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6

Adolescent Personality Pathology: Associated Personal and Ecological Factors

submitted

Introduction

Adolescent personality pathology constitutes a serious problem in need of attention. According to studies in representative community or primary care settings, the median prevalence estimate of adolescent personality disorder (PD) is 11% (Johnson, Bromley, Bornstein, & Sneed, 2006). This estimate is highly similar to the proportion for nonclinical adult populations, as has been reported recently in a review of epidemiological studies (Lenzenweger, 2008). Moreover, several studies have demonstrated that adolescent PDs are associated with behavioral, emotional, and psychosocial problems, such as educational difficulties, stressful life events, and substance use (Johnson, Smailes, Cohen, Brown, & Bernstein, 2000c; Levy et al., 1999; Lofgren, Bemporad, King, Lindem, & O'Driscoll, 1991; Westen, Shedler, Durrett, Glass, & Martens, 2003).

Knowledge on factors associated with adolescent PDs may be relevant from three perspectives. First, such knowledge may shed light on sources of influence involved in the development of disordered personality. For example, traumatic experiences, such as maltreatment, during childhood and adolescence appear to be a particularly important risk factor for several PDs (Johnson, Cohen, Brown, Smailes, & Bernstein, 1999a). Second, knowledge on associated factors may elucidate how symptoms of each PD interfere with later functioning. For example, adolescents with PDs, particularly those with symptoms of Borderline, Histrionic, Narcissistic, and Passive-Aggressive PDs, showed an elevated risk for substance use disorders during early adulthood (Johnson, Cohen, Skodol, Oldham, Kasen, & Brook, 1999b). Finally, knowledge on associated factors may be relevant to a better understanding of the severity of adolescent personality pathology.

Very little is known on factors associated with adolescent personality pathology when conceptualized using a dimensional model. Most research on factors associated with adolescent personality pathology departs from a categorical conceptualization by applying PD criteria as defined in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association [APA], 2000). Personality researchers have argued repeatedly that personality pathology can be better conceptualized with a dimensional model, both in adults (Clark, 2007; Trull & Durrett, 2005; Widiger & Trull, 2007) and in adolescents (Chapter 2, 3; De Clercq, De Fruyt, & Widiger, 2009).

Different dimensional models have been proposed. These models seem to share a substantial common ground with four dimensions at the higher-order level: emotional (in)stability, extraversion/introversion, (dis)agreeableness, and compulsivity (Widiger & Simonsen, 2005). Research applying dimensional models to adolescent personality pathology has provided empirical evidence that these dimensions are underlying the *DSM-IV* PD categories in consistent ways. For example, it has been demonstrated that emotional dysregulation (Chapter 3) and its equivalent neuroticism (De Clercq & De Fruyt, 2003) are components underlying almost all PDs, in particular Borderline, Depressive, and Avoidant PDs. Despite the evidence that a dimensional model affords a fine-grained framework of adolescent personality pathology (De Clercq et al., 2009), studies examining associated factors of dimensions underlying the *DSM-IV*

PDs are - to our knowledge - not available. Hence, little is known on factors involved in the epidemiology of dimensions of personality pathology in adolescent populations.

The present study applies a dimensional model to conceptualize adolescent personality pathology. This model identifies four higher-order dimensions, tapping into anxious and depressive traits (Emotional Dysregulation), callous and impulsive traits (Dissocial Behavior), intimacy problems and restricted expression (Inhibitedness), and compulsive behaviors (Compulsivity). Factors that were expected to be associated to these dimensions were identified. Most factors were selected based on studies that demonstrated their significance in relation to *DSM*-defined PDs (Johnson et al., 1999a; Levy et al., 1999; Lofgren et al., 1991; Westen et al., 2003). In the present study, factors were categorized as either personal or ecological factors. Personal factors included school functioning, psychiatric treatment, and substance use, and police contact. Ecological factors, originating from the person-environment interplay, included stressful life events, social support, and family composition.

To our knowledge, this is the first study that examines associations between dimensions of personality pathology and a wide range of possibly associated factors. Therefore, the goal was not to construct an elaborated theoretical framework of concepts and their associations with personality pathology. Instead, the goal was to perform explorative analyses attempting to elucidate the associations between different dimensions of personality pathology and several personal and ecological factors. In addition, to further quantify these associations, it was examined how high levels of personality pathology were associated with these factors.

Method

Participants

Participants in this study were recruited from a total of 2,039 students of a public school, representing all levels of Dutch secondary education. A total of 353 adolescents (17%) were excluded from the sample for various reasons (e.g., absence during the scheduled time for assessment, more than 10 missing items on the DAPP-BQ-A). The final sample consisted of 1,686 adolescents (51% male) with a mean age of 14.6 years ($SD = 1.7$; range 11 to 20 years). Of those adolescents who were assigned to a specific school level ($n = 1,324$), 20% attended prevocational secondary education, 40% senior general secondary education, and 39% pre-university secondary education.

Measures

Personality Pathology

DAPP-BQ-A. All participants completed the Dimensional Assessment of Personality Pathology – Basic Questionnaire for Adolescents (DAPP-BQ-A). This self-report questionnaire assesses four higher-order dimensions of personality pathology. The first and broadest dimension Emotional Dysregulation includes 170 items assessing traits such as identity problems and anxiety. Dissocial Behavior includes 64 items assessing traits such as conduct problems and stimulus seeking. Inhibitedness assesses restricted expression and intimacy problems (32 items).

The fourth dimension Compulsivity includes 16 items assessing compulsive behavior. The items are scored on a Likert-type scale, ranging from 1 (*very unlike me or not applicable*) to 5 (*very like me*). The DAPP-BQ-A has been shown to be a reliable and valid instrument to assess personality pathology in adolescent clinical and non-clinical samples (Chapter 2). Several dimensions were able to differentiate non-referred from referred adolescents, as well as referred adolescents without PD from referred adolescents with PD (Chapter 2). Moreover, its dimensions have shown significant, substantial, and conceptually meaningful relations to PD symptoms as described in the *DSM-IV* (APA, 2000; Chapter 3). In the present sample, Cronbach's alphas ranged from .83 for Inhibitedness to .98 for Emotional Dysregulation (mean .90).

Personal Factors

School Functioning. Average grade was computed by averaging self-reported mean grades for the courses Dutch, English, and mathematics in the past three months. In the Dutch system, grades range from 1 to 10, with higher numbers representing better performance. In addition, participants were asked to rate on a five-point Likert-scale, ranging from 1 (*much worse*) to 5 (*much better*), their school performance in comparison to their peers in five domains: achievements, making homework, contact with peers, contact with teachers, and school attitude.

Psychiatric Treatment. Participants indicated whether they had ever received treatment from a psychologist, psychiatrist, psychiatric nurse, or welfare worker because of emotional or behavior problems. In addition, participants indicated whether they were receiving such treatment at the time of assessment.

Substance Use. Participants indicated if they had ever used alcohol. If they had, they specified the frequency of alcohol use in the previous four weeks as well as the frequency of consuming more than six units of alcohol in the previous four weeks. Heavy alcohol use was defined following the guidelines of Statistics Netherlands (CBS, n.d.-a). Participants were classified as heavy alcohol users when they had used more than six units of alcohol on one or more occasions per week during the past four weeks. In addition, drug use in the past 12 months was assessed with six separate questions on use of soft drugs (marihuana) and hard drugs (XTC, cocaine, magic mushrooms, amphetamine, and heroin). Soft drug use was rated present if adolescents had used marihuana six or more times in the past 12 months. Hard drug use was rated present if adolescents had used at least one of the drugs once or more in the past 12 months.

Police Contact. Participants were asked if they had ever been in conflict with the law or police, due to suspicions of violations of the law.

Ecological Factors

Stressful Life Events. Participants completed a four-item yes-or-no format self-report questionnaire assessing four potentially stressful life events: family violence, sexual harassment, substance use in the family, and victimization from extreme bullying.

Social Support. Perceived social support was assessed using a modified version of the Social Support Scale for Children (Harter, 1985). Six items with a four-point Likert-scale, ranging from 0 (*not applicable*) to 3 (*very applicable*), assessed perceived social support from parents, teachers, classmates, and friends. A total score was computed by summing the scores on the six items, with

higher scores indicating higher perceived social support. Cronbach's alpha of the social support scale in this sample was .86.

Single-Parent Family. Participants were asked to specify the family composition they had lived in most of their lives. The family situation was coded as single-parent when the mother or father was the only adult living at home.

Procedure

The parents of all 2,039 students received a letter explaining the study. Assent was obtained from the parents, and written informed consent from the adolescents. In the presence of one of the researchers, participants were class-administered the paper-and-pencil questionnaires during two school hours.

Statistical Analyses

First, descriptive statistics were computed for all variables. Subsequently, multiple linear regression analyses were conducted between each personal and ecological factor as predictor variable and each of the four DAPP-BQ-A dimensions as dependent variable. Next, a series of multiple logistic regression analyses was conducted. The dependent variables were the dichotomized scores on the four DAPP-BQ-A dimensions (highest 10% versus lowest 90%). All personal and ecological factors were entered separately as predictor variables. The predictor variables school functioning and social support were dichotomized. Because gender and, to a lesser extent, age were related to the four dimensions of personality pathology (Chapter 2) and to several associated factors, all analyses controlled for gender and age.

Results

Descriptives

The average school grade was 7.0 ($SD = 0.8$; range 4.5-9.7). School performance in the five domains ranged from an average of 2.9 for homework to 3.4 for contact with peers, with an overall average of 3.2 (indicating approximately equal performance compared to peers). Of all adolescents, 9% reported lifetime psychiatric treatment and 3% received treatment at the time of assessment. With regard to substance use, 16% qualified as heavy alcohol user, 6% as soft drug user, and 3% had ever used hard drugs. Police contact was reported by 23% of the participants. Of the stressful life events, family violence had been experienced by 8%, sexual harassment by 4%, family substance use by 3%, and victimization by extreme bullying by 5% of adolescents. Scores for social support averaged 14.4 ($SD = 3.4$, range 0-18), indicating adequate levels of experienced support on average. Almost 7% of adolescents had lived most of their lives in single-parent families. With regard to the dimensions of personality pathology, the average score for Emotional Dysregulation was 351 ($SD = 81$, range = 182-645), for Dissocial Behavior 146 ($SD = 34$, range = 72-288), for Inhibitedness 71 ($SD = 14$, range = 35-132), and for Compulsivity 41 ($SD = 10$, range = 16-78).

Table 6.1 - Multiple linear regressions of dimensions of personality pathology on associated personal and ecological factors in general population adolescents

	Dimensions of personality pathology			
	ED	DB	IH	CP
Personal factors				
School functioning				
Average grade	-.06*	-.14***	-.03	.14***
School performance				
Achievements	-.12***	-.09***	-.08***	.12***
Homework	-.14***	-.18***	-.05	.18***
Contact with peers	-.04	.05*	-.12***	-.01
Contact with teachers	-.05*	-.13***	-.07**	.10***
School attitude	-.13***	-.14***	-.18***	.09***
Psychiatric treatment ^a				
Lifetime	.20***	.07**	.10***	.06*
Present	.15***	.03	.07**	.04
Substance use ^a				
Heavy alcohol use	.00	.21***	-.03	-.12***
Soft drugs use	.04	.20***	.02	-.09***
Hard drugs use	.07**	.12***	.05*	-.02
Police contact ^a	.03	.26***	-.06*	-.13***
Ecological factors				
Stressful life events ^a				
Family violence	.17***	.17***	.10***	-.00
Sexual harassment	.13***	.15***	.03	.01
Family substance use	.08**	.13***	.01	-.04
Extreme bullying	.16***	.03	.07**	.03
Social Support	-.26***	-.12***	-.37***	.07***
Single parent family ^a	.06*	.06**	.00	-.02

Note. Analyses controlled for gender and age. Regression coefficients are standardized betas.

ED=Emotional Dysregulation, DB=Dissocial Behavior, IH=Inhibitedness, CP=Compulsivity.

^a Dichotomized variables: yes (1) vs. no (0). * $p < .05$; ** $p < .01$; *** $p < .001$.

Linear regressions

The results of the multiple linear regression analyses are presented in Table 6.1. School functioning showed a mixed pattern. Average grade was significantly related to Emotional Dysregulation, Dissocial Behavior, and Compulsivity, indicating that adolescents with higher grades scored lower on Emotional Dysregulation and Dissocial Behavior and higher on Compulsivity. Of the variables measuring school performance, almost all showed significant negative associations with Emotional Dysregulation, Dissocial Behavior, and Inhibitedness, and significant positive associations with Compulsivity. Overall, this indicates that adolescents with better school performance compared to their peers showed less Emotional Dysregulation, Dissocial Behavior, and Inhibitedness, and more Compulsivity.

Lifetime psychiatric treatment was significantly related to all four dimensions of personality pathology. Present treatment was positively associated with Emotional Dysregulation and Inhibitedness. Heavy alcohol use and soft drug use were each positively associated with

Dissocial Behavior, and negatively with Compulsivity. Hard drug use showed positive associations with Emotional Dysregulation, Dissocial Behavior, and Inhibitedness. Adolescents who had been in contact with the police showed more Dissocial Behavior, and less Inhibitedness and Compulsivity.

All four types of stressful life events were positively related to Emotional Dysregulation, and all but extreme bullying showed a positive association with Dissocial Behavior. Family violence and extreme bullying were positively related to Inhibitedness. Social support was significantly related to all four dimensions of personality pathology. Adolescents who experienced more social support showed less Emotional Dysregulation, Dissocial Behavior, and Inhibitedness, and more Compulsivity. Finally, growing up in a single-parent family was significantly and positively related to Emotional Dysregulation and Dissocial Behavior.

Logistic Regressions

Table 6.2 provides the results of the multiple logistic regression analyses. The odds ratios (ORs) represent the odds to score in the highest decile on the four dimensions of personality pathology for adolescents with an adverse score compared to those with a favorable score on the personal and ecological factors. Adverse scores on the personal and ecological factors were defined as follows: average grade below 6 (the Dutch cut-off for failing), school performance (much) worse compared to classmates, presence of psychiatric treatment, presence of substance use, having experienced stressful life events, a social support score of one standard deviation below the mean or lower, growing up in a single parent family, and presence of police contact.

As can be seen in Table 6.2, the odds for adolescents who received an adverse score on many of the personal and ecological factors to score in the highest decile on dimensions of personality pathology were significantly higher compared to those with a favorable score on these factors. For example, the odds to score in the highest decile on Emotional Dysregulation for adolescents who have experienced family violence are 4.61 (95% confidence interval [CI] 3.03-7.01) times higher than for adolescents who have not experienced this life event. Similarly, the odds to score in the highest decile on Dissocial Behavior for adolescents who have used hard drugs in the past year are 4.46 (95% CI 2.39-8.32) times higher than for adolescents who have not used hard drugs.

Discussion

The aim of the present study was to elucidate factors associated with personality pathology dimensions in a large general population sample of adolescents. To our knowledge, the current study is the first investigation of associations between a wide range of possible personal and ecological factors and personality pathology conceptualized using a dimensional model in an adolescent general population sample. Overall, strong indicators of adolescent personality pathology are poor school functioning, psychiatric treatment, substance use, stressful life events, and lack of social support.

Table 6.2 - Deviance on dimensions of personality pathology as predicted by personal and ecological factors

	Dimensions of personality pathology							
	ED		DB		IH		CP	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Personal factors								
School functioning								
Average grade ^c	0.99	0.51-1.95	0.72	0.35-1.48	1.15	0.60-2.20	1.08	0.57-2.07
School performance ^d								
Achievements	2.23**	1.56-3.20	1.17	0.78-1.78	1.99**	1.37-2.90	1.00	0.66-1.52
Homework	2.44**	1.73-3.45	2.14**	1.51-3.04	1.44*	1.00-2.08	0.51	0.34-0.79
Contact with peers	3.75**	2.23-6.33	1.38	0.70-2.70	4.02**	2.39-6.76	0.71	0.30-1.65
Contact with teachers	2.13**	1.39-3.28	2.90**	1.95-4.32	1.39	0.86-2.24	0.49	0.25-0.95
Psychiatric treatment ^a								
Lifetime	3.29**	2.17-5.00	2.10**	1.29-3.44	3.17**	2.06-4.88	1.97**	1.25-3.11
Present	4.35**	2.28-8.29	0.91	0.27-3.04	3.86**	1.94-7.67	2.10	0.99-4.45
Substance use ^a								
Heavy alcohol use	1.32	0.82-2.12	2.75**	1.80-4.20	0.76	0.45-1.29	0.59	0.34-1.01
Soft drugs use	1.82	0.96-3.45	4.47**	2.75-7.26	1.32	0.69-2.54	0.59	0.25-1.40
Hard drugs use	3.77**	1.89-7.54	4.46**	2.39-8.32	1.27	0.53-3.08	1.04	0.40-2.69
Police contact ^a	1.63*	1.10-2.42	3.45**	2.43-4.91	1.00	0.66-1.51	0.68	0.44-1.07
Ecological factors								
Stressful life events ^a								
Family violence	4.61**	3.03-7.01	2.85**	1.77-4.60	2.15**	1.31-3.51	1.23	0.71-2.13
Sexual harassment	3.51**	1.93-6.37	6.16**	2.96-12.82	0.43	0.21-0.86	1.47	0.72-3.00
Family substance use	2.50*	1.22-5.15	5.04**	2.65-9.59	2.26**	1.07-4.77	0.57	0.17-1.84
Extreme bullying	3.75**	2.26-6.22	0.82	0.34-1.94	2.73**	1.55-4.79	1.42	0.75-2.68
Social Support ^b	3.86**	2.63-5.69	2.42**	1.62-3.60	3.77**	2.56-5.55	0.76	0.44-1.31
Single parent family ^a	1.85*	1.08-3.16	1.22	0.65-2.32	1.67	0.94-2.97	1.10	0.59-2.06

Note. Analyses controlled for gender and age. ED = Emotional Dysregulation, DB = Dissocial Behavior, IH = Inhibitedness, CP = Compulsivity. OR = Odds Ratio, CI = Confidence Interval. ^a Dichotomized variables: yes (1) vs. no (0). ^b Dichotomized variable: one standard deviation below the mean and lower (1) vs. higher than one standard deviation below the mean (0). ^c Dichotomized variable: lower than 6 (1) vs. 6 and higher (0). ^d Dichotomized variables: (much) worse (1) vs. equal or (much) better (0). * $p < .05$; ** $p < .01$.

Two dimensions seem to play a key role in explaining associations between adolescent personality pathology and adverse personal and ecological factors. Emotional Dysregulation and Dissocial Behavior are significantly associated with almost all factors. The strong relations with several aspects of school functioning - arguably one of the most important functional areas in adolescence -, police contact, and substance use point to the potentially debilitating role of these two personality pathology dimensions in adolescent lives. The strong relations of Emotional Dysregulation, Dissocial Behavior, and Inhibitedness to stressful life events show that traumatic experiences seem to affect personality pathology across the board. Research investigating the relation between stressful life events and PDs has focused primarily on Borderline PD (Brodsky, Cloitre, & Dulit, 1995; Ludolph et al., 1990). However, the present findings suggest that stressful life events are associated with a wider range of personality pathology dimensions, which in turn have been shown to be related to a wide range of *DSM-IV* defined personality disorders (Chapter 3). Also of interest are the findings on social support. Although seldom investigated in personality pathology studies (Westen et al., 2003), lack of social support seems to constitute an important correlate of adolescent personality pathology.

The present findings provide a better understanding of the severity of adolescent personality pathology, as assessed with the DAPP-BQ-A. Whereas high levels of Emotional Dysregulation, Dissocial Behavior, and Inhibitedness are associated with a wide range of adverse factors, hardly any adverse factors are related to high Compulsivity. The results thus seem to point to the adaptive nature of high DAPP-BQ-A Compulsivity. This result is in line with a previous report (Chapter 5) demonstrating that low, instead of high, Compulsivity was related to domains of dysfunction. Livesley (1998) also suggested that Compulsivity is less pervasive and less dysfunctional than the other higher-order dimensions within the DAPP-BQ. It seems that this dimension does not capture enough of the maladaptive aspects of compulsive behavior. Some of the items indeed do not seem necessarily maladaptive. For example, the item *I spend a lot of time making sure that everything is exactly the way it should be* does not necessarily imply maladaptivity (e.g., finishing other activities suffer from this behavior). Interestingly, the present findings can thus also be used to enhance our understanding of the dimensions captured within the DAPP-BQ-A. Based on the present results, DAPP-BQ-A Compulsivity may tap into adaptive rather than maladaptive compulsive behavior.

Under a dimensional model of personality pathology, it is assumed that the dimensions can be retrieved in both clinical and general populations. Also, they are expected to show a similar factorial structure across populations that vary on the presence of personality pathology. These assumptions were empirically examined and underscored (Livesley, Jackson, & Schroeder, 1992). It may additionally be assumed that personality pathology dimensions are associated in meaningful ways with personal and ecological factors in general population samples. The present findings show that in an adolescent general population sample dimensions of personality pathology are clearly related to indicators of functional status. In addition, these relations show strong conceptual overlap with those reported for *DSM-IV* PD categories (APA, 2000) in adolescent and young adult clinical samples (Levy et al., 1999; Lofgren et al., 1991; Westen et al., 2003). For example, Westen and colleagues (2003) demonstrated that social support is negatively

related to Schizotypal and Schizoid PD symptoms in an adolescent patient sample. In the present study social support is negatively related to Inhibitedness, which in turn showed positive relations to Schizotypal and Schizoid PD symptoms (Chapter 3). Similarly, poor school functioning was related to Antisocial PD symptoms (Westen et al., 2003). In the present analyses poor school functioning was associated with Dissocial Behavior, which in turn showed a strong positive relation with Antisocial PD symptoms (Chapter 3). The present study thus further underscores a dimensional representation of personality pathology in adolescent samples.

A likely result of applying a dimensional approach to the assessment of personality pathology in a general population sample is that scores cover the full spectrum on each dimension. In order to better understand the meaning of high scores on these dimensions, the present sample was divided into high-scoring and low-scoring individuals. The findings from these analyses suggest that several adverse personal and ecological factors are strongly associated with elevated odds to receive high scores on the personality pathology dimensions. It should be noted that presence of these factors is neither a necessary nor sufficient criterion for the development of extreme levels of personality pathology. Not all adolescents with extreme levels of, for example, Emotional Dysregulation have experienced family violence and not all adolescents who have experienced family violence will show elevated Emotional Dysregulation. In fact, in the present study, 24% of adolescents with a level of Emotional Dysregulation in the highest decile had experienced family violence, and 29% of adolescents who had experienced family violence showed a score on Emotional Dysregulation in the highest decile. Other factors, such as temperamental and biological factors, may be relevant for a comprehensive understanding of the epidemiology of adolescent personality pathology. Future studies may wish to examine such factors in addition to the personal and ecological factors included in the present study. However, the present results do hint towards specific characteristics of general population adolescents with high levels of personality pathology.

The results of the present investigation may have practical implications for clinicians, researchers, mental health management, and teachers. It could help clinicians identify patients at risk for presenting with general or more specific forms of personality pathology. In addition, it could help them focus interventions on associated factors, which, along with a focus on the psychiatric symptoms, may provide important opportunities to reduce personality pathology to the largest extent possible. Researchers may profit from the present study in terms of the identification of variables that should be controlled for in personality studies. In addition, the present findings provide hints towards the variables that could be the focus of future longitudinal outcome and etiological studies of personality pathology. The characteristic features of adolescents at risk for high personality pathology presented in the current study may guide mental health management in their decisions to offer treatment programs focusing on the reduction of personality pathology. Finally, teachers who encounter students characterized by the factors examined in the present study must be aware of the possibility that high levels of personality pathology are present.

A unique strength of the present study is its large adolescent population. Studying factors associated with personality pathology at young age offers the possibility to extend knowledge

across a wider developmental span than currently possible. Another strength is the dimensional conceptualization of personality pathology. More knowledge on associated factors of personality pathology dimensions may be highly relevant in view of the developments toward the fifth version of the *DSM*, which is likely to incorporate a more dimensional approach (Widiger, Simonsen, Krueger, Livesley, Verheul, 2005).

Despite these strengths, the results of present study are qualified by a number of limitations. First, the results are not representative of the total Dutch adolescent population. All participants were recruited from a public school in a region of The Netherlands with a higher disposable income during the year of assessment (€20,100) compared to the Dutch average (€17,800; CBS, n.d.-b). Also, the percentage of non-western immigrants in this region (2.6%) is below the Dutch average (10.4%; CBS, n.d.-b). However, the present sample is likely to be relatively diverse otherwise. All levels of Dutch secondary education are included and the sampled region consists of typical commuter communities. Second, due to the cross-sectional design of the present investigation it is not possible to draw causal inferences from the reported associations. However, previous literature reporting on data from a community-based longitudinal study has demonstrated that childhood abuse and neglect may contribute to the onset of some PDs (Johnson et al., 1999a). It seems likely that these and other stressful life events, such as family substance use and victimization by extreme bullying, may also act as risk factors for the development of personality pathology dimensions. With regard to several other factors under investigation in the present study, little or no longitudinal research clarifying the direction of causality is available. Longitudinal studies will be necessary to shed a more definitive light on the causal relationships of the variables examined. The present study is the first to investigate associations of personal and ecological factors with personality pathology dimensions, and may thus guide the inclusion of variables in future longitudinal studies.

Conclusion

Adolescent personality pathology, conceptualized using a dimensional approach, is strongly related to poor school functioning, psychiatric treatment, substance use, stressful life events, and lack of social support. The present findings contribute to our understanding of adolescent personality pathology, by offering insight into its epidemiology. From a developmental perspective, the results may help to identify factors that possibly influence the longitudinal course of personality and personality pathology.

