

The Relationship between Personality Disorders and Quality of Life in Adolescent Outpatients

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Abstract

Background: During recent years, there has been an increasing focus on the benefits of the early detection and treatment of personality disorders in adolescents. Previous studies of adults have shown that the number of personality disorder criteria met is negatively correlated with a patient's quality of life and general functioning.

Objective: The aim of the present study was to investigate the prevalence of personality disorders, particularly with regard to the correlation between the number of personality disorder criteria fulfilled and self-perceived quality of life. Distribution according to gender and age in a clinical sample of adolescent outpatients were also considered.

Method: This study included 153 adolescents between the ages of 14 and 17 years who were referred to a mental health outpatient clinic. Personality disorders were assessed using the Structured Interview for DSM-IV Personality. Quality of life was assessed using the Youth Quality of Life Instrument - Research Version, which is a 41-item questionnaire that covers broad aspects of quality of life. Axis I disorders were assessed using the Mini International Neuropsychiatric Interview.

Results: Results demonstrated that 21.6% of the adolescents met the diagnostic criteria for at least one personality disorder. A relationship between the number of personality disorder criteria met and reduced quality of life was found. No significant gender differences with regard to the prevalence of each of the personality disorders were revealed. Adjustment for the presence of Axis I disorders did not appreciably affect these findings.

Conclusion: The present study indicates that reduced quality of life as a result of the number of personality disorder criteria met affects adolescents in much the same way that it does adults. This further emphasizes the clinical importance of including quality of life assessment as part of the general diagnostic procedures used with adolescents.

Keywords: Personality disorder; quality of life; adolescent; outpatient

Introduction

Personality Disorders in Adolescents

Personality disorders are defined as relatively enduring and maladaptive patterns of experiencing life, coping with problems, and relating to others. In the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV), personality disorder categories may be applied to adolescents when the individual's particular maladaptive personality traits appear to be pervasive, persistent, and unlikely to be limited to a particular developmental state or to an

episode of an Axis I disorder. With the formal exception of antisocial personality disorder, it is possible to diagnose any personality disorder in a person who is less than 18 years old if the diagnostic features have been present for at least one year (1). This information remains unchanged in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (2).

The prevalence of personality disorders in adults has been studied in the general population (3) as well as in different clinical samples (4). Personality

disorders are common conditions, with prevalence of about 13% in the general adult population, up to 40% in adult outpatient samples, and up to 71% in inpatient samples when using semi-structured diagnostic interviews (5). In adolescents, prevalences range from 6% to 17% in community samples and from 41% to 64% in clinical samples (6).

Research supports the assumption that pathological personality traits emerge at an early age and are related to health-risk behaviors (e.g., failing to complete secondary school, alcohol dependence, getting in trouble with police and violent crime, unsafe sex, dangerous driving habits) during adolescence and young adulthood (7,8). This has been demonstrated by longitudinal cohort studies like the Dunedin study, in which early appearing temperamental differences were shown to have a pervasive influence on life-course development and to correlate with personality structure, interpersonal relations, psychopathology, and crime in adulthood (7-9).

There has been increased interest in the concept and delineation of personality disorders during childhood and adolescence (10). Earlier findings support the view that personality disorders can be traced back to adolescent emotional problems and disruptive behavior disorders (11). Caspi and colleagues have shown that behavior observed in 3-year-old children can be clearly linked to psychiatric problems during early adulthood (12). Furthermore, the long-term study of the same population demonstrated strong links between behavioral qualities observed at the age of 3 years and personality functioning measured at the ages of 18 and 26 years (8).

Personality disorders may have a better prognosis than originally assumed (13). However, findings indicate that maladaptive personality trait constellations are more stable in their structure than personality disorder diagnoses per se. Maladaptive personality traits may change in severity or expression over time, but they often lead to persistent functional impairment and reduced quality of life, even though the diagnostic threshold for a personality disorder is no longer reached (14,15).

An important focus is on the matter of precursors and possible pathways: in other words, the interplay of temperament and personality (16). This research is limited in part by the fact that the current diagnostic systems do not readily facilitate the recognition of personality pathology before the age of 18 years. Many clinicians are reluctant to diagnose personality disorders during adolescence; they may view pediatric personality deviations as reflective of given developmental stages, despite evidence that certain adolescents are indeed at risk for the eventual development of personality disorders as adults.

Studies have shown that the late identification of these disorders prevents timely treatment and potentially increases morbidity (17-19).

A further complicating factor may be that the childhood symptoms of personality disorders are not necessarily identical to the symptoms of the same disorders as they manifest in adults (20). One study compared the prevalence rates of DSM-IV borderline personality disorder in English 11-year-olds and American adults. The results suggested that late-latency children are about half as likely as adults to meet DSM-IV criteria for borderline personality disorder and that gender does not play a defining role in symptom expression (21). Few studies have reported about gender differences in personality disorders in adolescents (6).

Personality Disorders and Quality of Life

Quality of life is a concept of considerable societal importance (22). A study from the Netherlands investigated the burden of disease in a large sample of patients with personality disorders. The results showed that the total number of personality disorder diagnoses—rather than the specific type—was related to quality of life. In this study, patients with personality disorders experienced a high burden of disease that was comparable to that experienced by patients with severe somatic illnesses like rheumatic disease, lung cancer, or Parkinson's disease (23). Findings from the general adult population indicate that personality disorders are important predictors of quality of life, even more so than sociodemographic variables, somatic health, and Axis I disorders (24,25).

Studies of adults have found a linear relationship between the number of personality disorder criteria met and the actual impairment of quality of life (26). Personality disorders during adolescence seem to have a negative impact on quality of life in young adults. A combination of Axis I disorders and personality disorders during adolescence may lead to an even poorer quality of life (27-29).

Aims

The objectives of the present study, which was performed on a clinical sample of adolescent outpatients, was to do the following:

1. Investigate the prevalence of personality disorders, including possible gender differences.
2. Investigate the relationship between the number of personality disorder criteria met and the patient's self-perceived quality of life. We also wanted to assess age and gender differences to determine whether adjustment for Axis I disorders affected the relationship between personality disorders and quality of

life; and to discover whether there were interactions between the number of personality disorder criteria and the patient's age and gender.

Materials and Methods

Ethics

This study was approved by the Regional Committee for Medical Research Ethics for Eastern Norway (REK: 11395) and by the Norwegian Data Inspectorate. Informed written consent was obtained from all patients. Consent was also obtained from the parents of patients who were less than 16 years old.

Participants

The sample consisted of adolescents between the ages of 14 and 17 years who had been referred to a mental health outpatient clinic for children and adolescents in Oslo (The Nic Waal Institute, Lovisenberg Diakonale Hospital). The Nic Waal Institute is one of the largest clinics of its kind in Norway; it serves four city districts and a total population of 25,000 children and adolescents from 0 to 17 years old. The Institute serves a population of mixed socioeconomic status comprised of all social classes, including immigrant workers and well-educated middle-class and upper-class families.

Study enrollment took place from February 2005 to April 2007. All referred patients in the study's age group were asked to participate. Exclusion criteria were the need for immediate hospitalization or other urgent therapeutic measures, clinically assessed mental retardation, a lack of fluency in the Norwegian language, and the absence of the evaluator at the time of referral.

Measures

Axis I disorders. The Norwegian translation of the Mini International Neuropsychiatric Interview (MINI) version 5.0.0 was used to assess Axis I disorders (30,31).

Personality disorders. The Norwegian version of the Structured Interview for DSM-IV (SIDP-IV) (32) was used to assess personality disorders. The SIDP-IV is a comprehensive semi-structured diagnostic interview for DSM-IV personality disorder (Axis II) diagnoses. The SIDP-IV has been used in numerous studies in different countries, including Norway (3,11,33). It covers 14 DSM-IV Axis II diagnoses as well as conduct disorder as a separate Axis I disorder. The Axis II diagnoses comprise the 10 standard DSM-IV personality disorders (paranoid, schizoid, schizotypal, borderline, histrionic, narcissistic, antisocial, obsessive-compulsive, dependent, and avoidant), the three provisional DSM-IV personality disorders (self-defeating, depressive, and negativistic), and mixed personality disorder.

All questions on the SIDP-IV address the typical or habitual behavior of the subjects during the previous five years. Each diagnostic criterion is rated on a four-point scale: 0 = criterion not present; 1 = subthreshold level of the trait present; 2 = criterion being present for most of the last five years; and 3 = criterion strongly present. Scores of 2 and 3 indicate the presence of a criterion according to the DSM-IV (32).

In accordance with the diagnostic practice applied in other studies of personality disorders during adolescence, the DSM-IV age criterion for antisocial personality disorder was waived (34). As a result of the participants' ages, we also waived the 5-year symptom duration criterion, instead opting to use two years of symptom duration as a criterion. This is in accordance with the criterion used in previous studies that assessed adolescent personality pathology (6,34).

Quality of life. A Norwegian translation of the Youth Quality of Life Instrument - Research Version (YQOL-R) was used to assess of quality of life. The YQOL-R is a self-scored questionnaire that was developed with the goal of focusing on the positive aspects of adolescence (35). It covers broad aspects of quality of life, with a total of 41 items in four topical domains: self, relationships, environment, and general quality of life. Its psychometric properties are satisfactory (36), and it has been used in various clinical and non-clinical settings (37,38).

The adolescents rated the YQOL-R items on a scale that ranged from 0 (most severe) to 10 (best). The primary outcome with regard to quality of life was the general quality of life domain of the YQOL-R. In the present study, Cronbach's alpha was found to be 0.94.

Procedures and Assessment

One evaluator—the first author—was assigned to the study and assessed all of the participants. All patients referred to the clinic while the evaluator was present were asked to participate in the study. After written consent was obtained from the patients, the diagnostic interviews were performed at the Nic Waal Institute as an initial psychiatric assessment. The evaluator, a male physician with 21 years of clinical experience, was a specialist in both psychiatry and child and adolescent psychiatry. He was trained in evaluation with the SIDP-IV by the second author, an experienced rater who had previously evaluated patients and reported for comparable studies (3,39). Twenty ratings were discussed and found to be in accordance with the ratings of the experienced evaluator. Axis I conditions were assessed by the same evaluator, who had also been trained by the translator of the Norwegian version of the MINI.

After the completion of the initial assessment, the patients were assigned to further clinical evaluation and treatment by clinicians other than the evaluator in the outpatient clinic.

Statistical Analysis

Descriptive statistics were calculated for the relevant mental health status variables and expressed as means (standard deviation) and frequencies (%) as appropriate. Prevalence of personality disorders with 95% Blaker's confidence intervals were estimated for the total sample and for each gender separately, with testing for gender differences and comparison with the general adult population via exact chi-squared tests (40). The non-linearity of the relationship between the total number of personality disorder criteria met and the quality of life was investigated graphically with separate locally weighted smoothing (LOWESS) curves for each gender. Within each disorder, this relationship was also explored graphically. The relationship of self-perceived quality of life with the number of personality disorder criteria met, gender, and age was investigated with the use of multiple linear regression; multicollinearity was checked by variance inflation factor, which was preferably less than 5 to 10 for all covariates. The regression analysis was repeated after adjusting for important Axis I diagnoses (attention-deficit/hyperactivity disorder, simple phobias, generalized anxiety disorder, psychosis, major depressive episode, dysthymia, panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder, post-traumatic stress disorder, conduct disorder, and abuse and dependency of alcohol and substances) and subsequently with the inclusion of interactions of the number of personality disorder criteria met with gender and age. A mean total score for the YQOL-R was computed, and, for this study, linearly transformed so that the general quality of life index for each participant ranged from 0 to 100, with a higher score indicating a higher quality of life.

All data were entered and mostly analyzed with the use of IBM SPSS software version 20.0, with Blaker's confidence intervals computed in the R package BlakerCI (The R Foundation for Statistical Computing, Vienna, Austria). Graphical investigations for each disorder were created separately with the use of Microsoft Excel.

Results

Participants

During the study enrollment period, a total of 264 adolescents (59.4% female) were referred to the Nic Waal Institute. The 63 adolescents that did not meet

the inclusion criteria were excluded due to mental retardation ($N = 15$, 23.8%), need for immediate hospitalization ($N = 19$, 30.2%), inadequate fluency in the Norwegian language ($N = 6$, 9.5%), and the absence of the evaluator at the time of referral ($N = 23$, 36.5%). This left 201 adolescents eligible for the study. The attrition rate was 23.9% ($N = 48$) due to lack of consent from parents ($N = 5$, 10.4%), lack of consent from the adolescent ($N = 7$, 14.6%), referral being retracted before the interview ($N = 6$, 12.5%), not showing up for the appointment ($N = 11$, 22.9%), and consent being retracted during the interview ($N = 19$, 39.6%).

A total of 153 adolescents (61.4% female; mean age, 15.6 years; standard deviation, 1.07) were included in the study. There were no missing data for items within the MINI, the SIDP-IV, or the YQOL-R.

Table 1 shows the general distribution of personality disorders in the study population. The total prevalence of personality disorders was 21.6%, with girls having rates more than twice as high as those seen in boys. Eight of the boys and 25 of the girls had at least one personality disorder ($p = .070$). One of the boys and 10 of the girls had more than one personality disorder ($p = .052$). No significant gender differences were found for each of the personality disorders ($p \geq .082$).

Figure 1 shows the relationship between general quality of life and the total number of personality disorder criteria present in our sample for each gender. No substantial deviation from a linear relationship was found. With linear regression analysis, the R^2 was 0.46, the variance inflation factor was 1.07 or less, and no significant age or gender differences were revealed ($p \geq .12$), although there was a statistically significant relationship found with regard to the number of personality disorder criteria met (coefficient = -0.48 ; 95% confidence interval, -0.57 to -0.39 ; partial eta squared, 0.42; $p < .001$). After adjustment for Axis I disorders, the R^2 was 0.50, the variance inflation factor was 1.90 or less, and no significant age or gender differences were revealed ($p \geq .240$), although there was still a significant and similar relationship found with regard to the number of personality disorder criteria met (coefficient = -0.43 ; 95% confidence interval, -0.55 to -0.30 ; partial eta squared, 0.27; $p < .001$). There were no significant interactions between the number of personality disorder criteria met and gender and age ($p \geq .27$ without and $p \geq .075$ with adjustment for Axis I disorders).

TABLE 1. Prevalence of personality disorders in the sample, with 95% confidence intervals*

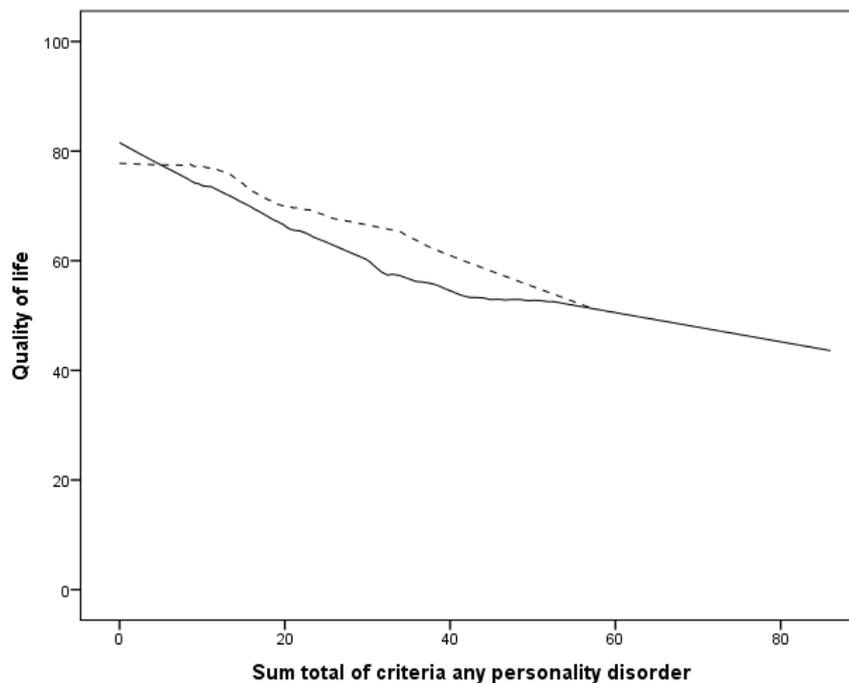
Personality disorder	Boys (N = 59) n (%) (CI*)	Girls (N = 94) n (%) (CI*)	Total (N = 153) n (%) (CI*)	p value [†]
Paranoid	0 (0.0%) (0.0%-6.1%)	0 (0.0%) (0.0%-3.8%)	0 (0.0%) (0.0%-2.3%)	—
Schizoid	1 (1.7%) (0.1%-8.7%)	0 (0.0%) (0.0%-3.8%)	1 (0.7%) (0.0%-3.4%)	0.399
Schizotypal	0 (0.0%) (0.0%-6.1%)	0 (0.0%) (0.0%-3.8%)	0 (0.0%) (0.0%-2.3%)	—
Antisocial	2 (3.4%) (0.6%-11.3%)	3 (3.2%) (0.9%-8.7%)	5 (3.3%) (1.3%-7.3%)	1.000
Borderline	1 (1.7%) (0.1%-8.7%)	7 (7.4%) (3.4%-14.6%)	8 (5.2%) (2.3%-9.9%)	0.153
Histrionic	0 (0.0%) (0.0%-6.1%)	5 (5.3%) (2.1%-11.9%)	5 (3.3%) (1.3%-7.3%)	0.166
Narcissistic	0 (0.0%) (0.0%-6.1%)	1 (1.1%) (0.1%-5.5%)	1 (0.7%) (0.0%-3.4%)	1.000
Avoidant	3 (5.1%) (1.4%-13.9%)	6 (6.4%) (2.8%-13.0%)	9 (5.9%) (3.0%-10.9%)	1.000
Dependent	0 (0.0%) (0.0%-6.1%)	1 (1.1%) (0.1%-5.5%)	1 (0.7%) (0.0%-3.4%)	1.000
Obsessive-compulsive	0 (0.0%) (0.0%-6.1%)	6 (6.4%) (2.8%-13.0%)	6 (3.9%) (1.7%-8.2%)	0.082
Self-defeating	0 (0.0%) (0.0%-6.1%)	0 (0.0%) (0.0%-3.8%)	0 (0.0%) (0.0%-2.3%)	—
Depressive	2 (3.4%) (0.6%-11.3%)	8 (8.5%) (3.8%-15.7%)	10 (6.5%) (3.4%-11.5%)	0.322
Negativistic	0 (0.0%) (0.0%-6.1%)	2 (2.1%) (0.4%-7.1%)	2 (1.3%) (0.2%-4.6%)	0.523
At least one personality disorder	8 (13.6%) (1.3%-7.3%)	25 (26.6%) (6.0%-24.4%)	33 (21.6%) (15.5%-28.6%)	0.070
More than one personality disorder	1 (1.7%) (0.1%-8.7%)	10 (10.6%) (5.5%-18.3%)	11 (7.2%) (3.7%-12.2%)	0.052

CI, Confidence interval

*Number, prevalence in %, Blaker’s 95% confidence intervals

†p value from exact chi-squared tests

FIGURE 1. Quality of life among adolescents (N = 153) who meet personality disorder criteria

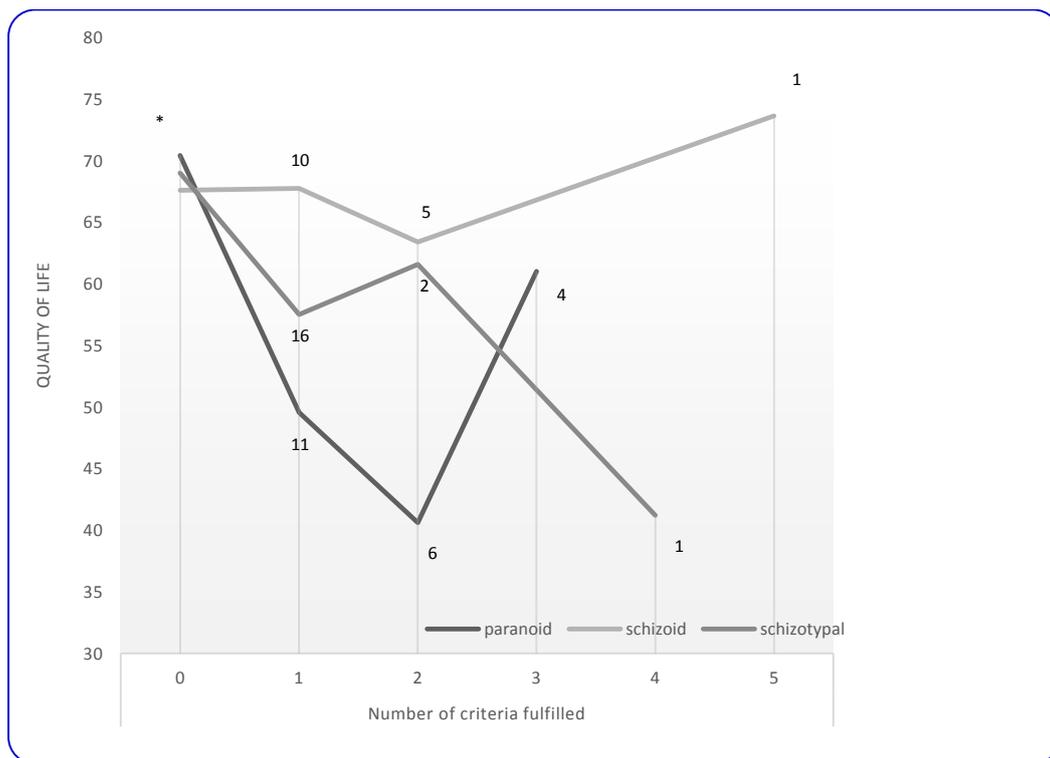


Dotted line, boys (n = 59); solid line, girls (n = 94)

Figures 2 through 5 illustrate quality of life according to the criteria met for eccentric (cluster A: paranoid, schizoid, and schizotypal), dramatic (cluster B: borderline, histrionic, narcissistic, and antisocial), fearful (cluster C: obsessive-compulsive, dependent, and avoidant), and provisional (self-defeating,

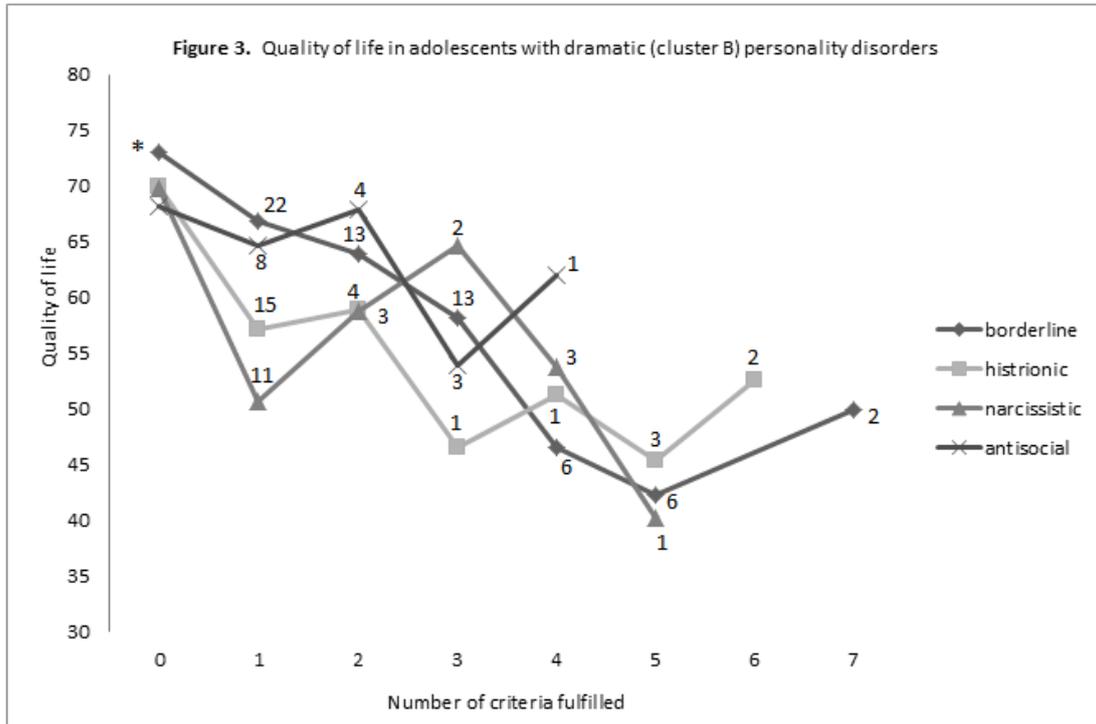
depressive, negativistic) personality disorders. For each separate cluster, there was a tendency toward reduced quality of life with an increasing number of personality disorder criteria met.

FIGURE 2. Quality of life among adolescents who meet eccentric (cluster A) personality disorder criteria (N = 39): paranoid (n = 21), schizoid (n = 16), and schizotypal (n = 19)



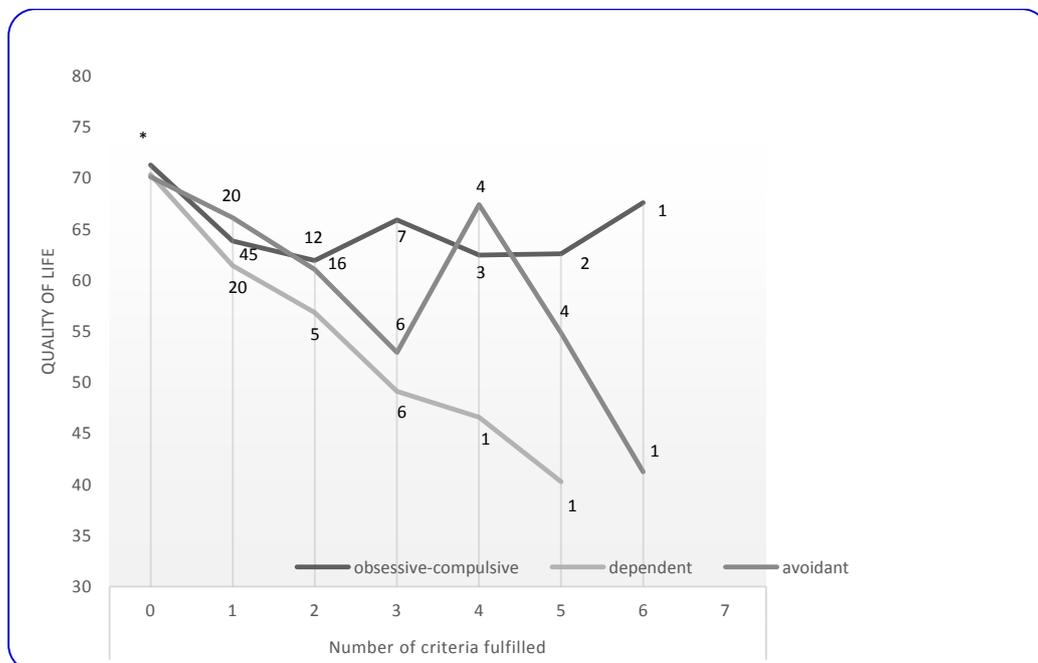
*Without personality disorder criteria; paranoid (n = 132), schizoid (n = 137), and schizotypal (n = 134), respectively

FIGURE 3. Quality of life among adolescents who meet dramatic (cluster B) personality criteria (N = 70): antisocial (n = 17), borderline (n = 62), histrionic (n = 25), and narcissistic (n = 21)



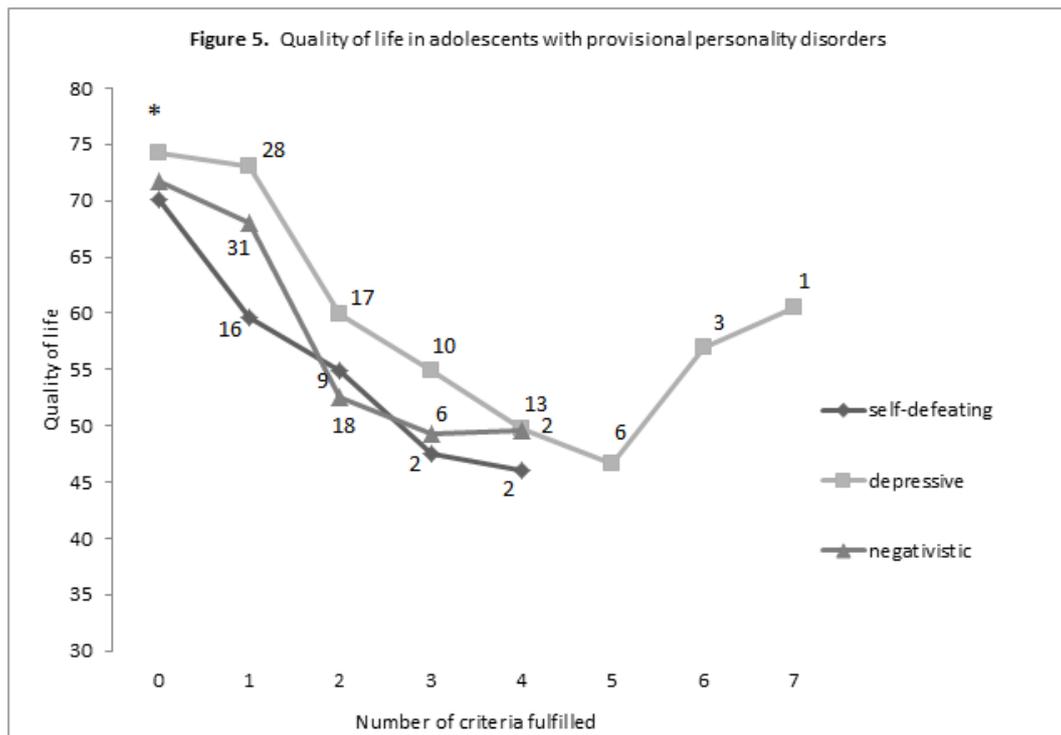
*Without personality disorder criteria; antisocial (n = 136), borderline (n = 91), histrionic (n = 128), and narcissistic (n = 132), respectively

FIGURE 4. Quality of life among adolescents who meet fearful (cluster C) personality disorder criteria (N = 94): avoidant (n = 47), dependent (n = 33), and obsessive-compulsive (n = 74)



*Without personality disorder criteria; avoidant (n = 106), dependent (n = 120), and obsessive-compulsive (n = 79), respectively

FIGURE 5. Quality of life among adolescents who meet provisional personality disorder criteria (N = 107): self-defeating (n = 29), depressive (n = 78), and negativistic (n = 57)



*Without personality disorder criteria; self-defeating (n = 124), depressive (n = 75), and negativistic (n = 96), respectively

Discussion

The total prevalence rate of personality disorders in the study population was 21.6%.

We found a predominance of cluster B and C disorders, which was comparable to corresponding findings from adult mental health clinic outpatients (39).

For the eccentric conditions (cluster A), only schizotypal personality disorder showed an approximately linear relationship between the number of personality disorder criteria met and general quality of life. For the dramatic conditions (cluster B), there was no clear deviation from a linear relationship, especially for borderline personality disorder, which is generally considered the prototypical dramatic personality disorder. It should also be noted that borderline personality disorder was the third most common personality disorder in our sample, surpassed only by depressive and avoidant personality disorder. For the fearful conditions (cluster C), there was a close-to-linear relationship for dependent personality disorder.

The prevalence in our study was higher than that previously reported for community samples and lower than that previously reported for clinical

samples (6). The participants in the present study were unselected adolescent outpatients from the general population in a defined catchment area who had been referred to a non-specialized mental health outpatient clinic. However, previous studies have reported on samples that have a different composition from that of the present study. In community samples and primary care settings, the prevalence numbers for adolescents have ranged from 6% to 17% (41). In samples composed of treatment-refractory adolescents admitted for specialized treatment (42), inpatients (4), and participants in the juvenile justice system (43-45), the prevalence numbers have ranged from 41% to 88%. Thus, the participants in the present study had a higher prevalence of personality disorder symptoms than has been found in studies of community samples and primary care patients but a lower prevalence than that seen in participants in studies of more severely ill patients.

As recently reviewed by Kongerslev and colleagues (6), the peak prevalence for personality disorders is reported to occur during early and middle adolescence. Studies that have focused on late adolescence have reported lower prevalence (6,41).

In our study, the participants were mainly in mid to late adolescence.

The main finding was a relationship between the number of personality disorder criteria met and reduced quality of life, with no significant age or gender differences for each of the personality disorders. Our findings indicate that reduced quality of life accompanies personality disorders in adolescents in much the same way as it does in adults (26). The limited amount of data restricts the more sophisticated analysis of gender differences and personality disorder clusters.

Adjustment for the presence of Axis I diagnoses did not appreciably change the relationship between the total number of personality disorder criteria met and quality of life.

Strengths and Limitations

Each patient was diagnosed individually with a semi-structured interview. The present study enrolled a clinical population (i.e., adolescents who were referred to a mental health outpatient clinic). Of the 201 adolescents eligible for inclusion, 153 were ultimately included. This yields a total attrition rate of 23.9% (N = 48), which is a limitation of this study.

The cross-sectional nature of the study makes it difficult to infer causal relationships. The participants were included during a limited amount of time, and we do not know if there were prevalence fluctuations over time.

The study was performed at a single mental health outpatient clinic that served patients from a defined urban catchment area. Although the catchment area included a varied socioeconomic and ethnic population, we do not know if the results can be generalized to other populations in other city districts, more rural parts of the country, or other countries or cultures.

A further possible limitation is the use of a single evaluator. The evaluator was trained by an experienced evaluator who had also researched personality disorders, and the two of them discussed their ratings. This may have been a threat to the external validity of the diagnoses.

Clinical Significance

There is an increasing focus on the benefits of the early detection and treatment of personality disorders in adolescents. Diagnosing personality disorders in adolescents could facilitate the earlier implementation of adequately tailored treatment interventions and, most likely, more favorable long-term prognoses (19).

The present study shows that quality of life in adolescents is affected by the number of personality disorder criteria met in much the same way as in adults (26). This further emphasizes the clinical

importance of including personality disorders and quality of life assessment in the general diagnostic procedures used to treat adolescents.

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