Measuring child personality when child personality was not measured: Application of a thin-slice approach

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ABSTRACT

Recent efforts have demonstrated that thin-slice (TS) assessment—or assessment of individual characteristics after only brief exposure to that individual's behaviour—can produce reliable and valid measurements of child personality traits. The extent to which this approach can be generalized to archival data not designed to measure personality, and whether it can be used to measure personality pathology traits in youth, is not yet known. Archival video data of a parent–child interaction task was collected as part of a clinical intervention trial for aggressive children (N = 177). Unacquainted observers independently watched the clips and rated children on normal-range (neuroticism, extraversion, agreeableness, conscientiousness and openness to experience) and pathological (callous–unemotional) personality traits. TS ratings of child personality showed strong internal consistency, valid associations with measures of externalizing problems and temperament, and revealed differentiated subgroups of children based on severity. As such, these findings demonstrate an ecologically valid application of TS methodology and illustrate how researchers and clinicians can extend their existing data by measuring child personality using TS methodology, even in cases where child personality was not originally measured. Copyright © 2016 John Wiley & Sons, Ltd.

Measurement of child personality has been advancing, particularly in recent years, but progress continues to lag behind that of measurement of adult personality (Shiner & Caspi 2003). Both a cause and a consequence of this disparity is the diminished understanding of child personality in the broader psychological literature (Soto & Tackett 2015). Thus, there is a clear need for existing research efforts to directly incorporate measures of child personality. However, increased research burden and questions regarding the best measure to use are legitimate concerns that may prevent researchers and clinicians from adding child personality measures to their current assessment protocols. In the current study, we use a recently validated approach to measuring child personality: assessment based on unacquainted impressions, or a thin-slice (TS) approach (Tackett, Herzhoff, Kushner, & Rule 2016).

Researchers interested in measuring child personality or temperament most frequently rely on questionnaire assessment obtained from parents or teachers (Rothbart & Bates 2006). Another common approach has been the use of standardized laboratory assessments, which undergo extensive micro-coding to measure a given trait of interest (e.g. Goldsmith, Reilly, Lemery, Longley, & Prescott 1993; Kochanska, Murray, & Harlan 2000). Both of these approaches have their limitations, which have been reviewed elsewhere (Durbin 2010; Rothbart & Bates 2006; Tackett 2011). One limitation certainly includes the additional resources required for either approach. Even adding questionnaires to an already long clinical or research battery may be too taxing on respondents or otherwise unfeasible. The TS approach has been introduced as an efficient and low-resource assessment method that addresses limitations of these commonly used methods and represents a viable addition—or supplemental method—for child personality measurement (Tackett et al. 2016). In the present study, we extend this early work by demonstrating how the TS approach can be useful for researchers and clinicians who desire a measure of child personality but did not include a direct measure in their protocol. Specifically, we illustrate how existing archival video data, even when collected for other purposes (here, videos from an intervention trial for aggressive children), can be leveraged as part of an overarching assessment and offer valid and reliable measures of child personality, even when child personality was not measured. We further demonstrate that this method can be used for personality pathology traits (i.e. callous–unemotional traits), in addition to normal-range personality traits.

Thin-slicing personality

A sizable literature demonstrates the inherent power of 'snap judgments'—initial impressions we form of other people, even when exposed to only small bits of information about them (Slepian, Bogart, & Ambady 2014). The TS approach has been used in studies of adult personality, demonstrating that unacquainted observers can accurately rate another's personality after observing a small behavioural episode (the average correlation between self-report and unacquainted observer ratings across five traits was 0.23; Borkenau, Mauer, Riemann, Spinath, & Angleitner 2004). In general, research in adults suggests that extraversion is likely the easiest higher-order trait to rate using a TS approach and neuroticism the hardest, presumably because of differences in externally observable manifestations of these traits (e.g. Borkenau et al. 2004).

The TS literature had focused on adult populations until recently, with one study demonstrating the accuracy of TS ratings for child personality in a sample of 326 9- to 10-year-old children (Tackett et al. 2016). In this study, children were brought into the lab and exposed to 15 TS 'situations' (most 2–3 min long), each of which was independently coded by three raters for normal-range personality traits: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. In this study, psychometric examination of the TS ratings provided ample support for their reliability and validity. The nature of TS ratings precludes the need for extensive rater training—indeed, it is each rater's 'snap judgement' that is desired. Nonetheless, indices of inter-rater reliability were high, and cross-judge/cross-slice ratings supported the validity of trait ratings made across the TS battery in this specific study. TS ratings of personality traits showed substantial convergence with parent ratings of the same traits (r ranging from 0.23 for A to 0.43 for O), and with self-reports of those traits 3 years later (r ranging from 0.24 for A to 0.42 for C). Evidence for convergent/divergent validity was also demonstrated across indices of child psychopathology and behavioural competencies.

The promising data in this initial study call for new examinations exploring the boundaries of its usefulness as an assessment tool. Can the TS method be used with data not explicitly designed for this purpose? How does it function with other

personality traits, such as personality pathology traits? In particular, we chose to focus on callous–unemotional traits (Frick 2009), because they are highly relevant in child externalizing populations and they have been successfully employed in previous TS investigations in adults (Fowler, Lilienfeld, & Patrick 2009; Holtzman 2011). These questions instigated the present study.

Present study

Existing empirical research on child personality is scarce, in part because measurement tools have not been readily available and/or utilized in much applied and empirical work with children. The current study was designed to harness a new approach to child personality assessment—the TS approach —which can be adapted for use with existing archival data that clinicians and researchers may have ready access to. Thus, the present study aims to demonstrate how researchers and clinicians can measure child personality in studies and contexts where child personality was not originally measured. Specifically, this study had the following goals:

1. Demonstrate that TS ratings of child personality using archival data show adequate psychometric properties.
2. Examine evidence for convergent/divergent validity between TS ratings and questionnaire-reported externalizing problems and temperament traits.
3. Examine whether latent class analysis detects meaningful within-person heterogeneity based on TS ratings of callous–unemotional traits.

Methods

Participants

Participants were 177 mothers of 7- to 18-year-old children (M_{age} = 9.79, SD = 1.90; 76.3% boys). Mothers reported their child's ethnicity as 76% European/White, 9% Black, 5% Asian, 3% Latino and 7% other. A subset of participants (n = 132)

was referred for aggressive behaviours and participated in a treatment study at an outpatient facility in a metropolitan area in southern Ontario, Canada. The other subset of participants (n = 45) was non-referred and recruited from the community through the use of newspaper ads and flyers posted in areas where members of the clinical sample resided. Both subsets were roughly matched on age and ethnicity. For participation (regardless of referred or non-referred status) parents received CAD$30 and children a CAD$10 gift card.

Measures

Child behaviour checklist. A measure of child broadband problem behaviours over the past 6 months, the 120-item Child Behaviour Checklist (CBCL; Achenbach & Rescorla 2001) uses a three-point Likert scale ranging from 0 (not true) (as far as you know) to 2 (very true or often true). Items form two broadband behaviour scales: internalizing behaviours and externalizing behaviours. In the current study, we used aggressive behaviour and rule-breaking behaviour, which are the two narrowband behaviour scales that make up the externalizing behaviours dimension. Internal consistencies were α = 0.95 for aggressive behaviour and α = 0.84 for rule-reaking behaviour.

Early adolescent temperament questionnaire— revised. A measure of child temperament, the 62-item early adolescent temperament questionnaire—revised (EATQ-R; Ellis & Rothbart 2001) uses a five-point Likert scale ranging from 1 (almost always untrue of your child) to 5 (almost always true of your child). These items form three higher-order trait scales: negative affectivity, surgency and effortful control. Internal consistencies were α = 0.91 for negative affectivity, α = 0.73 for surgency and α = 0.90 for effortful control.

Inventory of callous and unemotional traits. A measure of children's callous and unemotional (CU) traits, the 24-item inventory of callous and unemotional traits (ICU; Frick 2004) uses a

three-point Likert scale ranging from 0 = not at all true to 3 = definitely true. Items form one higher-order trait scale (CU traits) and three lower-order facet scales (callous, uncaring and unemotional). Internal consistencies are reported in Table 1.

Inventory of child individual differences—short version. A measure of child personality traits, the 50-item inventory of child individual differences—short version (ICID-S; Deal, Halverson, Martin, Victor, & Baker 2007; Halverson et al. 2003) uses a seven-point Likert scale ranging from 1 (much less than the average child or not at all) to 7 (much more than the average child). Items form five higher-order trait scales: neuroticism, extraversion, openness to experience, conscientiousness and agreeableness. Internal consistencies are reported in Table 1.

Procedure

Parents completed the CBCL and EATQ-R either at home or at the outpatient treatment facility. As part of the data collection, parents and children were given a modified version of the issues

checklist (Robin & Weiss 1980), which assessed common conflict issues for parents and children including going to bed on time, lying and fighting with siblings. Both the mother and child completed the checklist independently and were asked to indicate whether they had argued about each issue in the past 2 weeks. If they had argued about the issue in the past 2 weeks, they were asked to identify how 'hot' the discussion was (on a five-point scale from calm to angry). The participants were also instructed to indicate whether or not the issue was resolved. Research assistants then selected the hottest topic that was left unresolved (as indicated by both the mother and the child) as the issue to be discussed. Video recordings of the parent and child discussing the selected conflict formed the basis for TS ratings by unacquainted observers (note that unacquainted raters watched the parent–child interaction). The unacquainted observers were undergraduate research assistant who were oriented to the TS procedure and then completed either the ICID-S or the ICU based on the full-length video clip with sound. Each child was rated on the ICID-S (by two observers) and on the ICU (by two observers), for a total of four

Table 1: Means, internal consistencies, intraclass correlation coefficient, and correlations of thin-slice personality and callous–unemotional traits

	M (SD)	Cronbach's α	ICC		Correlation with ICU total score
			Single rater	Average rater	
N	4.06 (0.75)	0.88	0.57	0.73	0.51***
E	3.82 (0.59)	0.81	0.42	0.59	0.46***
O	3.43 (0.92)	0.91	0.40	0.57	0.58***
A	3.41 (1.13)	0.97	0.59	0.75	0.59***
C	3.15 (1.03)	0.95	0.52	0.68	0.51***
Total	38.36 (11.01)	0.92	0.43	0.60	—
Callous	11.97 (6.37)	0.91	0.38	0.55	—
Uncaring	19.66 (4.38)	0.93	0.47	0.64	—
Unemo	6.73 (3.51)	0.90	0.61	0.75	—

N, neuroticism; E, extraversion; O, openness to experience; A, agreeableness; C, conscientiousness; ICU, inventory of callous and unemotional traits; Total, ICU Total; Unemo, unemotional; ICC, intraclass correlation coefficient.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

independent ratings by unacquainted observers. Ratings were averaged across the two raters for each measure. Intraclass correlation coefficients are reported in Table 1. Informed consent obtained from parents included provisions for the use of data in future research studies. Missing data were imputed using the maximum-likelihood based EM algorithm in (SPSS 21, IBM, Armonk, NY).

Results

Psychometric properties of TS ratings of child personality using archival data are presented in Table 1. Internal consistencies of all TS ratings were adequate to high (range for TS scales: $\alpha = 0.81$ and 0.97; Table 1). Pearson correlations between the higher-order traits from the ICID-S and CU traits indicated that CU traits were positively correlated with Neuroticism and negatively correlated with the remaining personality traits: extraversion, openness to experience, agreeableness and conscientiousness (Table 1).

Pearson correlations were calculated between parent-reported CBCL and EATQ and all TS ratings (e.g. higher-order ICID-S and CU traits) to address questions of convergent/divergent validity. Overall patterns of associations were largely theoretically consistent. TS ratings of CU traits were moderately correlated with both aggressive behaviours ($r = 0.25$, $p < 0.01$) and rule-breaking behaviours ($r = 0.22$, $p < 0.01$), as reported by parents. More personality associations reached significance for aggressive behaviours than for rule-breaking behaviours, although the overall pattern of results was theoretically consistent (Table 2). With regard to parent-reported temperament, negative affectivity showed strong associations with both TS neuroticism ($r = 0.26$, $p < 0.001$) and TS conscientiousness ($r = -0.28$, $p < 0.001$); effortful control showed a strong association with TS conscientiousness ($r = 0.24$, $p < 0.01$); surgency did not show significant associations with any TS traits.

Latent class analyses were conducted in Mplus 5.21 to identify whether TS ratings could be used to differentiate meaningful classes. These analyses addressed two questions: does variance in TS ratings provide evidence for distinct within-person profiles (vs. the preferential extraction of a single latent class, which would indicate no evidence for within-person profiles based on TS ratings)? And if so, are these classes meaningfully differentiated (such that these subgroups also show differentiation in parental ratings of externalizing problems)? Such evidence would further suggest that TS ratings are providing valid and meaningful variance.

Classes were identified based on patterns of the lower-order ICU facet scores from TS ratings: callous, uncaring and unemotional. Statistical indicators for model selection included Akaike information criterion, Bayesian information criterion and entropy. For Akaike information criterion and Bayesian information criterion, lower relative values indicate a better-fitting model. For entropy, absolute values closer to 1.0 indicate a greater classification certainty, with acceptable models typically showing entropy >00.80 (Clark & Muthén 2009). Based on all three fit statistics, four classes best summarized the data and thus were examined further. The Lo–Mendell–Rubin adjusted likelihood ratio test suggested that four classes fit significantly better than the three class solution (54.91, $p = 0.011$). This was further supported by the entropy value (0.88).

The four classes that emerged (class $1 = 22.0\%$ of youth; class $2 = 40.1\%$ of youth; class $3 = 29.4\%$ of youth; class $4 = 8.5\%$ of youth) were distinguished by severity of callous–unemotional traits (see Figure 1). Class 1 displayed the most severe levels of callous–unemotional traits, and class 4 displayed the least severe levels. A multivariate generalized linear model (GLM) was conducted to explore differences in personality traits and externalizing scales between classes in SPSS 21. The overall GLM indicated significant differences in personality traits between classes (Wilks' $\lambda = 0.58$, $F(15, 466.94) = 6.89$, $p < 0.001$). Mean levels of neuroticism decreased in order from the most to the least severe class (classes 1 to 4) whereas mean levels of extraversion, openness to

Table 2: Correlations between parent-report CBCL and EATQ scales, and TS rating (*N* = 177)

Variable	Parent-report CBCL		Parent-report EATQ		
	Rule-breaking behaviour	Aggressive behaviour	Effortful control	Negative affectivity	Surgency
TS ICID-S N	0.26**	0.33***	−0.13	0.26***	−0.06
TS ICID-S E	−0.07	−0.09	0.07	−0.06	−0.04
TS ICID-S O	−0.16*	−0.21**	0.15	−0.17*	−0.02
TS ICID-S A	−0.13	−0.20**	0.07	−0.15*	−0.08
TS ICID-S C	−0.24**	−0.28***	0.24**	−0.28***	0.08
ICU	0.22**	0.25**	−0.19*	0.18*	−0.02

CBCL, Child Behaviour Checklist; EATQ, early adolescent temperament questionnaire; TS, thin slice; ICID-S, inventory of child individual differences—short version; N, neuroticism; E, extraversion; O, openness to experience; A, agreeableness; C, conscientiousness; ICU, inventory of callous and unemotional traits.
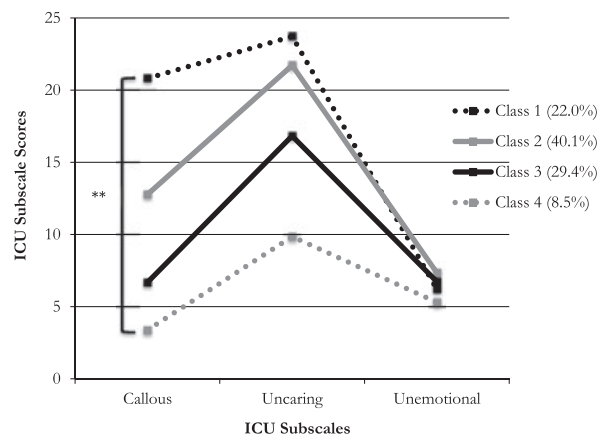*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

Figure 1: Latent classes of youth with varying levels inventory of callous–unemotional (ICU) facet scores. ** indicates that classes 1 and 4 differ significantly such that class 1 has higher levels of aggressive behaviour and rule-breaking behaviour (Wilks' $\lambda = 0.90$, $F(6, 344) = 3.16$, $p = 0.005$).

experience, agreeableness and conscientiousness increased in order from the least to the most severe class (classes 4 to 1). The overall GLM indicated significant differences in aggressive behaviour and rule-breaking behaviour between classes (Wilks' $\lambda = 0.90$, $F(6, 344) = 3.16$, $p = 0.005$). Classes differed on aggressive behaviour such that the most severe class 1 (M = 21.64, SD = 6.92) scored higher

on aggressive behaviour than the least severe class 4 (M = 10.19, SD = 9.82). Classes differed on rule-breaking behaviour such that the most severe class 1 (M = 9.32, SD = 4.15) scored higher on rule-breaking behaviour than the least severe class 4 (M = 4.56, SD = 4.92).

Discussion

The present study demonstrates how researchers and clinicians may be able to expand their opportunities to measure child personality, even when child personality was not originally measured. Specifically, we were able to reliably measure major domains of child personality across normal-range and pathological personality traits, demonstrate evidence for their convergent/divergent validity and predict psychological function using existing archival video-recorded data from a previous clinical intervention trial where personality was not measured. These findings provide further validation of the use of TS methodology in measuring child personality and provide initial evidence that personality traits (both normative and pathological) can be evaluated using TS methodology in data that was not explicitly collected to assess personality. The TS method used in this study is

easy, efficient and cost-effective to administer. As such, this method can substantially accelerate our understanding of child personality by increasing opportunities for its measurement in both scientific and applied settings.

Thin-slice ratings of children's personality traits demonstrated high internal consistency and demonstrated intercorrelations that would be expected based on the broader literature (i.e. CU traits were correlated with high N and low E, O, A and C; Essau, Sasagawa, & Frick 2006). Taken together, these findings suggest that the TS ratings are functioning in a reliable and valid manner that is highly comparable with more traditional assessment methods, such as parent-reported questionnaires. To examine convergent/divergent validity, we examined associations between TS personality trait ratings and parent-rated questionnaires indexing the child's externalizing behaviour and temperament traits. Rule-breaking behaviours were positively correlated with TS neuroticism and TS CU traits and negatively correlated with TS openness to experience and TS conscientiousness; aggressive behaviours were positively correlated with TS neuroticism and TS CU traits and negatively correlated with TS openness to experience, agreeableness and conscientiousness. These findings are consistent with our previous study (Tackett et al. 2016) in which parent-rated externalizing problems were negatively correlated with TS agreeableness and TS conscientiousness. These findings further converge with existing evidence for callous–unemotional trait associations (Essau et al. 2006; Frick 2009; Lynam et al. 2005; Salekin, Debus, & Barker 2010). Even more associations were demonstrated in the current study than in Tackett et al. (2016), most notably for TS Neuroticism, which showed few associations with external criteria in previous research (Tackett et al. 2016). This lack of association was largely attributed to difficulty in measuring neuroticism in children (Tackett et al. 2012) as well as difficulty observing trait neuroticism more generally (Vazire 2010 but also see Markey, Markey, & Tinsley 2004), but the current findings shed new

light on this conclusion. Associations with TS neuroticism showed strong and theoretically consistent associations in the current sample, indicating that child neuroticism can indeed be assessed via TS methods and may emerge more strongly in samples where negative affectivity is salient and potentially more readily expressed (e.g. in clinical samples).

Thin-slice traits also showed expected patterns of convergence with temperamental traits such that effortful control was positively correlated with TS conscientiousness and negatively correlated with TS callous–unemotional traits; negative affectivity was positively correlated with TS neuroticism and TS callous–unemotional traits and negatively correlated with TS agreeableness and TS conscientiousness; surgency was not correlated with any of the TS traits. These associations also converge with previous efforts to elucidate overlap between EATQ temperament traits and ICID personality traits (Tackett, Kushner, De Fruyt, & Mervielde 2013). That is, conscientiousness and effortful control show strongest evidence for specificity, whereas variance of both neuroticism and agreeableness is typically captured in temperamental negative affectivity. Surgency is the higher-order temperamental trait that appears to have the most conflated personality trait variance, as it shows associations with neuroticism, extraversion, openness to experience and agreeableness, and this is true across child personality measures (Tackett et al. 2013). Nonetheless, a lack of associations with surgency in the present sample is surprising. It is, however, a trait that may particularly pull for suppressor effects across facets in child externalizing samples, who might be expected to rate higher than average on certain facets (e.g. social dominance and activity level) and lower than average on others (e.g. positive affectivity, warmth and gregariousness; De Pauw & Mervielde 2010; Soto 2015).

To establish additional evidence for validity of these ratings, we further supplemented these analyses to examine whether TS ratings of clinically relevant personality pathology traits demonstrated

meaningful within-person variability. That is, we were interested in whether TS ratings could meaningfully differentiate children within this sample based on their TS callous–unemotional traits. Such evidence is especially relevant for snap judgments, which may rely more heavily on stereotyped information and, as a result, show less differentiation than would ratings from well-acquainted others (Beer & Watson 2008a, 2008b; Rauthmann & Kolar 2010). The latent class analyses produced a four-class solution as the best-fitting model to explain within-person heterogeneity on the TS callous–unemotional trait ratings, suggesting adequate validity in the TS ratings to meaningfully differentiate subgroups of children. Furthermore, the classes (which largely differed on overall severity of the TS callous and TS uncaring traits, with no differentiation based on TS unemotional traits) showed expected patterns of difference on TS normal-range personality traits as well as parent-rated aggression and delinquency. Thus, these findings provide further validity for the TS method used here and suggest that such ratings are tapping into meaningful differences within and between children.

Limitations and future directions

As with all studies, some limitations must be noted. The study was designed to illustrate how researchers might leverage existing archival data that did not initially incorporate measures of child personality; thus, the study has clear generalizability to the type of archival data that may be available to researchers and clinicians. Nonetheless, this precluded the inclusion of certain types of data that would have been helpful in establishing reliability and validity of the TS method. For example, it would have been ideal to have all personality traits assessed via multiple methods and informants, particularly parent-rated or clinician-rated questionnaires, which represent the most common approach currently used in research and applied settings.

It is worth underscoring that the TS method is not ideally used as a standalone method of child personality assessment, as is true with any method (Rothbart & Bates 2006), because the limitations of the specific method are best balanced out by other approaches. In contexts such as the current situation, the TS approach may be the only option available for measuring child personality. However, generally, we recommend the TS approach to be used in combination with other methods and informants, to allow better triangulation on child personality traits. Other future directions include efforts to apply the TS approach to other samples, across different types of archival data (we only had access to the mother–child discussion task), and in samples with other opportunities to explore convergent, divergent, incremental and predictive validity.

Conclusion

The present study examined the applicability of a TS assessment method to measure normal-range and pathological personality traits in archival video data from a clinical intervention trial with aggressive children. The results provide promising evidence that a TS approach produces reliable and valid measurement of child personality. In addition, the TS method is efficient, easy and cheap to implement across a variety of research and clinical settings. We hope that this method will be employed to better maximize existing research and clinical data, and further our understanding of the relevance of child personality for development, behaviour and relevant outcomes.

Acknowledgement

References

Achenbach T. M., & Rescorla L. A. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington: University of Vermont, Research Center for Children, Youth, & Families.

Beer A., & Watson D. (2008a). Asymmetry in judgments of personality: others are less differentiated than the self. *Journal of Personality* 76: 535–560. DOI:10.1111/j.1467-6494.2008.00495.x.

Beer A., & Watson D. (2008b). Personality judgment at zero acquaintance: agreement, assumed similarity, and implicit simplicity. *Journal of Personality Assessment* 90: 250–260. DOI:10.1080/00223890701884970.

Borkenau P., Mauer N., Riemann R., Spinath F. M., & Angleitner A. (2004). Thin slices of behavior as cues of personality and intelligence. *Journal of Personality and Social Psychology* 86: 599–614. DOI:10.1037/0022-3514.86.4.599.

Clark, S. L., & Muthén, B. (2009). Relating latent class analysis results to variables not included in the analysis. Retrieved from http://ww.statmodel2.com/download/relatinglca.pdf

De Pauw S. S., & Mervielde I. (2010). Temperament, personality and developmental psychopathology: a review based on the conceptual dimensions underlying childhood traits. *Child Psychiatry & Human Development* 41: 313–329. DOI:10.1007/s10578-009-0171-8.

Deal J. E., Halverson C. F., Martin R. P., Victor J., & Baker S. (2007). The inventory of children's individual differences: development and validation of a short version. *Journal of Personality Assessment* 89: 162–166. DOI:10.1080/00223890701468550.

Durbin C. E. (2010). Modeling temperamental risk for depression using developmentally sensitive laboratory paradigms. *Child Development Perspectives* 4: 169–173. DOI:10.1111/j.1750-8606.2010.00137.x.

Ellis L. K., & Rothbart M. K. (2001). *Revision of the early adolescent temperament questionnaire*. Minneapolis, Minnesota: Poster presented at the 2001 biennial meeting of the Society for Research in Child Development.

Essau C. A., Sasagawa S., & Frick P. J. (2006). Callous-unemotional traits in a community sample of adolescents. *Assessment* 13: 454–469. DOI:10.1177/1073191106287354.

Fowler K. A., Lilienfeld S. O., & Patrick C. J. (2009). Detecting psychopathy from thin slices of behavior. *Psychological Assessment* 21: 68–78. DOI:10.1037/a0014938.

Frick, P. J. (2004). The inventory of callous-unemotional traits. Unpublished rating scale. Retrieved from http://labs.uno.edu/developmental-psychopathology/ICU/ICU-Parent.pdf

Frick P. J. (2009). Extending the construct of psychopathy to youth: implications for understanding, diagnosing, and treating antisocial children and adolescents. *The Canadian Journal of Psychiatry* 54: 803–812.

Goldsmith, H. H., Reilly, J., Lemery, K. S., Longley, S., & Prescott, A. (1993). Preliminary manual for the preschool laboratory temperament assessment battery. (Version 1.0). Technical report, Department of Psychology, University of Wisconsin-Madison.

Halverson C. F., Havill V. L., Deal J., Baker S. R., Victor J. B., Pavlopoulos V., & Wen L. (2003). Personality structure as derived from parental ratings of free descriptions of children: the inventory of child individual differences. *Journal of Personality* 71: 995–1026. DOI:10.1111/1467-6494.7106005.

Holtzman N. S. (2011). Facing a psychopath: detecting the dark triad from emotionally-neutral faces, using prototypes from the personality faceaurus. *Journal of Research in Personality* 45: 648–654. DOI:10.1016/j.jrp.2011.09.002.

Kochanska G., Murray K. T., & Harlan E. T. (2000). Effortful control in early childhood: continuity and change, antecedents, and implications for social development. *Developmental Psychology* 36: 220–232. DOI:10.1037/0012-1649.36.2.220.

Lynam D. R., Caspi A., Moffitt T. E., Raine A., Loeber R., & Stouthamer-Loeber M. (2005). Adolescent psychopathy and the big five: results from two samples. *Journal of Abnormal Child Psychology* 33: 431–443. DOI:10.1007/s10648-005-5724-0.

Markey P. M., Markey C. N., & Tinsley B. J. (2004). Children's behavioral manifestations of the five-factor model of personality. *Personality and Social Psychology Bulletin* 30: 423–432. DOI:10.1177/0146167203261886.

Rauthmann J. F., & Kolar G. P. (2010). Implicit simplicity at low acquaintanceship: evidence for a g-factor of personality in personality judgements. *Personality and Individual Differences* 48: 522–526. DOI:10.1016/j.paid.2009.11.020.

Robin A. L., & Weiss J. G. (1980). Criterion-related validity of behavioral and self-report measures of problem-solving communication skills in distressed and non-distressed parent-adolescent dyads. *Behavioral Assessment* 2: 339–352. DOI:10.1016/s0005-7894(75)80004-9.

Rothbart M. K., & Bates J. E. (2006). Temperament. In N. Eisenberg, W. Damon, & M. Lerner (Eds). *Handbook of child psychology, 6th ed., Vol 3: social, emotional, and personality development* (pp. 99–166). Hoboken, NJ: Wiley.

Salekin R. T., Debus S. A., & Barker E. D. (2010). Adolescent psychopathy and the five factor model: domain and facet analyses. *Journal of Psychopathology and Behavioral Assessment* 32: 501–514. DOI:10.1007/s10862-010-9192-7.

Shiner R., & Caspi A. (2003). Personality differences in childhood and adolescence: measurement, development, and consequences. *Journal of Child Psychology and Psychiatry 44*: 2–32. DOI:10.1111/1469-7610.00101.

Slepian M. L., Bogart K. R., & Ambady N. (2014). Thin-slice judgments in the clinical context. *Annual Review of Clinical Psychology 10*: 131–153. DOI:10.1146/annurev-clinpsy-090413-123522.

Soto C. J. (2015). The little six personality dimensions from early childhood to early adulthood: mean-level age and gender differences in parents' reports. *Journal of Personality* Advance online publication. DOI:10.1111/jopy.12168.

Soto C. J., & Tackett J. L. (2015). Personality traits in childhood and adolescence: structure, development, and outcomes. *Current Directions in Psychological Science 24*: 358–362. DOI:10.1177/0963721415589345.

Tackett J. L. (2011). Parent informants for child personality: agreement, discrepancies, and clinical utility. *Journal of Personality Assessment 93*: 539–544. DOI:10.1080/00223891.2011.608763.

Tackett J. L., Herzhoff K., Kushner S. C., & Rule N. (2016). Thin slices of child personality: perceptual, situational, and behavioral contributions. *Journal of Personality and Social Psychology 110*: 150–166. DOI:10.1037/pspp0000044.

Tackett J. L., Kushner S. C., De Fruyt F., & Mervielde I. (2013). Delineating personality traits in childhood and adolescence: associations across measures, temperament, and behavioral problems. *Assessment 20*: 738–751. DOI:10.1177/1073191113509686.

Tackett J. L., Slobodskaya H. R., Mar R. A., Deal J., Halverson C. F., Baker S. R., & Besevegis E. (2012). The hierarchical structure of childhood personality in five countries: continuity from early childhood to early adolescence. *Journal of Personality 80*: 847–879. DOI:10.1111/j.1467-6494.2011.00748.x.

Vazire S. (2010). Who knows what about a person? The self-other knowledge asymmetry (SOKA) model. *Journal of Personality and Social Psychology 98*: 281–300. DOI:10.1037/a0017908.

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