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Background

Cognitive fusion, an individual's attachment to the content of private events as if they were actually true, has been deemed problematic because it can lead to increased experiential avoidance, attempts to avoid or alter private events, and decreased psychological flexibility. Greco et al (2008) developed a self-report questionnaire to assess experiential avoidance in adolescents, the Avoidance and Fusion Questionnaire for Youth (AFQ-Y). In a non-clinical sample ($n = 859$; mean age 12.51) they found that the AFQ-Y correlated with anxiety scores on the Multidimensional Anxiety Scale for Children (1997). However, the relationship between the AFQ-Y and anxiety has not yet been investigated in a clinical population nor has an interview-based measure of anxiety or clinician diagnosis been employed to determine a diagnosis of anxiety disorder.

Aim

The aim of the current study was to investigate the relationship between cognitive fusion and experiential avoidance and anxiety disorder in a clinical sample of adolescents. The hypothesis was that inpatient adolescents meeting criteria for anxiety disorders would show higher cognitive fusion and experiential avoidance as measured on the AFQ-Y.

Methods

Participants

Adolescents ($n = 79$) were recruited from the 16-bed Adolescent Treatment Program from the Menninger Clinic. The sample was divided into two groups, those who were diagnosed with any anxiety disorder (OCD, GAD, PTSD, Social Phobia, Panic Disorder, Specific Phobia, Agoraphobia, or Separation Anxiety) on the Computerized Diagnostic Interview Schedule for Children (CDISC) and those who were not.

The group with a positive diagnosis of any anxiety disorder ($n = 47$) was 38.30% male and 61.70% female. Their mean age was 16.16 ($SD = 1.54$) and their mean Full Scale IQ was 105.58 ($SD = 15.31$). Of this group, 68.18% also received a positive diagnosis of either Major Depressive Episode or Dysthymia, 22.73% were diagnosed with ADHD, and 22.73% were diagnosed with Conduct Disorder. This group had a mean score of 33.33 on the AFQ-Y ($SD = 12.24$).

The group with no positive diagnosis of anxiety disorder ($n = 32$) was 46.88% male and 53.13% female. Their mean age was 15.87 ($SD = 1.38$) and their mean IQ was 111.10 ($SD = 14.205$). Of this group, 19.35% also received a positive diagnosis of either Major Depressive Episode or Dysthymia, 3.33% were diagnosed with ADHD, and 20.00% were diagnosed with Conduct Disorder. This group had a mean score of 18.07 on the AFQ-Y ($SD = 11.16$).

Measures

The Avoidance and Fusion Questionnaire for Youth (Greco, Murrell, & Coyne, 2005) was used in the present study to measure experiential avoidance and cognitive fusion. The DSM-Oriented Scales of the Youth Self-Report (YSR) and Child Behavior Checklist (CBCL; Achenbach, 2007) were used to measure youth- and parent-reported anxiety symptoms, respectively. The CDISC (Shaffer et al., 2000) was used to diagnose anxiety and comorbid disorders (MDD, Dysthymia, ADHD, and Conduct Disorder) and either the Wechsler Adult Intelligence Scale III (1997) or IV (2008), or Wechsler Intelligence Scale for Children IV (2003) was used to measure IQ.

	Not at all True	A little True	Pretty True	True	Very True
1. My life won't be good until I feel happy.	0	1	2	3	4
2. My thoughts and feelings mess up my life.	0	1	2	3	4
3. If I feel sad or afraid, then something must be wrong with me.	0	1	2	3	4
4. The bad things I think about myself must be true.	0	1	2	3	4
5. I don't try out new things if I'm afraid of messing up.	0	1	2	3	4
6. I must get rid of my worries and fears so I can have a good life.	0	1	2	3	4
7. I do all I can to make sure I don't look dumb in front of other people.	0	1	2	3	4
8. I try hard to erase hurtful memories from my mind.	0	1	2	3	4
9. I can't stand to feel pain or hurt in my body.	0	1	2	3	4
10. If my heart beats fast, there must be something wrong with me.	0	1	2	3	4

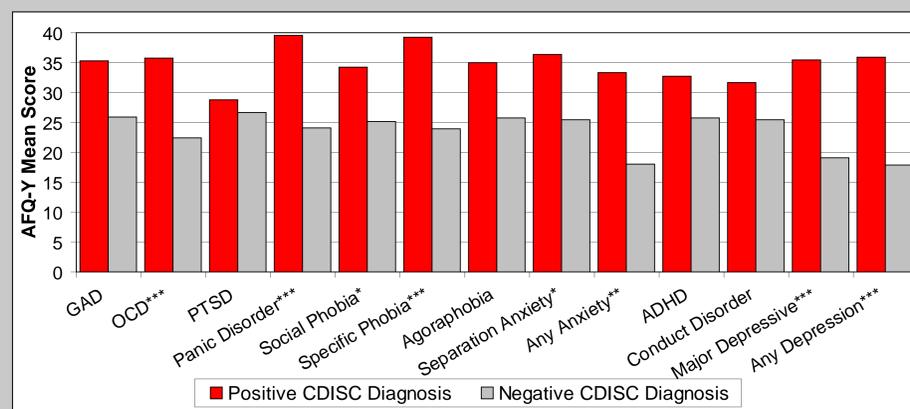
Procedure

IRB approval was obtained from the appropriate board. Upon admission, adolescents and parents were introduced to the study and parental consent and youth assent were obtained. Adolescents were then consecutively assessed by doctoral level clinical psychology students, licensed clinicians, and/or trained clinical research assistants under the direct supervision of doctoral level psychology students.

Results

At the bivariate level, we explored which variables other than anxiety could contribute to a participant's AFQ-Y score by calculating the Pearson correlations for the relationships between total AFQ-Y score and full scale IQ ($r = -0.21$, $p = .10$) and age ($r = -0.11$, $p = .30$). Similarly, we conducted an independent sample t-test in order to test the relationship between sex and AFQ-Y scores ($t = 2.188$, $p < .05$). Since this relationship proved significant, it was included in multivariate analyses.

Figure 1. Bivariate analyses: Comparison of mean AFQ-Y scores and CDISC diagnoses

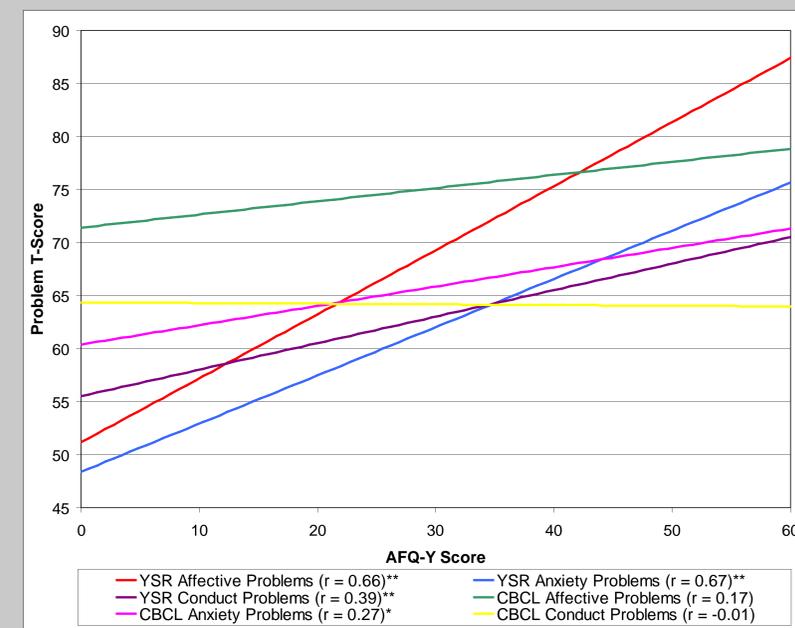


* $p < .05$ ** $p < .01$ *** $p < .001$

Mean AFQ-Y scores were compared for groups who did and did not have a positive CDSIC diagnosis of anxiety, depression, ADHD, or conduct disorder (Figure 1). For each of these comparisons, the mean AFQ-Y score was higher for the group with a positive diagnosis. This difference was only significant for OCD, panic disorder, social phobia, specific phobia, separation anxiety, and major depressive episode. Additionally, participants who had any diagnosis of anxiety or any diagnosis of depression had significantly higher scores on the AFQ-Y. Because both relationships proved significant, they were also included in multivariate analyses. Bivariate analyses using clinician rated diagnoses instead of DISC diagnoses broadly supported this pattern of findings.

Additionally, Pearson's correlations were calculated between AFQ-Y scores and continuous measures of anxiety, depression, and conduct problems as reported by youth and their parents (Figure 2). The correlations were significant for YSR affective problems, conduct problems, and anxiety problems and for CBCL anxiety problems.

Figure 2. Bivariate analyses: Pearson's correlations between AFQ-Y and other continuous measures



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

At the multivariate level, we first conducted a linear regression with any anxiety disorder diagnosis, any depressive disorder diagnosis, and sex as predictor variables and AFQ-Y total score as the outcome variable. Only any anxiety disorder diagnosis ($B = 7.73$, $p < .05$) and any depressive disorder diagnosis ($B = 13.64$, $p < .001$) retained significance.

We also conducted a linear regression with YSR affective problems, YSR anxiety problems, YSR conduct problems, and sex as predictor variables and AFQ-Y total score as the outcome variable. In this analysis, all variables retained significance, namely YSR affective problems ($B = 0.34$, $p < .001$), YSR anxiety problems ($B = 0.70$, $p < .001$), YSR conduct problems ($B = 0.33$, $p < .01$), and sex ($B = -5.54$, $p < .01$).

Finally, we conducted a linear regression with CBCL anxiety problems, CBCL affective problems, CBCL conduct problems, and sex as predictor variables and AFQ-Y total score as the outcome variable once again. In this analysis, only CBCL anxiety problems retained significance ($B = .375$, $p < .05$).

Conclusions

Our analyses demonstrated a relationship among anxiety disorders, depressive disorders and experiential avoidance and cognitive fusion at the bivariate level for categorical and continuous variables. Regression analyses with anxiety, depression and sex as predictor variables confirmed a unique relationship between a diagnosis of anxiety and experiential avoidance independent of depression.