VU Research Portal

The structure of oppositionality: Response disposition and situational aspects

Hoffenaar, P.J.; Hoeksma, J.B.

published in

Journal of Child Psychology and Psychiatry
2002

DOI (link to publisher)

[10.1111/1469-7610.00028](https://doi.org/10.1111/1469-7610.00028)

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Hoffenaar, P. J., & Hoeksma, J. B. (2002). The structure of oppositionality: Response disposition and situational aspects. *Journal of Child Psychology and Psychiatry*, 43(3), 375-385. <https://doi.org/10.1111/1469-7610.00028>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

The structure of oppositionality: response dispositions and situational aspects

Peter J. Hoffenaar and Jan B. Hoeksma

Vrije Universiteit, The Netherlands

Background: The Amsterdam Scale of Oppositionality (ASO) is a recently developed *self-report* instrument to measure the full range of oppositionality. It was used to test the assumption that oppositionality can best be conceptualized as a combination of emotions and behaviors varying across contexts, i.e., with parents, peers and authority figures. **Method:** The sample consisted of 560 boys and 598 girls, aged 8 to 12 years. The thirty items of the ASO, grouped in item parcels, were analyzed using confirmatory factor analyses. **Results:** Results confirmed the main hypothesis. The best fitting models contained strongly related emotional and behavioral factors and three mutually related situational factors. Oppositionality appeared to be to a large extent situation-specific. Girls are more affected by the situation than boys and show less oppositionality only outside the family context. **Conclusions:** Results are discussed with respect to the concept of oppositionality, varying expectations for interpersonal consequences, and implications for clinical assessment and studies of inter-informant reliability. **Keywords:** Behavior problems, disruptive behavior, emotion, questionnaires, sex differences, structural equation modeling, oppositional defiant disorder (ODD), situational specificity.

Oppositional behavior typically ranges from actions of normal protest when autonomy is threatened to tyrannical aggressive behaviors that seem to satisfy the child's needs (Gard & Berry, 1987). The child refuses requests and commands or breaks implicit rules. His or her main battle is with not doing what he or she is supposed to do (Redl, 1976). Oppositional behavior demands attention when it starts to frustrate parents and teachers or threatens the welfare of others. Possibly for that reason, the assessment of oppositional behavior largely focuses on psychopathology. The DSM-IV (American Psychiatric Association, 1994) is the main instrument for the clinical assessment of oppositional deviant behavior. A child showing a recurrent pattern of negativistic, hostile and defiant behavior for at least six months becomes eligible for the diagnosis Oppositional Deviant Disorder (ODD). Other available instruments, such as the Child and Adolescent Psychiatric Assessment (CAPA; Angold & Costello, 1996) and The Child and Adolescent Disruptive Behavior Inventory (CADBI; Burns et al., 1997), are based on the DSM criteria.

Oppositional behaviors are observed at all ages and occur throughout the general population (Anthony, 1976; Gard & Berry, 1987). In addition, oppositionality is a research topic with a long history (Brehm, 1981). During this longstanding research tradition different subject headings, e.g., resistant behavior, negativistic behavior and noncompliance, have been used to refer to oppositionality in children.

Although oppositionality is a common phenomenon, psychometric instruments to assess the full range of oppositional behaviors are rare, although this situation seems to be changing at the moment. Drabick, Strassberg, and Kees (2001) developed an

instrument that specifically targets noncompliance in preschool children. Recently, we developed the Amsterdam Scale of Oppositionality (ASO), to measure oppositionality in early adolescence by means of self-report. Preliminary versions of the scale were piloted by van der Matten (1995), van Leeuwen (1996) and Lagendijk (1997). The present study is based on the third and final revision of the ASO.

The Amsterdam Scale of Oppositionality (ASO) was constructed according to a facet-design. Fiske (1971) stressed the importance of the facet-design as a heuristic aid for item-construction. The facet approach forces the researcher to explicate his or her theoretical notions regarding the construct to be measured. The resulting theoretical framework leads to hypotheses and predictions about the role of the facets and the relations among the elements within the facets (Edmundson, Koch, & Silverman, 1993). Tests of these hypotheses have implications for the *structural validity* of the instrument. To assure the structural validity of the ASO the internal structure of the instrument should parallel the structure of the oppositionality construct (Loevinger, 1957).

Theoretical notions

Three theoretical notions guided the construction of the Amsterdam Scale of Oppositionality. First, oppositionality is conceived of as a *continuum*. Secondly, the content domain of oppositionality is thought to be represented by both *emotions* and *behaviors* across different situations. Finally, oppositional responses are seen as partially situation specific. These notions will be discussed next.

Oppositionality as a continuum

It is not necessary to take a position in the never-ending controversy on quantitative psychometric instruments versus qualitative psychiatric classification (Blashfield & Livesley, 1991; Jensen, Brooks-Gunn, & Graber, 1999) to argue that oppositionality can be seen as a continuum. The continuum of oppositionality ranges from normal resistance to external influences to a constellation of disruptive actions, including temper tantrums, extreme disobedience and negativistic, hostile behaviors (Anthony, 1976; Gard & Berry, 1987; Redl, 1976). The diagnostic DSM-IV category Oppositional Defiant Disorder (ODD) lies at the abnormal end of the continuum of oppositionality. ODD comprises behaviors closely related to more serious disruptive behaviors such as aggression, status violations and property violations. Oppositional behavior is less problematic and non-destructive (Loeber, Lahey, & Thomas, 1991).

Rather than starting at the abnormal extreme of the continuum the ASO was constructed by starting to investigate the *full range* of oppositional responses in the normal population. The main advantage of basing an instrument on an underlying continuum of responses is that it increases the functionality of the instrument. First, the instrument becomes well suited for research in the normal population, whereas the resulting scale can still be applied for the assessment of deviant child behavior. Deviant behavior is conceptualized as a higher rate and intensity of oppositional actions. It should be noted that this does not imply that children who frequently respond in an oppositional way should be diagnosed as children with ODD. Second, measuring the full range of oppositionality increases the usefulness of the scale for developmental research. Developmental changes in oppositionality are more easily revealed by instruments that measure the full range of oppositional responses. A categorical approach with instruments that only differentiate between normal and deviant behavior seems less suited for developmental research.

Emotions and behavior

Oppositionality is not necessarily restricted to behavior. Oppositional emotions are another important aspect of oppositionality. Recent literature shows an increased attention to the role of emotions in normal and disruptive behaviors (Cole, Michel, & Teti, 1995; Cole & Zahn-Waxler, 1992; Dodge, 1991; Eisenberg et al., 1996). The importance of the role of emotions was illustrated in studies by Cole and Zahn-Waxler (1992) and Cole et al. (1995). Their results provide support for a specific pattern of emotional responding that disruptive children have in common. Disruptive children appear to under-control their anger and display a lack of fear or social anxiety (Eisenberg et al., 1996). Furthermore, these

children are less inclined to display sadness and sometimes become overwhelmed by joy when this is not appropriate (Cole & Zahn-Waxler, 1992).

We assume that oppositional children have a distinct pattern of emotional responding. When they are disciplined, oppositional children possibly express joy, whereas guilt or shame would be a more socially acceptable response. When autonomy is threatened, these children may be more inclined to respond with anger. In addition, they often show a relative lack of fear for disciplinary actions.

In our view oppositionality refers to both behaviors and emotions. This is reflected in the ASO by the fact that half the items refer to emotional responses and the other half refer to behavioral responses. As a consequence, the question of to what extent oppositional behavior and emotions are related can be answered.

Situational specificity versus pervasiveness

Oppositionality occurs in response to directives or prohibitions by different social agents (Brehm, 1981). Most of these social agents (e.g., teachers, parents and other adults) operate in specific contexts (e.g., home and school). The items of the ASO portray interactions with *parents*, *authority figures* and *peers* to reflect the different situations in which oppositionality occurs. Adults other than the child's parents and teachers are seen as authority figures, but most of the items pertain to teachers.

Different contexts may elicit different responses from children. Some children show oppositional behavior only at home, whereas others display oppositionality in more than one setting (Rey & Walter, 1999). Because of the situational variance in oppositionality, the judgments of teachers and parents do not necessarily correspond. Findings from studies of inter-informant agreement (Achenbach, McConaughy, & Howell, 1987; Fisher & Fagot, 1996) show that the informant's judgment is context-specific. Achenbach et al. (1987) conclude from their comprehensive meta-analysis that the assessment of children's behavioral and emotional problems is not only affected by informant variables, but also by situational variables. They argue that the disagreement between informants is at least partly due to situational variance in the child's behavior.

We hypothesize that oppositional emotions and responses are partly situation specific. Items of the ASO pertain to three different situations, namely situations with parents, peers and authority figures. This variability offers the opportunity to determine the extent to which oppositionality is general over various situations and to what extent it is situation specific.

Gender differences

As far as we know, gender differences with regard to oppositionality have hardly been studied. Neverthe-

less, the literature offers several cues as to why gender differences are to be expected. Leadbetter, Kuperminc, Blatter, and Hertzog (1999) argue that girls have more difficulties in expressing anger than boys. The difference is attributed to a heightened interpersonal vulnerability of girls. Girls are more concerned about the quality and the maintenance of interpersonal relationships. Because of their sensitivity to interpersonal concerns, girls are possibly more inclined to refrain from behavior that affects relationships negatively.

The same reasoning could hold with respect to the expression of oppositionality. When a child displays oppositionality, this evokes frustration and annoyance in the person whose authority is questioned (Anthony, 1976). Assuming that girls are more inclined to refrain from behaviors with negative interpersonal consequences, girls will try to withhold their oppositionality. For that reason, we hypothesize that girls in general display less oppositional emotions and oppositional behavior than boys.

A second cue from the literature suggests that gender differences in oppositionality may be even more pronounced in certain situations. Kavanagh and Hops (1994) discuss several research findings, suggesting that parents and teachers are likely to have more consistent expectations and reinforce behavior more congruously for girls than for boys. Parents are more indulgent and tolerate more excessive behavior from boys than teachers do. At school, boys will generally meet a more restrictive social environment.

Because boys are used to a wide range of acceptable behaviors at home, they will experience the more severe restrictions at school as elimination of perceived behavioral freedoms. The elimination of an established freedom may lead to oppositionality (Brehm, 1981). For that reason, we expect boys to display oppositionality more frequently and more intensely in interactions within the school context.

In sum, we theorize that oppositionality consists of interrelated oppositional emotions and oppositional behaviors. Oppositional emotions and oppositional behaviors are hypothesized to be partially situation specific. Oppositionality occurs in interactions with parents, authority figures and peers. We expect gender differences in the level of oppositional behavior and the level of oppositionality across contexts.

Method

Participants

Participants were children (age 8–12 years) from 20 Dutch primary schools. A nation-wide self-weighting cluster sample was drawn from a register of all Dutch primary schools. Probability of inclusion for each school was inversely proportional to the mean school size per province (data on school size were provided by the

Dutch Central Bureau for Statistics, CBS, 1997). Schools were contacted by phone. Approximately one in two schools refused participation for reasons not related to the variables of interest. The main reasons given were: 'We are too busy' and 'We already participated in research some time ago'. When a school refused participation, the next school in the sample register replaced this school. Within schools, complete classes were examined. The number of refusals within classes was less than 1%.

The initial sample contained 1,196 children. It was reduced by the deletion of 3.18% of the children, because of more than 20% of incomplete data per child. In the reduced sample the average percentage of missing values amounted to 1.67%. Missing values for the remaining children were imputed using corrected item mean substitution (CIMS; Huisman, 1999). CIMS replaces missing values by the item mean corrected for the individual's total score on the observed items. Bernaards and Sijtsma (2000) recently demonstrated in a simulation study that imputation methods based on an individual's mean score yield the best results in recovering the factor loading structure from the incomplete data.

The final sample contained 1,158 children, 560 boys and 598 girls. The mean age was 11.41 yr ($SD = .93$).

Amsterdam Scale for Oppositionality

The Amsterdam Scale for Oppositionality (ASO) contains 30 forced-choice items. Analysis of the reliability of the ASO showed that the internal consistency ($\alpha = .86$) was adequate.

As noted earlier, the ASO was constructed according to a facet-design (Fiske, 1971). The content domain of oppositionality is defined by a *response* facet and a *situational* facet. The elements of the response facet are oppositional emotions and oppositional behaviors. Three elements make up the situational facet: interactions with authority figures, peers and parents. Each item represents either an emotional response or a behavioral response in one of the three situations. For every item the child chooses between an oppositional and a non-oppositional response alternative.

The ASO contains five items for each combination of the response- and situational-facet elements. Table 1 illustrates the item content, for each combination of the situational facet and response facet.

Procedure

The 20 schools were visited by a research assistant or the first author. The ASO and a Dutch translation of the Strength and Difficulties Questionnaire (SDQ, Goodman, 1997) were group administered in the classrooms of the 6th, 7th and 8th grades. After a short introduction the questionnaires were distributed and completed individually by all children. Most children concluded the tests in less than twenty minutes. The SDQ is not used in the present study.

Analysis

The facet structure of the ASO was investigated by means of confirmatory factor analysis (CFA) using EQS

Table 1 Item content by situation and response type

Situation	Response	
	Behavior	Emotion
Authority	When the teacher says I have to quit talking, I keep my mouth shut/I keep on talking	When I'm punished by the teacher, I feel sad/feel angry
Peers	Other children think that I like to fight/that I don't like to fight	When other children steal things, I don't mind/ I think it's awful
Parents	When my mum or dad tells me to help them, I do it/I pretend I did not hear them	When my mum or dad thinks I'm being rude, it makes me feel bad/I think it's funny

(Bentler, 1995). Following the example of Joormann and Stöber (1997), the analysis was conducted using so-called item parcels or subscales. According to the authors, confirmatory factor analytic models using item parcels provide better estimates of the overall fit in comparison to item-based models. Models based on item parcels are estimated more precisely, because of the higher reliability of parcels (relative to individual items) and the smaller number of parameters.

Item parcels were created by randomly dividing the five items for every combination of the response- and situational-facet elements into subgroups of two or three items. Next, item parcels were adjusted for the unequal number of items by dividing the score by the number of items.

According to the main hypothesis of the present study, oppositionality consists of interrelated oppositional emotions and oppositional behaviors and is partially situation specific. This hypothesis can be represented by a five-factor model, as shown in Figure 1.

In Figure 1, each factor represents one facet element. Each item parcel loads on two factors, one factor representing the corresponding response-facet element and one factor representing the corresponding situational-facet element.

The structure of the ASO was investigated by comparing models with different factor structures in a

modeling procedure. The adequacy of the models was evaluated by comparing the theoretical covariance structure as predicted by the model to the observed sample covariance matrix.

The modeling procedure started with testing whether one general oppositional factor underlies all item parcels. The analysis proceeded by testing a model with the two response-facet elements as distinct, but related, factors. In the next step a model consisting of the three situational-facet elements as unrelated factors was tested. In the subsequent analysis a model was tested, consisting of the three situational-facet elements as correlated factors. The final model in the procedure was the hypothesized facet structure, as depicted in Figure 1.

Model fit

The goodness of fit for the various models was assessed by means of the Comparative Fit Index (CFI, Bentler, 1990), the Akaike Information Criterion (AIC, Bollen, 1989) and the chi-square test. The chi-square test is a likelihood ratio test that evaluates whether the restrictions imposed by the model are valid (Bollen, 1989). To compare the fit of the various models, we examined the difference in the fit measures. The likelihood ratio test for the difference in chi-square estimators is also known as the chi-square difference test. The chi-square differ-

Figure 1 Simplified representation of the five-factor model for the structure of oppositionality.

ence test only allows the direct comparison of nested models. The AIC also provides means of comparing models that are not nested. The Akaike Information Criterion is a relative index; the model with the lowest value for the AIC is the preferred model.

In addition to the aforementioned fit indices, the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) and the Goodness of Fit Index (GFI; Tanaka & Huba, 1985) are reported for the best fitting model. The following ranges are generally taken to indicate good fit: CFI (.90–1.00); RMSEA (.03–.07); GFI (.90–1.00).

Results

Preliminary analyses revealed that the factor models to be tested were not invariant across gender. The models were therefore evaluated for boys and girls separately. A single factor model was tested first. In the model all item parcels loaded on one general factor. The model embodies the assumption that oppositional emotions and oppositional behaviors cannot be distinguished and do not vary across situations. Test statistics and fit indices (Table 2) showed that the single factor model had to be rejected for both boys and girls.

The next model fitted contained two factors, referring to the two response-facet elements. Item parcels referring to emotions loaded on the first factor and item parcels referring to behaviors loaded on the second factor. The factors were allowed to correlate. The model assumes that oppositional feelings and oppositional behaviors are distinct, but related, oppositional responses. Chi-square test statistics and goodness of fit indices showed that the two-factor model had to be rejected. For girls the two-factor model did not fit significantly better than the single factor model ($\chi^2(1) = .27, p > .05$), whereas for boys it did ($\chi^2(1) = 7.36, p < .01$).

Subsequently, a three-factor model was fitted. One factor represented oppositional responses in interactions with authority figures. Another factor represented oppositional responses in situations with peers and the final factor involved oppositional responses at home. The model is used to test the assumption that oppositionality is fully situation specific. For that reason the situational factors were not allowed to correlate. Chi-square test statistics and CFI-values (Table 2) showed that the three-factor model had to be rejected for both boys and

girls. The figures in Table 2 further reveal that the three-factor model fits very poorly relative to the other models, suggesting that the three situational factors cannot be considered independent.

In the next model the three situational factors were allowed to correlate. This three-factor model embodies the assumption that oppositional responses show some consistency across situations. Compared to the previous three-factor model, the fit improved considerably by taking up correlations between the situational factors. Chi-square difference tests showed significant differences in model fit with the previous model for both boys and girls (boys, $\chi^2(3) = 401.52, p < .01$; girls, $\chi^2(3) = 449.20, p < .01$). The Comparative Fit Index (CFI) appeared to be in the acceptable range and very similar for boys and girls (.94 versus .96). However, the likelihood statistic appeared to be relatively large, indicating the possibility of further improvement of the model.

The final model tested contained five factors. Two factors related to emotional and behavioral responses. The three remaining factors referred to the three different situations (authority figures, peers and parents). The emotional and behavioral response factors were allowed to correlate. The correlations between the situational factors were also included. The model corresponds to the main hypothesis of the present study. According to the hypothesis, oppositionality consists of related oppositional emotions and oppositional behaviors and is partially context specific. The fit of the five-factor model showed considerable improvement as compared to the three-factor model (boys, $\chi^2(13) = 100.55, p < .01$, girls, $\chi^2(13) = 34.56, p < .01$). For both boys and girls, the five-factor model showed excellent fit, as indicated by the CFI-values (Table 1). The corresponding Root Mean Square Error of Approximation (RMSEA) and the Goodness of Fit Index (GFI) amounted to respectively RMSEA = .051 and GFI = .97 for boys and RMSEA = .054 and GFI = .97 for girls. All indices pointed to a good fit. For boys the chi-square statistic amounted to 54.10 ($df = 38, p > .01$), indicating acceptable fit. For girls, however, the chi-square amounted to 87.82 ($df = 38, p < .01$), suggesting the model should be rejected. Given the large sample size and the fact that all other fit-indices pointed to good fit, the five-factor model for girls was taken as the best fitting model.

Table 2 Model-comparison for boys and girls

Model/Test	AIC		χ^2		df	CFI	
	Boys	Girls	Boys	Girls		Boys	Girls
One general oppositional factor	230.90	221.58	338.90	329.58	54	.83	.85
Two response factors	225.54	223.31	331.54	329.31	53	.84	.85
Three situational factors	448.18	463.58	556.17	571.58	54	.70	.72
Correlated situational factors	52.65	20.38	154.65	122.38	51	.94	.96
Five-factor model	-21.91	11.81	54.10	87.82	38	.99	.97

CFI = Comparative Fit Index, AIC = Akaike Information Criterion.

In sum, the analyses lead to the acceptance of the five-factor model, strongly supporting the notion that oppositionality consists of interrelated emotions and behaviors and that oppositionality is partially situational specific.

Questions pertaining to the relation between oppositional emotions and oppositional behavior and to the degree of situational specificity of oppositionality remain. Table 3 displays the correlations between the factors in the five-factor model for boys and girls. The correlation between the response factors reflects the relation between oppositional feelings and oppositional behavior. The correlations between the situational factors reflect the consistency of oppositionality across situations.

Inspection of the correlations between the situational factors (Table 3) showed that for both boys and girls the factors referring to oppositional interactions with authority figures and oppositional interactions with peers were strongly related. The correlations between the situational factors referring to interactions with parents and interactions with authority figures or peers were moderate. For boys the factors referring to oppositional interactions with authority figures and to oppositional responses at home were not significantly related. The results indicate that oppositionality generalizes across situations. Oppositionality in interactions with peers and authority figures appear to have much in common.

The high correlation between the two response factors (Table 3) points to a strong relationship between oppositional emotions and oppositional behavior. It suggests that the response factors may not be distinct. In a separate analysis we tested whether the two response factors should be replaced by a single factor. Replacing the response factors by one general factor in the model for boys resulted in a significant deterioration in model fit ($\chi^2(1) = 11.34$, $p < .01$). In the model for girls, the fit did not deteriorate ($\chi^2(1) = 1.4$, $p > .05$). However, the parameter estimates did not appear to be interpretable. For that reason the distinctiveness of the two response factors was also accepted for girls. In sum, the two response factors are strongly related, but each response factor appears to account for a distinct part of the covariation between item parcels.

Table 3 Estimated correlations between the factors in the five-factor model for boys and girls

Correlations	Boys	Girls
Response facet elements		
Emotion/behavior	.84*	.81*
Situational facet elements		
Authority/peers	.90*	.79*
Authority/parents	.25	.58*
Peers/parents	.47*	.55*

* $p < .05$.

Factor loadings

Before focusing on the factor loadings, the equivalence of the factor structure across gender was tested. The invariance of the five-factor model across gender was examined using a multi-group procedure. According to this procedure, all factor loadings are first constrained to be equal for boys and girls. Next, the constraints on the factor loadings are released. The likelihood ratio test for the difference between the two models appeared to be significant ($\chi^2(24) = 46.14$, $p < .01$), indicating that the factor loadings differed for boys and girls. Table 4 displays the standardized factor loadings for the five-factor models for boys and girls. The factor loadings in the model for boys ranged from .10 to .70. In the model for girls they ranged from .00 to .82. The factor loadings showed a similar pattern in the models for boys and girls. In general, the loadings on the situational factors appeared to be higher and more reliable than the factor loadings on the response factors. These results suggest that a considerable part of the variance is explained by the correlated situational factors.

To further examine the relative contribution of the situational factors and response factors, the percentage variance explained by each factor was calculated. The explained variance by a factor corresponds to the sum of the products of the squared factor loadings and variances of the item parcels. The resulting variance component estimates were converted to percentages. The final row of Table 4 displays the estimates of the percentage of variance associated with each of the situational factors, the response factors and uniqueness. In the model for boys, the response factors accounted for approximately 20% of the variance, the situational factors accounted for 24% of the variance and 56% of the total variance was due to unreliability of measurement and unique variance associated with each item parcel (residual variance). In the model for girls the response factors explained 10% of the variance and the situational factors 34%. The remaining 56% of the variance was residual variance. The estimates of the variance components indicate that for girls the situational factors accounted for three-quarters of the variance, whereas for boys the response factors and situational factors explained an approximately equal proportion of the variance.

Gender differences

Assuming that girls are more inclined to refrain from behaviors with negative interpersonal consequences, we expected girls to display less oppositional behavior than boys. We further hypothesized that gender differences may be more pronounced in the school context, because for boys the behavior of authority figures is assumed to be inconsistent across contexts.

Table 4 The five-factor model: standardized factor loadings and variance-extracted estimates

No ^a	Behavior		Emotion		Authority		Peers		Parents		Uniqueness	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1	.39*	.22			.52*	.61*					.76	.76
2	.45*	.28*			.48*	.64*					.75	.71
3			.64*	.45*	.27*	.57*					.72	.69
4			.67*	.47*	.35*	.54*					.66	.70
5	.39*	.27*					.43*	.52*			.81	.81
6	.10	.24*					.64*	.45*			.76	.86
7			.31*	.23*			.49*	.57*			.82	.79
8			.17	.00			.70*	.82*			.70	.58
9	.24*	.17*							.54*	.37*	.81	.91
10	.48*	.39*							.35*	.44*	.80	.81
11			.45*	.13					.45*	.68*	.77	.72
12			.56*	.39*					.54*	.68*	.63	.62
V	5.8	3.3	14.6	6.7	5.9	13.0	11.0	10.5	7.1	10.8	55.6	55.7

^aNumber of item parcel. The meaning of the item parcels is found by looking at the presence of factor-loadings. For instance, parcels 1 and 2 contain items referring to *behavior* in situations with *authority figures*, etc. (Consult Table 1 for illustrative items.)

* = $p < .05$, V = percentage variance explained.

Table 5 displays the means and standard deviations for boys and girls divided by situation and response. Gender differences were analyzed by specifying a three-way repeated measures MANOVA (Response $\times$ Situation $\times$ Gender) with the response factors and the different situational factors as within subject factors and gender as a between subject factor. The repeated measure analysis revealed a significant Response $\times$ Situation $\times$ Gender effect [$F(2,1156) = 11.73$, $p < .01$]. There appeared to be differences between the mean scores on the emotional responses and behavioral responses. These differences varied across contexts and gender.

Figure 2 clearly shows how the difference between oppositional emotions and oppositional behavior varies across situations. The mean level of oppositional emotions and oppositional behavior differed most in situations with parents, whereas in situations with peers there appeared to be no difference between emotional or behavioral responses. Figure 2 further shows that gender differences in oppositionality are most pronounced in situations with peers and authority figures (school context).

The situational dependency of the difference in oppositional emotions and oppositional behavior provided further support for the existence of two separate response categories and underscores the

importance of the social context in the display of oppositionality.

Discussion

This study examined the internal structure of the ASO. The ASO is based on the hypothesis that oppositional emotions and oppositional behaviors, as well as different situations (authority figures, parents and peers), best represent the content domain of oppositionality. It was hypothesized that oppositionality is partly situation specific. Results of the modeling procedure presented confirm the hypothesis. The poor fit of the one-factor model clearly showed that oppositionality could not be considered a single uni-dimensional construct. The two- and three-factor models were rejected too, showing that oppositionality cannot be conceived of as a combination of emotional and behavioral dispositions, or as fully determined by specific situations. The final model, corresponding to the main hypothesis, contained three correlated situational factors and two highly correlated general response factors. It provided an adequate representation of the internal structure of the ASO for both boys and girls. In sum, the results of the modeling procedure lead to the conclusion that oppositionality is best conceptualized as a combination of emotional and behavioral dispositions and mutually related situational effects.

The validity of the difference between emotional and behavioral responses on the one hand and between specific situations on the other is further substantiated by the observed difference in the *mean levels* of emotional and behavioral responding. This difference varied across situations, providing further support for differentiating behavior, emotions and situations.

Table 5 Means and standard deviations for boys and girls divided by situation and response

Situation/ Response	Boys		Girls	
	Emotion	Behavior	Emotion	Behavior
Authority	1.91(1.49)	1.02(1.06)	1.45(1.46)	.87(1.02)
Peers	1.39(1.34)	1.34(1.37)	.82(1.19)	.82(1.09)
Parents	2.84(2.81)	1.33(1.21)	2.87(2.84)	1.20(1.14)

Figure 2 Boys' and girls' emotional and behavioral responses across situations.

Our conclusion regarding the structure of oppositionality raises the question as to what *extent* oppositionality should be attributed to general emotional and behavioral dispositions and to situational effects. Our findings demonstrate that a substantial part of the child's opposition is determined by the specific situation. The *variance explained* by the three-situational factors appeared to be considerable. For boys, situational characteristics accounted for half of the explained variance. For girls, these accounted for three-quarters of the explained variance. Thus, girls are even more affected by the situation than boys. Situational differences were also apparent in the level of emotional responding. The results revealed that children are more likely to show their oppositional feelings to their parents than to teachers and other adults. They are less likely to display oppositional feelings in situations with peers. Note that the level of oppositional behavior was fairly consistent across situations.

Although oppositionality is to a considerable extent determined by the situation, it should be noted that some situations have more in common than others. The correlations between the situational factors showed that oppositionality with peers and oppositionality towards authority figures are strongly related to each other, but only moderately related to oppositionality at home and vice versa.

The observed cross-situational pattern of oppositionality is clearly consistent with the observations by Rey and Walter (1999), who argued that oppositionality is often restricted to interactions within the family and that 'it is less common to find children who are oppositional at school but not at home' (p. 111).

Partial situational specificity was expected. Nevertheless, the observed pattern with respect to the correlations and mean levels was somewhat surprising. Why do children express more oppositional feelings to their parents than to teachers and with peers? And what do the latter two situations have in

common? The observed pattern probably has to be attributed differences and commonalities of the consequences of oppositional emotions and behaviors in the different situations. More specifically, we conjecture that the observed pattern of oppositionality is largely due to the child's varying expectations regarding the social or interpersonal consequences of showing oppositionality. Notably, Fuchs and Thelen (1988) demonstrated that the child's expectation about (negative) social consequences affects the expression of emotions.

The likelihood of negative consequences, including punishment, retribution and alienation from a close relationship, depends on the specific characteristics of the relationship involved. Negative interpersonal consequences are less likely to occur in situations with parents. In general terms the parent-child relationship can be typified as affectionate, secure, non-voluntary and enduring (Bigelow, Tesson, & Lewko, 1996). The robustness of the parent-child relationship offers children the opportunity to express their feelings (Bigelow et al., 1996), including oppositional feelings.

For different reasons, negative interpersonal consequences are more likely to be expected in situations with authority figures and peers. The child's relationship with teachers is less affectionate, non-voluntary and only partly enduring. It is constrained by formal and social rules (Leman & Duveen, 1999). Breaking these rules has direct negative interpersonal consequences, i.e., punishment by the teacher and possibly rejection by classmates. A vignette study by Braine, Pomerantz, Lorber, and Kranz (1992) showed that children comply with teachers to avoid punishment.

Relationships with peers can be typified as affectionate and voluntary and not necessarily enduring. The affectionate and voluntary character of peer relationships strengthens the need to conform (Bigelow et al., 1996; Damon, 1988) and makes the control of feelings especially important (Bigelow et al., 1996). Children are strongly concerned with appearing cool and emotionally in control, especially in middle childhood (Parker & Gottman, 1989; Underwood, Shockner, & Hurley, 2001). Thus oppositional feelings may have negative consequences, including alienation from and rejection by peers.

In sum, we maintain that the observed pattern of oppositionality is due to characteristics of the interpersonal relationships that guide expectations about negative consequences of oppositionality in different situations. Future research could be directed at the validity of this proposal.

The topic of situational specificity has also been addressed in the seminal study by Achenbach et al. (1987) on inter-observer agreement regarding the assessment of behavior problems. The authors concluded that the lack of convergence between informants in the assessment of children's behavioral and emotional problems is due to situational varia-

bles as well as informant variables. In the design of the studies reviewed, situational effects and informant effects are inevitably confounded. Parents observe children at home and teachers observe children at school. The present study relies on the information of the same 'observers' across different situations, i.e., the children. Our findings point to the importance of the situation. They suggest that the lack of inter-observer agreement between parents and teachers reported by Achenbach et al. (1987) should be attributed to *real* differences in the child's behavior across different situations and to a lesser extent to differences between informants.

The importance ascribed to the situation should not distract us from the fact that for boys and girls, respectively, about one-half and one-quarter of the explained variance is accounted for by the emotional factor and behavioral factors. The factors refer to a child's general tendency or disposition to react with oppositional feelings and oppositional behaviors. The factors are distinct but highly related. The relative values of the variance-extracted estimates (they were higher for emotions than behavior) point to the fact that emotions are at least as important as behaviors. Several researchers (Greene & Doyle, 1999; Stifter, Spinrad, & Braungart-Rieker, 1999) have stressed the role of emotions before. Requests to comply elicit emotional arousal, in particular anger and frustration. The content of the items making up the emotion factor suggest that oppositional emotions are rather diverse. Oppositional children not only respond with anger and frustration, they also display less fear of punishment, sometimes express joy when disciplined and seem less prone to experience shame and guilt when breaking social rules.

Oppositional emotions and oppositional behavior appeared to be strongly related. Children who display more oppositional emotions will also display higher levels of oppositional behavior. According to Frijda's (1986) emotion theory, emotions inherently invoke changes in action readiness. When we adopt this view, the strong relation between emotional and behavioral responses suggests that oppositional behavior is to a large extent driven by emotions. Frustration and anger (in response to requests and prohibitions), and a lack of shame or guilt (for disciplinary actions), all substantially increase the readiness to engage in oppositional behavior.

We hypothesized that girls are more likely to refrain from oppositional *behavior* than boys, especially within the school context. The hypothesis was based on the assumption of heightened interpersonal vulnerability of girls (Leadbeater et al., 1999) and the presumed strictness of the school environment for boys (Kavanagh & Hops, 1994). Data analyses revealed a statistically significant interaction between gender, situation and response. Gender differences are, however, most pronounced in situations with peers, less pronounced at school and

virtually absent at home. The findings are only consistent with the supposed interpersonal vulnerability of girls, but do not support the assumption that the strictness of the school environment would lead to high level of oppositionality for boys.

An unexpected gender difference turned up during the modeling procedure. The structure of the models for boys and girls was identical, but factor loadings differed. For girls the situational factors accounted for more variance than the emotion and behavior factors. For boys these proportions were more balanced. The findings suggest that girls are more sensitive to the situation and less predisposed to oppositional responding in general, whereas boys have a stronger general disposition to respond with opposition and are less sensitive to situational characteristics.

In sum, the findings confirm the hypothesis that the oppositionality is best represented as a combination of situational effects and a general tendency to respond with oppositional emotions and oppositional behavior. The findings underscore the role of emotions in oppositionality and the importance of the interpersonal component of oppositionality (Mones, 1998). The findings and conclusions of the present study connect to studies of the role of behavioral and emotional control in the development of oppositionality (Greene & Doyle, 1999; Stifter et al., 1999), and to research questions pertaining to the situational aspects of oppositionality. For both these research questions the ASO provides a valuable addition to the currently available research instruments, because scores can be obtained for oppositional emotions, oppositional behavior and oppositionality in specific situations.

The ASO was constructed on the assumption that oppositionality can be conceived as a continuum. The validity of this assumption cannot be tested directly. At least, all findings together do not contradict the assumption of an underlying continuum.

Although the ASO lacks a clear clinical perspective, it could be useful in the assessment of Oppositional Defiant Disorder. The DSM-IV mentions many emotion-based symptoms for the diagnosis of ODD, e.g., low frustration tolerance and a lack of appropriate feelings of guilt and remorse (American Psychiatric Association, 1994). This recognition of the emotional features of ODD could be continued by using psychometric instruments that provide insight into oppositional emotions.

In the clinical assessment of disruptive behavior disorders, little attention has been paid to the situational aspects of children's behavior (Matthys, Maassen, Cuperus, & Engeland, 2001). The frequency and duration of symptoms are recognized as important features for the diagnosis of ODD and other behavioral disorders. The findings of the present study suggest that the situation in which the symptoms occur has been somewhat undeservedly left out of the diagnostic process.

Acknowledgements

The authors wish to thank the Paedologisch Instituut, Duivendrecht for their financial contribution to this research effort. English and Dutch versions of the Amsterdam Scale of Oppositionality (ASO) are available from the second author.

Correspondence to

Peter J. Hoffenaar and Jan B. Hoeksma, Department of Developmental Psychology, Vrije Universiteit, Van der Boechorststraat 1, 1081 BT Amsterdam, The Netherlands; Email: pj.hoffenaar@psy.vu.nl or jb.hoeksma@psy.vu.nl

References

- Achenbach, T.M., McConaughy, S.H., & Howell, C.T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, 101, 213–232.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders, 4th edition (DSM-IV)*. Washington, DC: American Psychiatric Association.
- Angold, A., & Costello, E.J. (1996). The relative diagnostic utility of child and parent reports of oppositional defiant behaviors. *International Journal of Methods in Psychiatric Research*, 6, 253–259.
- Anthony, E.J. (1976). The genesis of oppositional behavior. In A.J. Anthony & D.C. Gilpin (Eds.), *Three clinical faces of childhood* (pp. 1–8). New York: Spectrum.
- Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246.
- Bentler, P.M. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software.
- Bernaards, C.A., & Sijtsma, K. (2000). Influence of imputation and EM methods when item nonresponse is nonignorable. *Multivariate Behavioral Research*, 35, 321–364.
- Bigelow, B.J., Tesson, G., & Lewko, J.H. (1996). *Learning the rules: The anatomy of children's relationships*. New York: The Guilford Press.
- Blashfield, R.K., & Livesley, W.J. (1991). Metaphorical analysis of psychiatric classification as a psychological test. *Journal of Abnormal Psychology*, 100, 262–270.
- Bollen, K.A. (1989). *Structural equations with latent variables*. New York: Wiley.
- Braine, L.G., Pomerantz, E., Lorber, D., & Krantz, D.H. (1992). Conflicts with authority: Children's feelings, actions, and justifications. *Developmental Psychology*, 27, 829–840.
- Brehm, S. (1981). Oppositional behavior in children. In S. Brehm, S.M. Kassir, & F.K. Gibbins (Eds.), *Developmental social psychology: Theory and research* (pp. 96–121). New York: Oxford University Press.
- Burns, G.L., Walsh, J.A., Patterson, D.R., Holte, C.S., Sommers-Flanagan, R., & Parker, C.M. (1997). Internal validity of the disruptive behavior disorder symptoms: Implications from parent ratings for a dimensional approach to symptom validity. *Journal of Abnormal Child Psychology*, 25, 307–319.
- CBS (Dutch Central Bureau for Statistics) (1997). *Kwartaalschrift onderwijsstatistiek* (Vol. 4(1)).
- Cole, P.M., Michel, M.K., & Teti, L.O.D. (1995). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the Society for Research in Child Development*, 59, 250–283.
- Cole, P.M., & Zahn-Waxler, C. (1992). Emotional dysregulation in disruptive behavior disorders. In D. Cicchetti & S.L. Toth (Eds.), *Developmental perspectives on depression* (4th edn, pp. 173–210). New York: University of Rochester Press.
- Damon, W. (1988). *The moral child: Nurturing children's moral growth*. New York: The Free Press.
- Dodge, K.A. (1991). Emotion and social information processing. In J. Garber & K.A. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 159–181). Cambridge: Cambridge University Press.
- Drabick, D.A.G., Strassberg, Z., & Kees, M.R. (2001). Measuring qualitative aspects of preschool boys' noncompliance: The response style questionnaire (RSQ). *Journal of Abnormal Child Psychology*, 29, 129–139.
- Edmundson, E.W., Koch, W.R., & Silverman, S. (1993). A facet analysis approach to content and construct validity. *Educational and Psychological Measurement*, 53, 351–369.
- Eisenberg, N., Fabes, R.A., Guthrie, I.K., Murphy, B.C., Maszk, P., Holmgren, R., & Suh, K. (1996). The relations of regulation and emotionality to problem behavior in elementary school children. *Development and Psychopathology*, 8, 141–162.
- Fisher, P.A., & Fagot, B.I. (1996). Development of consensus about child oppositional behavior: Increased convergence with entry into school. *Journal of Applied Developmental Psychology*, 17, 519–534.
- Fiske, D.W. (1971). *Measuring the concepts of personality*. Chicago, IL: Aldine.
- Frijda, N. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.
- Fuchs, D., & Thelen, M.H. (1988). Children's expected interpersonal consequences of communicating their affective states and reported likelihood of expression. *Child Development*, 59, 1314–1322.
- Gard, G.C., & Berry, K.K. (1987). Oppositional children: Taming tyrants. *Journal of Clinical Child Psychology*, 15, 148–158.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 38, 581–586.
- Greene, R.W., & Doyle, A.E. (1999). Toward a transactional model of oppositional defiant disorder: Implications for assessment and treatment. *Clinical Child and Family Psychology Review*, 2, 129–148.
- Huisman, M. (1999). *Item nonresponse: Occurrence, causes, and imputation of missing answers to test items*. Leiden: DSWO Press.
- Jensen, P.S., Brooks-Gunn, J., & Graber, J.A. (1999). Introduction to special section: Dimensional scales and diagnostic categories: Constructing crosswalks for child psychopathology assessments. *Journal of*

- the American Academy of Child and Adolescent Psychiatry, 38, 118–120.
- Joormann, J., & Stöber, J. (1997). Measuring facets of worry: A lisrel analysis of the worry domains questionnaire. *Personality and Individual Differences*, 23, 827–837.
- Kavanagh, K., & Hops, H. (1994). Good girls? Bad boys? Gender and development as contexts for diagnosis and treatment. *Advances in Clinical Child Psychology*, 16, 45–79.
- Lagendijk, E.H. (1997). *Tweede revisie van de Amsterdamse Schaal voor Opstandig gedrag*. Unpublished manuscript, Free University, Amsterdam.
- Leadbeater, B.J., Kuperminc, G.P., Blatter, S.J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology*, 35, 1268–1282.
- Leeuwen, J.V. (1996). *Eerste revisie van de Amsterdamse Schaal voor Opstandig gedrag*. Unpublished manuscript, Free University, Amsterdam.
- Leman, P.J., & Duveen, G. (1999). Representations of authority and children's moral reasoning. *European Journal of Social Psychology*, 29, 557–575.
- Loeber, R., Lahey, B.B., & Thomas, C. (1991). Diagnostic conundrum of oppositional defiant disorder and conduct disorder. *Journal of Abnormal Psychology*, 100, 379–390.
- Loevinger, J. (1957). Objective tests as instruments of psychological theory. *Psychological Reports*, 3, 635–694.
- Matten, A.V.D. (1995). *De Amsterdamse Schaal voor Opstandig gedrag*. Unpublished manuscript, Free University, Amsterdam.
- Matthys, W., Maassen, G.H., Cuperus, J.M., & Engeland, H.V. (2001). The assessment of the situational specificity of children's problem behavior in peer-peer context. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 42, 413–420.
- Mones, A.G. (1998). Oppositional children and their families: An adaptational dance in space and time. *American Journal of Orthopsychiatry*, 68, 147–153.
- Parker, J.G., & Gottman, J.M. (1989). Social and emotional development in a relational context. In J. Berndt & G.W. Ladd (Eds.), *Peer relationships in child development* (pp. 95–131). New York: Wiley.
- Redl, F. (1976). Oppositional behavior in everyday life. In A.J. Anthony & D.C. Gilpin (Eds.), *Three clinical faces of childhood* (pp. 17–28). New York: Spectrum.
- Rey, J.M., & Walter, G. (1999). Oppositional Defiant Disorder. In R.L. Hendren (Ed.), *Disruptive behavior disorders in children and adolescents* (vol. 18, pp. 99–126). Washington DC: American Psychiatric Press.
- Steiger, J.H. (1990). Structural model evaluation: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173–180.
- Stifter, C.A., Spinrad, T.L., & Braungart-Rieker, J.M. (1999). Toward a developmental model of child compliance: The role of emotion regulation in infancy. *Child Development*, 70, 21–32.
- Tanaka, J.S., & Huba, G.J. (1985). A fit index for covariance structure models under arbitrary GLS estimation. *British Journal of Mathematical and Statistical Psychology*, 42, 233–239.
- Underwood, M.K., Shockner, A.E., & Hurley, J.C. (2001). Children's responses to same- and other-gender peers: An experimental investigation with 8-, 10- and 12- year-olds. *Developmental Psychology*, 37, 362–372.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.