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Validation of the Comprehensive Assessment of Defense Style (CADS): Mothers' and Children's Responses to the Stresses of Missile Attacks

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This study furthers the validation of the Comprehensive Assessment of Defense Style (CADS) as a measure of children's defensive behavior. Participants were 81 mothers who assessed the defense style (CADS) of their 8- to 10-year-old children, as well as their own defense style and level of object relations. Five years earlier, the mothers had rated their children's symptom level and personality after the missile attacks during the Gulf War. The original factor structure of the CADS was replicated for the most part. Self-oriented and other-oriented defenses were related to the children's early personality and symptomatic reaction, as well as to their mother's defense style and level of object relations. The CADS factors correlated with the defenses of the *Defense Mechanisms Manual*. The results provide further validation of the CADS and suggest possible areas of implementation, such as longitudinal examination of defenses, psychopathology screening, and therapeutic improvement.

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Our previous paper (Laor et al., 2001) introduced the Comprehensive Assessment of Defense Style (CADS), a measure to assess adaptive and maladaptive defensive behavior in children and adolescents based on observer reports. In a group of psychiatric patients and of nonpatient subjects, defenses were grouped into three factors. The other-oriented factor included immature defenses expressed mainly in relations with the personal environment (*e.g.*, projection, acting out, devaluation, splitting, passive aggression, and displacement). The self-oriented factor consisted of maneuvers expressed mainly in relation with the self (*e.g.*, denial, hypochondriasis, withdrawal, fantasy, repression, and somatization). The mature factor included such adaptive defenses as identification, anticipation, sublimation, suppression, and humor. In addition, we defined the ratio between the mature and each of the immature factors as reflecting the individual's internal defense balance.

The defense factors had satisfactory internal as well as test-retest reliability, and discriminated between patients and nonpatients. There was a decrease in other-oriented defenses and an increase in mature defenses from childhood to adolescence, and girls were found to use more mature and less other-oriented defenses than boys.

This study furthers the validation of the CADS by replicating and extending the previous findings by using a cohort of preschool children we have been following since their exposure to missile attacks during the Gulf War (Laor et al., 1996, 1997). Although the traumatic exposure itself is irrelevant to the design of the study, we see this group as a test case for the CADS in a group of children whose defense system had been challenged. We wished to test the relationship of the CADS factors with the children's personality and symptomatic behavior, with mothers' defense style and object relations, and with an accepted method of assessing defenses in children, the *Defense Mechanism Manual* (DMM; Cramer, 1990).

The development of the defense system in children appears to be determined by multiple factors. Weinstock (1967) stated that explaining the origin of defense mechanisms in children as merely intrapsychic was inadequate. His findings suggested that the parents' modeling of particular behaviors was an important determinant of the defenses used by the child. Juni (1992) concluded that children modeled their defense styles primarily on those used by the same-sex parent. An attempt to assess the genetic contribution to defense style in a sample of adult twins revealed that genetic factors accounted for 38% of the variance in the DSQ score and environmental factors for the remaining 62% (Andrews, 1991; Andrews et al., 1993). The present study does

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not look at the origin of defenses but aims to elucidate the relationship between the defense style of children and their mothers.

Our hypotheses were: a) children's positive personality domains (*e.g.*, good attention, behavior modulation, sociability) correlate negatively with other-oriented and self-oriented defenses, and positively with mature defenses; b) children's symptoms correlate positively with other-oriented defenses (particularly Child Behavior Checklist–externalizing) and self-oriented defenses (particularly Child Behavior Checklist–internalizing), and negatively with mature defenses; c) other-oriented and self-oriented defenses correlate negatively with maternal object relations and mature defenses, and positively with maternal immature defenses; the opposite picture emerges with regard to the child's mature defenses; and d) other-oriented and self-oriented defenses correlate with the less mature defenses of the DMM, projection and denial, and the mature factor correlates with the mature defense of the DMM, identification.

Methods

Subjects

The sample included 81 children (24 boys, 57 girls) and their mothers, who participated in a longitudinal study of preschool children exposed to Scud missile attacks on Tel Aviv during the Gulf War. At the time of the present assessment (5 years after the war), 30 children were aged eight years, 29 nine years, and 22 ten years. All the families came from underprivileged neighborhoods. A more detailed description of the subjects and the traumatic event appears elsewhere (Laor et al., 1996, 1997).

Instruments

Children's Defense Style. The children's defenses were assessed with a) the CADS (for a detailed description see Laor et al., 2001), a 50-item questionnaire which, based on an observer's report, evaluates 25 individual defenses and three defense styles: self-oriented (*e.g.*, fantasy, somatization), other-oriented (*e.g.*, acting out, projection), and mature (*e.g.*, suppression, humor); b) the DMM (Cramer, 1990) which scores three defenses on the basis of the child's responses to Thematic Apperception Test cards (in this study, cards 1, 8BM, and 17BM), each representing a different maturity level: denial, projection, and identification. The Pearson correlations for denial, projection, and identification between the two coders for the 80 subjects were .61, .86, and .75 (all $p < .001$), respectively. Research has shown that the DMM defenses have acceptable internal consistency, structural coherence, and validity (Hibbard et al., 1994; Hibbard and Porcerelli, 1998).

Children's Symptoms and Personality. These were assessed 6 months after the war (ages 3 to 5 years) with the Child Behavior Checklist (CBCL; Achenbach and Edelbrock, 1983), a widely used scale that measures internalizing and externalizing symptoms, and the Preschool Children's Assessment of Stress Scale (PCASS; Mayes and Cohen, 1990)[3], a semistructured parent interview about the child's reaction to the war (*e.g.*, anxiety, fears, sleep problems, mood changes). Scales of the CBCL and the PCASS were factor analyzed in a previous report (Laor et al., 1996), and three symptom domains were defined: internalizing, externalizing, and stress. The 20 items of the Childhood Personality Scales (CPS; Cohen et al., 1977) focused on five personality factors: good attention, sociability, zestfulness, verbal expressiveness, and behavior modulation.

Mother's Object Relations and Defense Style. The 45 items of the Bell Object Relations Inventory (BORI; Bell et al., 1985) assessed four domains of the mothers' object relations: alienation, egocentricity, insecure attachment, and social incompetence. Items were coded so that higher scores reflect more mature functioning. The Defense Style Questionnaire (DSQ; Bond et al., 1983) provided information on three defense styles: immature (*e.g.*, acting out, denial, devaluation), neurotic (*e.g.*, altruism, idealization, reaction formation), and mature (*e.g.*, anticipation, humor, sublimation).

Procedure

The families in the project were requested to participate in a new interview session. Eighty-one agreed to do so and signed an informed consent form; the remainder either refused ($N = 10$) or could not be located ($N = 16$). Children and mothers were interviewed individually in their home by experienced assistant researchers. The duration of the session was 3 hours (2 with the mother and 1 with the child).

Results

Factor Structure and Internal Reliability of the CADS

A principal components factor analysis with Varimax rotation yielded a three-factor solution that classified 21 of the 25 defenses (84%) in their corresponding factor, with most of the loadings (76%)

[3] Mayes LC, Cohen DJ (1990), Preschool Children's Assessment of Stress Scale. Yale Child Study Center, New Haven, CT. Unpublished research instrument, available from authors.

TABLE 1
Pearson Correlations between Children's Defenses, Personality, and Symptoms

	Other-Oriented	Self-Oriented	Mature	Mature/Other-Oriented	Mature/Self-Oriented
Personality					
Good attention	−.40*	−.20	.03	.30‡	.23
Behavior modulation	−.33‡	−.25	−.10	.21	.21
Sociability	−.22	−.46*	−.04	.09	.28
Zestfulness	−.16	−.31‡	.06	.11	.21
Verbal expressiveness	−.28	−.05	.06	.19	.12
Symptoms					
Externalizing	.51*	.36*	.07	−.34‡	−.11
Internalizing	.32‡	.46*	.17	−.19	−.25
Stress	.24	.42*	.23	−.11	−.30‡

‡$p < .005$; *$p < .001$.

higher than .45. Four defenses had a different classification: denial and fantasy loaded higher on the other-oriented factor than on the self-oriented factor (.31 and .26 for denial, .48 and .25 for fantasy, respectively); regression loaded higher on the self-oriented factor than on the other-oriented factor (.39 and .26, respectively); and anticipation loaded on the other-oriented factor rather than on the mature factor. Furthermore, humor loaded on the mature factor (.32) but also and higher on the other-oriented factor (.45). As all these differences were slight, we retained the original classification for all defenses for the sake of consistency.

The other-oriented factor explained 23.1% of the variance and its internal consistency (Cronbach's alpha) was .73. The self-oriented factor explained 9.9% of the variance with a higher internal consistency coefficient ($\alpha = .80$). The mature factor added 9.1% to the variance, with a lower internal consistency ($\alpha = .56$). However, when anticipation was excluded, its coefficient increased significantly ($\alpha = .62$).

Multivariate ANOVA ($F_{3, 71} = 5.05$, $p < .005$) revealed that boys used significantly more other-oriented defenses than girls (mean ± SD = 2.60 ± 1.28 and 1.63 ± 0.96, respectively; $F_{1, 73} = 13.56$, $p < .001$). There were no significant gender differences for the self-oriented and mature factors.

The correlation between the two immature factors was significant ($r = .53$, $p < .001$) for the whole cohort and for boys and girls separately. The correlation between the mature and the self-oriented factors was marginal for the whole sample ($r = .24$, $p < .05$) and significant only for the girls subsample ($r = .34$, $p < .01$). Mature and other-oriented defenses were uncorrelated ($r = .14$, $p > .05$).

CADS Factors and Children's Personality and Symptoms

Table 1 presents the Pearson correlations between the factors and ratio scores of the CADS and the children's personality domains and symptomatic behavior. Preschool children with better attention and behavior modulation used fewer other-oriented defenses 5 years later, whereas those who were more social and zestful used fewer self-oriented defenses. Mature defenses were not related to the personality domains.

The three symptom domains were associated with both immature factors assessed 5 years later (correlations with the mature factor were nonsignificant). Specifically, other-oriented defenses correlated highly with externalizing symptoms, and self-oriented defenses with internalizing symptoms. Stress symptoms correlated only with self-oriented defenses.

CADS Factors and Mothers' Object Relations and Defense Style. The correlations between the mothers' object relations and their children's immature factors were negative (slightly higher for the self-oriented factor): the more mature the object relations of the mother, the less the child used other-oriented and self-oriented defenses. No significant correlations appeared between the mothers' object relations and the children's mature defenses. The mature/other-oriented ratio correlated significantly with the mother's object relations (Table 2).

The defense styles of the mother were associated with the CADS factors in the expected manner. Other-oriented and self-oriented defenses correlated positively and highly with the DSQ-immature style and less highly with the DSQ-neurotic style, and the mature factor correlated significantly and positively with the DSQ-mature style. Moreover, the mature/other-oriented ratio correlated with the DSQ-immature style and marginally with the DSQ-neurotic style.

Thereafter, we defined three groups of mothers according to their psychological functioning ($N = 27$ in each group). *High functioning* mothers had an above median score on the BORI and a below me-

TABLE 2
Pearson Correlations between Children's Defenses and Mothers' Defense Style and Object Relations

	Other-Oriented	Self-Oriented	Mature	Mature/Other-Oriented	Mature/Self-Oriented
BORI					
Alienation	−.34*	−.38*	−.02	.29†	−.04
Insecure attachment	−.43*	−.48*	−.08	.38*	.06
Egocentricity	−.41*	−.49*	−.03	.31‡	.13
Social incompetence	−.31‡	−.40*	−.08	.24†	.02
Total	−.42*	−.49*	−.02	.36*	.08
DSQ					
Immature	.49*	.53*	.08	−.34*	−.08
Neurotic	.17	.36*	−.01	−.19†	−.15
Mature	.00	.07	.29†	.11	−.16

†$p < .05$; ‡$p < .005$; *$p < .001$.
DSQ, Defense Style Questionnaire; BORI, Bell Object Relations Inventory.

TABLE 3
Children's Mature and Immature Defenses according to Mothers' Functioning

	High Functioning	Moderate Functioning	Low Functioning	$F(2, 72)$
Other-oriented	$1.17 \pm 0.77^{a,b}$	2.13 ± 1.07^{a}	2.51 ± 1.16^{b}	12.12**
Self-oriented	$0.66 \pm 0.39^{a,b}$	$1.25 \pm 0.62^{a,c}$	$1.95 \pm 0.95^{b,c}$	22.57**
Mature	3.29 ± 1.17	3.39 ± 0.96	3.77 ± 0.81	1.67

*$p < .002$; **$p < .0001$.
^{a,b,c} Superscript letters define pairs of groups showing a statistically significant difference by Scheffee post hoc tests ($p < .05$).

dian DSQ-immature score; *low functioning* mothers had a below median score on the BORI and an above median DSQ-immature score; and *moderately functioning* mothers had a below-median score on one of the two parameters and an above median score on the other. As Table 3 shows, children of mothers with low and moderate functioning used more self-oriented and other-oriented defenses than children of high functioning mothers. Also, children of low functioning mothers used more self-oriented defenses than children of moderately functioning mothers. No significant differences appeared with regard to the mature defenses.

CADS Factors and DMM Defenses

An important step in the validation of a new scale is to correlate it with another related and already validated method. We observed a significant positive correlation between the other-oriented factor and DMM-projection ($r = .22$, $p < .05$) and between the mature factor and DMM-identification ($r = .34$, $p < .001$). Also, mature defenses correlated negatively with DMM-denial ($r = -.24$, $p < .05$), the mature/other-oriented ratio correlated negatively with DMM-projection ($r = -.22$, $p < .05$), and the mature/self-oriented ratio correlated positively with DMM-identification ($r = .27$, $p < .01$).

TABLE 4
Multiple Regression Analyses of Children's Defenses against Three Sets of Variables

	Multiple r	r^2	r^2 Change	F	p
Other-oriented defenses					
Child's personality	.51	.26	.26	4.11	<.003
Child's symptoms	.57	.32	.06	3.31	<.004
Mother's personality	.70	.49	.17	5.26	<.0001
Self-oriented defenses					
Child's personality	.53	.28	.28	4.74	<.002
Child's symptoms	.64	.42	.14	5.03	<.0001
Mother's personality	.70	.49	.07	5.09	<.0001
Mature defenses					
Child's personality	.15	.02	.02	0.26	>.05
Child's symptoms	.38	.14	.12	1.17	>.05
Mother's personality	.49	.24	.10	1.54	>.05
Mature/other-oriented					
Child's personality	.36	.13	.13	1.81	>.05
Child's symptoms	.43	.19	.06	1.60	>.05
Mother's personality	.54	.29	.10	1.95	=.05
Mature/self-oriented					
Child's personality	.44	.19	.19	2.76	<.05
Child's symptoms	.52	.27	.08	2.55	<.05
Mother's personality	.54	.29	.02	1.92	>.05

Integrative Analyses

Multiple regression analyses examined the progressive contribution of the child's personality and symptoms during the preschool years and the mother's object relations and defenses, in explaining the child's defenses 5 years later. This approach allowed us to assess first the contribution of the child's variables (in chronological order) and then the addition of the mother's personality variables. The predictor variables were similar, except that we used the mothers' DSQ-immature style to predict the children's other-oriented and self-oriented defenses, the DSQ-mature style to predict the CADS-mature defenses, and both DSQ styles to predict the ratio variables (Table 4).

The three sets of variables explained about half of the variance of the other-oriented and the self-ori-

ented defenses, and about one fourth of the variance of the mature defenses and of the two ratio scores. The preschool personality domains predicted significantly the two immature factors 5 years later but not the mature factor. The mother's personality (object relations and defenses) added a significant amount of explained variance, particularly with regard to the other-oriented defenses.

Discussion

The DSM-IV (American Psychiatric Association, 1994) defines defense mechanisms or coping styles as the "automatic psychological processes that protect the individual against anxiety and from the awareness of internal or external dangers or stressors" (p. 751). This study provides further validation of the CADS as a measure of the behavioral derivatives of defense mechanisms in children and adolescents.

Most of the results were consistent with our hypotheses, and the statistical tests indicated power values between 93% and 100% to detect the reported effect sizes (Borenstein et al., 1997). The factor structure of the CADS, the variance explained by each of the three factors, and the internal reliability of the factors were similar to those obtained in our original study. We showed significant relationships between the three factors of the CADS and the personality traits and symptoms of the children as well as the personality of the mothers. Moreover, significant correlations were found with a projective technique assessing three defense levels.

General Applicability of the Factor Structure

In any study of a behavioral research construct, we expect to replicate its essential features within a given clinical research setting and from one setting to another. Accordingly, despite the considerable variability in the culture, socioeconomic status, method of assessment, and developmental levels of the study subjects, the results show stability and coherence. This was also true for the factor analysis of the CADS in the present sample, which replicated most of the theoretically coherent pattern that emerged in our original study: other-oriented defenses, expressed mainly in relations with the environment (*e.g.*, projection, acting-out, devaluation, passive aggression); self-oriented defenses, expressed mainly in relations with the self (*e.g.*, denial, fantasy, hypochondriasis, withdrawal); and mature defenses (*e.g.*, identification, suppression, sublimation, humor).

Nevertheless, despite the overall consistency of the pattern, some of its specific components may well vary among studies. We found that the internal consistency coefficients of the two immature factors were satisfactory and similar to those obtained in our original study. The internal reliability of the mature factor was lower albeit similar to the one found in adults with the DSQ (Rutherford et al., 1998; Sammallahti and Aalberg, 1995). This may be a result of both the small number of defenses in the factor and the low correlation between one defense (anticipation) and the total scale. Perhaps the wording of the items related to anticipation, in which the stressor was present as a clear external threat (an upcoming threatening or anxiety-provoking event), had a specific effect on children previously exposed to missile attacks. A similar formulation of the stressor appears in the items related to humor, which also had a significant loading on the other-oriented factor.

Another defense whose main factorial loading was somewhat inconsistent was regression. In our original sample, regression loaded on the other-oriented factor, in the same way as it was included in the turning against the object factor of the Defense Mechanisms Inventory (Gleser and Ihilevich, 1969). In this sample, regression loaded higher on the self-oriented factor, whereas in the DSQ factor analysis of Andrews et al. (1989) regression loaded on both the immature and the neurotic factors. From an other-oriented/self-oriented framework, regression seems to contain elements of both: an engagement of the other and a reliance on the self. Future studies are needed to determine the definitive placement of this and the other defenses.

As expected, the two immature factors correlated positively. Interestingly, we found no negative correlation between the mature and the two immature factors. Moreover, the correlation between mature and self-oriented defenses was positive and significant for the girls' subsample. This finding differs from the one obtained in our original sample, even when we computed the correlations for 8- to 10-year-old children. However, positive correlations between mature and immature defenses (with the DMM) were reported for a psychiatric adult sample (Hibbard et al., 1994) and for a sample of normal children (Porcerelli et al., 1998). Because the correlations in the DMM are essentially due to response style variance, apparently not present in the CADS, future research with the CADS is necessary to elucidate this point.

Child's Defenses and Personality Traits

The correlations between the preschool personality traits and the defenses assessed 5 years later showed

that the immature factors of the CADS related to different aspects of the child's early personality. Whereas the child's poor attention and hypoactive behavior modulation predicted mainly other-oriented defenses, low sociability (introversion) and low zestfulness (apathetic passivity) were the developmental antecedents of self-oriented defenses.

These relations become clearer when we look at the items comprising the personality domains. Preschoolers who were less able to pay attention for a long time and easily lost interest in an activity (poor attention) or who were active, easily frustrated, impossible to keep up with, and could not seem to be still for long (hypoactive behavior modulation) were more likely to use other-oriented defenses 5 years later. By contrast, those who were resistant and unfriendly, tended to move away from people, and hardly smiled to friendly persons (introversion) or who were passive, preferred to lie down instead of play, and had little zest for normal activities (apathetic passivity) used more self-oriented defenses 5 years later. In a longitudinal attempt to identify antecedents of defense mechanisms, Cramer and Block (1998) found that young male subjects (but not female) relying on the defense of denial showed as preschoolers emotional immaturity and lack of personal competence.

Preschool verbal expressiveness was unrelated to the defense factors, perhaps due to the lower relevance of its composing items to preschoolers (*e.g.*, expresses himself in language or near-language, talks or babbles about his toys or clothes, babbles or talks with delight). Moreover, none of the personality domains correlated with the CADS-mature factor. Apparently, the path leading from these early personality domains to the later development of mature defenses is more complex than the path leading to the development of immature defenses. Also, the use of mature defenses correlated neither with the child's symptomatic level nor with the mother's level of object relations.

Children's Defenses and Symptoms

The immature factors of the CADS correlated positively with the CBCL domains assessed 5 years earlier, particularly other-oriented defenses with externalizing symptoms and self-oriented defenses with internalizing symptoms. Self-oriented defenses were also associated with the stressful reaction 6 months after the war. Assessing hospitalized adolescents, Noam and Recklitis (1990) also found that defenses that place the conflict outside the self (*e.g.*, projection) are associated with externalizing symptoms, whereas defenses that place the conflict within the self (turning against the self) are associated with internalizing symptoms.

It is noteworthy that personality domains and symptoms assessed at ages 3 to 5 explained about 25% of the variance of the immature defenses observed at ages 8 to 10. These longitudinal data show how personality traits and symptomatic reactions to traumatic events at early developmental stages mold the ways whereby a child will cope with stress at a later stage.

The combination of poor attention, hypoactive behavior modulation, and externalizing symptoms after—and perhaps regardless of—a traumatic event, seems to shape the formation of maladaptive coping mechanisms that are expressed mainly in relations with the environment. Similarly, the combination of introversion and apathetic passivity with the presence of mainly internalizing symptoms seems to mold the development of maladaptive maneuvers that renounce external resources and rely particularly on the self (see also Cramer and Block, 1998).

Child's Defenses and Mother's Personality

Another aim of this study was to test how the maternal object relations and defensive style, two rather constant personality parameters, relate to the ways children defend themselves against stress. Object relations refers to the maturity of the personality. That is the capacity to develop a sense of independent selfhood and autonomy while maintaining a sense of connectedness to the external world, the security of attachment, the affective quality of interpersonal attributions and expectancies, and the capacity for emotional investment in relationships (Greenberg and Mitchell, 1983).

Consistent with our hypothesis, the less developed the mothers' object relations, the more their children used immature (particularly self-oriented) defenses. This was true for all the object relations domains: alienation (a basic lack of trust in relationships and difficulties with intimacy); insecure attachment (sensitivity to rejection and poor toleration of separation and loneliness); egocentricity (a tendency to be demanding, manipulative, and controlling, without real awareness or concern for others' feelings); and social incompetence (shyness, nervousness, and uncertainty in social relations).

We failed to show a relationship between the mother's object relations and the child's use of mature defenses. Although the mature object relations of the caretaker seemed to protect the child from relying on immature defenses, what initially seemed a complementary process is actually complex.

Rather, resilient children might develop mature coping devices to confront adverse situations. Vaillant et al. (1986) proposed this notion after their inability to identify environmental antecedents of adaptive defenses in a 40-year longitudinal study. Similarly, we observed that children whose fathers were treated for posttraumatic stress disorder showed high levels of both immature and mature defenses (Wolmer and Laor, 1998). In the presence of the father's symptomatology (*e.g.*, unpredictable anger, violence, flashbacks), the child's capacity to suppress reactions, anticipate events, use humor, or sublimate drives has survival value.

The correlations between the defensive styles of the mothers and the children were consistent with our hypothesis. The more immature defenses of the mother, the greater her child's use of other-oriented and self-oriented defenses. Moreover, the more salient the mother's mature defense style, the more her child's use of adaptive mechanisms. To the best of our knowledge, this is the first attempt to study the relationship between the defense styles of children and their parents. Our results are in line with Weinstock (1967) and suggest that the way caretakers cope with stress influences the defensive style of their children. Whether the relationship between the defense style of parents and children in our study was due to genetic factors (Andrews, 1991; Andrews et al., 1993) or social modeling (Juni, 1992), particularly as these factors and their interrelationship may have been challenged under stress, or due to mere reporter bias, remains an open question for future research.

It is also important to note that children of mothers with low psychological functioning used more immature defenses than children of moderately (self-oriented) and high (self- and other-oriented) functioning mothers. The mean self-oriented score of this subgroup was less than 2, comparable to the score of the psychiatric patients in our earlier study (Laor et al., 2001) This suggests that some of the children of low functioning mothers may be at risk of psychopathology.

CADS Factors and DMM Defenses

The correlations between the CADS factors based on the mothers' report, and the DMM's defenses, based on the children's responses to TAT cards, corroborated our hypothesis and provided further convergent and criterion-related validity to both measures. The mature factor correlated positively with DMM-identification (the most mature defense) and negatively with DMM-denial (the most immature defense), whereas the other-oriented factor related to DMM-projection. Self-oriented defenses, however, did not correlate with DMM-denial, perhaps due to the low reliability and variance of the latter (Hibbard et al., 1994).

As Hibbard and Porcerelli (1998) remind us, it is uncommon to find concurrent validity coefficients linking projective and paper-and-pencil measures in theoretically predicted directions. For example, in a study of college students, these authors noted very low correlations between the DSQ and the DMM (range .19 to .23). The correlations found with our sample were higher (.22 to .34), even when an external informant assessed the defenses. Future research should examine the relationship between the DMM defenses and the child's own report of defense use.

Methodological Limitations

The main methodological concern of this paper related to the contamination bias due to the mothers reporting on the CADS and on other measures. However, it should be stressed that a) there is both a plausible theoretical and empirical rationale for the idea that defense styles of mothers should correlate with the defense styles of their offspring. b) Even if we assume the presence of criterion contamination, the correlations between DMM and the CADS lead us to the assumption that not all of the shared variance between the CADS and the mothers' scales is due to contamination. c) Finally, we have studied other aspects of validity, quite free of contamination bias, such as factorial and discriminant validity. These analyses produced results consistent with the idea that the CADS seems to measure what it is intended to measure, namely, the accurate identification of defense mechanisms and defense styles in both children and adolescents.

Conclusions

The results of this and of our former contribution (Laor et al., 2001) suggest that parental information on the quality and quantity of their children's defensive behavior is easily obtained with the CADS. The assessment of defenses with the CADS is efficient in terms of time and requires no special professional training for coding responses, thereby ensuring interrater reliability. Also, it includes a wide variety of defenses that are currently used in research with adult samples, allowing for future longitudinal studies throughout the life span.

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