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International Comparisons of the Dysregulation Profile Based on Reports by Parents, Adolescents, and Teachers

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Our objective was to examine international similarities and differences in the Dysregulation Profile (DP) of the Child Behavior Checklist (CBCL), Teacher's Report Form (TRF), and Youth Self-Report (YSR) via comparisons of data from many societies. Primary samples were those studied by Rescorla et al. (2012): CBCL: $N = 69,866$, 42 societies; YSR: $N = 38,070$, 34 societies; TRF: $N = 37,244$, 27 societies. Omnicultural Q correlations of items composing the DP (from the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes) indicated considerable consistency across diverse societies with respect to which of the DP items tended to receive low, medium, or high ratings, whether ratings were provided by parents ($M Q = .70$), adolescents ($M Q = .72$), or teachers ($M Q = .68$). Omnicultural mean item ratings indicated that, for all 3 forms, the most common items on the DP reflect a mix of problems from all 3 constituent scales. Cross-informant analyses for the CBCL-YSR and CBCL-TRF supported these results. Aggregated DP scores, derived by summing ratings on all DP items, varied significantly by society. Age and gender differences were minor for all 3 forms, but boys scored higher than girls on the TRF. Many societies differing in ethnicity, religion, political/economic system, and geographical region manifested very similar DP scores. The most commonly reported DP problems reflected the mixed symptom picture of the DP, with dysregulation in mood, attention, and aggression. Overall, societies were more similar than different on DP scale scores and item ratings.

As described by Althoff, Rettew, Ayer, and Hudziak (2010), the Dysregulation Profile (DP) reflects severe mood, attention, and behavioral dysregulation. It is operationalized by high scores on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes derived from ratings on instruments of the Achenbach System of Empirically Based

Assessment (ASEBA; Achenbach & Rescorla, 2001), namely, the Child Behavior Checklist (CBCL), Teacher's Report Form (TRF), and Youth Self-Report (YSR). Children with an elevated DP profile tend to have more mood disturbance than those with pure attention deficit/hyperactivity disorder (ADHD); more attentional disturbance than those with pure mood disorder; and more aggressive, explosive, and disruptive behavior than either of the other "pure" groups.

Prior to the appellation DP, researchers referred to this constellation of high scores as the CBCL Juvenile Bipolar Disorder (JBD) profile (Biederman et al., 1995; Faraone,

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Althoff, Hudziak, Monuteaux, & Biederman, 2005; Mick, Biederman, Pandina, & Faraone, 2003). Latent class analysis (LCA) of the CBCL-JBD items in Dutch twins (Althoff, Rettew, Faraone, Boomsma, & Hudziak, 2006) identified a highly heritable JBD class composing about 5% of the sample. Boomsma et al. (2006) found that genetic factors contributed more to longitudinal stability than environmental factors in 8,013 pairs of Dutch twins followed from ages 7 to 12. In a U.S. sample, Althoff, Ayer, Rettew, and Hudziak (2010) derived a JBD class from LCAs of the TRF and the YSR, as well as from the CBCL, indicating that the profile could be identified from ratings by teachers and by self-ratings by adolescents (ages 11–18), as well as from ratings by parents.

Subsequent work questioned the purported link between the CBCL-JBD profile and bipolar disorder in children, in part because of controversy about the criteria, prevalence, and nature of JBD itself (e.g., Leibenluft, Charney, Towbin, Bhangoo, & Pine, 2003). Ayer et al. (2009) reported that children with the DP may receive diagnoses such as borderline personality disorder, complex posttraumatic stress disorder, or ADHD, rather than JBD. In a Dutch longitudinal population sample assessed six times from 1983 through 1997, Althoff, Verhulst, Rettew, Hudziak, and van der Ende (2010) found that ever having been in an LCA-derived DP class in childhood rarely predicted adult bipolar disorder but did predict a wide range of adult internalizing and externalizing diagnoses. Based on such findings, Althoff et al. (2010) proposed the name *Dysregulation Profile*, arguing that the profile captures self-regulation problems regardless of whether it is associated with juvenile bipolar disorder.

Most relevant to the current study, Jordan, Rescorla, Althoff, and Achenbach (2016), conducted LCAs of the 37 DP item ratings obtained from YSRs for 38,070 adolescents from 34 extremely diverse societies. The best-fitting LCA model in each society yielded a class with high scores on the DP items across the three constituent syndromes. In each society, this DP class had significantly higher DP scores than the pooled non-DP classes, with large d values, suggesting similar findings across the many societies. However, the DP class made up 1% to 26% of the sample in the different societies. This extremely wide range suggests large differences across societies with respect to the prevalence of the pattern of high self-reported scores on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndrome items. Whether this wide societal range would be found using approaches other than LCA is an empirical question meriting further study.

In additional analyses designed to obtain an overall picture of how the DP class compared with the other latent classes in each society, Jordan et al. (2016) computed the YSR eight-syndrome T score profile for each class within each society (based on within-society means and standard deviations for each syndrome). Visual inspection of the DP class profile indicated that the expected “three-peak” profile (i.e., elevations on the

Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes only) was not the most common pattern across the various societies. Rather, the DP class in many societies had the highest scores on all eight syndromes. Even when scores for the DP class were not higher than all the other classes on every syndrome, the DP class often showed elevations on Social Problems as high as those on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes. Overall, these findings from Jordan et al.’s (2016) LCA analyses raise the question of whether the DP is a distinct phenotype of mood, attentional, and behavioral dysregulation problems or simply reflects severe and diffuse psychopathology.

QUESTIONS ADDRESSED BY THIS STUDY

Unlike most previous DP studies that used LCA, the current study analyzed mean DP item ratings and DP problem base rates to obtain a fine-grained picture of this constellation of problems. Furthermore, we analyzed ratings by parents, teachers, and adolescents, whereas most previous research, such as Jordan et al. (2016), analyzed reports from only one type of informant. In addition, our study is unique in that we conducted international comparisons of patterns of cross-informant agreement for DP scores. Our study is therefore important for advancing DP research because it examined performance of the DP items across three types of informant in many societies and tested agreement between the different types of informant.

Using international CBCL, TRF, and YSR data sets previously analyzed by Rescorla et al. (2012), as well as cross-informant data sets previously analyzed by Rescorla et al. (2013) and Rescorla et al. (2014), we addressed five major questions: (a) How similar are societies with respect to how the DP items perform, as indexed by their mean item ratings on each instrument? (b) When averaged across societies, which DP items are the most versus least commonly endorsed problems, as operationalized by mean item ratings on each instrument? (c) What is the base rate across societies of each problem item on the DP profile for each instrument? (d) What patterns of cross-informant agreement are found for the DP between parents and adolescents in 25 societies and parents and teachers in 21 societies? and (e) How are society, gender, age, and their interactions associated with overall DP scores on each instrument?

METHOD

Participants

For within-informant analyses of the DP, we used the international data sets described in Appendix A (Rescorla et al., 2012). The complete samples comprised CBCLs

($N = 69,866$) from 42 societies, YSRs ($N = 38,070$) from 34 societies, and TRFs ($N = 37,244$) from 27 societies. Indigenous investigators recruited participants from general population samples obtained in household surveys and schools. For cross-informant agreement analyses of the DP, we used parent–adolescent data for the 27,861 dyads from 25 societies studied by Rescorla et al. (2013) and parent–teacher data for the 27,962 dyads from 21 societies studied by Rescorla et al. (2014). Each cross-informant sample was about half the size of our full 42-society CBCL sample, as CBCL samples from societies in which the TRF and/or the YSR were not administered were excluded.

Instruments

The CBCL, YSR, and TRF (Achenbach & Rescorla, 2001) are written at a fifth-grade reading level. For non-Anglophone societies, each form was translated into the foreign language and back-translated into English. The back-translations were checked by the authors of the CBCL, YSR, and TRF, revised to remedy problems, and tested with the intended informants. Each problem item was rated 0 (*not true [as far as you know]*), 1 (*somewhat or sometimes true*), or 2 (*very true or often true*), based on the preceding 6 months (2 months for the TRF). Because the pre-2001 editions were used for 31 CBCL samples, 20 YSR samples, and 18 TRF samples, the six items replaced in 2001 on the CBCL and YSR (Items 2, 4, 5, 28, 78, and 99) and the three replaced on the TRF (Items 5, 28, 99) were omitted from all analyses. The DP was calculated by summing ratings of the items on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes: 39 items for the CBCL (maximum score = 78), 37 items for the YSR (maximum score = 74), and 62 items for the TRF (maximum score = 124).

Data Analysis

Scale scores were positively skewed, as is typical for problem scores in population samples where most children have relatively few problems. However, because our large samples and our stringent alpha level of $p < .001$ made our analyses very robust, we analyzed untransformed raw scores (Kirk, 1995). All analyses were conducted using SPSS Version 24.

First, we computed the mean of the ratings of 0, 1, and 2 for each DP item in each society, using the complete sample for each form. To measure the degree to which the same DP items received low, medium, or high ratings in different societies, we computed bisociety Q correlations between the mean of the 0, 1, or 2 ratings of DP problem items in each society and those in every other society, based on the procedures pioneered by Stephenson (1953). We then averaged these bisociety Q s to obtain an omnicultural mean Q

correlation for each form (Ellis & Kimmel, 1992). We also used our cross-informant samples to examine agreement on mean DP item ratings between parents and adolescents in 25 societies ($N = 27,861$) and parents and teachers in 21 societies ($N = 27,962$). The CBCL–YSR cross-informant analyses utilized the 37 DP items common to the two forms, whereas the CBCL–TRF cross-informant analyses utilized the 42 DP items common to those two forms.

Our second set of analyses involved obtaining an omnicultural mean rating for each item constituting the DP. We did this by averaging the ratings for each item across the full samples for each society for each form (CBCL = 42, YSR = 34, TRF = 27 societies). We then rank ordered these omnicultural mean item ratings for each form's DP. We also rank ordered the omnicultural mean item ratings for each type of informant in our cross-informant samples.

Third, we obtained broad and narrow base rates for each DP item on each form in each society, using the full set of items for each form (39 for the CBCL, 37 for the YSR, and 62 for the TRF). The broad base rate consisted of the percentage of participants in the full sample for each society who obtained item ratings of either 1 (*somewhat or sometimes true*) or 2 (*very true or often true*), whereas the narrow base rate consisted of only the percentage of participants with a rating of 2. We then calculated the omnicultural mean for each item's base rate for each form, as well as for our cross-informant samples. For each form, we identified the five DP items with the largest standard deviations for broad base rate omnicultural means as well as the five DP items with the smallest standard deviations for broad base rate omnicultural means. For these items, we identified the societies obtaining the highest and lowest broad base rates, as a qualitative way of looking at societal differences in base rates.

For our last set of analyses, we aggregated DP scores for each instrument by summing ratings for all DP items to compute the societal means for the DP. We then used analyses of variance (ANOVAs) to test effects of society, age, and gender on DP scores, with the requirement of more than 80 participants in each age group tested (Rescorla et al., 2012). We therefore conducted ANOVAs on the following samples: CBCL (38 societies for ages 6–11, $n = 39,937$; 33 societies for ages 12–16, $n = 29,536$; and 29 societies for ages 6–16, $n = 56,666$), YSR (33 societies for ages 11–16, $n = 36,846$), and TRF (26 societies for ages 6–11, $n = 25,167$; 21 societies for ages 6–15, $n = 33,128$). We also used our cross-informant samples to test effects of informant, society, age, and gender on DP scores. In addition, we examined associations between DP scores and Total Problems scores in each society, and we tested associations between DP scores and year of data collection. Finally, using the full sample for each form, we computed correlations between scores on the three syndromes composing the DP.

With our stringent alpha of $p \leq .001$, power was greater than 95% to detect effect sizes (ESs) of $\eta^2 < .0009$

(equivalent to $f \leq .0297$), based on Faul, Erdfelder, Buchner, and Lang (2009). Because so many effects were tested, F values and p values are not given, but ESs measured by eta-square are reported. Using Cohen's (1988) benchmarks, we characterized η^2 ESs as small = .01–.059, medium = .06–.137, and large $\geq .138$, and rs/Qs as small = .10–.29, medium = .30–.49, and large $\geq .50$.

RESULTS

Analyses of Mean DP Item Ratings

For our first analysis, we computed mean DP item ratings for each form within each society. We then computed each society's bisociety Q correlations with all the other societies' mean DP item ratings and averaged these Qs to obtain the mean bisociety Q for each society (range = .58–.79 for the CBCL, .55–.80 for YSR, and .46–.76 for the TRF). These mean bisociety Qs were then averaged to yield the omnicultural mean bisociety Q for each form (.70 for the CBCL, .72 for the YSR, and .68 for the TRF). Whether parents, adolescents, or teachers provided the ratings, there was considerable consistency across diverse societies with respect to which of the DP items tended to receive low, medium, or high ratings, although some societal variation was observed.

Next, we analyzed cross-informant agreement within each society on mean item ratings. The omnicultural mean cross-informant Q correlation across 25 societies was .85 ($SD = .06$) between mean parent ratings and mean adolescent ratings on the 37 DP items common to the CBCL and YSR, with a range from .73 for France to .96 for Romania. For the 21 CBCL–TRF societies, the omnicultural mean cross-informant Q correlation was .77 ($SD = .10$) for the 42 DP items common to the two forms, with a range from .60 for Thailand to .93 for Iran. These large Q correlations indicate that parents and adolescents as well as parents and teachers in each society consistently agreed on which DP items had low, medium, or high ratings.

Analyses of Mean Item Rank Orders

The omnicultural means for each DP item on each form displayed in Table 1 indicate which DP problems tended to be commonly endorsed and which were rarely endorsed. For the CBCL, Item 3 (Argues a lot) had the highest omnicultural mean item rating across 42 societies ($M = .76$). Of the "top 10" DP items for the CBCL, three are from the Anxious/Depressed scale (Items 32, 71, and 45), three are from the Attention Problems scale (Items 10, 8, and 41), and four are from the Aggressive Behavior scale (Items 3, 19, 22, and 86). This indicates that DP problems rated highest by parents reflected the mixed symptom picture of the DP, with dysregulation in the modulation of mood, attention,

and aggression. Six of the top 10 DP items on the YSR were among the top 10 items on the CBCL (Items 86, 3, 8, 32, 19, and 45). As with the CBCL, the top 10 DP items on the YSR also reflected the broad dysregulation associated with this profile (four Anxious/Depressed items, two Attention Problems items, and four Aggressive Behavior items).

Because of the importance of attention, concentration, and persistence for school performance, the TRF Attention Problems syndrome contains 26 items, compared to eight on the CBCL and seven on the YSR. This explains why the TRF–DP has 62 items compared to 39 and 37 items on the CBCL and YSR, respectively. Not surprisingly, therefore, Table 1 indicates that six of the TRF items' top 10 items (Items 8, 78, 4, 61, 10, and 92) were from the Attention Problems syndrome, with three of the remaining four from the Anxious/Depressed syndrome (Items 81, 32, 108) and only one from the Aggressive Behavior syndrome (Item 19). Four of the TRF top 10 DP items were also among the top 10 DP CBCL and YSR items (Items 8, 32, 19, and 10).

Six of the 10 DP items with the lowest omnicultural means (bottom 10) on the TRF were similar to the CBCL and YSR bottom 10 items. The following six items were among the 10 with the lowest omnicultural mean ratings on all three forms: Attacks people (Item 57), Destroys own things (Item 20), Destroys others' things (Item 21), Threatens others (Item 97), Fears school (Item 30), and Talks of suicide (Item 91).

We next computed the omnicultural mean of all DP items for each type of informant in our two cross-informant samples. The omnicultural means for DP items correlated .91 for the CBCL–YSR and .80 for the CBCL–TRF, indicating very strong agreement on the rank ordering of items. Six of the top 10 DP items on the CBCL were also among the top 10 for the YSR (Items 3, 32, 19, 8, 71, and 86), and 19 of the top 20 items were the same for both types of informant. For the CBCL and the TRF, eight of the top 10 items (Items 3, 10, 19, 8, 32, 93, 71, and 49) and 16 of the top 20 items were the same for both types of informant. Thus, whether we used the complete international samples for each form or the smaller CBCL–YSR and CBCL–TRF cross-informant samples, a very consistent picture emerged with respect to endorsement rates of DP items across informants.

Base Rates of DP Problems

The first step in our base rate analyses was to calculate within-society broad base rates (percentage of children with ratings of 1 or 2) and narrow base rates (percentage of children with a rating of 2) for each DP item on each form. We then calculated the omnicultural mean base rate and its standard deviation for each DP item on each form by averaging all the societal base rates. Table 2 presents the omnicultural mean broad and narrow base rates for each DP item in descending order for each form.

TABLE 1
DP Items in Descending Order of Mean Item Rating by Form

<i>CBCL</i>		<i>YSR</i>		<i>TRF</i>	
<i>Item</i>	<i>M</i>	<i>Item</i>	<i>M</i>	<i>Item</i>	<i>M</i>
3. Argues a lot	.76	86. Stubborn, sullen	.80	8. Can't concentrate	.48
19. Demands attention	.60	3. Argues a lot	.78	81. Hurt when criticized	.44
10. Can't sit still	.57	17. Daydreams	.74	78. Inattentive	.44
8. Can't concentrate	.53	87. Mood changes	.70	4. Fails to finish	.41
32. Must be perfect	.52	8. Can't concentrate	.68	32. Must be perfect	.37
22. Disobedient at home	.46	112. Worries	.65	19. Demands attention	.37
86. Stubborn, sullen	.45	32. Must be perfect	.64	61. Poor schoolwork	.37
41. Impulsive	.41	19. Demands attention	.60	10. Can't sit still	.36
71. Self-conscious	.41	29. Fears	.59	92. Underachievement	.36
45. Nervous	.41	45. Nervous	.59	108. Fears mistakes	.36
88. Sulks	.40	71. Self-conscious	.59	71. Self-conscious	.36
95. Temper	.39	41. Impulsive	.59	3. Argues a lot	.36
29. Fears	.38	10. Can't sit still	.58	93. Talks too much	.35
87. Mood changes	.35	95. Temper	.58	72. Messy work	.34
17. Daydreams	.33	89. Suspicious	.58	49. Difficulty learning	.34
1. Acts young	.33	61. Poor schoolwork	.50	15. Fidgets	.34
112. Worries	.30	22. Disobedient at home	.48	53. Talks out of turn	.33
61. Poor schoolwork	.30	31. Fears doing bad	.45	17. Daydreams	.33
68. Screams a lot	.30	94. Teases a lot	.44	22. Difficulty with directions	.31
104. Loud	.28	50. Fearful	.38	41. Impulsive	.29
94. Teases a lot	.28	1. Acts young	.37	100. Fails to carry out tasks	.29
31. Fears doing bad	.27	68. Screams a lot	.37	1. Acts young	.27
50. Fearful	.26	104. Loud	.37	24. Disturbs others	.27
33. Feels unloved	.26	14. Cries a lot	.36	45. Nervous	.26
14. Cries a lot	.24	13. Confused	.35	60. Apathetic	.26
89. Suspicious	.20	52. Feels too guilty	.33	13. Confused	.25
23. Disobedient at school	.20	23. Disobedient at school	.31	112. Worries	.25
13. Confused	.19	33. Feels unloved	.31	67. Disrupts	.24
37. Gets in fights	.18	35. Feels worthless	.28	74. Shows off	.21
35. Feels worthless	.16	16. Mean	.27	86. Stubborn, sullen	.21
52. Feels too guilty	.16	37. Gets in fights	.25	50. Fearful	.21
20. Destroys own things	.15	20. Destroys own things	.17	31. Fears doing bad	.21
80. Stares	.11	57. Attacks people	.14	87. Mood changes	.20
16. Mean	.09	97. Threatens others	.14	7. Brags	.20
57. Attacks people	.09	91. Talks of suicide	.13	94. Teases a lot	.20
21. Destroys others' things	.08	30. Fears school	.12	88. Sulks	.20
30. Fears school	.06	21. Destroys others' things	.09	2. Odd noises	.19
97. Threatens others	.05			106. Anxious to please	.19
91. Talks of suicide	.03			23. Disobedient at school	.19
				77. Easily frustrated	.19
				37. Gets in fights	.18
				73. Irresponsible	.17
				104. Loud	.17
				80. Stares	.17
				6. Defiant	.16
				95. Temper	.15
				35. Feels worthless	.14
				76. Explosive	.13
				68. Screams a lot	.13
				89. Suspicious	.12
				16. Mean	.12
				29. Fears	.12
				109. Whining	.11
				57. Attacks people	.11
				33. Feels unloved	.11
				14. Cries a lot	.11
				52. Feels too guilty	.08

(Continued)

TABLE 1
(Continued)

CBCL		YSR		TRF	
Item	M	Item	M	Item	M
				20. Destroys own things	.06
				21. Destroys others' things	.06
				97. Threatens others	.05
				30. Fears school	.05
				91. Talks of suicide	.01

Note: DP = dysregulation profile; CBCL = Child Behavior Checklist; YSR = Youth Self-Report; TRF = Teacher's Report Form.

As would be expected, broad base rates were much higher than narrow base rates for all DP items on all forms. In addition, the rank ordering of the DP items was quite similar for the CBCL and YSR, which shared eight of the 20 DP items having the highest base rates. There was less overlap in rank ordering between the TRF and the other forms because the TRF-DP contains many items not on the CBCL or YSR versions of the DP. Both broad and narrow base rates were higher for DP items on the YSR than on the CBCL and TRF. Seven items had YSR broad base rates of greater than 50%, indicating that adolescents commonly report arguing, being stubborn, having problems concentrating, daydreaming, being moody, being impulsive, and worrying. However, DP problems such as attacking and threatening people, destroying property, fearing school, and having suicidal thoughts had low base rates according to all three types of informant. These base rate findings suggest that the DP's clinical significance stems from high scores on multiple problem items from the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes, many of which were quite common in our population samples.

Omnicultural base rates and their standard deviations varied widely across items. To examine societal variation in base rates, we identified the five items with the largest (and smallest) broad base rate standard deviations for each form. We then determined which society had the lowest base rate and highest base rate for each of these 10 items, as shown in Table 3. Societies with the lowest base rates for multiple items included China (four of 10 CBCL items); Norway, Finland, and Ethiopia (two items each of the 10 YSR items); and Finland and Japan (two items each for the 10 TRF items). Societies with the highest base rates for multiple items were Pakistan and Brazil (both three of the 10 CBCL items); Lithuania, Japan, and Spain (two items each of the 10 YSR items); and Jamaica (two of the 10 TRF items). It is notable that the five items with the largest broad base rate standard deviations for all three forms were among those with the highest omnicultural base rates. The five

items with the smallest broad base rate standard deviations were among those with the lowest omnicultural base rates, perhaps reflecting floor effects.

DP Scores

To efficiently test effects of society, age, and gender on the DP, we summed each child's Anxious/Depressed, Attention Problems, and Aggressive Behavior scores for a given form. For each form, the mean DP scores for each society were averaged to obtain an omnicultural DP mean and its standard deviations. Based on 42 societies, the omnicultural mean of the 39-item CBCL DP was 11.56 ($SD = 3.17$), with 26 societies (62%) having a mean DP score within 1 SD of the overall mean (see Table 4). For the YSR, the omnicultural mean of the 37-item DP for 34 societies was 16.32 ($SD = 2.95$), with 23 societies (68%) scoring within 1 SD of the omnicultural mean. For the 62-item DP on the TRF, the omnicultural mean for 27 societies was 14.30 ($SD = 4.05$), with 20 societies (74%) falling within 1 SD of the omnicultural mean. It is striking that although the TRF DP has 62 items compared to 39 for the CBCL, the TRF mean of 14.30 was only slightly higher than the CBCL mean of 11.56. In addition, although the DP on the YSR has two fewer items than the DP on the CBCL, the YSR omnicultural mean was about 5 points higher than the CBCL omnicultural mean. This pattern is clearly seen when each instrument's omnicultural mean is divided by its number of DP items (i.e., TRF = .23, CBCL = .30, and YSR = .44).

The ESs yielded by the ANOVAs of the DP expressed as percentages appear in Table 5. Consistent with the Rescorla et al. (2012) results for CBCL, YSR, and TRF syndromes that make up the DP, society had the largest ES (7%–12%) on the aggregated DP. Age and gender effects, as well as all interactions, were either not significant or less than 1%, except for TRF gender effects of 3% for the ages 6–11 sample (26 societies) and 2% for the ages 6–15 sample (21 societies), with boys > girls for

TABLE 2
Broad and Narrow Base Rate Percentages (%) of DP Problem Items in Descending Order by Form

<i>CBCL</i>		<i>YSR</i>		<i>TRF</i>	
<i>Item</i>	<i>M</i>		<i>M</i>		<i>M</i>
3. Argues a lot	60/15	3. Argues a lot	64/14	8. Can't concentrate	38/10
19. Demands attention	47/13	86. Stubborn, sullen	62/18	81. Hurt when criticized	37/7
10. Can't sit still	43/14	8. Can't concentrate	56/12	78. Inattentive	35/9
8. Can't concentrate	42/10	87. Mood changes	56/15	4. Fails to finish	33/8
22. Disobedient at home	41/5	17. Daydreams	55/19	108. Fears mistakes	31/5
32. Must be perfect	41/12	41. Impulsive	52/7	71. Self-conscious	31/5
86. Stubborn, sullen	39/6	112. Worries	51/14	32. Must be perfect	30/7
41. Impulsive	36/5	45. Nervous	49/11	19. Demands attention	29/6
71. Self-conscious	35/6	19. Demands attention	49/11	10. Can't sit still	29/8
45. Nervous	34/7	71. Self-conscious	48/11	3. Argues a lot	28/7
88. Sulks	34/6	32. Must be perfect	48/15	17. Daydreams	28/5
95. Temper	33/6	89. Suspicious	48/10	92. Underachievement	28/8
87. Mood changes	31/4	10. Can't sit still	46/12	61. Poor schoolwork	28/9
29. Fears	30/8	95. Temper	46/12	72. Messy work	28/7
17. Daydreams	29/4	29. Fears	44/15	93. Talks too much	28/7
1. Acts young for age	27/5	22. Disobedient at home	43/5	15. Fidgets	27/7
112. Worries	26/4	61. Poor schoolwork	42/8	49. Difficulty learning	26/8
68. Screams a lot	25/5	94. Teases a lot	37/7	53. Talks out of turn	26/7
94. Teases a lot	25/3	31. Fears doing bad	36/9	22. Difficulty w/directions	25/5
61. Poor schoolwork	25/5	1. Acts young for age	33/4	41. Impulsive	24/5
104. Loud	24/4	50. Fearful	32/6	100. Fails to carry out tasks	24/5
50. Fearful	23/4	68. Screams a lot	31/6	1. Acts young for age	23/5
31. Fears doing bad	23/5	104. Loud	31/6	45. Nervous	22/3
33. Feels unloved	22/3	13. Confused	30/5	24. Disturbs others	22/4
14. Cries a lot	20/4	14. Cries a lot	29/6	112. Worries	22/3
23. Disobedient at school	18/2	52. Feels too guilty	28/5	13. Confused	22/4
89. Suspicious	17/3	23. Disobedient at school	28/4	60. Apathetic	22/4
13. Confused	17/2	33. Feels unloved	26/5	67. Disrupts	20/4
37. Gets in fights	15/2	16. Mean	25/3	86. Stubborn, sullen	18/3
35. Feels worthless	15/2	35. Feels worthless	244	50. Fearful	18/3
52. Feels too guilty	14/2	37. Gets in fights	21/4	74. Shows off	17/4
20. Destroys own things	13/2	20. Destroys own things	14/2	31. Fears doing bad	17/3
80. Stares	10/1	57. Attacks people	13/1	87. Mood changes	17/3
16. Mean	8/1	97. Threatens others	12/2	88. Sulks	17/3
57. Attacks people	8/1	91. Talks of suicide	11/2	7. Brags	17/3
21. Destroys others' things	7/1	30. Fears school	10/2	94. Teases a lot	17/3
30. Fears school	5/1	21. Destroys others' things	8/1	106. Anxious to please	17/3
97. Threatens others	4/1			23. Disobedient at school	16/3
91. Talks of suicide	3/<1			2. Odd noises	16/3
				77. Easily frustrated	16/3
				37. Gets in fights	15/3
				80. Stares	14/2
				73. Irresponsible	14/3
				6. Defiant	13/3
				104. Loud	13/3
				35. Feels worthless	13/1
				95. Temper	12/3
				29. Fears	12/2
				89. Suspicious	11/1
				76. Explosive	11/2
				68. Screams a lot	10/2
				109. Whining	10/1
				16. Mean	10/2
				57. Attacks people	10/2
				33. Feels unloved	10/1
				14. Cries a lot	9/1
				52. Feels too guilty	8/7

(Continued)

TABLE 2
(Continued)

CBCL		YSR		TRF	
Item	<i>M</i>		<i>M</i>		<i>M</i>
				20. Destroys own things	5/1
				21. Destroys others' things	5/9
				97. Threatens others	5/7
				30. Fears school	4/6
				91. Talks of suicide	1/3

Note: Broad base rate defined as percentage of participants with a rating of either 1 or 2; narrow base rate defined as the percentage of participants with a rating of 2. DP = dysregulation profile; CBCL = Child Behavior Checklist; TRF = Teacher's Report Form; YSR = Youth Self-Report.

both samples. Overall, these results indicate that DP scores varied somewhat by society, although many societies had quite similar scores. Gender differences on the DP were minor for the CBCL and YSR but slightly larger for the TRF. Age differences were minor for all three forms.

We ran parallel ANOVAs on the DP for our two cross-informant samples, adding informant as a within-subjects factor. For the CBCL-YSR sample ($N = 27,861$), informant had an ES of 17% ($M = 15.8$ for the YSR vs. 9.2 for the CBCL); society had an ES of 6%; and age, gender, and all interactions had ESs at or less than 1%, except for the Informant $\times$ Society interaction ES of 4%. CBCL and YSR DP scores correlated at .44, indicating moderate concordance, despite the fact that DP scores were generally higher on the YSR than the CBCL. For the CBCL-TRF cross-informant sample with 21 societies ($N = 27,961$), ESs were less than 1% for informant ($M = 11.7$ for the CBCL vs. 8.2 for the TRF), 9% for society, 3% for the Informant $\times$ Society interaction, less than 1% for gender (boys > girls), nonsignificant for age, and less than 1% for the seven other interactions that were significant. CBCL and TRF DP scores correlated at .46. The most notable aspect of our cross-informant results is that the CBCL-TRF ANOVA informant effect was so much smaller than that for the CBCL-YSR sample, despite the fact that the cross-informant r s for the DP were comparable (.44 for the CBCL $\times$ YSR and .46, both indicating moderate agreement).

In light of the Jordan et al. (2016) findings that children in the DP class derived by LCA often had elevated scores on all YSR syndromes, we computed within-informant correlations between DP score and Total Problems (TP) score using both our full CBCL, YSR, and TRF samples and our smaller cross-informant samples. These DP-TP within-informant r s ranged from .95 to .98, indicating that most children with high DP scores also had high TP scores. These r s were larger than those between TP and Internalizing (range = .70-.88) and TP and Externalizing (range = .84-.88), although these broad-band scales comprising multiple syndromes were also strongly correlated with TP. Correlations between TP and individual syndrome scales, all of which contain fewer

items than the DP and the Internalizing and Externalizing scales, were more variable and lower than those for the DP (e.g., CBCL range = .56-.87, YSR range = .65-.83, and TRF range = .45-.90).

Because our CBCL, YSR, and TRF data were collected over a period spanning more than 20 years, we analyzed associations between year-of-data collection and DP score. For the CBCL, year-of-data collection (which ranged from 1987 to 2012) and DP score had an r of .12 ($p < .001$); although this r is significant due to the large total sample size of 67,806, it is a small effect. When societies were ranked by DP score, it was evident that high and low DP mean scores were distributed across the years. For example, the 15 societies with a DP mean greater than 12.0 had dates ranging from 1990 (Puerto Rico) to 2012 (Colombia). The same pattern was evident for the YSR, with a small r of .15 ($p < .001$) for 38,070 adolescents. Societies with the 15 highest DP scores had dates ranging from 1997 to 2012. For the TRF, the r between DP score and year-of-data collection was $-.03$ ($p < .001$) for 36,244 cases. For the TRF, the societies having the top 15 DP scores also ranged widely in year-of-data collection, namely, from 1989 to 2012. In summary, there was a very slight tendency for more recent data to yield slightly higher scores for the CBCL and YSR but not for the TRF.

In a final analysis, we used our full CBCL, YSR, and TRF samples to compute Pearson r s between scores on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes, the three scales that compose the DP. For the CBCL, YSR, and TRF, respectively, the r s between Anxious/Depressed and Attention Problems were .52, .55, and .39; for Anxious/Depressed and Aggressive Behavior they were .58, .53, and .40; and for Attention Problems and Aggressive Behavior they were .65, .62, and .74. These correlations, all but two of which were large by Cohen's (1988) benchmark of .50, indicate that children and adolescents with high scores on one DP syndrome were very likely to have high scores on the other two syndromes, with an especially strong association between Attention Problems and Aggressive Behavior.

TABLE 3
DP Items with Largest and Smallest *SDs* for Omnicultural Means of Broad Base Rates

	<i>Omnicultural M</i>	<i>SD</i>	<i>Lowest Base Rate</i>	<i>Highest Base Rate</i>
CBCL Largest <i>SDs</i>				
19. Demands attention	47.47%	14.38	14.4 (China)	76.3 (Romania)
32. Must be perfect	40.50%	15.99	16.2 (China)	84.5 (Pakistan)
45. Nervous	34.33%	14.76	8.9 (China)	64.9 (Portugal)
71. Self-conscious	35.29%	13.91	7.5 (China)	69.5 (Pakistan)
88. Sulks	34.33%	16.49	5.6 (Norway)	68.2 (Uruguay)
CBCL Smallest <i>SDs</i>				
21. Destroys others' things	7.31%	3.35	2.8 (Iceland)	15.6 (Singapore)
30. Fears school	5.26%	2.86	1.5 (Israel)	12.4 (China)
35. Feels worthless	14.51%	4.31	5.0 (Jamaica)	24.3 (Brazil)
91. Talks of suicide	2.81%	1.58	0.6 (Italy)	7.4 (Brazil)
97. Threatens others	4.35%	3.41	0.6 (Netherlands)	14.0 (Pakistan)
YSR Largest <i>SDs</i>				
17. Daydreams	54.62%	15.74	25.8 (Algeria)	85.7 (Lithuania)
32. Must be perfect	48.05%	14.44	27.7 (Finland)	82.0 (Lithuania)
45. Nervous	48.89%	13.79	26.0 (Ethiopia)	82.9 (Spain)
86. Stubborn, sullen	62.17%	15.67	27.8 (Ethiopia)	89.5 (Italy)
112. Worries	50.72%	13.91	27.1 (Finland)	78.0 (Spain)
YSR Smallest <i>SDs</i>				
20. Destroys own things	14.37%	4.27	6.7 (Norway)	23.7 (Japan)
21. Destroys others' things	8.07%	2.91	3.3 (Denmark)	14.4 (Hong Kong)
57. Attacks people	13.09%	5.54	4.4 (Iceland)	30.2 (Japan)
91. Talks of suicide	10.58%	5.12	3.4 (Netherlands)	28.3 (Korea)
97. Threatens others	11.71%	4.87	3.3 (Norway)	26.5 (Greece)
TRF Largest <i>SDs</i>				
19. Demands attention	28.60%	12.51	5.0 (Australia)	57.4 (Iran)
32. Must be perfect	29.59%	14.58	10.6 (Japan)	59.4 (Lithuania)
71. Self-conscious	30.67%	12.54	10.6 (China)	59.7 (Jamaica)
81. Hurt when criticized	37.31%	12.49	10.6 (Finland)	62.6 (Jamaica)
108. Fears mistakes	30.73%	12.00	8.8 (Finland)	47.7 (France)
TRF Smallest <i>SDs</i>				
16. Mean	10.06%	3.46	2.8 (Italy)	16.4 (Norway)
21. Destroys others' things	5.14%	2.24	1.4 (France)	9.4 (Romania)
30. Fears school	4.21%	2.55	1.2 (Japan)	12.5 (Poland)
91. Talks of suicide	1.09%	1.28	0.0 (Sweden)	6.8 (Kosovo)
97. Threatens others	4.69%	2.65	1.2 (Croatia)	10.9 (Puerto Rico)

Note: DP = dysregulation profile; CBCL = Child Behavior Checklist; YSR = Youth Self-Report; TRF = Teacher's Report Form.

DISCUSSION

Our study contributes several important advances to the field's knowledge about the DP. Unlike previous studies, we analyzed performance of the DP items and did so across three types of informant in many societies. The omnicultural mean bisociety *Qs* for DP item ratings of .70 for the CBCL (for 39 items), .72 for the YSR (for 37 items), and .68 for the TRF (for 62 items) indicate that the societies were quite similar with respect to which of the DP items tended to receive low, medium, or high ratings for all three types of informant. These large correlations are very similar to the omnicultural mean bisociety *Qs* that Rescorla et al. (2012) reported for all CBCL, YSR, and TRF items in the same samples used in the current study: CBCL (.74 for 112 items), YSR (.70 for 98 items), and TRF (.72 for 112 items).

By definition, the DP comprises items from the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes. However, an important contribution of our study is demonstrating that the individual DP items with the highest mean ratings on all three forms reflect the mixed symptom picture of the DP. This dysregulation of mood, attention, and aggression characterizing the DP helps explain why children with the DP receive diagnoses such as borderline personality disorder, complex posttraumatic stress disorder, or ADHD, which are also characterized by this mixed symptom picture (Ayer et al., 2009). Similarly, the DP's mix of mood, attention, and aggression symptoms probably accounts for the fact that Dutch participants with a history of high DP scores in childhood often had comorbid internalizing and externalizing diagnoses as adults (e.g., disruptive behavior disorders with anxiety; Althoff et al., 2010). That the correlations between the three DP

TABLE 4
Mean Societal DP Score in Ascending Order for the CBCL (42 Societies), YSR (34 Societies), and TRF (27 Societies)

CBCL			YSR			TRF		
Society	N	M (SD)	Society	N	M (SD)	Society	N	M (SD)
China	4,858	6.6 (6.6)	Finland	826	11.6 (8.6)	Japan	2,559	5.9 (10.8)
Japan	4,645	6.8 (7.0)	Norway	417	11.9 (8.1)	Finland	1,695	7.5 (12.5)
Sweden	1,354	7.0 (6.8)	Germany	1,497	11.9 (9.0)	Singapore	1,957	8.5 (12.2)
Norway	939	7.2 (6.7)	Switzerland	1,132	12.7 (7.9)	China	4,857	9.7 (11.0)
Germany	2,184	8.0 (7.2)	Iceland	480	13.1 (9.0)	Croatia	2,023	10.4 (13.6)
Serbia	488	8.3 (7.5)	Israel	562	13.7 (8.7)	France	493	11.6 (11.6)
Finland	2,093	8.4 (7.6)	Netherlands	881	13.7 (7.9)	Sweden	623	11.7 (15.5)
Denmark	628	8.4 (7.6)	Turkey	1,760	13.9 (9.3)	Serbia	486	11.8 (12.6)
Iceland	817	8.5 (7.7)	Australia	1,114	14.4 (9.9)	Australia	1,697	12.0 (14.7)
Australia	3,078	8.6 (9.3)	Puerto Rico	301	14.4 (10.0)	Italy	1,022	12.4 (12.7)
Kosovo	1,332	8.9 (8.9)	China	967	14.5 (9.5)	Norway	846	12.8 (15.9)
Croatia	2,373	9.2 (7.8)	Denmark	389	14.8 (9.7)	Hong Kong	1,993	13.4 (15.3)
Netherlands	1,715	9.6 (7.9)	Ethiopia	604	15.1 (9.0)	Netherlands	1,239	14.0 (14.6)
Switzerland	2,060	9.6 (7.9)	USA	1,003	15.1 (9.5)	USA	927	14.8 (16.7)
Israel	1,117	9.8 (7.9)	Romania	404	15.7 (9.2)	Lebanon	1,504	15.4 (15.0)
Jamaica	671	10.3 (7.3)	Croatia	735	15.7 (9.2)	Kosovo	405	15.4 (14.2)
Thailand	701	10.4 (6.8)	Peru	1,180	15.7 (9.1)	Greece	1,179	15.4 (15.1)
Belgium	953	10.9 (9.2)	Poland	1,660	16.0 (9.9)	Portugal	1,373	15.6 (15.2)
Romania	990	11.1 (8.7)	Jamaica	348	16.0 (8.7)	Denmark	599	16.4 (18.9)
USA	1,788	11.2 (9.4)	Kosovo	1,143	16.4 (10.6)	Turkey	1,600	16.4 (15.7)
Italy	1,063	11.4 (7.8)	Korea	2,750	16.6 (9.6)	Romania	922	17.5 (16.7)
France	2,133	11.5 (8.1)	Japan	2,542	17.1 (10.7)	Lithuania	2,601	17.8 (14.9)
Poland	2,479	11.6 (9.9)	Iran	696	17.1 (10.3)	Poland	2,133	18.1 (16.4)
Turkey	3,790	11.7 (8.5)	Portugal	946	17.8 (9.9)	Iran	1,025	18.2 (18.3)
Korea	3,081	11.8 (9.3)	France	875	17.8 (9.4)	Thailand	359	20.7 (16.7)
Singapore	1,605	11.9 (9.6)	Sweden	1,928	17.8 (9.3)	Jamaica	615	21.2 (17.1)
Taiwan	834	11.9 (9.4)	Algeria	384	18.4 (9.5)	Puerto Rico	565	21.5 (19.3)
Russia	1,998	12.0 (8.9)	Hong Kong	1,331	18.7 (10.3)			
Hong Kong	2,033	13.0 (10.0)	Tunisia	682	20.0 (10.5)			
Iran	1,205	13.1 (10.0)	Lithuania	2,022	20.4 (10.8)			
Ethiopia	513	13.6 (6.5)	Spain	337	21.0 (9.2)			
Lithuania	2,920	13.9 (9.1)	Brazil	2,728	21.3 (10.2)			
Peru	2,296	14.1 (9.7)	Italy	1,224	22.3 (9.6)			
Greece	1,113	14.3 (9.2)	Greece	1,222	22.3 (10.1)			
Tunisia	1,187	14.9 (10.1)						
Algeria	384	15.2 (9.0)						
Uruguay	1,374	15.2 (10.5)						
Portugal	1,120	16.0 (10.2)						
Colombia	1,491	16.4 (10.7)						
Puerto Rico	635	16.5 (12.2)						
Pakistan	600	16.7 (11.2)						
Brazil	1,228	20.3 (12.3)						

Note: Shaded cells indicate societies in which the mean DP score fell > 1 SD below or above the omnicultural mean for that instrument. DP = dysregulation profile; CBCL = Child Behavior Checklist; YSR = Youth Self-Report; TRF = Teacher's Report Form.

syndromes were generally quite high (with seven out of nine of the r s $> .50$) further suggests that children and adolescents with high scores on one DP syndrome were likely to also have high scores on the other two syndromes.

A third important contribution of our study is the finding that DP problems such as arguing, being stubborn, having problems concentrating, daydreaming, being moody, being impulsive, and worrying had high base rates, especially on the YSR, indicating that these are common problems. On the other hand, DP problems

such as attacking and threatening people, destroying property, fearing school, and having suicidal thoughts had low base rates according to all three types of informants, indicating that these are relatively rare problems. An important implication of these findings is that the DP's clinical significance stems from high scores on multiple problems from the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes, many of which were quite common in our general population samples but some of which were rare.

TABLE 5
Significant CBCL, YSR, and TRF Effect Sizes (η^2) for Society,
Gender, and Age on the DP

Sample	S	A	G	S × A	S × G	A × G	S × A × G
CBCL							
6–11	12% ^a	ns	< 1%	< 1%	ns	ns	ns
12–16	8%	ns	Ns	< 1%	< 1%	ns	< 1%
6–16	8%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
YSR							
11–16	7%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
TRF							
6–11	8%	ns	3%	< 1%	1%	ns	ns
6–15	8%	ns	2%	< 1%	1%	ns	ns

Note: CBCL samples: 38 societies for ages 6–11, $n = 39,937$, 33 societies for ages 12–16, $n = 29,536$, and 29 societies for ages 6–16, $n = 56,666$; YSR samples: 33 societies for ages 11–16, $n = 36,846$; TRF samples: 26 societies for ages 6–11, $n = 25,167$ and 21 societies for ages 6–15, $n = 33,128$. CBCL = Child Behavior Checklist; YSR = Youth Self-Report; TRF = Teacher's Report Form; DP = dysregulation profile; S = Society, A = age, G = gender.

^aEta-square values in the cells are presented as percentage of variance accounted for by the factor.

A fourth important contribution is the finding that many societies varying widely in ethnicity, religion, political/economic system, geography, and history had highly similar mean DP scores, a pattern found on all three forms. For example, Poland, Jamaica, Turkey, Italy, Romania, France, Singapore, Korea, and Taiwan scored within 2 points of the U.S. mean on the CBCL. Nonetheless, DP scores did vary somewhat by society, as indicated by societal ESs of 7%–12% across the three instruments. Gender differences on the DP were very small for the CBCL and YSR but slightly larger for the TRF (boys > girls). Age differences were minor for all three types of informant. Most important, interactions of age and gender with society were either not significant or minimal (< 1%), indicating that societies varied little in age and gender trends for DP scores. These ANOVA findings are very consistent with those reported by Rescorla et al. (2012) for many other CBCL, YSR, and TRF scales, including the three broad-band scales (Internalizing, Externalizing, and Total Problems), the *Diagnostic and Statistical Manual of Mental Disorders*–(DSM–) oriented scales, and the five empirically based syndromes besides the three composing the DP.

A fifth important contribution was the finding of very strong cross-informant agreement on the rank ordering of DP mean item ratings (omnicultural means of .91 for the CBCL–YSR and .80 for the CBCL–TRF). These correlations indicate that many of the DP items with the highest mean item ratings were similar across types of informant in our cross-informant samples, consistent with findings for the larger single-informant samples. These DP cross-informant omnicultural Q s are very similar to those reported by Rescorla et al. (2013) for 98 items common to the CBCL and YSR across 25 societies ($Q = .85$) and by Rescorla et al.

(2014) for 90 items common to the CBCL and TRF across 21 societies ($Q = .77$).

Our cross-informant analyses revealed that the informant effect was 17% for the CBCL–YSR but less than 1% for the CBCL–TRF. The CBCL–YSR informant effect size is consistent with those reported by Rescorla et al. (2013) for CBCL–YSR cross-informant agreement in 25 societies (e.g., informant effect sizes of 12%, 10%, 13%, respectively, for the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes; 16% for Internalizing; and 18% for Externalizing). Our DP informant effect for the CBCL–TRF was smaller than effects reported by Rescorla et al. (2014; e.g., informant effect sizes of 6%, 3%, and 10%, respectively, for the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes; 4% for Internalizing; and 6% for Externalizing), but the pattern of larger informant effects for parents versus adolescents than for parents versus teachers is the same.

Consistent with our base rate findings, aggregated DP scores were highest on the YSR, despite having the fewest items. This is consistent with Rescorla et al. (2013), in which significantly more adolescents than their parents endorsed each of the 98 problems. In all 25 societies, adolescents tended to rate themselves higher than their parents rated them on all kinds of problems. We also found that DP scores were lower on the TRF than on the CBCL and YSR, despite the TRF DP scale having the most items. This is consistent with Rescorla et al.'s (2014) finding that scores from parents' ratings were significantly higher than scores from teachers' ratings on most problem scales, with minimal Society × Informant interactions. The implication of our current findings is that DP problems are least evident to teachers and most evident to adolescents themselves.

A final important finding is that, for all three types of informant, the within-informant r between DP scores and TP scores ranged from .95 to .98. This is partly because the DP has many items, which leads to large part-whole correlations. However, the DP–TP r s were larger than those between TP–Internalizing (.70–.88) and TP–Externalizing (.84–.88), which also have many items. We think the very large r s between the DP and TP is because the DP contains problems from the Internalizing broad-band scale, problems from the Externalizing broad-band scale, and problems from the Attention Problems syndrome (which is not on either of the broad-band scales). These very high DP–TP r s are consistent with Jordan et al.'s (2016) finding that children in the LCA-derived DP class often had elevated scores on all YSR syndromes. Thus, our study provides additional support for the idea that the DP represents severe problems of many kinds, which is captured by the configuration of significant mood, attentional, and behavioral dysregulation.

SOCIETAL SIMILARITIES AND DIFFERENCES

Consistent with findings by Rescorla et al. (2012), conventional categories such as individualist/collectivist, East/West, Asian/Caucasian, or rich/poor do not appear to explain the societal similarities or differences we found for the DP. For example, among Asian societies, China and Japan had low DP scores on the CBCL, but Singapore, Taiwan, Hong Kong, and Korea did not. Among Eastern European societies, Lithuania had a high YSR DP mean score, but neighboring Poland had a mean score in the center of the distribution. Our Q correlations demonstrated substantial similarity across societies regarding which DP problems are relatively common and which are relatively rare, despite many differences among the societies in their ethnic, religious, political/economic, and cultural characteristics. Our Q correlation findings suggest that DP items were interpreted similarly in quite different societies, despite the vicissitudes of translation.

LIMITATIONS AND CLINICAL IMPLICATIONS

Although our study adds significantly to knowledge about the DP, it is not without limitations. These include that societies varied somewhat in sampling procedures, completion rates, and whether children referred for mental health services were excluded. Furthermore, the data were collected over a rather long period, with the pre-2001 forms used in some societies but not others. However, our analyses of associations between year-of-data collection and DP scores showed very small effects. In addition, although many individuals in our CBCL, YSR, and TRF samples had data from only one informant, many had data from multiple informants. We therefore addressed this limitation by analyzing two large cross-informant data sets (Rescorla et al., 2013; Rescorla et al., 2014), which yielded very similar results to those obtained using the single informant data sets. Although we were able to test associations of DP scores with informant, society, age, and gender, we were not able to test associations between DP scores and diagnoses, family factors, biomarkers, response to treatment, adaptive functioning, longitudinal course, or other potentially important variables. However, DP findings that are generalizable across population samples from diverse societies and informants support its use for research examining many such variables.

An important clinical implication of our findings is that DP scores tend to be higher on the YSR than the CBCL in population samples, but this may not be true in clinical samples. As reported by Rescorla et al. (2017), who studied CBCL–YSR cross-informant agreement in clinical samples from seven societies, CBCL scores are often higher than YSR scores for referred children and adolescents, probably because they are typically brought for services by a parent.

Another clinical implication of our findings is that practitioners should be aware that many problems on the DP are quite common in population samples. What seems to make an elevated DP clinically significant is that it involves many problems in three important yet distinct areas of functioning (namely, Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes). The DP does not exclusively reflect serious problems such as attacking people and talking of suicide. Rather, most problems manifested by children with an elevated DP are quite common in children and adolescents (e.g., arguing, being stubborn, having problems concentrating, daydreaming, being moody, being impulsive, and worrying). It is only when a child has many of these common problems that clinical attention seems warranted. A final clinical implication of our findings is that children with elevated scores on the DP, and hence significant mood, attentional, and behavioral dysregulation, are very likely to also have problems in many other areas tapped by the CBCL, YSR, and TRF (e.g., Social Problems, Withdrawn/Depressed, Thought Problems, and Rule-Breaking Behavior). It is this aggregation of many kinds of problems that tends to make high scores on the DP a risk marker for many diagnoses and for significantly impaired functioning (Ayer et al., 2009).

CONCLUSIONS

The Dysregulation Profile studied in this international research project describes children and adolescents with significant psychopathology identified by high scores on the Anxious/Depressed, Attention Problems, and Aggressive Behavior syndromes. Previous studies indicate that such children often have myriad types of maladaptive functioning, are at risk for continued psychopathology as they move into adulthood, and often require significant therapeutic intervention (Althoff, Verhulst et al., 2010; Ayer et al., 2009). However, the DP is one of many appellations for such children.

Historically, severely maladjusted children with a mix of internalizing and externalizing problems were often given a diagnosis of borderline pathology or borderline personality (Ad-Dab'bagh & Greenfield, 2001). As Zerkowitz et al. (2004) noted, "The construct of borderline pathology of childhood (BPC) may provide us with a means to identify a group of severely disturbed children who exhibit impairment in many domains of functioning" (p. 59). They further noted that the earliest descriptions of borderline pathology in children were provided by Kernberg (1983) and Kestenbaum (1983), whose perspective on this condition was psychodynamic. Petti and Vela (1990) subsequently described borderline children as having impaired thinking, instability of mood, impulsive behavior, difficulty in social relationships, and neurological soft signs.

In the 1990s, some researchers argued that children with this kind of severe and mixed psychopathology might have pediatric bipolar disorder (PBD). Up until then, childhood-onset mania and bipolar disorder were considered very rare or perhaps nonexistent. However, these researchers (Biederman et al., 1995; Faraone et al., 2005; Mick et al., 2003) argued that PBD was more common in the population than previously thought and was often misdiagnosed as ADHD. Like the children previously diagnosed with borderline pathology, children with PBD have many kinds of problems, including not only the characteristic mood swings from mania to depression but also disinhibited behavior (aggression, rage reactions, and severe irritability) and poor control of attentional resources (Mick et al., 2003).

Controversy regarding the criteria, prevalence, and nature of JBD may have led Leibenluft et al. (2003) to describe a group of children with severe mood and behavioral dysregulation whom they consider to manifest a “broad phenotype” of juvenile mania (p. 434). Leibenluft (2011) later used the term *severe mood dysregulation* (SMD) to characterize these children with “nonepisodic severe irritability” whose “nosologic status vis-à-vis bipolar disorder remains in doubt.” (p. 131). The SMD notion may have contributed to the inclusion of disruptive mood dysregulation disorder in the *DSM-5* (American Psychiatric Association, 2013), described as a disorder characterized by severe, recurrent temper outbursts.

Whether children with severe and mixed psychopathology are described using psychodynamic constructs; the diagnostic category of SMD; *DSM* criteria for PBD or disruptive mood dysregulation disorder; or the DP pattern of scores on the CBCL, YSR, and TRF, they are among the most challenging children mental health practitioners encounter. They pose significant management problems for their parents and teachers and typically require various forms of therapeutic intervention to help forestall the poor outcomes so often associated with this complex pattern of psychopathology.

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