



Good Traits, Bad Traits, and ‘Ugly’ Behavior: Relations between the Dark Triad, Honesty-Humility, Other HEXACO Personality Traits, and Externalizing Problems in Adolescents

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Abstract

The present study investigated the relative contributions of the Dark Triad, honesty-humility, and other HEXACO traits to externalizing problems in young people. One-hundred-and-six adolescents aged between 12 and 18 years completed an online survey containing the Dirty Dozen for Youth as an index of the Dark Triad traits of psychopathy, Machiavellianism, and narcissism, the HEXACO-Middle School Inventory to assess honesty-humility as well as five other basic personality factors, and the Youth Self-Report to measure symptoms of oppositional-defiant disorder (ODD) and conduct disorder (CD). Results first of all showed that the Dark Triad traits were positively correlated with symptoms of ODD and CD, while the HEXACO factor of honesty-humility was negatively correlated with such symptoms. Further, both types of externalizing problems were associated with a unique set of personality correlates. More precisely, ODD symptoms were predicted by higher psychopathy and lower agreeableness and extraversion, while CD symptoms were predicted by higher psychopathy (and to some extent Machiavellianism) and lower honesty-humility, extraversion, and emotionality. It is concluded that the study of the role of temperament and personality in externalizing problems should take a broad perspective that includes malevolent and benevolent traits from various theoretical models.

Keywords Dark Triad traits · Honesty-humility · HEXACO · Externalizing problems

Highlights

- The Dark Triad traits of psychopathy, Machiavellianism, and narcissism were positively correlated with externalizing problems.
- Honesty-humility was negatively correlated with externalizing problems.
- Symptoms of oppositional-defiant disorder (ODD) and conduct disorder (CD) were each associated with a unique set of personality correlates.
- The role of temperament and personality in externalizing problems involves malevolent as well as benevolent traits.

Symptoms of ‘oppositional-defiant disorder’ (ODD) and ‘conduct disorder’ (CD) are not only prevalent in clinically referred youths but also occur in non-clinical samples of children and adolescents. For example, in a large representative

sample of 5- to 15-year-olds in the British population (Maughan et al., 2004), it was found that 1.4% (girls) to 3.2% (boys) showed a persistent pattern of angry/irritable mood, argumentative/defiant behavior, and vindictiveness, which are key features of ODD, while 0.8% (girls) and 2.1% (boys) displayed an enduring pattern of excessive aggression to people and animals, destruction of property, deceitfulness or theft, and serious violations of rules, which are defining symptoms of CD (American Psychiatric Association, 2013). These figures indicate that these ‘externalizing’ or ‘antisocial’ forms of psychopathology occur in a substantial minority of the youth, with prevalence rates being higher in boys/males than in girls/females (Loeber et al., 2000).

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There is sufficient evidence for the distinction between ODD and CD that is made in the DSM-5. For example, based on a meta-analytic review of the literature, Frick et al., (1993) noted that externalizing problems can best be conceptualized in terms of two statistically independent dimensions: ‘overt versus covert’ and ‘destructive versus non-destructive’, which yield four types of disruptive behavior: (1) oppositionality (overt/non-destructive; e.g., anger, stubbornness, argumentativeness), (2) aggression (overt/destructive; e.g., spitefulness, fighting, bullying), (3) property violations (covert/destructive; e.g., vandalism, stealing, setting fire), and (4) status violations (covert/non-destructive; e.g., truancy, running away, breaking rules). Further, clear age trends were found for these behavioral types, with oppositionality emerging first, followed by aggression and property violations, and finally status violations. Finally, specific patterns of the four types mapped with the DSM classifications of ODD and CD. More precisely, ODD was characterized by high levels of oppositionality and moderate levels of aggressive behaviors, whereas CD was typified by high levels of oppositionality, aggression, and property violations, and lower but (compared to ODD) still elevated levels of status violations (Frick et al., 1993). Putting these findings in a developmental perspective (e.g., Loeber & Hay, 1994), it has been argued that ODD is a milder disorder with an early onset, of which the first signs usually appear during the early preschool years, that tends to radicalize in some youngsters into CD between the middle childhood to adolescent years (Loeber et al., 2000).

Theories on the etiology of the externalizing disorders of ODD and CD are multifactorial in nature, suggesting a complex and dynamic interaction of genetic liability and environmental factors (e.g., Frick, 1998). This is illustrated in a behavioral genetic study by Dick et al. (2005) who obtained self-report interview data on these externalizing disorders in a sample of 600 14-year-old Finnish twins. The results showed that there were robust genetic effects on both ODD and CD with only modest evidence for shared environmental influences. In a discussion of these findings, Dick et al. (2005) hypothesized that the genetic transmission of externalizing problems probably occurs via genes that influence young people’s temperament and personality. Indeed, there is evidence that ODD- and CD-related problems of children and adolescents are associated with specific sets of temperament and personality features. Some of these features are malevolent in nature and as such may directly enhance young people’s externalizing behaviors, while other traits are benign and often serve a positive purpose in youth’s psychological well-being (e.g., extraversion will stimulate social interaction, conscientiousness will promote academic achievement). Only when these normative traits are either too dominant or largely absent,

they will no longer make a contribution to the preservation of mental health.

Externalizing problems have first of all been linked to a reactive temperament that is typified by high levels of anger and intolerance to frustration (Loeber & Hay, 1997) as well as to a lack of personality features such as kindness and cooperativeness that are indicative for the trait of agreeableness (Zastrow et al., 2018). These characteristics are often evident in younger children when emotion regulation skills are still limited (Eisenberg, 2000), and primarily associated with the occurrence of ODD (Drabick & Gadow, 2012). Other temperament and personality characteristics that have been considered as relevant for externalizing problems have been subsumed under the construct of callous-unemotional traits. These traits are related to a concept that in the psychological literature is known as psychopathy (Blair et al., 2006) and include characteristics such as a lack of remorse and guilt when doing something wrong, callousness and lack of empathy towards other people, indifference about poor/problematic performance at school or work, and shallow or deficient affect (Frick, 2006; Frick & White, 2008). There is substantial evidence indicating that callous-unemotional traits and psychopathy play an important role in the development of more severe antisocial behavior as displayed by young people with CD (Frick et al., 2014).

In more recent years, psychopathy has been considered in relation to two other personality traits, Machiavellianism and narcissism, together constituting the Dark Triad (Paulhus & Williams, 2002) that would cover the full set of malevolent traits of human personality (Muris et al., 2017). While emotional and interpersonal insensitivity are hallmarks of psychopathy, Machiavellianism and narcissism are typified by a strong focus on self-gratification and personal gain. In Machiavellianism, this focus is driven by a deceitful and immoral interpersonal style, whereas in narcissism the self-interest is fueled by vanity and egotistic admiration of one’s own attributes. A meta-analysis has shown that all three Dark Triad traits are positively correlated with indices of aggression and delinquency (Muris et al., 2017), which -as noted earlier- are important indicators of externalizing problems. Although most of the research on this topic has been conducted with adults, similar findings have been obtained in studies with children and adolescents (e.g., Alsheikh Ali, 2020; Chabrol et al., 2015; Lau & Marsee, 2013; Muris et al., 2013; Pabian et al., 2015; Sijtsema et al., 2019; Van Geel et al., 2017; Wright et al., 2020; Zhang & Zhao, 2020), all indicating that higher levels of psychopathy, Machiavellianism, and narcissism are generally accompanied by higher levels of antisocial behaviors.

While callous-unemotional traits alias psychopathy and the other two Dark Triad members seem certainly relevant

when studying temperament/personality factors contributing to externalizing problems in young people, it has also been noted that the rather explicit way of measuring such malevolent features may be prone to response biases (Thomaes et al., 2017). More precisely, individuals with high levels of Dark Triad traits who often tend to show deceitful and dishonest behavior may want to give a better impression of themselves and thus might be less inclined to endorse the items of a scale that only refer to explicitly negative personality characteristics (Muris et al., 2017). An alternative for measuring the malevolent side of human personality is provided by the HEXACO model of Ashton & Lee (2007), which essentially is an extension of the Big Five theory of personality (McCrae & Costa, 1997). More precisely, the model assumes that personality consists of the five basic traits (i.e., emotionality, extraversion, agreeableness, conscientiousness, and openness to experience) and an additional factor of honesty-humility, which is characterized by fairness, sincerity, modesty, and lack of greed. Honesty-humility items are less extreme and presented intermixed with items pertaining to other personality factors, thereby possibly suppressing unwanted response biases.

Research with the honesty-humility factor in young people is still rather sparse. A number of studies can be found exploring the relations between this personality factor (and the other HEXACO traits) and types of externalizing problem behavior. It was found that honesty-humility was negatively correlated with (cyber)bullying (Book et al., 2012; Farrell & Volk, 2017; Geng et al., 2021; Pronk et al., 2021), aggression (MacDonell & Willoughby, 2020), and antisocial behavior in general (Allgaier et al., 2015). Further, in most studies, the influence of honesty-humility on externalizing problems remained statistically significant when controlling for the other HEXACO traits (Book et al., 2012; Farrell & Volk, 2017; Pronk et al., 2021), with agreeableness sometimes also making a significant negative contribution. Thus, in keeping with what has been found in adults (e.g., Ashton et al., 2014), the honesty-humility personality factor appears to be a solid correlate of aggression and other antisocial behavior in children and adolescents.

The Dark Triad and the HEXACO models are related in a theoretically meaningful way: most importantly, it has been shown that callous-unemotional traits/psychopathy, Machiavellianism, and narcissism are negatively correlated with honesty-humility (e.g., Book et al., 2015; Hodson et al., 2018; Vize et al., 2020). Both are competing personality models trying to provide the most optimal account for ‘the evil side of human nature’. Surprisingly, only a few studies have been conducted that examined their relative contributions in the prediction of malevolent behavior and all of this research has been conducted in adult populations. The results of these investigations have indicated that both

the Dark Triad traits and honesty-humility account for a statistically significant proportion of the variance in aggression (Dinic & Wertag, 2018; Knight et al., 2018) and malevolent tendencies in relation to domains of sex, power, and money (Lee et al., 2013).

So far, no study can be found examining the relative contributions of the ‘pathogenic’ Dark Triad traits, and more normative personality characteristics such as honesty-humility and other HEXACO traits to externalizing problems in young people. The present investigation tried to fill this gap by asking non-clinical adolescents to complete a set of self-report questionnaires measuring malevolent and other personality traits and symptoms of ODD and CD. It was hypothesized that the Dark Triad traits of psychopathy, Machiavellianism, and narcissism would be positively correlated with symptoms of ODD and CD, while the HEXACO factor of honesty-humility would be negatively correlated with such symptoms. Furthermore, it was expected that both Dark Triad traits and honesty-humility would account for a unique proportion of the variance in both types of externalizing problems. Finally, it was explored whether other HEXACO factors would explain additional variance in symptoms of ODD and CD beyond Dark Triad traits and honesty-humility. On the basis of previous findings, (low) agreeableness can be considered as an important candidate in this regard (e.g., Vize et al., 2020).

Method

Participants and Procedure

The sample consisted of 117 adolescents aged between 12 and 18 years who were recruited between January and June 2021 from the general population in the Netherlands and Belgium by means of a snowball sampling method conducted via common social media platforms (i.e., Facebook, Whatsapp, and Instagram). The study was first officially approved by the Ethical Review Committee of Psychology and Neuroscience (ERCPN-235_54_03_2021) and then conducted in Qualtrics, an online platform that provided potential participants with a link guiding them to the survey. The adolescents and their parents were first informed about the aim and procedures of the study, after which they were invited to participate and asked to complete the electronic informed consent form. One-hundred-and-forty-eight youngsters and their parents responded positively to our invitation and indicated that they were willing to participate. Thirty-one adolescents did not fill in the full set of questionnaires and their data had to be discarded, leaving 117 participants (69 girls and 37 boys) in the final sample. The mean age of these participants was 16.10 years ($SD = 1.42$). Almost all participants were from original Dutch or Belgian

(Caucasian) descent (91.0%). Both boys and girls from various educational levels were included: that is, 19.8% followed pre-vocational education, 30.2% higher general secondary education, 28.3% pre-university education, 7.5% higher vocational education, and 2.8% university, while 0.9% was no longer in school.

Questionnaires

The *Dirty Dozen for Youth* (DD-Y; Muris et al., 2013) is an age-downward version of Jonason & Webster's (2010) self-report scale for measuring the three Dark Triad traits. Twelve items relating to psychopathy (e.g., "I am insensitive, things don't touch me"), Machiavellianism (e.g., "I have lied and cheated to get my way"), and narcissism (e.g., "I want others to pay attention to me") have to be rated on a 5-point scale with 1 = 'never true' and 5 = '(almost) always true'. For each Dark Triad trait, a total score is computed by combining ratings on relevant items. Previous research has shown that the Dirty Dozen and its Youth variant display adequate psychometric qualities when used in samples of young people. The reliability of the Dirty Dozen is sufficient with Cronbach's alphas in the .60 to .80 range (in spite of the fact that scales are only composed of a limited set of items; Jonason & Webster, 2010), while there is also good evidence for the validity of the measure in both adults (Jonason & Webster, 2010; Maples et al., 2014) and younger persons (Muris et al., 2013; Pechorro et al., 2021).

The *HEXACO-Middle School Inventory* (HEXACO-MSI; Sergi et al., 2020) is a recently developed version of the HEXACO-Personality Inventory-Revised (Ashton and Lee, 2007, 2009) that can be used in children and adolescents. The HEXACO-MSI contains 48 items that represent six basic dimensions of personality: honesty-humility (e.g., "I cheat if I am sure that I will not be discovered" [reversed item]), emotionality (e.g., "If there is a danger, I am very scared"), extraversion (e.g., "When there are many people, I never manage to say what I think" [reversed item]), agreeableness (e.g., "I am a polite and quiet boy/girl"), conscientiousness (e.g., "I always double check my homework to be sure that it is well done"), and openness to experience (e.g., "I am bored when I visit a museum" [reversed item]). Items have to be rated on a 5-point Likert scale ranging from 1 = 'not at all true' to 5 = 'very much true'. After recoding reversed items, ratings of relevant items are summed to yield a score for each individual personality trait. Research has indicated the HEXACO-MSI is a reliable measure in terms of internal consistency (with most Cronbach's alphas > 0.70) and test-retest stability (with correlations between 0.70 and 0.80), and also displays good construct and criterion validity (Sergi et al., 2020).

The *Youth Self-Report* (Achenbach & Rescorla, 2001) is part of the Achenbach System of Empirically Based

Assessment (Achenbach, 2009) is a widely used instrument for assessing emotional (internalizing) and behavioral (externalizing) problems. In total, this scale contains 112 problem items for which children and adolescents have to rate to what extent they are applicable to them (0 = not true, 1 = somewhat true, and 2 = very true). In the present study, we used the DSM-based scales of ODD (5 items; e.g., "I argue a lot" and "I am disobedient at home) and CD (14 items; e.g., "I am cruel or mean to people" and "I am truant or skip school"). Previous research has demonstrated that the ODD and CD scales of the YSR represent correlated but distinct forms of externalizing problems (Burt et al., 2015) and there is abundant evidence for the reliability and validity of these YSR scales (Achenbach, 2009).

All questionnaires were taken in Dutch, which is the dominant language in The Netherlands and the Flemish part of Belgium. Translations of the Dirty Dozen (for Youth) and the Youth Self-Report were already available, and previous studies have indicated that the Dutch versions of these scales display similar psychometric qualities as their original English-language counterparts (e.g., Barelds, 2016; Muris et al., 2013; Verhulst et al., 1997). The HEXACO-MSI was translated for the purpose of the present study by the principal researcher (PM) and then back-translated by a native English speaker who also had good command of the Dutch language.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS, version 25) was used for analyzing the data. First, descriptive statistics (mean scores, standard deviations, and reliability coefficients) were computed for various questionnaires, and gender differences and age effects were explored by means of independent *t*-tests and Pearson correlations, respectively. Second, correlations were calculated to investigate relations among all questionnaires scores, and in particular between Dark triad traits and the HEXACO factor of honesty-humility on the one hand and symptom scores of ODD and CD on the other hand. Third, regression analyses were conducted to explore the unique contributions of (a) the Dark Triad traits and honesty-humility to symptoms of ODD and CD, and (b) the Dark Triad traits, honesty-humility, and other HEXACO factors to both types of externalizing problems.

Results

General Findings

Before discussing the main results of the present study, a number of general findings should be addressed. First of all,

Table 1 Descriptive statistics for the self-report questionnaires that were used in this study: Mean scores, standard deviations, gender differences, relationship with age, and reliability coefficients

	Total sample (<i>N</i> = 106)	Boys (<i>n</i> = 37)	Girls (<i>n</i> = 69)	<i>r</i> with age	Cronbach's α
DD-Y					
Psychopathy	8.08 (3.00)	10.16 (2.99)	6.96 (2.35)*	−0.12	0.73
Machiavellianism	7.60 (2.55)	8.76 (2.90)	6.99 (2.12)*	−0.09	0.75
Narcissism	8.83 (3.16)	9.76 (3.51)	8.33 (2.87)*	0.08	0.77
HEXACO-MSI					
Honesty-humility	34.06 (5.30)	30.73 (6.78)	35.84 (3.12)*	0.02	0.81
Emotionality	22.73 (5.80)	18.22 (4.48)	25.14 (4.92)*	0.14	0.72
eXtraversion	26.34 (5.40)	28.22 (4.67)	25.33 (5.53)*	0.01	0.65
Agreeableness	25.02 (5.77)	23.73 (5.81)	25.71 (5.68)	0.18	0.72
Conscientiousness	23.89 (7.32)	20.00 (5.98)	25.97 (7.16)*	0.07	0.84
Openness to experience	19.80 (6.45)	19.27 (6.92)	20.09 (6.21)	0.09	0.74
YSR					
Oppositional-defiant disorder	2.92 (1.93)	3.46 (2.16)	2.62 (1.74)	−0.11	0.65
Conduct disorder	4.06 (3.24)	5.86 (4.36)	3.09 (1.84)*	−0.02	0.79

DD-Y Dirty Dozen for Youth, HEXACO-MSI HEXACO-Middle School Inventory, YSR Youth Self-Report

*Significant gender difference at $p < 0.05$

independent samples *t*-tests revealed a number of statistically significant gender differences. As can be seen in Table 1, boys scored higher on all three Dark Triad traits [psychopathy: $t(104) = 6.08$, $p < 0.001$; Machiavellianism: $t(104) = 3.60$, $p < 0.001$; narcissism: $t(104) = 2.25$, $p < 0.05$; extraversion [$t(104) = 2.70$, $p < 0.01$], and ODD [$t(104) = 2.17$, $p < 0.05$] and CD symptoms [$t(42.97)$, adjusted $df = 3.70$, $p < 0.01$], whereas girls displayed higher levels of honesty-humility [$t(44.34)$, adjusted $df = 4.35$, $p < 0.001$], and the other HEXACO factors of emotionality [$t(104) = 7.12$, $p < 0.001$], and conscientiousness [$t(104) = 4.33$, $p < 0.001$]. In view of these gender differences, it was decided to control for this variable in the main analyses. Second, no significant correlations were noted between age and the questionnaire scores (all $r_s \pm 0.18$, $ps \geq 0.07$), indicating that this demographic variable had no impact on the levels of the Dark Triad traits, HEXACO personality factors, and externalizing problems. Third and finally, questionnaires generally showed sufficient to good internal consistency reliability, with Cronbach's alpha in the 0.70–0.80 range. The two exceptions were the extraversion scale of the HEXACO and the ODD scale of the YSR, which both displayed a Cronbach's alpha of 0.65 (see Table 1).

Relations between Dark Triad Traits/Honesty-Humility and Externalizing Problems

Correlations (corrected for gender) among the Dark Triad traits (DD-Y), honesty-humility and other personality factors (HEXACO-MSI), and externalizing problems (YSR) are shown in Table 2. The first important conclusion that

can be drawn from this table is that all three Dark Triad traits were positively and significantly correlated with symptoms of both ODD (r_s between 0.34 and 0.48, $ps < 0.001$) and CD (r_s between 0.39 and 0.60, $ps < 0.001$), whereas the honesty-humility factor of the HEXACO displayed a negative correlation with both types of externalizing problems (r_s being −0.40 and −0.61, respectively, both $ps < 0.001$).

A number of additional findings are worth mentioning. To begin with, all three Dark Triad traits were positively correlated with each other (r_s between 0.21 and 0.58, $ps < 0.05$), and each of them was negatively correlated with HEXACO honesty-humility (r_s between −0.50 and −0.62, $ps < 0.001$). Further, Dark Triad traits were also found to be consistently and significantly negatively associated with a number of other HEXACO personality factors including agreeableness (r_s between −0.36 and −0.48, $ps < 0.001$), emotionality (r_s between −0.25 and −0.47, $ps < 0.05$), and conscientiousness (r_s between −0.22 and −0.43, $ps < 0.05$). Finally, agreeableness (r_s being −0.67 and −0.49, $ps < 0.001$), emotionality (r_s being −0.33 and −0.45, $ps < 0.05$), and conscientiousness (r_s being −0.22 and −0.39, $ps < 0.05$) were also significantly negatively correlated with symptoms of ODD and CD.

Unique Contributions of Malevolent Traits and HEXACO Factors to Externalizing Problems

Regression analyses were conducted to examine the unique contributions of malevolent and normal personality factors to externalizing problems. The results of analyses predicting

Table 2 Correlations (corrected for gender) among the Dark Triad (DD-Y), personality traits (HEXACO-MSI), and externalizing problems (YSR)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DD-Y										
(1) Psychopathy										
(2) Machiavellianism	0.52**									
(3) Narcissism	0.21*	0.58**								
HEXACO-MSI										
(4) Honesty-humility	−0.50**	−0.62**	−0.61**							
(5) Emotionality	−0.47**	−0.30*	−0.25*	0.38**						
(6) eXtraversion	0.09	−0.07	0.17	−0.10	−0.32*					
(7) Agreeableness	−0.40**	−0.48**	−0.36**	0.45**	0.23*	0.03				
(8) Conscientiousness	−0.43**	−0.31*	−0.22*	0.39**	0.25*	−0.15	0.23*			
(9) Openness to experience	−0.22*	−0.03	0.01	0.22*	0.04	0.12	0.19*	0.25*		
YSR										
(10) Oppositional-defiant disorder	0.48**	0.47**	0.34**	−0.40**	−0.33*	−0.10	−0.67**	−0.22*	−0.09	
(11) Conduct disorder	0.58**	0.60**	0.39**	−0.61**	−0.45**	−0.05	−0.49**	−0.39**	−0.13	0.65**

$N = 106$. DD-Y Dirty Dozen for Youth, HEXACO-MSI HEXACO-Middle School Inventory, YSR Youth Self-Report

* $p < 0.05$, ** $p < 0.001$

Table 3 Results of the linear regression analysis in which externalizing problems related to oppositional-defiant disorder (YSR) were predicted from the Dark Triad (DD-Y), honesty-humility, and other personality traits (HEXACO-MSI)

	B	SE	β	R^2	B	SE	β	R^2
YSR Oppositional-defiant disorder				0.28***				0.50***
DD-Y								
Psychopathy	0.24	0.07	0.37***		0.16	0.06	0.25*	
Machiavellianism	0.19	0.09	0.19		0.00	0.08	0.00	
Narcissism	0.08	0.07	0.13		0.07	0.06	0.12	
HEXACO-MSI								
Honesty-humility	−0.02	0.05	−0.06		0.01	0.04	0.03	
Emotionality					−0.06	0.03	−0.16	
eXtraversion					−0.06	0.03	−0.17*	
Agreeableness					−0.17	0.03	−0.52***	
Conscientiousness					−0.00	0.02	−0.01	
Openness to experience					0.02	0.02	0.08	

Both analyses were corrected for gender by entering this variable on step 0

DD-Y Dirty Dozen for Youth, HEXACO-MSI HEXACO-Middle School Inventory, YSR Youth Self-Report

* $p < 0.05$, *** $p < 0.001$

ODD symptoms are shown in Table 3. The first regression analysis with Dark Triad traits and honesty-humility as predictor variables revealed that these variables accounted for 28% of the variance of this type of externalizing problem [$F(4,100) = 9.46$, $p < 0.001$]. Inspection of the beta values indicated that only psychopathy made a significant unique contribution to ODD symptoms ($\beta = 0.37$, $p < 0.001$); the beta weight was positive, which indicates that higher levels of this malevolent trait were accompanied by higher levels of this externalizing problem. The second regression analysis was conducted with Dark Triad traits, honesty-humility, as well as other HEXACO factors as predictor variables. These personality traits/factors jointly

explained 50% of the variance in ODD symptoms [$F(9,95) = 11.76$, $p < 0.001$], with significant unique contributions of agreeableness ($\beta = -0.52$, $p < 0.001$), psychopathy ($\beta = 0.25$, $p < 0.05$), and extraversion ($\beta = -0.17$, $p < 0.05$). While the beta value for psychopathy was again positive, the contributions of agreeableness and extraversion were negative, which indicates that lower levels of these personality factors were associated with higher levels of ODD symptoms.

Comparable regression analyses were carried out with CD symptoms as the dependent variable (Table 4). In the first regression model, the Dark Triad traits and honesty-humility explained 34% of the total variance in CD

Table 4 Results of the linear regression analysis in which externalizing problems related to conduct disorder (YSR) were predicted from the Dark Triad (DD-Y), honesty-humility, and other personality traits (HEXACO-MSI)

	B	SE	β	R^2	B	SE	β	R^2
YSR Conduct disorder				0.34***				0.41***
DD-Y								
Psychopathy	0.30	0.10	0.028**		0.22	0.10	0.20*	
Machiavellianism	0.32	0.13	0.25*		0.19	0.13	0.14	
Narcissism	−0.00	0.10	−0.00		0.01	0.10	0.01	
HEXACO-MSI								
Honesty-humility	−0.18	0.07	−0.29**		−0.15	0.07	−0.25*	
Emotionality					−0.12	0.05	−0.21*	
eXtraversion					−0.10	0.05	−0.17*	
Agreeableness					−0.09	0.05	−0.16	
Conscientiousness					−0.05	0.04	−0.11	
Openness to experience					0.03	0.04	0.06	

Both analyses were corrected for gender by entering this variable on step 0

DD-Y Dirty Dozen for Youth, HEXACO-MSI HEXACO-Middle School Inventory, YSR Youth Self-Report

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

symptoms [$F(4,100) = 17.62, p < 0.001$]. Statistically significant and unique contributions were found for psychopathy ($\beta = 0.28, p < 0.01$), Machiavellianism ($\beta = 0.25, p < 0.05$), and honesty-humility ($\beta = -0.29, p < 0.01$). In the second regression model which included the Dark Triad traits, honesty-humility, and other HEXACO factors as predictors, all personality features jointly accounted for 41% of the variance in CD symptoms. Significant and independent contributions were again found for psychopathy ($\beta = 0.20, p < 0.05$) and honesty-humility ($\beta = -0.25, p < 0.05$), as well as for emotionality ($\beta = -0.21, p < 0.05$) and extraversion ($\beta = -0.17, p < 0.05$). Note that the beta values of the latter two variables were negative, indicating that lower levels of emotionality and extraversion were associated with higher levels of CD symptoms.

Discussion

In the present study, we investigated malevolent and other personality traits as correlates of externalizing problems in non-clinical adolescents aged 12 to 18 years. The main results can be catalogued as follows. First of all, positive correlations were found between the Dark Triad traits and symptoms of ODD and CD, whereas negative correlations were noted between honesty-humility and both types of externalizing problems. Thus, in this sample of young people, higher levels of personality features related to psychopathy, Machiavellianism, and narcissism were accompanied by higher levels of ODD and CD (cf. Alsheikh Ali, 2020; Chabrol et al., 2015; Lau & Marsee, 2013; Muris et al., 2013; Pabian et al., 2015; Sijtsema et al., 2019; Van Geel et al., 2017; Wright et al., 2020; Zhang & Zhao, 2020), while higher levels of benevolent characteristics such as

fairness, sincerity, modesty, and lack of greed were associated with lower symptom levels of these externalizing disorders (cf. Allgaier et al., 2015; Book et al., 2012; Farrell & Volk, 2017; Geng et al., 2021; MacDonell & Willoughby, 2020; Pronk et al., 2021). These results were as anticipated and fully in keeping with what has been documented in adult populations (see for reviews: Ashton et al., 2014; Muris et al., 2017).

Findings also indicated that all three Dark Triad members were substantially, negatively correlated with honesty-humility, which means that youths scoring high on psychopathic, Machiavellian, and narcissistic traits were clearly reporting themselves as being less sincere, fair, modest, and generous. This accords well with what has been reported elsewhere in the psychological literature (e.g., Book et al., 2015; Hodson et al., 2018; Vize et al., 2020) and underlines that the Dark Triad and the honesty-humility of the HEXACO can be seen as concurrent conceptualizations of ‘the malevolent side of human nature’ (Muris et al., 2017). According to some scholars, the overlap between the Dark Triad and (the opposite pole of) honesty-humility is so large that they do not really represent different personality constructs (Hodson et al., 2018). Meanwhile, there is also evidence showing that at least in adult populations, both the Dark Triad traits and honesty-humility account for unique proportions of the variance in malevolent behaviors (Dinic & Wertag, 2018; Knight et al., 2018; Lee et al., 2013). To some extent, this also appeared true in the younger participants of the present study. More precisely, while for ODD symptoms only the Dark Triad of psychopathy emerged as a unique significant predictor, in the case of CD symptoms psychopathy and honesty-humility each made an independent and statistically significant contribution. This suggests that both the Dark Triad and honesty-humility seem to be

relevant personality correlates of more ‘radicalized’ externalizing problems.

The regression analyses in which ODD and CD symptoms were predicted from all measured personality traits revealed that besides the Dark Triad and honesty-humility, other HEXACO traits also made unique and significant contributions explaining additional variance of these externalizing problems. In the model of ODD symptoms, the percentage of explained variance increased with no less than 22%, with agreeableness and extraversion emerging as additional significant predictors. The beta values were negative, which means that lower levels of these personality traits were associated with higher scores of ODD (and vice versa). Obviously, this fits with previous work showing that youth with ODD are recalcitrant and openly negative towards other people, which is difficult to reconcile with the positive and prosocial features that define agreeableness and extraversion (Jensen-Campbell et al., 2002). The regression analysis with CD symptoms as the dependent variable revealed that the addition of the other HEXACO factors explained 7% of additional variance. Apart from the already found contributions of psychopathy and honesty-humility, additional variance was explained by extraversion and emotionality. The negative beta values indicated that lower levels of extraversion and lower levels of emotionality were accompanied by higher levels of CD symptoms. The negative association between extraversion and CD has not always been documented in previous research (e.g., Tranah et al., 1998), but again could be interpreted in terms of the diminished positivity and lack of prosocial behavior of individuals who display high levels of CD. The negative link between emotionality and CD symptoms has not always been documented (e.g., Tranah et al., 1998) but there are also indications that at least part of the young people with this type of externalizing problem show marked deficits in the processing of affective information (Cappadocia et al., 2009) which would make them less capable of recognizing and reporting on emotions (Deborde et al., 2015).

Apart from the main findings, the present study also yielded a number of additional results. First, the observed gender differences for various study variables were in keeping with earlier research findings. That is, it has been consistently demonstrated that boys/males score higher on Dark Triad traits (Muris et al., 2017), extraversion (Costa et al., 2001), and externalizing problems (Loeber et al., 2000; Maughan et al., 2004), whereas girls/females score higher on honesty-humility (Lee & Ashton, 2020) and emotionality (Costa et al., 2001; Lee & Ashton, 2020). Second, robust and significant positive correlations were noted among the three members of the Dark Triad, supporting Paulhus & Williams’ (2002) notion that psychopathy, Machiavellianism, and narcissism can be seen as

“evil allies of personality”. Third, the present data also highlight that when controlling for the overlap among Dark Triad traits, it was psychopathy that emerged as the most robust malevolent trait, consistently accounting for a proportion of unique variance in externalizing problems (cf. Muris et al., 2017). Fourth, the found correlations between Dark Triad traits and HEXACO personality factors were also as predicted. The negative associations with honesty-humility were already mentioned but psychopathy, Machiavellianism, and narcissism were all also negatively correlated with emotionality, agreeableness, and conscientiousness (cf. Muris et al., 2017). Fifth and finally, the HEXACO-MSI is a recently developed scale, but it is good to note that reliability coefficients were generally satisfactory and similar to what has been reported in the original study by Sergi et al., (2020), which provides confidence in using the scale in future studies.

Limitations

It should be acknowledged that the present study suffers from various shortcomings. To begin with, a relatively small sample of adolescents was recruited via a snowball sampling method, which calls into question to what extent the present findings can be generalized to the general population. The limited sample size also prevented us from investigating our research questions for both genders separately. Although this is not a common procedure in the Dark Triad/honesty-humility research, the study by Dinic & Wertag (2018) has shown that relations between malevolent personality traits and externalizing problems might be different for boys and girls. Furthermore, the study only relied on adolescents’ self-report. While this method has been frequently employed in previous research and certainly provides relevant information, a multi-informant design (including parents and/or teachers) has been advocated (De Los Reyes & Kazdin, 2005) especially in the investigation of ‘bad’ traits and behaviors, as self-report of these phenomena is typically prone to response biases (e.g., Semel, 2016). A final drawback pertains to the fact that this study neglected a number of other personality constructs that might also make a contribution to externalizing problems. Noteworthy are the concepts of impulsivity (Beauchaine & McNulty, 2013) and effortful control (Muris & Ollendick, 2005; Nigg, 2006) which are temperament/personality factors that have been shown to respectively increase or decrease the risk for ODD and CD.

Implications for Research and Practice

Externalizing problems in youths are quite heterogeneous in nature. Recent research has demonstrated that the prototypical behaviors of aggression, defiance, and delinquency

can either be (1) reactive/disinhibited responses that are provoked by adverse, emotion-eliciting circumstances, or (2) proactive/antagonistic actions that are conducted without apparent emotion because of personal gain (Krueger et al., 2021). A thorough examination and analysis of young people's personality traits could be helpful to differentiate between these various types of externalizing problems. This might not only be relevant for researchers but also for clinicians as the indications for treatment of externalizing problems may critically depend on youths' underlying traits. Although it is generally recommended to adopt some kind of family- or system-based approach for adolescents with this type of psychopathology (Von Sydow et al., 2013), a self-regulation intervention could be added for young persons who display a reactive/disinhibited type of externalizing (Brown, 2005; Constantly et al., 2021). However, for adolescents exhibiting traits subserving the proactive/antagonistic type other, more cognitive psychotherapeutic interventions might be indicated (Hawes et al., 2014), such as mental models therapy (Salekin et al., 2012) or schema-focused therapy (Van Wijk-Herbrink et al., 2017).

Conclusion

The present study showed that personality traits can be considered as significant correlates of externalizing problems in young people. Moreover, findings demonstrated that Dark Triad traits (and psychopathy in particular), honesty-humility, and even other HEXACO personality traits (i.e., agreeableness, extraversion, and emotionality) made independent contributions to symptoms of ODD and CD. These results indicate that the study on the role of temperament and personality in externalizing psychopathology should preferably include malevolent and benevolent traits from various theoretical models. As such, this research does not merely take a pathogenic approach by looking at aberrant personality features that cause externalizing problems in youth, but also adopt a salutogenic perspective by focusing on traits that support adolescents' development of conscience, morality, and prosocial behavior.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethics Approval The Ethical Review Committee of Psychology and Neuroscience of Maastricht University approved this research project (no. 235_54_03_2021).

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