# Personality disorder and impaired functioning from adolescence to adulthood

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**Background** Little is currently known about functioning and impairment during adulthood associated with the course of personality disorders.

**Aims** To investigate the association of personality disorder stability from adolescence through middle adulthood with measures of global functioning and impairment, using prospective epidemiological data.

**Method** A community-based sample of 658 individuals was interviewed at mean ages 14, 16, 22 and 33 years.

**Results** Individuals with persistent personality disorder had markedly poorer functioning and greater impairment at mean age 33 years than did those who had never been identified as having such disorder or who had a personality disorder that was in remission, after co-occurring Axis I disorders at age 33 years were taken into account. Remitted disorder was associated with mild long-term impairment. Adult-onset personality disorders, however, were also associated with significant impairment.

**Conclusions** Persistent and adult-onset personality disorders are associated with functional impairment among adults in the community. These effects are independent of co-occurring Axis I disorders.

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An enduring pattern of inner experience and behaviour associated with occupational and interpersonal dysfunction is central to the concept of personality disorder (World Health Organization, 1992; American Psychiatric Association, 2000). In rigorous follow-along studies of personality disorders, however, rates of symptomatic improvement in patient populations (Shea *et al*, 2002; Zanarini *et al*, 2003; Grilo *et al*, 2004) and in non-patient (Lenzenweger, 1999) or community (Johnson *et al*, 2000a) populations are inconsistent with the stability hypothesis. Because personality disorders have their origins in childhood or adolescence, deficits in the development of affect regulation, conscience, impulse control or identity consolidation can be expected to have an adverse impact on a person's adaptation to the occupational and interpersonal demands of young adult life, which may persist even beyond symptomatic improvement (Geiger & Crick, 2001; Cohen & Crawford, 2005). The purpose of this study was to determine differences in functional impairment in adulthood between community youth who showed improvement in personality disorder psychopathology during the transition to adulthood, those who did not, and those who first developed such a disorder as young adults.

## METHOD

### Participants and procedures

Participants in the Children in the Community (CIC) study were a 1975 residence-based sample of mothers of children aged 1–10 years, in two upstate New York counties, supplemented with an additional sample residing in poor urban neighbourhoods to compensate for those lost to follow-up. The 821 mothers and one randomly sampled child were interviewed three times in their homes by trained lay interviewers: in 1983 (mean offspring age 13.7 years, s.d.=2.8); between

1985 and 1986 (mean offspring age 16.3 years, s.d.=2.8); and between 1991 and 1993 (mean offspring age 22.1 years, s.d.=2.7) (Fig. 1). Comprehensive assessments of personality disorder were completed with 760, 749 and 719 of the offspring respectively at each of these three assessments. The families were representative of families in the north-eastern USA with regard to socio-economic status and most demographic variables, but they also reflected the sampled region, with high proportions of participants who were Catholic (54%), White (91%) and rural residents (25%) (Cohen & Cohen, 1996).

The findings reported here are based on data from 658 individuals who were interviewed a fourth time between 2001 and 2004 (mean age 33.1 years, s.d.=2.9). After home interviews assessing a wide range of psychosocial variables had been completed, psychiatric interviews were administered over the telephone by professionals with a master's or doctorate degree in social work or clinical psychology and at least 10 years of experience in the administration of semi-structured psychiatric research interviews. The 658 individuals in this sample did not differ from the remainder of the original sample with regard to the prevalence of behavioural or emotional problems at earlier assessments. The institutional review boards of the Columbia University College of Physicians and Surgeons and the New York State Psychiatric Institute approved the study procedures. Written informed consent or assent was obtained from all participants after the interview procedures had been fully explained.
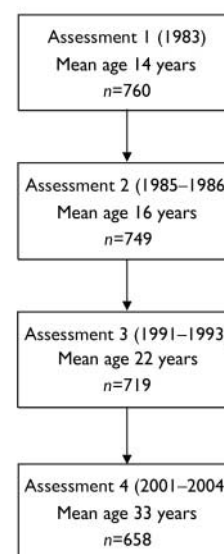


**Fig. I** Children in the Community study assessment waves, at mean ages 14, 16, 22 and 33 years.

## Assessments

### Assessment of personality disorders

Personality disorders were first assessed in the CIC sample in 1983, when no instrument existed to measure these disorders in adolescents. Accordingly, the disorders were measured with relevant parent- and youth-reported items from the study's longitudinal protocol that were selected to correspond with DSM–III (American Psychiatric Association, 1980) criteria for Axis II disorders. Additional items were added to the protocol from the Personality Diagnostic Questionnaire (PDQ; Hyler *et al*, 1988) and an early version of the Structured Clinical Interview for Personality Disorders (Spitzer & Williams, 1986), adapted to make them age-appropriate (for a detailed history of how symptom scales and diagnostic algorithms were developed, see Crawford *et al*, 2005). Following publication of DSM–IV (American Psychiatric Association, 1994), the personality disorder symptom scales and diagnostic algorithms were modified to maximise correspondence with DSM–IV diagnostic criteria and to produce consistent repeated measures of personality disorder assessed at mean ages 14, 16 and 22 years. From each data collection period 152 items were available to assess 88 (93.6%) of the 94 DSM–IV criteria for Axis II disorders. The concurrent validity of the CIC assessment procedure has been supported by findings showing that personality disorders are associated with impairment, distress and increased risk of Axis I disorders (Bernstein *et al*, 1993; Kasen *et al*, 1999, 2001). The predictive validity of the assessment has been supported by findings indicating that adolescent personality disorders are associated with elevated risks of Axis I disorders, criminal or violent behaviour, and suicidal behaviour during early adulthood (Johnson *et al*, 1999, 2000b).

The Structured Clinical Interview for DSM–IV Axis II Personality Disorders (SCID–II; First *et al*, 1995a) was first used in this sample to assess personality disorders at mean age 33 years. The SCID–II is a two-stage diagnostic procedure which includes a screening questionnaire, followed by a semi-structured interview to determine whether affirmative responses on the questionnaire indicate the presence of clinically significant symptoms. The SCID–II interview test–retest reliability has been found to be satisfactory: $\kappa=0.51$ for 'any personality disorder' in patients and $\kappa=0.48$ in

non-patients (First *et al*, 1995b). For this study 40 interviews were tape-recorded (with the respondent's permission) and then rated again by a second interviewer to assess interrater agreement. Interrater reliability was satisfactory for 'any personality disorder': $\kappa=0.62$ (Crawford *et al*, 2005).

Personality disorders at mean age 33 years also were measured with the pool of self-report items assessed in the CIC longitudinal protocol. However, because parent interviews were no longer conducted at this age, CIC scales and algorithms were augmented with other self-report items to replace the parent-reported data (Crawford *et al*, 2005). When CIC and SCID–II diagnoses were compared, concordance for 'any personality disorder' ($\kappa=0.45$) was modest, but approached the SCID–II interview's $\kappa$ value for test–retest reliability in non-patients. Concordance rates for any cluster A diagnosis ($\kappa=0.41$) and any cluster B diagnosis ($\kappa=0.60$) surpassed comparable findings in 12 out of 13 studies reviewed by Modestin *et al* (1998). Concordance for cluster C diagnoses ($\kappa=0.29$) was closer to the published average.

### Assessment of Axis I disorders

Axis I disorders at mean age 33 years were assessed with the non-patient version of the Structured Clinical Interview for DSM–IV Axis I Disorders (SCID–I/NP; First *et al*, 1996).

### Assessment of global functioning and impairment

Overall functioning at mean age 33 years was assessed with the Global Assessment of Functioning Scale (GAFS; American Psychiatric Association, 2000). The GAFS evaluates functioning during the past year on a scale from 1 to 100; scores higher than 70 indicate satisfactory mental health, good overall functioning and no more than minimal or transient distress or impairment. Scores between 61 and 70 signify mild impairment or distress, scores between 51 and 60 indicate moderate impairment and scores below 51 indicate severe impairment. In adult out-patients GAFS scores have high rates of interrater reliability (intraclass correlation 0.86) and are significantly related to responses on the Symptom Checklist – 90 – Revised global severity index (Hilsenroth *et al*, 2000). In our present study clinicians completed the GAFS after conducting the SCID–I and SCID–II interviews.

Psychosocial impairment was assessed with a six-item self-report index ($\alpha=0.86$) adapted from items used in the Medical Outcomes Study Short-Form General Health Survey (Stewart *et al*, 1988) and the Disorganizing Poverty Interview (Kogan *et al*, 1977). Items assess difficulties in carrying out responsibilities, completing tasks and getting along with other people, disorganisation and lack of control, recurrent health or safety risks, and recurrent behaviour leading to embarrassment or shame. Items are rated on five-point Likert scales of frequency, ranging from 0 ('never') to 4 ('always or almost always'), which produce total impairment scale scores ranging from 0 to 24.

### Assessment of socio-economic status

An index of socio-economic status was computed as the standardised sum of standardised measures of years of maternal and paternal education, income and occupational status.

## Data analysis

Analyses of covariance (ANCOVAs) were conducted to investigate associations between the diagnostic stability of 'any personality disorder' with clinician-reported GAFS scores and self-reported impairment scores at mean age 33 years. In addition to adjusting for effects of age, gender, and socio-economic status, these ANCOVAs controlled for the presence of an Axis I disorder at mean age 33 years, in order to assess the impact of personality disorders on functioning independently of Axis I psychopathology. Individuals were classified as having 'persistent disorder' if they had any personality disorder diagnosis at mean age 14, 16 or 22 years and any personality disorder diagnosis at mean age 33 years. Individuals who had any personality disorder diagnosis by mean age 22 years but not at mean age 33 years were classified as having personality disorder in remission. Individuals who had any personality disorder diagnosis at mean age 33 years, but not at prior assessment were classified as having adult-onset disorder. Thus defined, there were 64 participants with persistent personality disorder, 185 in remission, 38 with adult-onset disorder and 371 with no personality disorder at any assessment interval. Analyses were conducted at the level of 'any personality disorder' because of inadequate numbers of cases of specific disorders or disorders from each DSM–IV

cluster, once cases were divided into persistent, remitted and adult-onset personality disorders.

To determine whether the change in diagnostic procedures for personality disorders between assessment 3 and assessment 4 (i.e. from CIC scales to SCID–II) had an effect on the findings, we replicated the above analyses using only the CIC scales at all time points to create personality disorder stability groups as described above.

## RESULTS

Demographic characteristics of the sample, the prevalence of Axis II disorders and disorder clusters at mean ages 16, 22 and 33 years, the prevalence of Axis I disorders at mean age 33 years and mean GAFS and impairment scores at age 33 years are all presented in Table 1. The rates of co-occurring Axis I disorders by SCID–II personality disorder group were as follows: no personality disorder 23.1%; personality disorder in remission 30.3%; adult-onset personality disorder 57.9%; and persistent personality disorder 70.3%.

### Personality disorder stability from adolescence to adulthood

*Global functioning and impairment outcomes*

A consistent pattern of findings was obtained with regard to the association of overall personality disorder stability with GAFS scores and total impairment scale scores (Table 2). The poorest functioning and greatest impairment were observed among individuals with persistent disorder (i.e. those identified as having a personality disorder by mean age 22 years and also at mean age 33 years); these individuals had significantly lower GAFS scores (mean 58.73) than those in the other groups, and their functioning was moderately to severely impaired. Their mean impairment scores were nearly twice as high as those of participants who were never identified as having a personality disorder.

Participants identified as having a personality disorder in remission at mean age 33 years had significantly lower GAFS and higher impairment scale scores than the individuals who were not identified as having a personality disorder at any assessment. However, the impairment experienced by those in remission was relatively mild and did not tend to be clinically significant (mean GAFS score 72.92).

**Table I** Sample and variable characteristics

| Characteristic | | Total sample size n |
|---|---|---|
| Gender, % (n) | | |
|   Male | 47 (309) | 658 |
|   Female | 53 (349) | 658 |
| Ethnicity, % (n) | | |
|   White | 91.2 (600) | 658 |
|   African American or other | 8.8 (58) | 658 |
| Axis I disorder prevalence at mean age 33 years, % (n)[1] | 26.6 (175) | 658 |
| Personality disorder prevalence, % (n) | | |
|   By mean age 16 years[2] | 32.7 (210) | 642 |
|     Cluster A | 16.7 (107) | |
|     Cluster B | 17.9 (115) | |
|     Cluster C | 10.4 (67) | |
|     Other PD | 2.2 (14) | |
|   At mean age 22 years | 14.7 (90) | 611 |
|     Cluster A | 3.3 (20) | |
|     Cluster B | 4.6 (28) | |
|     Cluster C | 5.2 (32) | |
|     Other PD | 3.9 (24) | |
|   At mean age 33 years | 15.5 (102) | 658 |
|     Cluster A | 6.5 (43) | |
|     Cluster B | 5.8 (38) | |
|     Cluster C | 10.6 (70) | |
|     Other PD | 5.2 (34) | |
| GAFS score: mean (s.d.)[3] | 72.88 (13.50) | 658 |
| Psychosocial Impairment Scale score: mean (s.d.)[3] | 3.31 (3.36) | 658 |
| Parental education, years: mean (s.d.)[4] | 12.97 (2.96) | 658 |

GAF, Global Assessment of Functioning Scale; PD, personality disorder.
1. Anxiety, disruptive and mood disorders were assessed at mean age 33 years.
2. Personality disorder was not considered present by mean age 16 years unless the DSM–IV diagnostic criteria were met at mean ages 14 and 16 years; *or* diagnostic criteria for a personality disorder were met at one of these assessments and were missed by no more than one criterion at the other assessment. The prevalence of personality disorder at mean age 14 years was 27.2% (167 cases out of a total 613) and the prevalence at mean age 16 years was 18.5% (112 cases out of a total 607).
3. Assessed at mean age 33 years.
4. Assessed at mean ages 14 and 16 years.

Participants identified as having a personality disorder at mean age 33 years but not at the prior assessments (i.e. adult-onset disorder) had an intermediate level of impairment, greater than that of individuals whose disorder was in remission but less than those with persistent disorder. The impairment in functioning experienced by this group was clinically significant, in the mild to moderate range (mean GAFS score 64.93).

### Stability of disorder and functioning using CIC scales

The greatest discrepancy in the identification of the personality disorder groups came in the adult-onset category, in which 38 adult-onset cases were identified using SCID–II compared with only 12 using the CIC personality disorder scales. A consistent pattern of findings was obtained, however, using only the latter scales to create personality disorder stability groups (see Table 2).

## DISCUSSION

This study is the first to investigate the effect of personality disorder stability on functioning over time in a community sample. Traditionally, because these disorders were assumed to be stable and enduring, consideration of the effects of improvement in psychopathology was not an

**Table 2** Impairment and functioning at mean age 33 years by prior and current clinical personality disorder status ($n=658$)

| Global indices of functioning and impairment | No PD | PD in remission | Adult-onset PD | Persistent PD | F |
|---|---|---|---|---|---|
| SCID–II diagnosis at age 33 years | | | | | |
| n | 371 | 185 | 38 | 64 | |
| Adjusted mean scores[1] | | | | | |
| GAFS | 76.12[2,3,4] | 72.92[2,4,5] | 64.93[2,3,5] | 58.73[2,3,5] | 78.05** (d.f.=3, 650) |
| Psychosocial Impairment Scale | 2.82[3,4,5] | 3.41[2,5] | 4.16[2] | 5.33[2,3] | 11.94** (d.f.=3, 650) |
| CIC PD diagnosis at age 33 years | | | | | |
| n | 386 | 184 | 12 | 60 | |
| Adjusted mean scores[1] | | | | | |
| GAFS | 75.21[3,4,5] | 71.78[2,4,5] | 64.91[2,3] | 62.05[2,3] | 37.05** (d.f.=3, 634) |
| Psychosocial Impairment Scale | 2.87[3,4,5] | 3.44[2,4,5] | 5.50[2,3] | 5.47[2,3] | 13.54** (d.f.=3, 634) |

CIC, Children in the Community; GAFS, Global Assessment of Functioning Scale; PD, personality disorder; SCID–II, Structured Clinical Interview for DSM–III–R Personality Disorders.
1. Adjusted for age, gender, socio-economic status and presence of an Axis I disorder at mean age 33 years.
2. Significantly different from 'no PD' group ($P<0.05$).
3. Significantly different from 'PD in remission' group ($P<0.05$).
4. Significantly different from 'adult-onset PD' group ($P<0.05$).
5. Significantly different from 'chronic PD' group ($P<0.05$).
*$P<0.05$, **$P<0.01$.

issue. Skodol *et al* (2005) have shown in a large sample of patients that, overall, impairment in psychosocial functioning, especially in interpersonal relationships, was more stable than the personality disorder itself. Nevertheless, for patients with borderline personality disorder who showed improvement in psychopathologic symptoms, some improvement was seen in functioning. Zanarini *et al* (2005) have also demonstrated that patients with borderline personality disorder who experienced a symptomatic remission during a 6-year follow-up period functioned significantly better in social relationships and at work than similar patients with no remission.

The prevalence of personality disorder in our sample ranged from 27.2% at mean age 14 years to 15.5% (SCID–II) by mean age 33 years. In a review of eight epidemiological studies of personality disorder in adults, Torgersen (2005) found the prevalence for 'any personality disorder' ranged from 3.9% to 22.7%, with a median prevalence of 11.6% and a pooled mean prevalence of 12.3%. The prevalence estimates of personality disorders in our study that correspond to adulthood are well within this range. Personality disorders among adults in the community have been shown to be associated with reduced quality of life, as reflected in subjective well-being, self-realisation, relationship to friends, social support, negative life events, relationship to family of origin and neighbourhood quality (Torgersen *et al*, 2001).

Of the participants who were diagnosed in our study with a personality disorder by

the age of 22 years, only 25.7% retained a personality disorder diagnosis by age 33 years (on average 11 years later). In the studies of patients reviewed by Perry (1993), McDavid & Pilkonis (1996) and Grilo *et al* (1998) about 50% of patients retained their diagnoses over periods ranging from 6 months to 15 years. In these studies, mostly of borderline personality disorder, the lowest stability rate was found in adolescence, when personality is often considered to be in flux. In general, the stability of personality disorders has been found to have a strong negative correlation with the length of the follow-up period. Thus, in our study the substantial rate of remission probably reflects both the young age of the sample when the personality disorders were first diagnosed and the length of the follow-up.

The findings of our study shed light on the association between stability of disorder during the transition from adolescence to adulthood and functioning and impairment in adulthood. First, our findings suggest that adults in the community with persistent personality disorder (i.e. that has been present since adolescence or early adulthood) are likely to experience poor functioning and marked (moderate to severe) impairment in adulthood. The mean GAFS score obtained in this study for people with persistent personality disorder (58.7) is comparable with the mean GAFS score in a large sample of people (predominantly out-patients) with one of four types of personality disorder (57.6) reported by Skodol *et al* (2002). These difficulties in functioning

are not likely to be attributable to age, gender or socio-economic status during adolescence. Furthermore, the effects were independent of Axis I disorders at mean age 33 years, thus underscoring the importance of recognising and treating Axis II disorders regardless of whether or not they occur together with Axis I disorders. These results are also consistent with those of Skodol *et al* (2002) in that impairment in various domains of functioning in patients with personality disorders could not be explained by comorbid Axis I disorders, and with those of Trull (2001), who found similarly that borderline features in a non-patient sample accounted for significant variance in functioning beyond that accounted for by Axis I disorders. Second, our findings suggest that individuals in the community who experience the onset of a personality disorder during adulthood are also likely to experience mild to moderate impairment that is clinically significant, although not as severe in most cases as that in earlier-onset and persistent personality disorder.

Our findings are also of interest because they suggest that people with personality disorder who experience remission of symptoms of the disorder during the transition to adulthood may experience relatively little residual impairment by middle adulthood. That improvement in symptoms eventually will have a beneficial effect on functioning provides a reason to be optimistic that many adolescents and young adults who exhibit personality disorder psychopathology may be able to function

nearly as well as people without a history of such disorder. Declines in symptom levels from adolescence through early adulthood (e.g. Johnson *et al*, 2000*a*) are consistent with the hypothesis that many people 'outgrow' personality disorders during the transition from adolescence to adulthood as a result of maturation and socialisation, which promote the development of a stable sense of self and improved interpersonal, coping and impulse-control skills. Because personality disorder can often be treated effectively (Perry *et al*, 1999) and treatments have been adapted for adolescents with some success (Johnson *et al*, 2006), our findings suggest that mental health professionals who work with adolescents and young adults might be well advised to conduct an assessment of symptoms of personality disorder in these patients. Since those with the highest symptom levels for their age groups remain most at risk of persisting personality disorder (Crawford *et al*, 2004) and impairment (Johnson *et al*, 1999, 2000*b*), appropriate intervention with these patients might assist more young people to make the transition to adulthood successfully, with fewer interpersonal, occupational and other difficulties.

A potential limitation of this study is that clinician-administered, semi-structured interviews for personality disorder were conducted at the final assessment only. In order to determine whether the findings were influenced by change in the assessment of these disorders from the CIC symptom scales to the SCID–II clinical interviews at mean age 33 years, the analyses were repeated using only the CIC scales at each time point. The basic pattern of findings regarding the relationship between persistence of personality disorder and impairment in functioning was replicated in this additional set of analyses, providing strong support for the observed associations between stability of disorder and impairment in functioning. Extensive assessments of various domains of psychosocial functioning were not possible, but the most widely used measure of global functioning (the GAFS) was employed. A detailed description of the course of personality disorder psychopathology over the follow-up interval was not feasible using this study's design. Thus, the assumption that personality disorders presenting before age 22 years and at age 33 years are in fact 'persistent' – as opposed to intermittent or recurrent – may not be justified. Furthermore, stability estimates are limited by the

reliability of the personality disorder measures. The rates of improvement observed in rigorous, follow-along clinical studies, however, exceed by a substantial margin those that would be predicted on the basis of measurement error alone (Grilo *et al*, 2004). Finally, it was not possible to determine the association of the persistence of specific personality disorders or disorder clusters with impairment in adulthood, owing to limited statistical power.

It will be important for future studies to investigate the determinants of personality disorder stability. Identification of psychosocial factors that might promote reductions in symptom levels during the transition to adulthood might lead to new insights about how young people acquire the stable identities and interpersonal, coping and impulse-control skills that are characteristic of optimal development and functioning. It will also be of interest to examine the developmental course of adult-onset personality disorders in greater detail. Although a few investigators have examined predictors of later-onset personality disorders, such as the presence of Axis I disorders during adolescence (Kasen *et al*, 1999, 2001), many questions about the development and sequelae of adult-onset personality disorders remain unanswered.

## ACKNOWLEDGEMENTS

## REFERENCES

**American Psychiatric Association (1980)** *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn) (DSM–III). APA.

**American Psychiatric Association (1994)** *Diagnostic and Statistical Manual of Mental Disorders* (4th ed). APA.

**American Psychiatric Association (2000)** *Diagnostic and Statistical Manual of Mental Disorders* (4th edn, text revision) (DSM–IV–TR). APA.

**Bernstein, D. P., Cohen, P., Velez, C. N., et al (1993)** The prevalence and stability of the DSM III–R Personality disorders in a community-based survey of adolescents. *American Journal of Psychiatry*, **150**, 1237–1243.

**Cohen, P. & Cohen, J. (1996)** *Life Values and Adolescent Mental Health*. Erlbaum.

**Cohen, P. & Crawford, T. (2005)** Development issues. In *American Psychiatric Publishing Textbook of Personality Disorders* (eds J. M. Oldham, A. E. Skodol & D. S. Bender), pp. 171–185. American Psychiatric Publishing.

**Crawford, T. N., Cohen, P., Johnson, J. G., et al (2004)** The course and psychosocial correlates of personality disorder symptoms in adolescence: Erikson's developmental theory revisited. *Journal of Youth and Adolescence*, **33**, 373–387.

**Crawford, T. N., Cohen, P., Johnson, J. G., et al (2005)** Self-reported personality disorder in the Children in the Community Sample: convergent validity and prospective validity in late adolescence and adulthood. *Journal of Personality Disorders*, **19**, 30–52.

**First, M. B., Spitzer, R. L., Gibbon, M., et al (1995a)** The Structured Clinical Interview for DSM–III–R Personality Disorders (SCID–II). Part I: description. *Journal of Personality Disorders*, **9**, 83–91.

**First, M. B., Spitzer, R. L., Gibbon, M., et al (1995b)** The Structured Clinical Interview for DSM–III–R Personality Disorders (SCID–II). Part II: multi-site test–retest reliability study. *Journal of Personality Disorders*, **9**, 92–104.

**First, M. B., Spitzer, R. L., Gibbon, M., et al (1996)** *The Structured Clinical Interview for DSM–IV Axis I Disorders, Non-Patient Version (SCID–I/NP)*. Biometrics Research, New York State Psychiatric Institute.

**Geiger, T. C. & Crick, N. R. (2001)** A developmental psychopathology perspective on vulnerability to personality disorders. In *Vulnerability to Psychopathology* (eds R. E. Ingram & J. M. Price), pp. 57–102. Guilford.

**Grilo, C. M., McGlashan, T. H. & Oldham, J. M. (1998)** Course and stability of personality disorders. *Journal of Practical Psychiatry and Behavioral Health*, **4**, 61–75.

**Grilo, C. M., Shea, M. T., Sanislow, C. A., et al (2004)** Two-year stability and change of schizotypal, borderline, avoidant, and obsessive–compulsive personality disorders. *Journal of Consulting and Clinical Psychology*, **72**, 767–775.

**Hilsenroth, M. J., Ackerman, S. J., Blagys, M. D., et al (2000)** Reliability and validity of DSM–IV axis V. *American Journal of Psychiatry*, **157**, 1858–1863.

**Hyler, S. E., Reider, R., Williams, J. B. W., et al (1988)** The Personality Diagnostic Questionnaire: development and preliminary results. *Journal of Personality Disorders*, **2**, 229–237.

**Johnson, J. G., Cohen, P., Skodol, A. E., et al (1999)** Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry*, **56**, 805–811.

**Johnson, J. G., Cohen, P., Kasen S., et al (2000a)** Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal study. *Acta Psychiatrica Scandinavica*, **102**, 265–275.

**Johnson, J. G., Cohen, P., Smailes, E. M., et al (2000b)** Adolescent personality disorders associated with violence and criminal behavior during adolescence and early adulthood. *American Journal of Psychiatry*, **157**, 1406–1412.

**Johnson, J. G., Bromley, E., Bornstein, R. F., et al (2006)** Adolescent personality disorders. In *Behavioral and Emotional Disorders in Children and Adolescents: Nature, Assessment, and Treatment* (eds D. A. Wolfe & E. J. Mash), pp. 463–484. Guilford.

**Kasen, S., Cohen, P., Skodol, A., et al (1999)** Influence of child and adolescent psychiatric disorders on young adult personality disorder. *American Journal of Psychiatry*, **156**, 1529–1535.

**Kasen, S., Cohen, P., Skodol, A., et al (2001)** Childhood depression and adult personality disorder: alternative pathways of continuity. *Archives of General Psychiatry*, **58**, 231–236.

**Kogan, L. S., Smith, J. & Jenkins, S. (1977)** Ecological validity of indicator data as predictors of survey findings. *Journal of Social Service Research*, **1**, 117–132.

**Lenzenweger, M. F. (1999)** Stability and change in personality disorder features: findings from a

longitudinal study of personality disorders. *Archives of General Psychiatry*, **56**, 1009–1015.

**McDavid, J. D. & Pilkonis, P. A. (1996)** The stability of personality disorder diagnoses. *Journal of Personality Disorders*, **10**, 1–15.

**Modestin, J., Ern, T. & Oberson, B. (1998)** A comparison of self-report and interview diagnoses of DSM–III–R personality disorders. *European Journal of Personality*, **12**, 445–455.

**Perry, J. C. (1993)** Longitudinal studies of personality disorders. *Journal of Personality Disorders*, **7** (suppl.), 63–85.

**Perry, J. C., Banon, E. & Ianni, F. (1999)** Effectiveness of psychotherapy for personality disorders. *American Journal of Psychiatry*, **156**, 1312–1321.

**Shea, M. T., Stout, R., Gunderson, J., et al (2002)** Short-term diagnostic stability of schizotypal, borderline, avoidant, and obsessive–compulsive personality disorders. *American Journal of Psychiatry*, **159**, 2036–2041.

**Skodol, A. E., Gunderson, J. G., McGlashan, T. H., et al (2002)** Functional impairment in patients with schizotypal, borderline, avoidant, or obsessive–compulsive personality disorder. *American Journal of Psychiatry*, **159**, 276–283.

**Skodol, A. E., Pagano, M. E., Bender, D. S., et al (2005)** Stability of functional impairment in patients with schizotypal, borderline, avoidant, or obsessive–

compulsive personality disorder over two years. *Psychological Medicine*, **35**, 443–451.

**Spitzer, R. L. & Williams, J. B. W. (1986)** *Structured Clinical Interview for DSM–III–R Personality Disorders.* New York State Psychiatric Institute.

**Stewart, A. L., Hays, R. D. & Ware, J. E. (1988)** The MOS Short-Form General Health Survey. Reliability and validity in a patient population. *Medical Care*, **26**, 724–735.

**Torgersen, S. (2005)** Epidemiology. In *American Psychiatric Publishing Textbook of Personality Disorders* (eds J. M. Oldham, A. E. Skodol & D. S. Bender), pp. 129–141. American Psychiatric Publishing.

**Torgersen, S., Kringlen, E. & Cramer, V. (2001)** The prevalence of personality disorders in a community sample. *Archives of General Psychiatry*, **58**, 590–596.

**Trull, T. J. (2001)** Relationships of borderline features to parental mental illness, childhood abuse, Axis I disorder, and current functioning. *Journal of Personality Disorders*, **15**, 19–22.

**World Health Organization (1992)** *The ICD–10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines.* WHO.

**Zanarini, M. C., Frankenburg, F. R., Hennen, J., et al (2003)** The longitudinal course of borderline psychopathology: 6-year prospective follow-up of the phenomenology of borderline personality disorder. *American Journal of Psychiatry*, **160**, 274–283.

**Zanarini, M. C., Frankenburg, F. R., Hennen, J., et al (2005)** Psychosocial functioning of borderline patients and axis II comparison subjects followed prospectively for six years. *Journal of Personality Disorders*, **19**, 19–29.

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