two raters used in this study were then rescored by one of the raters in this study. Thus, all CDI and DEPI scores used for analysis were produced from the codings of one of these two raters.

Logistic regressions were performed, using the clinical PIC-2 scales and subscales specified above as predictor variables, first with the CDI and then with the DEPI as outcome variables. As defined by Exner (2001), the CDI was positive when the value was greater than 3, and the DEPI was considered positive when the value exceeded 4. A linear regression using the CDI and DEPI as continuous variables was performed as a supplementary analysis, and chi-squares examined the relationships between dichotomized Rorschach and PIC-2 variables. Chi-squares were also used to evaluate potential relationships between the CDI and educational variables (i.e., special education placement and history of repeated grades), as well as overall IQ. A separate set of all analyses was performed for cases in which the value for *Lambda* was less than 1.00.

In all analyses, age-normed T-scores were used for the PIC-2, in an effort to reduce or eliminate age-related dif-

ferences on PIC-2 scores. Similarly, both the CDI and DEPI contain adjustments based on age for several variables within these indices. These adjustments occur before cutoff scores are applied, allowing for uniform comparison of raw scores on the CDI and DEPI.

RESULTS

Rater Competence and Interrater Reliability

Analyses of raters' codings of responses provided in Exner's most recent scoring workbook indicated that both raters demonstrated an acceptable level of competence in coding under the Rorschach CS, obtaining kappa coefficient values that signaled agreement with the Exner coding at levels that ranged from .87 to 1.00 (rater 1) and .81 to .91 (rater 2). Similarly, intraclass correlation coefficients between the two raters were all within acceptable ranges, as follows: $R = 1.00$; $Lambda = .89$; CDI = .98; DEPI = .97.

With regard to sample means for Rorschach and PIC-2 variables used in this research, see Table 1 for a summary of relevant variables.

Relationships Between the CDI and the PIC-2

Using hierarchical logistic regression analyses, the CDI was first entered as a predictor variable, with the PIC-2 scales DIS, SSK, and WDL as dependent variables. No significant relationships were found. The subscales DIS1,

TABLE 2
Summary of Variable Values for the Logistic Regression Equation

Variable	B	SE	Odds Ratio	95% C.I. for Odds Ratio	Wald Statistic
DIS3	−.045	.018	.956	.924–.990	6.459

NOTE: DIS3 = Sleep Disturbance/Preoccupation With Death.

DIS2, DIS3, SSK1, SSK2, WDL1, and WDL2 were next entered as dependent variables. Only one variable, DIS3, demonstrated a significant relationship. See Table 2 for a summary of these results.

The CDI had a significant negative relationship with the DIS3 scale, with a negative CDI more likely to predict an elevated DIS3 (Sleep Disturbance/Preoccupation With Death). There was, however, a relatively small change in the odds of an elevated DIS3 based on the CDI score, with a standardized regression coefficient of −.25. A linear regression performed with the CDI and DEPI converted to continuous variables found no significant relationships between any of the specified PIC-2 and Rorschach variables. The above relationships were also tested in a series of chi-squares, with both PIC-2 and Rorschach data in dichotomous form. Again, the only significant relationship was a negative one between the CDI and the DIS3 scale ($p = .0474$).

The above analyses were repeated on a subset of the data containing cases in which the value of *Lambda* was less than 1.00 ($N = 24$), to evaluate whether guardedness or avoidance may have constricted findings. No significant relationships were found among the CDI or DEPI and any of the PIC-2 scales in this separate set of analyses, nor was there any trend toward greater significance among children who produced lower *Lambda* records.

With regard to base rates, the overall DIS scale was elevated in 72% of the sample, DIS1 in 52%, DIS2 in 68%, and DIS3 in 30%. On the overall WDL scale, 33% of the sample was elevated, with 22% elevating the WDL1 subscale, and 37% elevating WDL2. Finally, the SSK scale was elevated in 60% of the sample, with SSK1 and SSK2 each elevated in 55% of cases. The CDI was elevated more frequently (67.7%) than the DEPI (15.4%).

Relationships Between the CDI and Non–PIC-2 Variables

Additional analyses were performed to evaluate potential relationships between the CDI and several external variables from sources other than the PIC-2. Chi-squares indicated no significant relationships between the CDI and current educational placement (i.e., regular vs. special education). Similarly, there were no significant relationships found between the CDI and having repeated one or more grades, and a logistic regression found no significant relationship between the CDI and overall IQ.

DISCUSSION

Accurately assessing the presence of depressive features in children and adolescents can be a challenging task. Exner's Rorschach CS (Exner, 1974, 2003) has long held appeal to clinicians as a direct, broad-spectrum instrument that children are capable of completing. However, it has recently come under criticism, with validity issues representing a common concern (e.g., Wood, Nezworski, Lilienfeld, & Garb, 2003; Wood, Nezworski, & Stejskal, 1996). With respect to childhood depression, Exner (2003) has acknowledged that the DEPI has been disappointing in its utility, particularly within child and adolescent populations. As an adjunct to the DEPI, Exner (1993) introduced the CDI as a means of identifying some characteristics of depression, as well as social skills deficits. Despite theoretical and developmental connections between the CDI and aspects of depression and social competence, little research has examined whether or how the CDI is related to these characteristics. However, the results of this research suggest that neither the CDI nor the DEPI demonstrated any significant ability to predict elevations on conceptually relevant PIC-2 scales, with the exception of a negative relationship between the CDI and the DIS3 scale, wherein a negative CDI appears to predict an elevated DIS3 score.

Although it was developed as an adjunct to the DEPI and theoretically assesses behavioral and attitudinal correlates common in childhood depression, these results suggest that the CDI represents no improvement over the DEPI for detecting depressive symptoms or successfully measuring social competence and social comfort in children and adolescents, as identified by a well-validated concurrent parent report measure. It is particularly discouraging that the CDI failed to demonstrate any significant relationship with the Social Withdrawal or Social Skills Deficits scales, given the emphasis that Exner (1993) has placed on the likelihood of the CDI measuring dimensions of social competence. Meta-analysis has found that the Rorschach may correlate more strongly with objective criteria than with self-report or psychiatric

diagnosis (Hiller, Rosenthal, Bornstein, Berry, & Brunell-Neuleib, 1999). However, this research with one form of objective criteria—parental report through objective personality testing—does not support this suggestion for the interpretation of the DEPI and CDI in children.

The finding within this study that a positive DIS3 on the PIC-2 predicts a negative CDI is intriguing. Children experiencing sleep problems and a preoccupation with death, as measured by the DIS3, should be no less likely than children experiencing less severe depressive symptoms to display psychological distress (Carlson & Cantwell, 1988). It is possible, however, that children experiencing such symptoms are more likely to be internalizing their distress, making them somewhat less likely to display the external behaviors that would result in obvious social coping problems. The DIS-3, which is made up of only eight items, is also the shortest of the DIS subscales, thus rendering it less psychometrically robust. It has a lower internal consistency than do almost all of the other PIC-2 scales and subscales used as criteria in this research, and interrater (mother-father) agreement is variable for this subscale ($r = .64$ in a nonclinical sample, and .73 in a clinical sample; Lachar & Gruber, 2001).

Given the relatively high value of *Lambda* in this sample, it is possible that this sample's tendency toward a constricted test-taking approach may have limited the ability of the CDI and DEPI to effectively identify relevant depression and social competence characteristics. This possibility was further explored through additional data analyses for examinees with a *Lambda* value of < 1.00. However, the relatively low *N* for these additional analyses limits statistical power, leaving uncertainty as to whether the analysis of lower *Lambda* protocols failed to identify relationships that might otherwise have been noted. There was, however, no indication of trends toward greater significance among low *Lambda* individuals. Further research might replicate these findings and further examine the issue of *Lambda* in relation to CDI results with larger samples.

With regard to clinical practice, proper interpretation of the CDI remains unclear. These results, and the general lack of research on the CDI, suggest that there is insufficient research available to allow accurate interpretation of the CDI at this time. Considering the dearth of research on the CDI, further investigation of this index remains warranted. As noted above, further research should seek to either replicate or disconfirm these results, ideally with the use of larger and more diverse samples. In addition, further research should evaluate the validity of the CDI with the use of precisely defined clinician diagnosis and behavioral observation. Such observation would ideally take place during peer interactions, which would allow for the assessment of social competence in a natural environment and thus add a direct assessment of the child to any parent report measures that are used.

Further research should also use alternative normative data provided by Exner and others (e.g., Hamel, Shaffer, & Erdberg, 2000) to ascertain whether normative information affects results. Further experimentation with age adjustments to the CDI may yet improve the efficacy of this index, as might the application of this tool to participants clustered into narrower age ranges. For example, the CDI might be evaluated in preadolescent-only or adolescent-only samples. Given the suggestion in the literature that depressed adolescents may be less likely than depressed children to display deficits in social functioning, it remains theoretically possible that depressed children may be more likely than depressed adolescents to elevate the CDI. Finally, considering the DEPI's tendency to underidentify depression, and the CDI's tendency to broadly overidentify it in this research, further research might explore whether any combination of DEPI and CDI variables might produce an index that can more accurately identify depression.

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