Cent. Eur. J. Med. • 7(1) • 2012 • 45-50
DOI: 10.2478/s11536-011-0119-9

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Central European Journal of **Medicine**

Differential characteristics of anxiety syndromes in clinical adolescents

Research article

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Received 17 December 2010; Accepted 26 September 2011

Abstract: Aims. To identify the differential predictors of three main child psychiatric anxiety disorders using personality, attitudinal, coping and stress variables. Methods. The Hungarian adapted versions of 1) JTCI using four temperament and three character traits, 2) the brief DAS of Burns, 3) the Ways of Coping questionnaire of Lazarus and Folkmann, and 4) the JHLES were administered to 498 14- to 18-year -old youths drawn from 5 Hungarian regional child and adolescent outpatient facilities. 3 anxiety disorders were chosen assessed by MINI Plus questionnaire. Seeking differential predictors between the syndromes a 2 dtep logistic regression was performed. Results. The main predictors of Panic-agoraphobia were harm-avoidance and autonomy/outward control,the differential characteristics regarding Social phobia were HA and lack of persistence coupled with avoidance of risky problem solving. Generalized anxiety disorder (GAD)showed only HA again as an important predictor distinguishing GAD from the other anxiety syndromes. Stresses and suicidal factors had no differentiating role between the disorders. Conclusions. A few but significant differential predictors were found distinguishing Panic-agoraphobic patients,social phobics and those suffering from GAD from one another.There are only few specific predictive risk factors evident as essentially differing within anxiety syndromes.

Keywords: *Differential temperament predictors between anxiety disorders • Hungarian adolescent outpatients • Cloningers' Temperament and Character Inventory, Junior version*

1. Introduction

A large majority of studies on risk and health risk behaviour measure various forms of maladaptive behaviour in community-based or in school/college samples, but less attention is paid to a) the specific risk characteristics (including maladaptive behaviour factors, dysfunctional attitudes and coping) in distinct psychiatric disorders, for example anxiety syndromes, though these are extensively investigated in depressive/suicidal disorders and drug abuse literature; and b) specifically, to the role of risk factors active in clinical, adolescent outpatient populations.

If community studies confirm the significant relationships between psychopathology and risk behaviour, it is evident that clinical populations may bring about a more robust association between the clinical diagnosis and risk predictors. Groholt et al [18] argue that risk factors are more powerful for clinical groups of adolescents attempting suicide than for non-hospitalized (college etc.) suicidal control groups. Much less attention is paid to risk behaviour problems in diagnostic groups other than depression and suicidality. There is a rationale for

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studying the impact of psychopathology on the specific risk factors of anxiety syndromes.

Flisher et al [15] assume that the differences in sampling frames lead to different consequences, in which risk factors play a precipitating role in adolescent suicide. The role of sampling seems evident in examining the impact of risk qualities on other psychiatric disorders as well.

Dysfunctional attitudes, coping and problem-solving strategies and life stresses may all be conceptualized as risk factors associated with specific (internalizing or externalizing) pathology or even with a diagnostic entity. Thus, the association of research with dysfunctional attitudes and with coping mechanisms is not arbitrary, as the former evokes defence typical of individuals with tendency-based (internal, subjective) explanations of situations, implementing those (not infrequently also dysfunctional or maladaptive) problem-solving techniques with which the personality tries to fight the conflict. Few studies have examined attitudinal variables in disorders other than depression. Dyck [13] reported significant correlations of the Dysfunctional Attitude Scale (DAS) with both anxiety and depression, confirming the active role of dysfunctional cognition not only in depression, but in anxiety disorders as well. Garnefski et al. [16] argue that the cognitive coping strategies of self-blame, rumination, catastrophizing and positive reappraisal are common methods of combatting symptoms in adult and adolescent patients suffering from depression and anxiety.

Anxiety is traditionally associated with passive, inhibited, avoidant and other ineffective ("ill-adjusted") ways of coping. In a sample of adolescent females suffering from social physique anxiety, the main coping types appearing in content analysis were behavioural and cognitive avoidance [32]. Compas et al. [7] stress the importance of disengagement coping related to higher levels of anxiety/depression and somatic complaints in adolescents with chronic pain. Only Ogul and Gencoz [27] have attempted to test the coping reponses in adolescents suffering from anxiety and depression separately. They found greater use of problem-focussed coping in alleviating depression in the depressive group but failed to relate anxiety symptoms with the preferred specific coping strategies. Sabiston et al in the above cited paper [32] found seeking social support, cognitive avoidance, appearance management and acceptance of situations to be the most commonly reported strategies (20%–40%) in adolescents suffering from social anxiety and from accompanying somatization symptoms. The numerous studies dealing with the internalising syndromes (depression,anxiety syndromes) may indistinctly diminish the possibility of identifying the specific differences in maladaptive thinking and behaviour, personality attitudes and stress-loadings per diagnosis.

Cloninger's psycho-biological* model [5] is a systematic method for clinical description and classification of both normal and abnormal personality variants and is used worldwide in community studies and clinical samples. Besides depressive states, questionnaires (TCI, JTCI) based on Cloninger's method are used in a series of child psychiatric disorders, focussing on the temperament features of individual diseases, including other anxiety disorders [28,36]. Cloninger's temperament scales have 4 independent temperament and three character dimensions*: novelty-seeking (NS), harm-avoidance (HA), reward-dependence (RD) and persistence (P). The 3 factors on the Character scale are self-directedness (SD), cooperativeness (C) and the dimension of self-transcendence (ST).

Copeland et al [9] found the JTCI useful for discriminating between childhood internalizing and externalizing problems. Increased harm-avoidance (HA), low novelty-seeking (NS) and low-level self-directedness (SD) are typically regarded as characteristic of internalizing, i.e., anxiety problems. In a community-based Korean study, Kim and his associates [21] reported that self-reported psychopathology in adolescents is significantly related to the specific temperament and character constellation of Cloninger's Junior Temperament and Character Inventory (JTCI). The "Internalizing problems" of the Youth Self Report questionnaire (YSRs withdrawn, somatic complaint and anxious/ depressed scales) were significantly related to high HA and low RD on the JTCI and low self-directedness (SD) and high self-transcendence (ST) on the character scale of the same inventory.

The aim of our study was to specify which temperament, attitudinal, coping and life event variables play an eminent role in distinguishing three different anxiety disorders in our clinical adolescents: panic-agoraphobia, social anxiety and generalized anxiety disorder

We hypothesized that: 1) although distinct profiles of temperament and character traits will contribute to developing the various anxiety disorders, according to previous literature we should expect there to be a few temperament factors playing a differentiating role among the anxiety pathologies: novelty-seeking (NS) and harm-avoidance (HA) will presumably differ among them as well as, 2) dysfunctional thought, coping methods, life stresses and suicidality/self injury, showing specific differential configurations in each. The case of lack or loss of significant variables will mean that common occurrences of predictors overshadow their differentiating power among anxiety syndromes – which

** A basic knowledge and familiarization with Cloninger's concept is expected from the readers.*

naturally have much in common regarding symptoms and building variables).

2. Methods

Sample. A multisite sampling was used to gather clinical outpatient samples,all cases being selected from a larger sample of 635 consecutively referred 14–18 year old outpatients (patients referred in 2004-2005 with a new-onset illness who had not been diagnosed previously elsewhere) during a one-year period in 5 regional child psychiatric facilities from 5 different Hungarian counties. To be considered for the multicentre project, a child had to meet the following criteria: being neither developmentally disabled nor psychotic; showing no evidence of any major medical disorder; having outpatient status and a realistic need for therapy (i.e. purely administrative cases were excluded); and living with (a) parent(s) or caregiver(s) within commuting distance of the outpatient centre. Among the eligible test battery of newly treated adolescents, 498 had a diagnosis confirmed by the M.I.N.I. Neuropsychiatric Diagnostic Interview. Though there is some rationale [Hoffmann and Bitran 19] for including agoraphopbia and social phobia in the same group rather than composing a common panic/agoraphobic group, considering the well-known comorbities with and overlappings between panic- and agoraphobic syndromes, a common diagnostic group was created. From 3 original diagnoses – panic attack (n=25), lifetime panic disorder (n=27) and agoraphobia (n=22) – a Panic-agoraphobia (n=49) common diagnostic cell resulted (because of comorbidites, the case number was lower than the formal addition of member diagnoses). The final groups were Panic-agoraphobia (n=49), Social phobia (n=61) and the numerous population of Generalized anxiety disorder (GAD) (n= 70).

3. Assessment

A) Temperament and character dimensions were assessed by Cloninger's Junior Temperament and Character Inventory (JTCI). The Hungarian adapted versions of the TCI and JTCI using normative and clinical samples were able to reproduce the original factor structure of the temperament and character dimensions of the mother questionnaires, including subscales [31, 32], and they provided sufficient reliability data.

B) Dysfunctional attitudes. Cognitive distortions and dysfunctional attitudes were measured using the shortened version of the Dysfunctional Attitude Scale [elaboreted by D. Burns in 1980, see reference 3]. The test has been extensively used in Hungarian representative mental hygiene studies [22] for more than two decades. A new standard version for adolescents replicated 5 factors (Achievement, Entitlement, Love, Omnipotence and Autonomy/ Outward control) from the 7 factors of the original test.

C) The Ways of Coping Questionnaire [WoCQ, Lazarus et al, 1984, see reference 23], which is also extensively tested and used in its shortened version in Hungarian research studies on psychiatric epidemiology, was used. The 4-factor solution version, used on a college student population by Piko [29] contains 14 questions from the original questionnaire in characteristically brief statements. The factors were labelled "Passive", "Problem-analyzing", "Risky" and "Support-seeking". The items of "Risky" coping encompass the most serious forms of maladaptive coping, comprising drug, alcohol, bulimic and behavioural addictive signs. This 4-factor version was entered into the present study with 4 variables.

D) Life stresses. The Junior High Life Experiences Survey [Swearingen and Cohen 1986, see 35] was adapted for a Hungarian version [10]. 41 items of life stress typically experienced by teenagers are listed, scoring their occurrence and impact (severity). The time framework was 6 months, and 2 composed variables (the number of stressors and the degree of impact) were developed. Thus, the JHLES allows for a multiple weighting system that is favourable compared to former questionnaires. A 3-factor structure was explored in the Hungarian version containing independent dimensions of stresses (psychosocial events, object loss and individual-positive factors) covering the majority of variance with eigenvalues above 5.0 each. The 2 composed variables and the 3 factors were used as risk variables (5 variables).

E) To assess suicidality and self-injury (SI), the Hungarian pilot version of the Ottawa/Queen's Self-Injury Questionnaire (OSI) [11,26] was used. The OSI is widely used to measure forms of self-injury, both in community-based surveys of adolescents as well as in clinical samples in Canada, Germany and elsewhere in Europe. Only 4 risk behaviour items measuring the occurrences of suicidal and self-injurious thought and acts in the last half year were borrowed from the OSI. In all, 25 risk factors were investigated in the study.

F) Clinical diagnoses were confirmed by the Hungarian standard version of the Mini International Neuropsychiatric Interview (M.I.N.I Plus) in each case. The International M.I.N.I. interview of Sheehan and Lecrubier [34, adapted by Balazs and Bitter, 1,2] contains 18 categorical diagnoses including 3 diseases (major depression, mania, panic) with 2 time frames and includes additionally a distinct entity of "suicidal behaviour" containing 6 items and rating the past month's suicidal events. The

M.I.N.I. items reflect the basic symptoms of psychiatric diseases according to DSM-IV. and parallel ICD-10 diagnoses. In adolescent clinical studies and in various psychiatric disorders, both the adult version of the interview and the M.I.N.I. for children and adolescents are used worldwide.

Using 25 risk factors as independent variables, separate explanatory logistic regression analyses were performed with dependent diagnoses as dichotomous variables (existence/non-existence of diagnosis) in the 3 main categories: panic-agoraphobia, social phobia and generalized anxiety disorder (GAD). From the 25 variables, 14 predictors were identified as significant (sex/age adjusted odds) in the first analyses of the diagnoses: 6 Cloninger factors (missing only Self-Transcendence), one "Ways of coping" variable ("risky" problem solving); four DAS factors and three factors from the OSI (self-injurious thought, suicidal ideas and suicide attempts). To exclude redundancies and obtain more specific distinguishing predictors, only these best-explained variables were entered into the second logistic regression phase, adjusting the odds for age and sex. No single life event variable reached a significant level in the first regression step.

There was little comorbidity among the three disorders. One patient had panic-agoraphobic disorder coupled with GAD and one had all three disorders. 5 patients (2.7% of the study population) had panic-agoraphobia comorbid with social phobia and 11 (6.1%) had social phobia associated with GAD.

4. Results

The Table shows only the results of the second logistic regression step. The upper part presents the adjusted odds of the Panic-Agoraphobic patient group. Harm-avoidance and Autonomy/Outward control were revealed as having the only significant predictors (Table 1). No other temperament trait and dysfunctional attitude reached a significant level in the differential development of that specific disorder in relation to other anxiety syndromes. Considering the HA coefficients in all syndromes, the attitude is most characteristic in the middle group (Social phobia), while it is less characteristic of the GAD patients and the panic-agoraphobic adolescents. Autonomy coupled with outward control with a negative coefficient in panic-agoraphobic group does mean that the patients of the syndrome harbour feelings of incompetence, do not find happiness within themselves and enjoy less autonomy. Social phobia (middle part of the Table 1) is indicated not only by harm-avoidance, but also by a lack of persistence and a

Table 1. Independent effects of variables on distinct anxiety syndromes*

Panic-agoraphobia, N= 403/46 Final loss 134.46, Chi2 (16)=27.805; p=0.0334 t (432)= 2.043, -2.661	OR	95% CI	p
Harm-avoidance	1.057	1.002–1.115	.040
Autonomy/Outward control	0.868	0.782–0.963	.007
Social phobia, N= 392/57 Final loss 141.82; Chi2 (16)=58.086; p= 0.000 t (432)= 2.943, -2.242,-1.972			
Harm-avoidance	1.077	1.025–1.132	.003
Persistence	0.902	0.824–0.987	.024
Risky problem solving	0.850	0.723–0.999	.048
Generalized anxiety disorder, N= 384/65 Final loss 168.584; Chi2= 34.174; p= 0.0051 t (432)= 2.620			
Harm-avoidance	1.066	1.015–1.112	.008

** Logistic regression analyses, confounders (age/sex) are controlled (non-significant in each logits) and only significant effects are presented.*

significant counter-identification (both with negative coefficients) with risky conflict-solving. Finally, generalized anxiety disorder (GAD, lower part of the Table 1) is highlighted only by the significant role of harm-avoidance. Age and sex differences did not confound the results, whereas stresses and suicidal/self-injurious variables did not significantly account for the differences among the 3 investigated disorders. Naturally, stresses do have or have had an impact in developing individual anxiety syndromes, but they play no role in distinguishing them from one another.

5. Conclusions

Despite our expectations, we failed to confirm differential profiles of temperament traits, coping strategies, dysfunctional attitudes, suicidality, self-injury and specific stresses according to individual anxiety disorders. Neither number or group of stresses nor their impact were proved as important differential predictors among anxiety syndromes. There is only one consistent temperament trait that is common to all anxiety syndromes and differentiates them: harm avoidance. Even the expected differences in novelty-seeking are lacking. According to Cloninger et al [6], individuals having high levels of HA are prone to pessimism,shyness and withdrawal and often experience fatigue, avoid risk situations and have a high level of anticipatory anxiety. HA has importance in syndromes but has different weight. It is interesting, however, that patients with panic/

agoraphobic symptoms enjoy less autonomy and may be regarded more as victims of external factors than are patients suffering from other anxiety disorders. As Burns said about individuals reaching low Antonomy, "they are trapped in the belief that their potential for joy and self-esteem come from the outside". The feeling of loss of control seems to be a differential characteristic of panic-agoraphobic adolescents.

Increased HA as a key temperament variable in anxiety disorders is well known in general population studies [i.e. 20,24] and in clinical research [14]. Successful cognitive-behavioural treatment involves not only diminishing the anxiety symptoms, but also decreasing the HA level [25]. Assessing psychiatric disorders with the M.I.N.I., Wachleski et al [37] identified HA as an essential characteristic of temperament in panic patients. In disagreement with the Brazilian researchers, we did not expect low self-directedness to be a differential predictor of the disorders, as our study compared patient groups only and used no normative controls, the expected difference regarding the integration and functioning of the personality structure being more pronounced if patients are compared with normal individuals. In accordance with our findings, Hoffmann and Bitran (op. cit.) found high correlations among HA, social phobia and agoraphobic avoidance. From the clinical studies, Rettew et al [29] identified HA as highly predictive of GAD diagnoses in children. Investigating life events and personality factors with obsessive-compulsive disorder and anxiety disorders in a trilateral comparison (patients with anxiety disorder, OCD and normal subjects), Gothelf et al [17], comparing children with anxiety disorder with OCD children, did not find life events and HA to play a distinguishing role. In a very similar study to ours Cho et al [4] compared the JTCI temperament profiles of 4 distinct anxiety disorders and found HA predictive in both social phobia and specific phobia, while subjects with both social phobia and obsessive-compulsive disorder indicated lower means in self directedness. Social phobic adolescents enjoy some defense against risky influences, as their avoidance from peers yields a relative uninolvement in dangerous activities. It still needs to be explained why they show less persistence in task situations as compared with other anxiety patients. We failed to find any research reference to persistence as a character dimension regarding its contribution to developing any anxiety disorder or difference between them. Novelty seeking, which plays a striking role in some syndromes [12], does not have a distinguishing position in the present trilateral aspect.

In summary, no classical risk factors were confirmed as having a differential impact in anxiety/phobic syndromes. The argument of Constantino et al [8], that further studies would be needed to explore the specific patterns of temperament and character and other risk factors predictive in distinct childhood psychopathological entities, i.e., anxiety disorders, is valid.

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