

Effects of individual differences, society, and culture on youth-rated problems and strengths in 38 societies

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Background: Clinicians increasingly serve youths from societal/cultural backgrounds different from their own. This raises questions about how to interpret what such youths report. Rescorla et al. (2019, *European Child & Adolescent Psychiatry*, 28, 1107) found that much more variance in 72,493 parents' ratings of their offspring's mental health problems was accounted for by individual differences than by societal or cultural differences. Although parents' reports are essential for clinical assessment of their offspring, they reflect parents' perceptions of the offspring.

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Consequently, clinical assessment also requires self-reports from the offspring themselves. To test effects of individual differences, society, and culture on youths' self-ratings of their problems and strengths, we analyzed Youth Self-Report (YSR) scores for 39,849 11–17 year olds in 38 societies. **Methods:** Indigenous researchers obtained YSR self-ratings from population samples of youths in 38 societies representing 10 culture cluster identified in the Global Leadership and Organizational Behavioral Effectiveness study. Hierarchical linear modeling of scores on 17 problem scales and one strengths scale estimated the percent of variance accounted for by individual differences (including measurement error), society, and culture cluster. ANOVAs tested age and gender effects. **Results:** Averaged across the 17 problem scales, individual differences accounted for 92.5% of variance, societal differences 6.0%, and cultural differences 1.5%. For strengths, individual differences accounted for 83.4% of variance, societal differences 10.1%, and cultural differences 6.5%. Age and gender had very small effects. **Conclusions:** Like parents' ratings, youths' self-ratings of problems were affected much more by individual differences than societal/cultural differences. Most variance in self-rated strengths also reflected individual differences, but societal/cultural effects were larger than for problems, suggesting greater influence of social desirability. The clinical significance of individual differences in youths' self-reports should thus not be minimized by societal/cultural differences, which—while important—can be taken into account with appropriate norms, as can gender and age differences. **Keywords:** Individual differences; multicultural; psychopathology; strengths; Youth Self-Report.

Introduction

Mental health clinicians increasingly serve youths from societal/cultural backgrounds different from their own (Passel & Cohn, 2008). However, many mental health assessment instruments were developed in a few rather similar societies. (We define 'society' as a geopolitically demarcated population of people having a dominant language.) To test the generalizability of assessment instruments beyond the societies in which they were developed, they need to be applied to population samples in societies differing from the ones in which they were developed (Milfont & Fischer, 2010). The data obtained in diverse societies can identify similarities and differences between populations that can help to broaden the scope of mental health practice and science (Achenbach, 2019).

'Cultures' are generally defined in terms of groups of people who share particular sets of characteristics, such as traditions, beliefs, attitudes, practices, and values, but culture has diverse meanings, as illustrated by the 164 definitions compiled by Kroeber and Kluckhohn (1952). In an ambitious effort to identify major cultural groups around the world, the Global Leadership and Organizational Behavior Effectiveness study (GLOBE; House, Hanges, Javidan, Dorfman, & Gupta, 2004) employed over 200 scholars from 69 societies to use survey data from 17,000 participants in 62 societies to formulate cultural dimensions. Based on nine cultural dimensions identified by the GLOBE researchers, they derived 10 'culture cluster' with which to classify societies according to their standing on the cultural dimensions. For example, several Asian societies qualified for the Confucian Asia cluster, based on similarities in their attitudes, values, and practices.

Stankov (2011) compared the effects of societies, GLOBE culture clusters, and individual differences on English language personality test scores obtained by college students in 45 societies. Stankov used hierarchical linear modeling (HLM) to estimate the percentage of variance in test scores attributable to

societal versus culture cluster versus individual differences. For Neuroticism, the personality trait most relevant to mental health, 2.0% of the variance in scores was attributable to societal differences, 2.7% of the variance was attributable to culture cluster differences, and 95.3% of the variance was attributable to individual differences among the students. However, the effects of society and culture cluster might be greater for more representative samples of people assessed in their own languages than for college students who all completed the personality test in English.

Rescorla and colleagues applied Stankov's approach to testing the effects of societal, GLOBE culture cluster, and individual differences on ratings of child and youth mental health problems on the Child Behavior Checklist for Ages 6–18 (CBCL/6–18; Achenbach & Rescorla, 2001) by 72,493 parents in 45 societies (Rescorla, Althoff, Ivanova, Achenbach, & The International ASEBA Consortium, 2019). Unlike the college students who all completed an English language test in the Stankov study, the parents in the Rescorla et al. study were more representative of their societies and completed the CBCL/6–18 in the languages of their societies.

Averaged across 17 scales for assessing problems, effects attributable to societal differences accounted for 6.1% of the variance, while effects attributable to culture cluster differences accounted for 4.2% of the variance, leaving 89.8% of the variance accounted for by variables associated with individual differences. Although the variance accounted for by societies and culture cluster was statistically significant, these effects were much smaller than the variance accounted for by variables associated with individual differences in parents' ratings of their children. The Rescorla et al. findings thus indicated that parents' ratings reflect individual differences to a much greater degree than societal and culture cluster differences in parents' ratings of their children's mental health problems.

Purpose of this study

Building on Rescorla, Althoff, Ivanova, and Achenbach (2019), the purpose of this study was to test the effects of societal and culture cluster differences on self-ratings of mental health problems and strengths by 11–17 year olds on the Youth Self-Report (YSR; Achenbach & Rescorla, 2001), a self-report instrument that parallels the parent-report CBCL/6–18. Because data from parents are essential for assessing most youths' mental health problems, the Rescorla et al. findings provide a cornerstone for applying standardized mental health assessment in diverse societies and culture cluster. However, because the variance associated with differences in parent ratings reflects parents' perceptions of their offspring, it is also essential to test the effects of societal, culture cluster, and individual differences on self-ratings of mental health problems by the offspring themselves. Because youths' strengths must also be included in mental health assessments, we analyzed the effects of societal, culture cluster, and individual differences on youths' ratings of their strengths, as well as their problems.

Methods

Participants

(YSR) self-ratings were obtained by indigenous researchers from 39,849 youths living in 38 societies. All societies were countries except Hong Kong, Puerto Rico, and the German-speaking part of Switzerland. Table 1 lists the societies grouped according to the GLOBE culture cluster, along with the reference, N , age range, sampling procedures, percentage of boys, and completion rate for each sample. YSRs that were missing ratings for >8 items were excluded from analyses. The mean of the completion rates shown in Table 1 is 85.3%.

Indigenous researchers obtained their institutions' ethical approval for conducting this research, and obtained participants' informed consent to complete the YSR. The multicultural project was also approved by the University of Vermont Institutional Review Board. All data were de-identified.

Measure

The YSR has 105 items that describe behavioral, emotional, social, and thought problems, which youths rate as 0 = *not true*, 1 = *somewhat or sometimes true*, or 2 = *very true or often true*, based on the preceding 6 months. Because the pre-2000 edition of the YSR was used for the samples assessed prior to publication of the 2001 edition, the four pre-2001 problem items that were replaced on the 2001 edition (items 2, 4, 5, 99) were omitted from our analyses, as were two problem items (28, 78) that replaced pre-2001 strengths items. The YSR has 14 strengths items that are interspersed among the problem items and are rated on the same 0-1-2 Likert scale as the problem items. The English language YSR was used in Australia, Jamaica, and the US, while translations by indigenous researchers were used in the other societies. Indigenous researchers read the YSR to respondents or provided them with paper copies to be filled out.

Scores for the 17 problem scales were computed by summing the 0-1-2 ratings on their constituent items. The scales include eight syndromes derived from exploratory and

confirmatory factor analyses (EFAs, CFAs) of ratings by youths in US population and clinical samples (Achenbach & Rescorla, 2001). The syndromes are designated as *Anxious/Depressed*, *Withdrawn/Depressed*, *Somatic Complaints*, *Social Problems*, *Thought Problems*, *Attention Problems*, *Rule-Breaking Behavior*, and *Aggressive Behavior*.

Using single-society CFA, Ivanova et al. (2007) and Rescorla et al. (2012) confirmed the aggregation of YSR problem items into the eight syndromes (i.e. configural invariance) for the 34 of the 38 present data sets that were then available. Ivanova et al. (2019) subsequently applied multigroup alignment CFA to the largest 19 of the 38 ($N \geq 1,000$) data sets, supporting invariance of item loadings (metric invariance) for the majority of the tested societies. Because full measurement invariance, which would also include equivalence of intercepts/thresholds (scalar invariance) and residuals (residual invariance) is unrealistic in large-scale multicultural research (e.g. Davidov, Muthén, & Schmidt, 2018; Sideridis, Tsaousis, & Alamri, 2020), these results indicate that we can be reasonably confident that the YSR measures similar empirical constructs across diverse societies.

Derived from second-order factor analyses of the eight syndrome scales, two broad-spectrum scales are designated as *Internalizing* (comprising the sum of scores for the *Anxious/Depressed*, *Withdrawn/Depressed*, and *Somatic Complaints* syndromes) and *Externalizing* (comprising the sum of scores for the *Rule-Breaking Behavior* and *Aggressive Behavior* syndromes). A general psychopathology (p) scale designated as *Total Problems* is scored by summing the 0-1-2 ratings on all the problem items. Six DSM-Oriented scales comprise YSR problem items identified by an international panel of experts as being very consistent with particular DSM-5 diagnostic categories (Achenbach, 2014; American Psychiatric Association, 2013). The DSM-Oriented scales are designated as *Depressive Problems*, *Anxiety Problems*, *Somatic Problems*, *Attention Deficit/Hyperactivity Problems*, *Oppositional Defiant Problems*, and *Conduct Problems*. Youths' 0-1-2 ratings of the 14 strengths items are summed to obtain a score on a scale designated as *Positive Qualities*.

Analyses

Hierarchical linear modeling. To test the effects of individual, society, and culture cluster differences on YSR ratings, we used mixed linear modeling in SPSS 27.0, which is the SPSS HLM application (IBM Corporation, 2020). Each YSR scale was tested separately in a multilevel model, where individual differences (i.e. differences between individuals within a society) and unspecified effects (i.e. measurement error) were entered at Level 1, societal differences were entered at Level 2, and culture cluster differences were entered at Level 3. In all multilevel models, we included intercepts, and used the Maximum Likelihood estimator and scaled identity covariance structure. The percent of variance accounted for by predictors at each level was calculated as the ratio of the respective level-specific variance component over total variance. First, we tested the Null model in which no predictors were entered at Level 1, and society and culture cluster were modeled as random effects at Levels 2 and 3, respectively. Then we added age and gender as fixed effects at Level 1 and reran the model for each YSR scale. Finally, to test whether the economic status of societies was a stronger predictor of YSR scale scores than culture cluster, we reran the Null model, replacing culture cluster with the World Bank income group classification of societies based on Purchasing Power Parity (PPP; World Bank Group, 2020). Because data on emotional and behavioral problems are positively skewed in general population samples (where many people obtain relatively low scale scores), it is important to note that HLM has been found

Table 1 YSR Samples

Society	Reference	<i>N</i>	Age range	Sampling procedure	% Boys	Comp. Rate
Sub-Saharan Africa (<i>N</i> = 1,010)						
1. Ethiopia	Mulatu (1997)	604	11–16	Regional school-based	48	91
2. Kenya	Magai, Malik, and Koot (2018)	406	12–16	Regional household	50	92
Anglo (<i>N</i> = 2,465)						
3. Australia	Sawyer et al. (2001)	1114	12–16	National household	49	86
4. Jamaica	Lambert, Lyubansky, and Achenbach (1998)	348	11–16	Regional school-based	47	90
5. USA	Achenbach and Rescorla (2001)	1003	11–16	National household	53	90
Confucian Asia (<i>N</i> = 8,157)						
6. China	Wang, Zhang, and Leung (2005)	967	11–16	Regional school-based	51	NA
7. Hong Kong	Leung et al. (2006)	1331	12–16	Territory school-based	52	86
8. Japan	Kuramoto et al. (2002)	2542	11–15	Regional school-based	48	93
9. Korea	Oh, Hong, and Lee (1997)	2750	12–16	National school-based	40	86
10. Vietnam		567	12–16		50	
Eastern Europe (<i>N</i> = 7,186)						
11. Croatia	Begovac, Rudan, Skočić, Filipović, and Szivovics (2004)	735	11–16	National school-based	45	97
12. Greece	Roussos et al. (2001)	1222	11–16	National school-based	49	100
13. Kosovo	unpublished data (2012)	1143	11–16	National school-based	51	78
14. Lithuania	Zukauskiene and Kajokiene (2004)	2022	11–16	National school-based	49	98
15. Poland	Wolanczyk (2003)	1660	11–16	National school-based	49	95
16. Romania	Domuta (2004)	404	11–16	Regional school-based	47	98
Germanic Europe (<i>N</i> = 3,510)						
17. Germany	Döpfner et al. (1997)	1497	11–16	National household	51	73
18. Netherlands	Verhulst, van der Ende, Ferdinand, and Kasius (1997)	881	11–16	National household	50	78
19. Switzerland	Steinhausen and Metzke (1998)	1132	11–16	Regional school-based	51	98
Latin America (<i>N</i> = 4,685)						
20. Brazil	Rocha (2012)	2728	11–16	Regional school-based	47	NA
21. Ecuador	Córdova Calderón (unpublished data, 2018)	476	11–16	Regional school-based	40	NA
22. Peru	Pomalima et al. (unpublished data, 2009)	1180	11–16	Regional household	50	99
23. Puerto Rico	Achenbach et al. (1990)	301	12–16	Island-wide household	48	100
Latin Europe (<i>N</i> = 4,944)						
24. France	Petot (unpublished data, 2010)	875	11–16	Regional school-based	43	85
25. Israel	Zilber, Auerbach, and Lerner (1994)	562	11–16	Jerusalem household	49	81
26. Italy	Pisa & Maggolini (unpublished data, 2011)	1224	13–16	Regional school-based	44	96
27. Portugal	Moreira & Oliveira (unpublished data, 2012)	946	12–16	Regional school-based	48	95
28. Spain	Abad, Fornas, and Gomez (2002)	1337	11–16	Barcelona school-based	51	97
Middle East (<i>N</i> = 2,826)						
29. Algeria	Petot, Rescorla, and Petot (2011)	384	12–16	Regional school-based	42	82

(continued)

Table 1 (continued)

Society	Reference	N	Age range	Sampling procedure	% Boys	Comp. Rate
30. Tunisia	Chahed (2010)	682	12–16	Regional school-based	44	72
31. Turkey	Erol and Simsek (1997)	1760	11–16	National household	51	79
Nordic Europe (N = 4,040)						
32. Denmark	Bilenberg (1999)	389	11–16	National household	43	56
33. Finland	Weintraub (2004)	826	11–16	Regional school-based	47	67
34. Iceland	Hannesdottir and Einarsdottir (1995)	480	11–16	Regional school-based	48	64
35. Norway	Nøvik (1999)	417	11–16	Regional household	44	37
36. Sweden	Broberg et al. (2001)	1928	12–16	Regional school-based	51	85
Southern Asia (N = 1,026)						
37. Iran	Minaei (2005)	696	11–16	Regional school-based	54	96
38. Nepal	Karki, Laukkanen, Länsimies-Antikainen, Voutilainen, and Pietilä (2015)	330	12–17	Regional school-based	52	81

Comp. rate, completion rate; NA, Not Available.

robust to deviations from normality, especially for large samples, such as ours (Ketelsen, 2014; Zhang, 2005).

Analyses of variance (ANOVAs). To better understand how society and culture cluster interacted with age and gender in their relations to YSR scores, we used ANOVAs to test associations of Internalizing, Externalizing, and Total Problem scores with society (38 societies) or culture cluster (10 clusters), plus age, gender, and all possible interactions.

Results

Table 2 presents the variance components estimated for the multilevel Null model for individual effects (Level 1), societies (Level 2), and GLOBE culture cluster (Level 3). Averaged across the 17 problem scales (i.e. all scales except Positive Qualities), the percent of variance accounted for by individual differences was 92.5%, by society was 6.0%, and by culture cluster was 1.5%.

Across the 17 problem scales, the variance accounted for by individual differences ranged from 89.5% (DSM-Oriented Anxiety Problems) to 96.1% (DSM-Oriented Conduct Problems); by society: 3.6% (DSM-Oriented Conduct Problems) to 8.2% (DSM-Oriented Attention Deficit/Hyperactivity Problems); and by culture cluster: 0.0% (Somatic Complaints) to 3.9% (DSM-Oriented Anxiety Problems). For all 17 problem scales, individual differences thus explained most of the overall variance in scores, while society explained most of the remaining variance.

For Positive Qualities, the variance accounted for by individual differences (83.4%) was substantially smaller than for the 17 problem scales (92.5%). Accordingly, the variance accounted for by society

(10.1%) and by culture cluster (6.5%) was greater for Positive Qualities than for society and culture cluster averaged across the problem scales (6.0% and 1.5%,

Table 2 Percent of variance accounted for by individual, society, and GLOBE culture cluster effects in hierarchical linear models of youth self-ratings on the YSR

YSR Scale	Individual differences	Society	Culture Cluster
Broad-spectrum scales			
Internalizing Problems	92.3	5.8	1.8
Externalizing Problems	93.3	5.5	1.3
Total Problems	92.1	6.8	1.1
Syndromes			
Anxious/Depressed	91.7	5.3	3.0
Withdrawn/Depressed	93.8	5.4	0.9
Somatic Complaints	93.3	6.7	0.0
Social Problems	92.0	4.7	3.3
Thought Problems	92.4	7.2	0.4
Attention Problems	91.0	7.7	1.2
Rule-Breaking Behavior	93.8	4.7	1.5
Aggressive Behavior	93.3	5.0	1.7
DSM-Oriented Scales			
Depressive Problems	94.3	5.1	0.6
Anxiety Problems	89.5	6.6	3.9
Somatic Problems	92.3	7.5	0.2
DSM-Oriented Attention Deficit/Hyperactivity Problems	91.1	8.2	0.7
Oppositional Defiant Problems	90.6	6.1	3.3
Conduct Problems	96.1	3.6	0.3
Averaged Across Problem Scales	92.5	6.0	1.5
Positive Qualities	83.4	10.1	6.5

All effects of individual differences and society were significant ($p < .0001$).

Effects of culture cluster did not reach the $p < .05$ level of significance.

respectively). However, society explained significantly more variance than culture cluster for both types of scales.

When we reran the multilevel model with age and gender as fixed effects at the individual level, their addition did not significantly change the variance components for individual differences, society, or culture cluster for any scale. Averaged across all 18 scales, the variance accounted for by the three types of effects was 92.0%, 6.2% and 1.8%, respectively. These values were identical to the averaged values for the Null Model.

When we replaced culture cluster with the World Bank's PPP Index in multilevel analyses of the Null model, individual differences accounted for 91.5% of the variance, society accounted for 7.6%, and the World Bank PPP Index accounted for 0.9%, averaged across all 18 scales. This again indicated that most of the variance in YSR scale scores was explained by individual differences. The remaining variance was attributable mostly to societal differences, with the World Bank PPP Index adding virtually no unique variance for any scale.

Table 3 presents the variance components yielded by ANOVAs of Internalizing, Externalizing, and Total Problems scales. Predictors were society (38 societies) or culture cluster (10 clusters), plus age, gender, and all possible interactions. Results of ANOVAs for Internalizing, Externalizing, and Total Problems scores indicated that effects of society (5.6%, 5.0%, and 6.5%, respectively) were larger than effects of culture cluster (3.2%, 2.7%, and 3.1%, respectively). Of the 36 effects involving age and gender, 34 were $\leq 1\%$ in size, while the remaining two were $\leq 1.3\%$ (the age*society interaction predicting Externalizing scores in the model with society, and age predicting Externalizing scores in the model with culture cluster).

Figure 1 presents the effects of culture cluster on Internalizing and Externalizing scores, with the 10

clusters arranged in ascending order for mean standardized (*T*) Internalizing scale score. For both Internalizing and Externalizing, Student–Newman–Keuls (SNK) post hoc tests indicated significant differences between most culture cluster. For Internalizing, exceptions were the following pairs or groups of clusters that did not differ significantly from each other: Anglo and Confucian Asia; sub-Saharan Africa and Middle East; sub-Saharan Africa and Eastern/Latin Europe; and Latin America and Latin Europe. For Externalizing, exceptions were Confucian Asia, Germanic Europe, and Middle East; Eastern Europe and Latin America; and Latin Europe and Latin America. As Figure 1 shows, the rank-ordering of culture cluster for Externalizing differed from the rank-ordering for Internalizing. For Confucian Asia, Middle East, and sub-Saharan Africa culture cluster, mean Internalizing scores were in the middle, while mean Externalizing scores were in the low range. Rescorla et al. (2019) reported a similar pattern for CBCL/6–18 scores in the Middle East and sub-Saharan Africa clusters, which had among the highest Internalizing scores, but lower Externalizing scores in the middle range.

Discussion

Effects on the problem scales

Table 2 summarizes effect sizes (ESs) for individual differences, societal differences, and culture cluster differences on YSR scales. As Table 2 shows, the effects of individual differences on problem scales ranged from 89.5% of variance on the DSM-Oriented Anxiety Problems scale to 96.1% on the DSM-Oriented Conduct Problems scale. All the effects of individual differences were very large according to Cohen's (1988) benchmark, which designates effects $>13.8\%$ of variance as large. By contrast, all effects of culture cluster on problem scales were small

Table 3 Percent of variance accounted for by individual and society or GLOBE culture cluster in ANOVAs of YSR Internalizing, Externalizing, and Total Problems scores

Predictor	Internalizing	Externalizing	Total Problems
Age	0.2 ^a	0.7 ^a	0.3 ^a
Gender	0.3 ^a	0.1 ^a	0.0
Society	5.6 ^a	5.0 ^a	6.5 ^a
Age*Gender	0.2 ^a	0.0	0.1 ^a
Age*Society	0.9 ^a	1.2 ^a	1.0 ^a
Gender*Society	0.4 ^a	0.2 ^a	0.2 ^a
Age*Gender*Society	0.7 ^a	0.5	0.6 ^a
Age	0.4 ^a	1.3 ^a	0.7 ^a
Gender	0.3 ^a	0.1 ^a	0.01 ^c
Culture Cluster	3.2 ^a	2.7 ^a	3.1 ^a
Age*Gender	0.2 ^a	0.04 ^c	0.1 ^a
Age*Culture Cluster	0.5 ^a	0.9 ^a	0.7 ^a
Gender*Culture Cluster	0.1 ^a	0.1 ^b	0.1 ^b
Age*Gender*Culture Cluster	0.2 ^a	0.1	0.2 ^c

^a $p < .0001$; ^b $p < .01$; ^c $p < .05$.

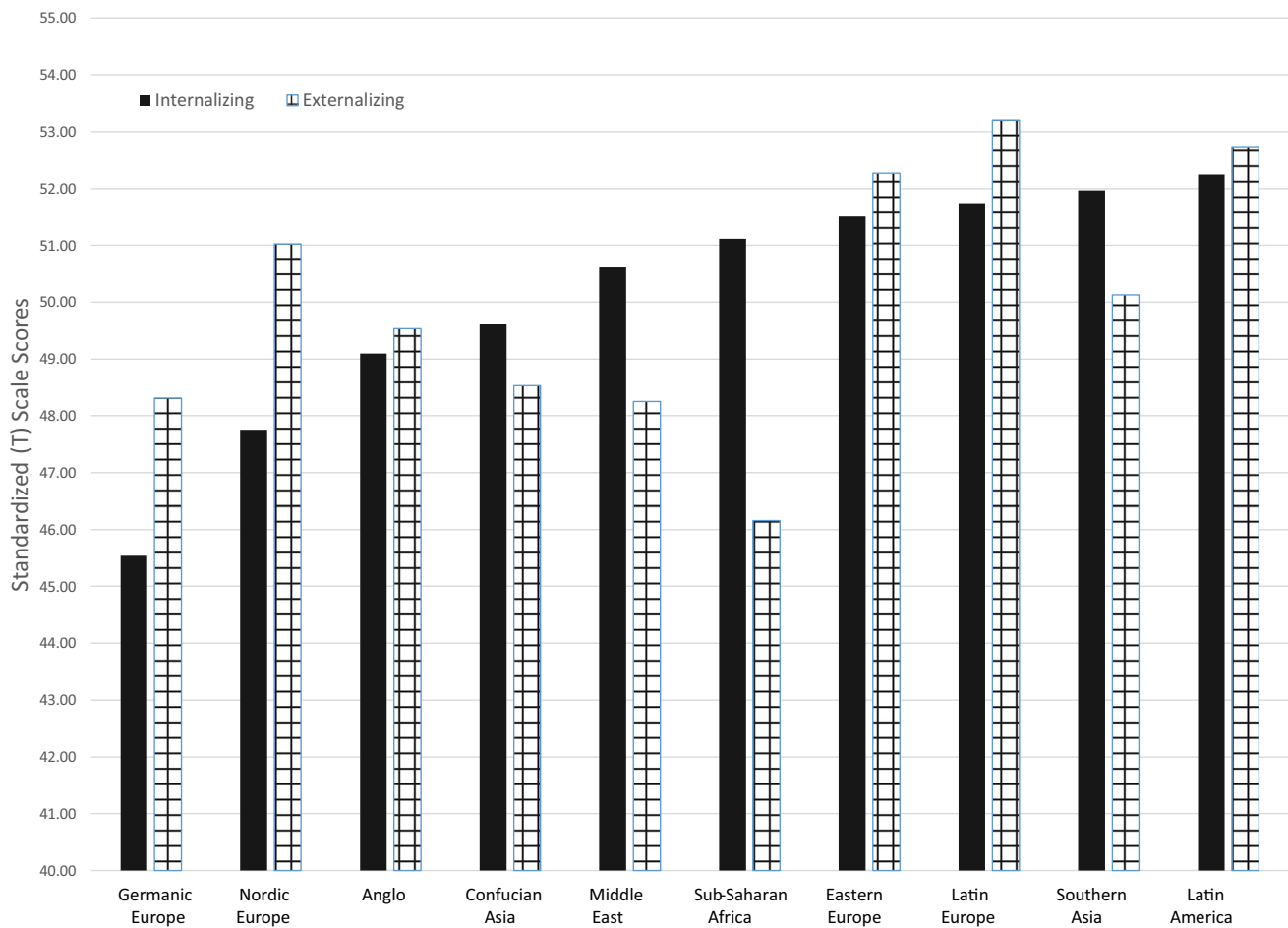


Figure 1 Mean standardized (T) scale scores by culture cluster for Internalizing and Externalizing scale scores

according to Cohen's benchmark (<5.9% of variance), with none being statistically significant. The effects of societal differences on problem scales ranged from small (the smallest being 3.6% on the DSM-Oriented Conduct Problems scale) to medium (the largest being 8.2% on the DSM-Oriented Attention Deficit/Hyperactivity Problems scale).

The overall pattern of much larger effects of individual differences than of societal or culture cluster differences on problem scales is similar to that found by Rescorla et al. (2019) for parents' CBCL/6–18 ratings. Averaged across the 17 CBCL/6–18 problem scales corresponding to the YSR scales, Rescorla et al. (2019) found mean effects of 89.8% for individual differences, 6.1% for societal differences, and 4.2% for culture cluster differences. We found mean effects of 92.5% for individual differences, 6.0% for societal differences, and only 1.5% for culture cluster differences. Although the ESs were of the same order of magnitude for CBCL/6–18 and YSR problem scale scores, the effects of culture cluster were notably smaller on youth than parent ratings (mean = 1.5% for the YSR vs. 4.2% for the CBCL/6–18).

In both the YSR and CBCL/6–18 ratings, the smallest culture cluster effects on syndrome scores

were found for the Somatic Complaints syndrome (0% for YSR; 1.2% for CBCL/6–18). On the DSM-Oriented scales, the Somatic Problems scale showed the second smallest effect of culture cluster for the YSR (0.2%) and the smallest effect for the CBCL/6–18 (0.1%). These findings of especially small culture cluster effects for somatic problems are particularly interesting, because it is often thought that some cultural groups tend to focus much more on somatic problems such as headaches and stomachaches than others do. Societal effects were substantially larger than culture cluster effects on the Somatic Complaints syndrome (6.7% for the YSR; 9.9% for the CBCL/6–18—the largest societal effect on any syndrome) and on the DSM-Oriented Somatic Problems scale (7.5% for the YSR; 10.7% for the CBCL/6–18—also the largest societal effect on any DSM-Oriented scale). Differences in somatic concerns may thus reflect societal differences more than the cultural differences captured by the culture cluster.

Effects on the Positive Qualities scale

As Table 2 shows, the effect of individual differences on YSR Positive Qualities ratings was notably smaller than on the problem scales (83.4% vs. a

mean of 92.5%). Conversely, the effects of societal and culture cluster differences on the Positive Qualities scale were larger than on any of the problem scales (10.1% and 6.5% vs. means of 6.0% and 1.5%; sum of effects for society and culture cluster = 16.6% for Positive Qualities vs. 7.5% for the mean of the problem scales). Although 83.4% of variance is still a very large effect, the smaller effect of individual differences on Positive Qualities ratings than on problem ratings reflects greater homogeneity of ratings within societies and within culture cluster for Positive Qualities than for problems. The greater homogeneity of ratings for Positive Qualities may reflect a stronger influence of societal and cultural values on ratings of Positive Qualities than on ratings of problems. In other words, when rating their strengths, youths may be affected more by what is socially desirable in their environment than when rating their problems.

Conclusions

Like the Rescorla et al. (2019) findings for the CBCL/6–18, we found that much more variance in YSR ratings of problems was associated with individual differences than with societal or culture cluster differences. We found a similar pattern for YSR Positive Qualities ratings, although the somewhat larger effects of societal and culture cluster differences indicate that youths may be affected more by social desirability when rating their strengths than their problems.

Our findings are also consistent with those of Stankov et al. (2010), who tested variables assessing personality, social attitudes and values, and social norms. Consistent with our findings in the present study and Rescorla et al. (2019), Stankov found that individual differences explained the majority of variance in all of the outcome variables he tested. Also, consistent with our findings that the effects of societal and culture cluster differences were larger for the YSR Positive Qualities ratings than for the YSR problem scales ratings, Stankov found that the effects of societal and culture cluster differences were larger for measures of social norms and attitudes than for measures of personality. These three studies indicate that ratings of characteristics having well-documented biological components, such as personality or psychopathology, are less affected by societal and culture cluster factors than ratings of more externally referenced characteristics, such as personal strengths, social norms, and attitudes.

Because societal and culture cluster differences do explain some variance in ratings of youth problems and strengths, these effects may illuminate the development of emotional and behavioral problems and wellbeing. One interesting hypothesis is that society/cultural environments shape personal appraisals of life experiences, which in turn shape

our emotions. For example, using experimental manipulation, Imada and Ellsworth (2011) found that, after experiencing identical successes, American participants reported feeling more proud than Japanese participants, whereas Japanese participants reported feeling more lucky than American participants. The authors concluded that this divergent pattern of emotional reactions reflected differences in dominant societal/cultural attributions for success between the United States and Japan.

For clinicians, the findings show that the importance of societal/cultural differences should not obscure the importance of individual differences in what youths actually report about themselves. The relatively small effects of societal/cultural differences, as well as the very small age/gender effects, can be taken into account by scoring scales in relation to norms that are available for particular societies and each gender within particular age groups (Achenbach & Rescorla, 2007). After using appropriate norms to control for demographic variables, clinicians can focus on the specifics of what youths report about themselves, which embodies a mixture of what youths are able and willing to communicate with environmental and genetic factors that affect individual differences in actual problems and strengths.

Our samples were collected under different conditions in very diverse societies. This could have contributed to differences between the samples, such as different response rates or representativeness. Also, it is possible that our findings are limited to the specific problems and strengths assessed by the YSR and to the societies included in the study. The inclusion of additional items and societies might yield different results. Another limitation was that the data were collected over two decades. To test for a possible secular trend, we computed r between the year of each study and the mean of its YSR Total Problems score, which was .34 ($p < .05$). Although significantly larger than the $r = .12$ that Rescorla et al. (2019) found between year-of-study and CBCL/6–18 Total Problems, the tendency for problem scores to increase with year seems unlikely to account for the much larger effects of individual than societal or cultural differences. Finally, because this study built on Rescorla et al. (2019) and we compared our findings to their findings, it is important to note that Rescorla et al. (2019) used HLM 7 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011), while we used SPSS 27 (IBM Corporation, 2020). Although tests of different statistical software for HLM have concluded that they yield very similar results (McCoach et al., 2018; The University of Texas at Austin Department of Statistics & Data Sciences, 2015), different statistical software could have contributed to method variance between the two studies.

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Key points

- Previous research has shown that individual differences in parents' ratings of their offspring's problems accounted for much more variance than societal or cultural differences.
- Our study similarly showed that individual differences in youths' self-ratings of their problems accounted for much more variance than societal or cultural differences.
- Societal and cultural differences accounted for somewhat more variance in youths' self-ratings of strengths than problems, suggesting more influence of social desirability on self-ratings of favorable characteristics.
- The findings indicate that the clinical significance of individual differences in youths' self-ratings should not be minimized by societal/cultural differences, which can be taken account of with appropriate norms.

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