Don't be afraid of the General Factor of Personality (GFP): Its relationship with behavioral inhibition and anxiety symptoms in children

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ABSTRACT

Two studies examined the relationship between the General Factor of Personality (GFP) and behavioral inhibition and anxiety symptoms in primary school children. The GFP is assumed to reflect effectiveness in interaction with others. In Study 1, using self-reports and parent ratings of 226 non-clinical children, we found GFP scores to be negatively related to behavioral inhibition and anxiety symptoms. In Study 2 we compared non-clinical children ($N = 81$) with children with anxiety disorders ($N = 45$). In both groups we obtained child and parent ratings. The clinically referred children scored significantly lower on the GFP than the non-clinical children. Moreover, as in Study 1, higher GFP scores were associated with lower levels of behavioral inhibition and anxiety symptoms. The two studies support the view that the GFP is a relevant construct in anxiety proneness and anxiety problems.

1. Introduction

Individuals display marked differences in behavioral inhibition, here referring to the tendency to be unusually shy and to react with fear and withdrawal in novel or challenging situations (Kagan & Snidman, 2004). From a psychopathology point-of-view, behavioral inhibition is highly relevant because it is known to be a predisposition for developing clinical anxiety disorders (e.g., Biederman et al., 1993).

One interesting question that has been addressed in several previous studies is how behavioral inhibition and anxiety disorders relate to personality (Kotov, Gamez, Schmidt, & Watson, 2011; Muris et al., 2009). A general finding in this area is that behavioral inhibition as well as anxiety disorders are related to the majority of the well-known Big Five personality traits (Kotov et al., 2011; Muris et al., 2009; Trull & Sher, 1994; Vreeke & Muris, in press). The pattern of relationships typically found in these studies is that Conscientiousness, Extraversion and Agreeableness and in some cases, Openness tend to be negatively related to behavioral inhibition and anxiety, whereas Neuroticism is positively associated with these constructs. Based on such findings Kotov et al. (2011) acknowledged that no model of psychopathology (including anxiety disorders) will be complete without consideration of personality

traits. Nevertheless, it is also clear that many of the observed associations between anxiety disorders and personality are still largely unexplained (Kotov et al., 2011, p. 807). In the present study, we apply a novel view in this research area, namely, that the General Factor of Personality (GFP) may play a role in the relationship of personality on the one hand and behavioral inhibition and anxiety on the other hand.

The notion of the GFP is based on the robust finding that many personality traits show substantial intercorrelations (Musek, 2007; Rushton & Irwing, 2011; Van der Linden, Te Nijenhuis, & Bakker, 2010). Regarding the Big Five, large meta-analytic studies have shown that they indeed consistently share proportions of variance leading to emergence of a general factor (Rushton & Irwing, 2011; Van der Linden, Te Nijenhuis, et al., 2010). In the literature the GFP has elicited a lively debate. Some researchers have suggested that the GFP reflects a continuum of socially desirable behavior with individuals at the high end being open-minded, reliable, hard-working, sociable, friendly, emotionally stable, and having high levels of self-esteem and well-being (Loehlin, 2011; Musek, 2007; Rushton & Irwing, 2011). A low GFP score is indicative for a personality profile that can be described as 'difficult' in terms of interpersonal behavior (Rushton & Irwing, 2011). Overall, the GFP may reflect a dimension of social effectiveness or participation (e.g., Loehlin, 2011). This represents the substantive view of the GFP, emphasizing its theoretical and practical implications for personality research. In this view, low GFP scores are expected to be associated with lowered mental health and a range of psychological disorders that may hinder social effectiveness (Rushton & Irwing,

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2011). In the present article we focus on one specific aspect of this expectation, namely on the relationship between the GFP on the one hand and behavioral inhibition and anxiety symptoms on the other hand. In social behavior, behavioral inhibition and anxiety are considered highly disruptive because they tend to be accompanied with withdrawal or excessive shyness (Biederman et al., 1993; Kagan & Snidman, 2004).

In line with this, we report two studies that tested whether the GFP is related to behavioral inhibition and anxiety disorders in children in the range from 9 to 13 years. An important contribution of the present studies is that they contain child as well as parent ratings, thus, testing a specific prediction about the GFP-behavioral inhibition/anxiety relations using multi-informant data (i.e., child and parent ratings). To our knowledge this has not been done before.

A second reason to examine the GFP and behavioral inhibition/ anxiety link relates to the current controversy surrounding the general factor. Specifically, some researchers have suggested that the GFP may reflect not much more than an artifact, caused by the way personality is measured (e.g., Anusic, Schimmack, Pinkus, & Lockwood, 2009; Bäckström, 2007; Danay & Ziegler, 2011). The currently most prominent alternative explanation for the GFP is that it merely reflects a social desirability or common method *bias* (i.e., faking). The details of this substantive versus artifact debate of the GFP are described in the recent stream of papers on this topic, and we do not aim to provide a thorough description of that debate here (Anusic et al., 2009; Danay & Ziegler, 2011; Van der Linden, 2011). The main point is that current evidence is mixed with some studies underlining the artifact nature of the GFP whereas others support its substantive nature. The present article adds to insight into the GFP by presenting two studies testing its relationship with behavioral inhibition and anxiety using multi-informant data (parent and child ratings). If we would find cross-informant relationships between the different types of ratings then it is unlikely that the GFP merely reflects common method variance (e.g., faking). For example, if children's self-report ratings of the GFP are associated with parent ratings of their offspring's level of behavioral inhibition and anxiety then this would provide some support for the substantive account of the GFP.

2. Study 1

Study 1 examined non-clinical primary school children who filled out a self-report Big Five measure (Muris et al., 2009). In addition, parents provided personality ratings of their children by using the same inventory. We first expected that in the child as well as parent ratings a clear GFP can be identified (e.g., Musek, 2007; Van der Linden, Te Nijenhuis, et al., 2010) and that the GFPs from both types of ratings show considerable overlap, indicating that the GFP goes beyond self-reports of personality. In Study 1, self- and parent ratings on children's behavioral inhibition and anxiety symptoms were also available. We expected significant cross-relationships between the personality ratings (self vs. parents) and behavioral inhibition/anxiety measures (self vs. parents). Such a pattern of findings would further corroborate the substantive nature of the GFP and its potential association with behavioral inhibition and anxiety symptoms.

2.1. Method

2.1.1. Participants and procedure

From Dutch primary schools 337 parents were asked to participate. 250 parents (66%) responded positively and filled out questionnaires about their child's personality, behavioral inhibition, and anxiety symptoms (see Section 2.2). Their children were asked

to fill out the child versions of the questionnaires during a classroom session. Due to missing data or absence during the assessment, eventually 226 datasets were obtained in which the parents as well as the children filled out the questionnaires. The mean age of the children was 10.54 years (*SD* = 1.05, range 9–12 years). More than 85% was of original Dutch descent. More information about the sample characteristics can be found in Muris et al. (2009).

2.2. Measures

2.2.1. Personality (child-rated)

Personality was measured with the Dutch translation of the Big Five Questionnaire for Children (BFQ-C: Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003; Muris, Meesters, & Diederen, 2005) consisting of 65 questions with a 5-point Likert response scale (1 = almost never to 5 = almost always). The BFQ-C measures Openness for experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). The scales reliabilities were good with a mean α of .79 (range .75–.86).

2.2.2. Behavioral inhibition (child-rated)

Behavioral inhibition was measured with the Dutch translation of the Behavioral Inhibition Questionnaire (BIQ; Bishop, Spence, & McDonald, 2003; Broeren & Muris, 2010) containing 30, 6-point Likert scale questions about behavioral inhibition in domains such as social novelty, situational novelty, and physical challenges (1 = hardly ever to 6 = almost always). The BIQ had a sample reliability of α = .89.

2.2.3. Anxiety symptoms (child-rated)

The revised Screen for Child Anxiety Related Emotional Disorders (SCARED-R: Muris, Dreessen, Bögels, Weckx, & Van Melick, 2004) was used to assess symptoms of the entire spectrum of anxiety disorders in children and adolescents, according to the DSM-IV. The SCARED-R consists of 69 items in a 3-point Likert scale (0 = almost never, 1 = sometimes, 2 = often) and includes items referring to different types of anxiety disorders (e.g., generalized anxiety disorder, panic disorders). The SCARED-R had good sample reliability (α = .93).

2.2.4. Parent ratings of personality, behavioral inhibition, and anxiety

Parents assessed their child's personality, behavioral inhibition, and anxiety symptoms with parent-versions of the BFQ-C, BIQ, and SCARED-R, which were identical to the child-versions, but with re-phrased items in terms of the caregiver's perspective. Reliabilities were BIQ; α = .93, SCARED-R; α = .91, BFQ; α_{mean} of Big Five scales = .82, (range .79–.85).

2.3. Statistical analysis

We operationalized the GFP as the first unrotated factor extracted from the scale scores on the Big Five dimensions (see also; Loehlin, 2011; Van der Linden, Te Nijenhuis, et al., 2010), and calculated as the product of the factor loading with the scale score. We report results from Principal Component Analysis (PCA), the most commonly used extraction method in the literature. However, for allowing comparisons of extraction methods we also used Principal Axis Factoring (PAF) and Maximum Likelihood (ML) in this sample. First-order correlations were used to examine associations between personality and behavioral inhibition/anxiety.

2.4. Results

2.4.1. GFP

In the self-report data of the children, a clear GFP emerged explaining 51.3% of the variance in the Big Five dimensions