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Long-term stability of personality traits in a clinical psychiatric sample

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ABSTRACT

Background: The aim of this study was to describe personality traits in psychiatric patients and to investigate whether these traits are stable over 13 years.

Methods: A total of 95 individuals who were patients at a psychiatric outpatients' clinic in 2003 completed the Swedish universities Scales of Personality (SSP). Scores from 2003 were compared with SSP scores from 2016. Based on the current score on the comprehensive psychopathological rating scale – self rating for affective disorders (CPRS-S-A), the participants were divided into two groups representing 'good' and 'poor' current mental states, to investigate the effect of current mental state on reports of personality traits.

Results: Out of 13 personality traits, 11 showed a significant change in mean T-score over the study interval. The group with lower CPRS-S-A scores showed a significant change in T-score for 10 traits, whereas in the group with higher CPRS-S-A scores only 3 traits showed a significant change.

Conclusions: The findings support the theory that personality is changeable over the course of life, also in psychiatric patients. We do not know if persisting psychiatric symptoms halter change or if deviant personality traits cause psychiatric symptoms to continue.

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Personality traits; personality; personality trait change; Swedish universities Scales of Personality; SSP

Introduction

There is a lack of scientific consensus on the stability of personality traits. Some findings support the theory that personality traits are changeable over the course of life, even into old age [1–4]. Other studies oppose this theory and instead suggest stability of personality traits over the life course or stagnation of change in young adulthood [5,6].

Change in personality traits can be studied by investigating whether trait dimensions over time increase or decrease in a studied group. By studying this, referred to as the mean-level change of personality traits, it has been suggested that some traits follow certain pattern of change during the course of life. Traits like conscientiousness and agreeableness have been found to be higher in middle age than in young adulthood, whereas traits like extraversion, neuroticism, and openness are found to be lower in middle age than in young adulthood [3].

Another way to study change in personality traits is to investigate the rank-order stability, i.e. relative or differential stability, of different traits [1,4,7]. In a longitudinal study of the rank-order stability of personality traits in a sample of over 14,000 German adults, Specht et al. found that the traits emotional stability, extraversion, openness, and agreeableness showed an inverted U-shaped function of rank-order stability across adulthood, whereas conscientiousness showed increasing rank-order stability [4].

The most commonly used model of human personality is the five factor model (FFM). The model comprises of five personality dimensions, often referred to as 'The Big Five', namely extraversion, agreeableness, conscientiousness, neuroticism, and openness [8,9]. The FFM argues that personality reaches maturity in early adulthood [10]. The FFM has been studied across different cultures and results suggest that its' structure is universal [11]. The NEO personality inventory (NEO-PI) and its' later versions (NEO-PI-R) are questionnaires developed for measuring personality traits according to the FFM [12,13]. Assessment with the NEO-PI-R has shown longitudinal stability over 9 years in a non-clinical sample of middle age adults [14].

The Swedish universities Scales of Personality (SSP), is another self-report instrument for assessing personality traits. It is a revised and modernized version of the Karolinska Scales of Personality (KSP) [15]. The SSP has been suggested to measure universal personality traits and they have been shown to correspond to trait dimensions of the FFM of personality [16]. The SSP has been used as a personality measure in studies within a broad spectrum of research, including studies on biological correlates of personality [17–21]. The assessment of personality traits using the KSP in a non-patient sample was found to be stable after 9 years in a Swedish study of twins [7]. There is no published long-time follow-up of personality measured with SSP in psychiatric patients.

According to the vulnerability model, some personality traits can place individuals at risk for the development of, as well as persistence of mental disorders [22–24]. When psychiatric patients are compared with community controls, more deviant traits are found in the clinical groups [23,25]. Within clinical samples, more deviant traits, such as personality disorders, are related to persistency and non-favorable courses [26,27]. However, a concern when studying personality in psychiatric patients is how to differ between stable personality traits and reports influenced by current states such as depressed mood. Multiple studies have illustrated these ‘state-trait issues’, and there is no consensus on how to overcome these difficulties [28–30].

The aim of this study was to describe personality traits assessed by SSP in a young adult psychiatric sample and to investigate long-term stability of these traits.

Material and methods

Study procedure

This study was a follow-up of a clinical cohort included in a previous study conducted between 2002 and 2004 [31]. All patients from 18 to 25 years of age who came to one specific psychiatric out-patient clinic during 1 year were consecutively included. In total 217 patients were invited to participate, and 200 (92%) agreed, and were hence included. At baseline a diagnostic assessment was conducted over three patient visits. A clinical interview was conducted during the first visit, and a structured diagnostic interview (SCID-I-CV) was conducted during the second, both by the same psychiatrist. Psychosocial and environmental problems were assessed by a social worker during the third visit. She also made an estimate of the total burden of problems on a scale from one (none) to six (catastrophic). The visits were followed by a team conference at which all available information was presented and diagnoses were established. Patients were then provided with appropriate treatment. Personality disorders were assessed by the psychiatrist after the treatment had been finalized. A total of 188 participants (94%) underwent personality disorder assessment. Two of the authors (MR and AR) performed the SCID interviews after training. Interrater reliability was measured for eight randomly selected SCID-I-CV interviews and six randomly selected SCID-II interviews (kappa coefficients of 1.0 and 0.89, respectively). In the original sample, 72% had any mood disorder, 68% had any anxiety disorder, 1% had any substance related disorder, 28% had any eating disorder, 26% had any personality disorder, and number of current axis I diagnoses were 2.2 (SD 1.2). Current addresses of the former 200 participants were retrieved from the Swedish Tax Agency. Within an interval of 2 weeks, three letters containing information about the follow-up study were sent in 2016 to the former participants. A new round of letters containing revised study information was sent in 2017 to those who had not previously responded. There were in total 103 (52%) individuals who provided a written consent to participate. Two individuals actively rejected further participation and 95 did not respond. Five individuals did not finish all study

parts. Those participants who had not fulfilled the SSP in 2003 were excluded from the study ($n = 3$), leaving 95 (92%) participants, see Figure 1 for flow-chart. Those who took part could choose if they wanted to respond over the internet or *via* paper-pencil. Eight different self-report instruments were included in the survey, of these two were included in this study, see below. The participants received a small amount of money as a reward for filling these out.

Instruments

Swedish scales of personality, SSP

The SSP is a revised version of the KSP that retain the 13 scales which demonstrate good psychometric properties [15,32]. The SSP is a self-report inventory, consisting of 91 items divided into 13 scales: somatic trait anxiety, psychic trait anxiety, stress susceptibility, lack of assertiveness, impulsiveness, adventure seeking, detachment, social desirability, embitterment, trait irritability, mistrust, verbal trait aggression, and physical trait aggression. These scales make up three personality dimensions: neuroticism, extraversion, and aggression. Each item is graded by the respondent on a four-point scale ranging from 1=‘does not apply at all’ to 4=‘applies completely.’ The SSP is not constructed to evaluate personality as a whole, but rather the personality traits known to correlate with psychopathology. The SSP scales have shown good psychometric properties and is applicable in different cultural and social contexts [15,16]. In this study, the data are expressed in T-scores, related to estimated normative data from the general Swedish population (with the norm expressed as a T-score of 50), as described in the validation study of the SSP [15].

Comprehensive psychopathological rating scale – self-rating for affective disorder, CPRS-S-A

Comprehensive psychopathological rating scale – self rating for affective disorder (CPRS-S-A) is a self-rated instrument with 19 items regarding anxiety, depression, and compulsions corresponding to three subscales for affective and anxiety syndromes. The CPRS-S-A derived subscale for the evaluation of depression is the Montgomery–Asberg depression rating scale self-assessment (MADRS-S) [33]. The CPRS-S-A respondent rates each item based on the severity of symptoms during the last 3 d on a 7 point scale between 0 and 3, where the CPRS-S-A variables are described on 4 scale steps (0–3), with the possibility of rating half-steps. The range of CPRS-S-A score is 0–57 [33]. CPRS-S-A is based on a dimensional model of psychopathology and consists of a continuous scale. To our knowledge, there is no established instruction for how to turn CPRS-S-A ratings into categorical data. In this study, we therefore used the median-split approach in order to get evenly distributed groups, defining subjects with ‘low’ scores (CPRS-S-A score ≤ 10 , $n = 48$) and ‘high’ scores (CPRS-S-A score > 10 , $n = 47$).

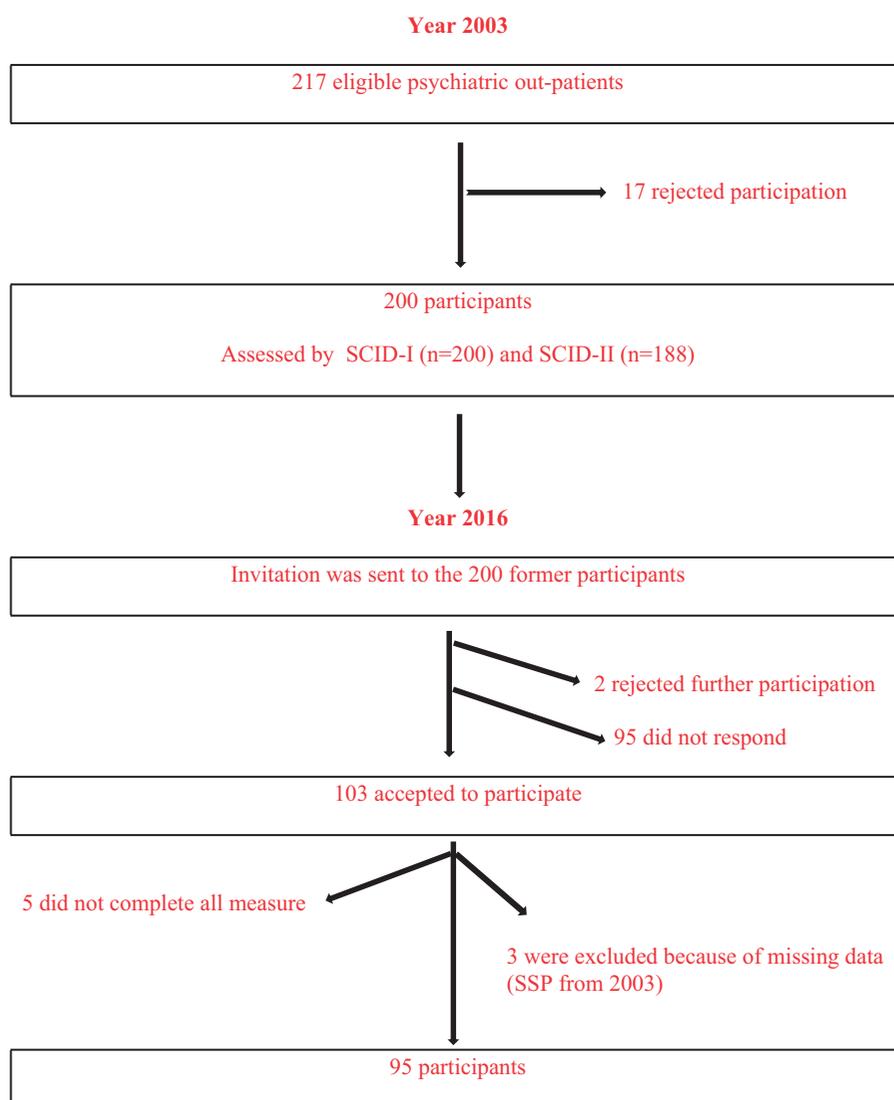


Figure 1. Flow chart over recruitment and attrition to a follow-up study of stability in personality traits in young psychiatric out-patients.

Drop-out analysis

Comparison of the 95 participants with the 105 lost at follow-up is presented in Table 1. Comparing the SSP mean T-scores in 2003 between participants and individuals who were lost to follow-up revealed a significant difference in two personality traits between the groups, namely impulsiveness and adventure seeking, see Table 1.

Statistics

Chi² test was used to compare categorical data and independent sample *t*-test was used to compare groups according to dimensional data. Comparing SSP 2003 with 2016 was performed with paired sample *t*-test. To evaluate, if the score of CPRS-S-A can predict the change in SSP a series of regression analyses were performed with CPRS-S-A score as independent variable and the change in SSP subscales as dependent variable. Initially, a crude model was performed, thereafter potential moderators from 2003 were added, those

were any anxiety disorder, any mood disorder, any substance related disorder, any eating disorder, any personality disorder, and number of current diagnoses. SPSS version 25 (Chicago, IL) was used for all analyses. A significance level of 5% was used.

Ethics

The study was approved by the Regional Ethics Committee at Uppsala University, reference no 2015/302.

Results

In Figure 2, the mean SSP T-score for each scale and dimension is presented both in 2003 and at follow up in 2016. Out of 13 scales, 11 showed a significant change in mean T-scores between the two study points. The only scales that did not change were social desirability and physical trait aggression. Eight of the eleven traits showed a change

toward the normative T-score value of 50, as shown in Figure 2. When personality scales were merged into three personality dimensions, neuroticism, and aggressiveness showed a significant change.

Table 1. Comparison of participants and drop-outs according to data from 2003.

Descriptive from 2003	Participants <i>n</i> = 95	Lost at follow-up <i>n</i> = 105	<i>p</i>
Mean age (years)	22.5	22.3	.540
Female	86.3%	75.2%	.048
Any anxiety disorder	64.2%	70.5%	.345
Any mood disorder	80.0%	74.3%	.338
Any substance abuse/dependence	3.2%	12.4%	.016
Any eating disorder	24.2%	30.5%	.322

Personality traits in 2003	Participants <i>n</i> = 95 T-score (SD)	Lost at follow-up <i>n</i> = 86 T-score (SD)	<i>p</i>
Somatic trait anxiety	61.7 (12.7)	61.3 (14.0)	.848
Psychic trait anxiety	66.2 (12.6)	65.9 (13.0)	.891
Stress susceptibility	62.0 (13.4)	64.8 (15.2)	.184
Lack of assertiveness	59.2 (13.4)	56.1 (12.6)	.104
Impulsiveness	49.0 (9.8)	52.3 (10.0)	.026
Adventure seeking	48.3 (10.6)	52.2 (11.3)	.017
Detachment	43.6 (10.5)	45.2 (11.4)	.346
Social desirability	46.4 (10.0)	46.1 (12.8)	.828
Embitterment	59.3 (11.5)	61.5 (12.6)	.238
Trait irritability	55.0 (9.6)	57.0 (11.1)	.180
Mistrust	53.9 (14.0)	56.1 (14.5)	.293
Verbal trait aggression	49.6 (10.1)	52.1 (11.3)	.124
Physical trait aggression	44.0 (9.2)	46.6 (10.8)	.086
Neuroticism scale	60.4 (9.6)	61.0 (10.4)	.702
Aggressiveness scale	50.4 (5.8)	51.8 (5.7)	.106
Extraversion scale	47.0 (6.6)	49.9 (7.6)	.006

Table 2 presents the SSP mean T-scores in the two groups CPRS-S-A ≤ 10 and CPRS-S-A > 10 . In the group with fewer current affective symptoms (CPRS-S-A ≤ 10), 10 out of the 13 scales showed a significant change in mean T-score, with 6 moving toward the normative value. The personality traits that did not show a significant change were social desirability, detachment, and physical trait aggression. The three personality trait dimensions all showed a significant change in mean T-scores. In the group with more symptoms (CPRS-S-A > 10), only 3 of 13 scales showed a significant change in mean T-scores over the study interval. Two of these three traits changed toward the normative value. None of the three personality trait dimensions showed a significant change.

There were three participants who did not fulfill criteria for any axis I disorder in 2003. Two of them were close to the median value on the neuroticism scale in 2003 and one had a T-score of 60. At follow up these participants had lowered the neuroticism scores with 22 points, 6 points, and 1 remained unchanged.

To evaluate if the score of CPRS-S-A can predict the change in SSP a series of regression analyses were performed with CPRS-S-A score as independent variable and the change in SSP subscales as dependent variable. Results are presented in Table 3. First, the crude model is presented, and thereafter the adjusted model. In the crude model, the CPRS-S-A score was shown to have its biggest impact on the neuroticism scales, where it explained 30% of the changes in SSP score. Impact on the aggressiveness and extraversion scales was found to be much smaller;

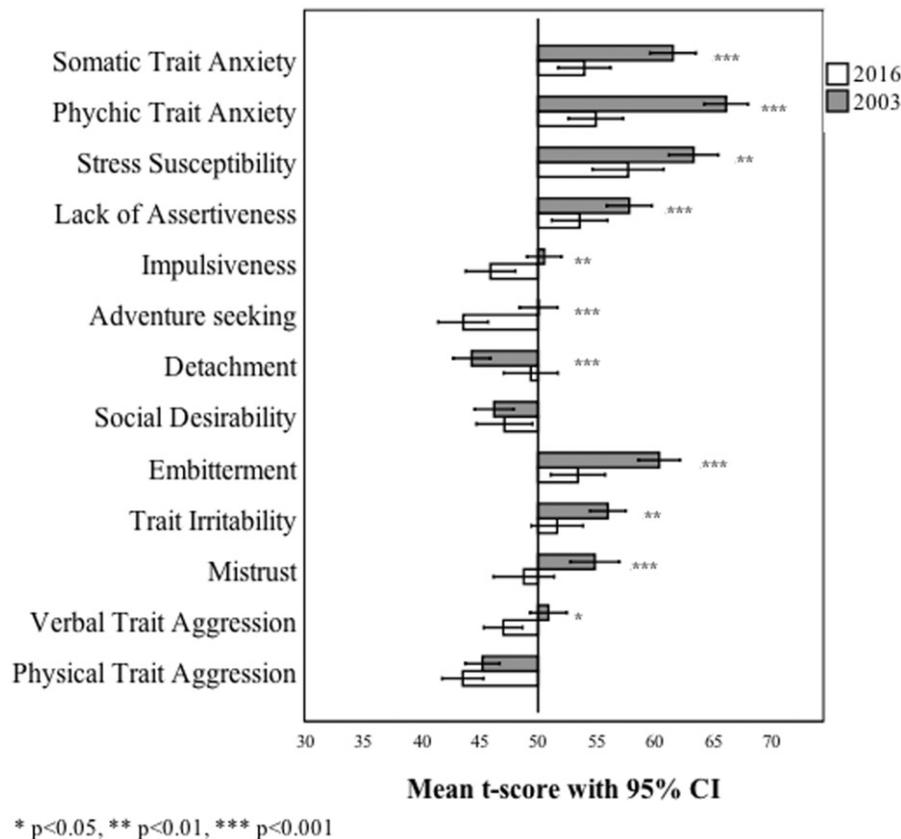


Figure 2. SSP-scores (mean T-score with 95 % CI) in 95 former psychiatric patients in 2003 and at follow-up in 2016.

Table 2. Personality traits measured by SSP in participants ($n = 95$) presented as T-scores (50 = median in a normative sample).

CPRS-S-A ≤ 10 ($n = 48$)	SSP	Mean (SD) 2003	Mean (SD) 2016	t^a	p
	Somatic trait anxiety	59.0 (11.3)	46.8 (8.1)	6.75	$\leq .001$
	Psychic trait anxiety	63.0 (12.7)	47.5 (9.6)	10.01	$\leq .001$
	Stress susceptibility	59.2 (11.7)	48.2 (12.0)	6.01	$\leq .001$
	Lack of assertiveness	56.7 (13.3)	47.5 (10.4)	5.79	$\leq .001$
	Impulsiveness	49.5 (10.7)	45.6 (9.6)	2.69	.010
	Adventure seeking	51.0 (10.2)	45.3 (10.6)	3.46	.001
	Detachment	42.9 (11.1)	45.2 (9.5)	1.80	.079
	Social desirability	47.6 (9.4)	50.1 (11.8)	1.37	.176
	Embitterment	57.7 (11.8)	47.3 (9.3)	6.60	$\leq .001$
	Trait irritability	54.0 (9.5)	48.5 (10.3)	3.89	$\leq .001$
	Mistrust	53.2 (14.4)	43.1 (9.9)	6.49	$\leq .001$
	Verbal trait aggression	50.9 (9.2)	47.3 (8.7)	2.67	.010
	Physical trait aggression	44.5 (9.3)	42.5 (7.8)	1.53	.132
	Neuroticism scale	58.1 (9.1)	46.7 (7.0)	10.34	$\leq .001$
	Aggressiveness scale	50.8 (5.7)	48.7 (5.8)	2.59	.013
	Extraversion scale	47.8 (6.9)	45.4 (5.7)	2.52	.015
CPRS-S-A > 10 ($n = 47$)	SSP	Mean (SD) 2003	Mean (SD) 2016	t	p
	Somatic trait anxiety	64.5 (13.6)	61.6 (8.9)	1.63	.110
	Psychic trait anxiety	69.4 (11.8)	62.5 (8.2)	5.32	.000
	Stress susceptibility	64.8 (14.5)	67.4 (12.0)	1.38	.175
	Lack of assertiveness	61.8 (13.2)	59.1 (10.5)	1.65	.105
	Impulsiveness	48.5 (9.0)	46.6 (11.8)	1.26	.214
	Adventure seeking	45.5 (10.4)	41.6 (10.4)	2.66	.011
	Detachment	44.4 (10.0)	53.2 (11.6)	5.95	.000
	Social desirability	45.3 (10.5)	44.1 (11.3)	0.65	.520
	Embitterment	61.0 (11.1)	59.8 (10.5)	0.93	.358
	Trait irritability	56.0 (9.7)	55.5 (10.7)	0.31	.759
	Mistrust	54.6 (13.6)	54.1 (13.4)	0.36	.722
	Verbal trait aggression	48.3 (10.8)	47.1 (8.3)	0.76	.452
	Physical trait aggression $n = 46$	43.4 (9.3)	44.7 (9.8)	0.95	.347
	Neuroticism scale	62.8 (9.7)	60.8 (7.0)	1.88	.067
	Aggressiveness scale	49.9 (5.9)	48.9 (5.2)	1.05	.302
	Extraversion scale	46.1 (6.29)	47.1 (7.1)	1.23	.226

Comparisons of ratings in 2003 and 2016, presented separately for those with a with CPRS-S-A scores ≤ 10 and > 10 .

^aPerformed by paired sample t-test.

Table 3. Participants CPRS-S-A scores ($n = 93$)^a as a predictor for change (Δ) in SSP scales (T-scores) over 13 years.

Changes in SSP scales	Crude model			Adjusted model ^b		
	Intercept (SE)	B (SE)	R^2	Intercept (SE)	B (SE)	R^2
Δ Somatic trait anxiety	-14.99 (2.23)***	0.62 (.16)***	0.14	-12.23 (3.56)***	0.70 (.17)***	0.22
Δ Psychic trait anxiety	-18.22 (1.78)***	0.60 (.13)***	0.20	-15.90 (3.00)***	0.65 (.14)***	0.18
Δ Stress susceptibility	-15.86 (2.26)***	1.00 (.16)***	0.30	-14.31 (3.81)***	1.09 (.18)***	0.28
Δ Lack of assertiveness	-9.68 (2.08)***	0.31 (.15)*	0.05	-10.72 (3.50)***	0.41 (.16)*	0.03
Δ Impulsiveness	-3.76 (1.84)*	0.08 (0.13)	0.01	-2.85 (3.06)	0.14 (0.14)	0.01
Δ Adventure seeking	-6.48 (1.96)***	0.13 (0.14)	0.01	-5.81(3.24)	0.16 (0.15)	0.02
Δ Detachment	1.18 (1.75)	0.39 (.12)**	0.09	1.78 (2.93)	0.42 (.14)**	0.09
Δ Social desirability	4.31 (2.34)	-0.32 (0.17)	0.04	1.02 (3.89)	-0.35 (0.18)	0.04
Δ Embitterment	-13.52 (1.82)***	0.65 (.13)***	0.22	-11.91 (2.89)***	0.73 (.14)***	0.29
Δ Trait irritability	-7.90 (1.81)***	0.43 (.13)**	0.11	-8.63 (3.09)**	0.39**	0.07
Δ Mistrust	-10.77 (2.06)***	0.48 (.15)**	0.10	-4.21 (3.34)	0.57 (.16)***	0.15
Δ Verbal trait aggression	-3.70 (1.83)*	0.11 (0.13)	0.01	-7.05 (2.99)*	0.09 (-.14)	0.05
Δ Psychological trait aggression	-3.02(1.67)	0.23 (0.12)	0.04	-5.94 (2.75)*	0.25 (0.13)	0.06
Δ Neuroticism-scales	-13.84 (1.34)***	0.61 (.10)***	0.31	-11.55 (2.15)***	0.69 (.10)***	0.36
Δ Aggressiveness-scales	-2.43 (1.11)*	0.07 (0.08)	0.01	-4.89 (1.89)*	0.04 (0.09)	0.01
Δ Extraversion-scales	-3.02 (1.14)**	0.20 (.08)*	0.06	-2.29 (1.91)	0.24 (.09)**	0.06

^aOnly participants with complete data were included, two persons missed evaluation of personality disorders.

^bAdjusted for any anxiety disorder, any mood disorder, any substance related disorder, any eating disorder, any personality disorder, and number of current diagnoses in 2003.

*** $p < .001$; ** $p < .01$; and * $p < .05$.

1 and 6% respectively. In the adjusted model, there was significant influence of any PD on the change in the following SSP scales; physical trait aggression, lack of assertiveness, detachment, embitterment and neuroticism, and total number of diagnoses significantly influenced change in adventure seeking. In Table 3, some coefficient of determination (R^2) values in the adjusted model decreased,

which is explained by that the majority of variables included were non-significant.

Discussion

The majority of personality traits in this clinical sample of psychiatric patients changed significantly toward the

normative value of each trait over the study period, supporting the earlier postulated theory that personality is changeable over the course of life [1–4]. When the personality trait data were merged into personality dimensions, the neuroticism scale showed a significant change from much higher toward the normative value. The decline in neuroticism in this clinical sample during the study period is in line with previous studies of change in neuroticism traits over the course of life in studies of the general population [3]. At baseline somatic trait anxiety, psychic trait anxiety, stress susceptibility, and embitterment were more than one standard deviation over the population, but at follow-up only those with current depressive and anxiety symptoms still deviated from the norms and only in the anxiety traits (see Figure 2). However, dividing participants according to current depressive and anxiety symptoms in 2016, revealed that those with high ratings on CPRS-S-A had somewhat more deviant traits in 2003 (see Table 2), and scored over one standard deviation in five traits and in the Neuroticism scale. Those with low ratings on CPRS-S-A scored over one standard deviation only in two traits. Maybe those with most depressive and anxiety symptoms had more deviant traits at baseline and both groups may have had some state effects.

Neuroticism has been shown to be the personality trait with the strongest correlation to common mental disorders [34] and is also known to bring an enormous economic burden to society, even exceeding that of common mental disorders [35], making neuroticism important to identify in any individual but maybe even more so in young adults with expectedly long lives ahead.

The results of this study showed that change in personality traits was halted if current CPRS-S-A scores were high, here representing a poor current mental state. An issue when studying personality in psychiatric clinical samples is how to deal with the question of state *versus* trait, since the feared state effect on reports of traits ought to be stronger in psychiatric clinical samples. It has previously been shown that both personality traits [36] and personality disorders [37] are inflated during phases of psychiatric illness and normalize after treatment. This study deals with the state *versus* trait issue by dividing participants according to current mental status based on CPRS-S-A scores. We do not know anything about their traits before they got ill for the first time. All participants are presumed to have had a state effect on their trait reports in 2003, since they were all seeking help from psychiatric services and all except three were evaluated as disordered. At follow-up, the state effect varied. In the regression analysis, the impact of the CPRS-S-A score as a predictor of the SSP score changes showed that the state effect had its largest impact on the neuroticism related scales, where it was shown to explain 30% of the change in SSP scores during the study period. The state effect was found to be smaller on the extraversion scales and aggressiveness scales (1 and 6%, respectively). A limitation of using the CPRS-S-A score as a value of state effect is that it gives a global score of the state effect of both depressive and anxiety symptoms. Depressive disorders are known to have a state effect on multiple Big Five personality dimensions, whereas anxiety disorders mainly

affect neuroticism [38]. It would hence have been of interest to have separate measures of anxiety and depressive symptoms for our participants.

We do not know if persisting psychiatric symptoms halter the normal change in an individuals' personality, or if the deviant personality traits aggravate the mental disorders and obstruct recovery. In support of the former theory is a previous study of personality using SSP in a clinical sample of patients with health anxiety, where an enduring reduction in the neuroticism related scales after treatment by internet cognitive behavior therapy was shown [39].

A weakness of this study is that it does not account for which, if any, therapeutic interventions the participants received during the study period. Previous research has shown that both clinical and non-clinical interventions result in long lasting personality trait change [40]. Since our participants were patients at a psychiatric outpatients' clinic, all of them most probably received a range of therapeutic interventions that might account for the observed personality trait changes.

Another weakness of the study is the big number of participants lost to follow up and the issue of selection bias since participation might be associated with the subjects' personalities *per se*. The issue of selection bias relates both to the study subjects in the original study in 2003, but probably more at the follow-up, since the drop-out rate was larger at this point. However, in the drop out analysis differences in personality traits and clinical data were small between participants and individuals lost to follow up. The only clinical diagnosis that was more common in drop-outs was substance abuse or dependence. In this group, the personality trait impulsivity is known to be more common [41], which might have decreased our possibility to study change in this trait.

Another weakness is that all collected data from 2016 stems from self-report instruments, which might lower its validity. The current mental state of participants was evaluated based on CPRS-S-A scores and not on semi-structured interviews as is considered the golden standard of psychiatric diagnostics. On the other hand, the chosen procedure ensured that there was no bias from interviewer expectations based on previous history. Accordingly, there was no CPRS-S-A score in 2003 which would have made comparisons more comprehensive. An evaluation of the impact of change in MADRS-S score revealed that the participants who showed the biggest decrease in score (i.e. relieved their depressive symptoms the most) also experienced the biggest decrease in neuroticism traits. This is in line with our finding that change in personality traits was more prevalent in the group with fewer current affective symptoms (CPRS-S-A score ≤ 10). The change in neuroticism score in the three subjects who were not diagnosed as disordered in 2003 was in line with the rest of the participants.

The main strength of the study is the length between the two study points. Another strength of the study is the use of T-scores, which allows the comparison of the results with normative data from the general population [15].

In conclusion, our findings support the theory that personality is changeable over the course of life, also in young clinical psychiatric samples. In the studied group, a majority of personality traits changes toward the SSP normative

values. Persisting psychiatric symptoms seemed to either alter this normal change and/or deviant personality traits caused psychiatric symptoms to continue. The findings stress the importance of treating not only psychiatric illness but also persisting deviant personality traits. Since SSP is a self-report instrument it could easily be included in the psychiatric consultation. However, further research on this subject is recommended, especially intervention studies targeting behaviors related to personality traits.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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