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ScienceDirect
Comprehensive Psychiatry 50 (2009) 209–214
Comprehensive PSYCHIATRY
www.elsevier.com/locate/comppsych

Personality disorder traits as predictors of subsequent first-onset panic disorder or agoraphobia

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Abstract

Determining how personality disorder traits and panic disorder and/or agoraphobia relate longitudinally is an important step in developing a comprehensive understanding of the etiology of panic/agoraphobia. In 1981, a probabilistic sample of adult (≥18 years old) residents of east Baltimore were assessed for Axis I symptoms and disorders using the Diagnostic Interview Schedule (DIS); psychiatrists reevaluated a subsample of these participants and made Axis I diagnoses, as well as ratings of individual *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* personality disorder traits. Of the participants psychiatrists examined in 1981, 432 were assessed again in 1993 to 1996 using the DIS. Excluding participants who had baseline panic attacks or panic-like spells from the risk groups, baseline *timidity* (avoidant, dependent, and related traits) predicted first-onset DIS panic disorder or agoraphobia over the follow-up period. These results suggest that avoidant and dependent personality traits are predisposing factors, or at least markers of risk, for panic disorder and agoraphobia —not simply epiphenomena.

1. Introduction

Determining how personality disorder traits and panic disorder and/or agoraphobia relate longitudinally is an important step in developing a comprehensive understanding of the etiology of panic/agoraphobia. Cluster C (anxious cluster) personality traits, especially avoidant and dependent traits, are strongly related to anxiety disorders, including panic disorder and agoraphobia, cross-sectionally [1-3].

Some have argued that avoidant and dependent traits are predisposing factors for (or prodromal factors in) panic/agoraphobia, based on retrospective reports of anxious patients' premorbid personalities [4]. However, relying on retrospective reports introduces potential recall bias, that is, patients with current panic/agoraphobia may have biased memories of their premorbid personality traits.

Others have argued that early panic symptoms probably shape personality, for example, enhancing avoidant and dependent tendencies [5,6]. Indeed, personality abnormalities can be diminished somewhat by effective treatment of panic disorder and agoraphobia [7,8], and this may indicate some degree of state-trait confounding in the context of acute psychopathology [9]. Of course, a state-trait confounding explanation presumes that treatment of panic/agoraphobia has no influence on personality traits themselves; this may not be correct [10,11].

The *most* informative method for determining whether or not personality disorder traits are risk factors for panic/agoraphobia is to longitudinally relate the former to *later* first onset of the latter; we know of only one prior study that used this method [12]. [Note that we are using the term *risk factor* in a broad sense here: that is, a risk factor is an attribute or exposure that is associated with an increased probability of a specified outcome [13], not necessarily a causal factor.] The current study uses general population cohort data to determine whether baseline personality disorder characteristics predict subsequent first onset of panic disorder or agoraphobia over a 13-year period, excluding participants with baseline spontaneous panic attacks or subthreshold panic-like spells from the risk

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0010-440X/$ – see front matter © 2009 Elsevier Inc. All rights reserved.
doi:10.1016/j.comppsych.2008.08.006

groups. If personality abnormalities are merely epiphenomena of panic/agoraphobia, baseline personality disorder traits should be unrelated to subsequent onset. Because avoidant and dependent traits are strongly related to panic and agoraphobia cross-sectionally, these were the strongest *a priori* candidates as personality disorder trait risk factors.

2. Methods

The current study, which was approved by the Johns Hopkins Institutional Review Board, involves the longitudinally assessed Baltimore Epidemiologic Catchment Area cohort. In 1981, trained nonclinician interviewers administered a *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (*DSM-III*) version of the National Institute of Mental Health Diagnostic Interview Schedule (DIS-III) [14] to a probabilistic sample of the adult population of eastern Baltimore (n = 3481). Psychiatrists interviewed 810 of these participants using the Standardized Psychiatric Examination, which assessed current *DSM-III* Axis I disorders and each of the *DSM-III* personality disorder criteria [15,16]. In the assessment of personality disorder traits, the examining psychiatrist rated enduring characteristics based on the participant's personal history, psychiatric history, mental state, and answers to specific personality-related questions [16].

Between 1993 and 1996, in the Baltimore Epidemiologic Catchment Area Follow-up study, 88% of the original Baltimore cohort was traced, and 73% of those known to be alive provided informed, written, voluntary consent and were reinterviewed using a *DSM-III*-R version of the DIS (n = 1920; 432 of these participants were examined by psychiatrists in 1981) [17]. Mortality in the intervening 13 years was substantial as a result of the high proportion of elderly respondents originally sampled [18]. No baseline personality disorder factors were associated with participation in the Follow-up study. The overall design is illustrated in Fig. 1.

For the current study, participants were considered *at risk* for first-onset DIS-III-R panic disorder or agoraphobia over the follow-up period if (1) they did not have a lifetime history of the DIS-III syndrome in 1981, (2) they did not have the *DSM-III* syndrome currently at the time of the 1981 psychiatric interview, *and* (3) they did not have a lifetime history of spontaneous panic attacks or panic-like spells in 1981 (assessed using the DIS-III). Participants *at risk* for the disorder were considered first-onset cases if they met lifetime DIS-III-R criteria at follow-up (1993-1996). This method is similar to that used in prior work on the incidence of these conditions [19,20], with 2 important distinctions: (1) in prior work, we did not incorporate the 1981 psychiatrist interview data because these were only present for a subset of the entire sample (unlike the present study, which *only* includes subjects who had a baseline psychiatric interview); and (2) in this study, we excluded participants with a lifetime history of spontaneous panic attacks or panic-like spells from the risk groups because these symptoms have been hypothesized to shape personality in persons who later develop panic disorder and/or agoraphobia [6].

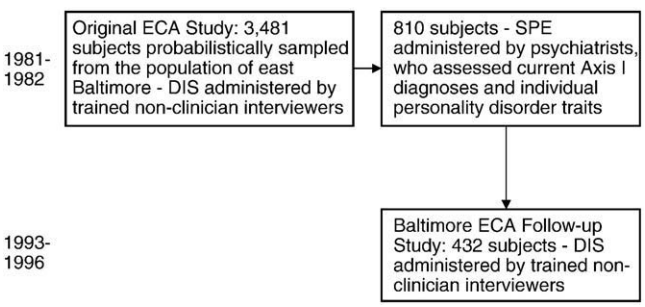

Fig. 1. Design of the current study. SPE indicate Standardized Psychiatric Examination.

2.1. Statistical analysis

In this general population sample, using the above methods, there were too few cases of baseline personality disorder for meaningful longitudinal analyses; for example, there were no participants who met full criteria for avoidant personality disorder [16]. Thus, we chose to create dimensional scales for analyses. We note that this dimensional approach is consistent with the direction many in the field have been taking with regard to defining personality pathology [21-23]. Particularly in *DSM-III*, there was substantial overlap across personality disorders in criterion content [24]. In addition, personality disorders and their constituent traits frequently co-occur [22,25]. Our group previously used dichotomous factor analysis to explore the structure of the 1981 psychiatrist-assessed *DSM-III* personality disorder items. A 5-factor model appeared the most apt, based on the scree plot and examination of 7 possible factor solutions (from 2-factor to 8-factor models) [26]. For the current study, we created unit-weighted scales to represent the 5 empirically derived, relatively orthogonal factors: *unscrupulousness*, *timidity*, *animation*, *distrust*, and *coldness* (we have modified the factor names slightly from the previous publication to reflect the meaning of a high scale score). In creating these scales, we selected items with factor loadings 0.60 or higher and no double-loadings (only 1 item loaded on more than 1 factor; "indifference to praise" had a loading of 0.67 on both timidity and coldness). The items defining each factor are listed in Table 1. Notably, the timidity factor includes all of the *DSM-III* avoidant items, 2 of 3 dependent items, 3 of 8 schizotypal items, 1 schizoid item, and 1 borderline item; the particular schizotypal and schizoid items relate meaningfully to the others in the factor in that they index self-consciousness, sensitivity to criticism, and social isolation. The unscrupulousness factor includes most of the antisocial items; the animation factor is made up of histrionic and a few other Cluster B items; the distrust factor is mainly made up of paranoid items; and