



## Assessing dog fear: Evaluating the psychometric properties of the Dog Phobia Questionnaire

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### ABSTRACT

**Background and objectives:** The Dog Phobia Questionnaire (DPQ; Hong & Zinbarg, 1999) is a 27-item self-report questionnaire designed to assess symptoms of dog phobia. The present study investigated the psychometric properties of the DPQ.

**Method:** Study 1 explored the factor structure, internal consistency, and convergent and discriminant validity of the DPQ using an undergraduate sample ( $N = 174$ ). Study 2 assessed the extent to which DPQ scores correlated with subjective fear ratings and avoidance during a behavioral approach test (BAT) with a live dog using undergraduate and community participants ( $N = 91$ ), and the extent to which DPQ scores differed for individuals with ( $n = 15$ ) versus without ( $n = 66$ ) a clinically significant specific phobia of dogs. Study 3 evaluated the test-retest reliability of the DPQ using an undergraduate sample ( $N = 31$ ). **Results:** A principal components exploratory factor analysis suggested a one-factor solution. Internal consistency was high. DPQ scores were more highly correlated with measures assessing dog fear than measures assessing other types of fears. Test-retest reliability was high. DPQ scores correlated with fear responding and avoidance during the BAT. Participants with a specific phobia of dogs reported higher DPQ scores than those without a specific phobia of dogs.

**Limitations:** The present study included undergraduate students and community participants; future research with a clinical sample is recommended.

**Conclusions:** The DPQ may be a useful tool for measuring the severity of fear in dog phobic individuals. Implications for the theoretical assumptions underlying the development of the DPQ are discussed.

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### 1. Introduction

Specific phobias are characterized by a persistent and unreasonable fear of specific objects or situations, which are most often avoided or else endured with marked distress (American Psychiatric Association, 2000). Specific phobias are among the most prevalent anxiety disorders, with a lifetime prevalence rate of about 9.40% (Stinson et al., 2007). Available data suggest that fears of dogs are common among individuals presenting for treatment of a specific phobia (Chapman, Fyer, Mannuzza, & Klein, 1993), and this may be due to the high frequency with which people encounter dogs (relative to other feared stimuli), and the resulting functional impairment (Rentz, Powers, Smits, Cougle, & Telch, 2003).

Despite the high frequency of dog-related fears, assessment of dog phobias is rarely the focus of attention in clinical research.

Indeed, the authors are unaware of any published scales assessing dog phobia. In response to the lack of self-report measures assessing fear of dogs, Hong and Zinbarg (1999) reported on the development and refinement of a *Dog Phobia Questionnaire* (DPQ) that was designed to tap four separate dimensions of fear (i.e., physical sensations and harm, hypervigilance, preoccupation, and avoidance), consistent with the spider phobia questionnaires (Barker & Edelman, 1987; Szymanski & O'Donohue, 1995; Watts & Sharrock, 1984) after which the scale was modeled, and traditional three response system (i.e., cognitive-affective, motor-behavioral, physiological) approaches to understanding fear and anxiety (Hoffman & Odeldal, 2001). Although the DPQ and preliminary findings regarding its use were presented at a conference, they have never been published.

Findings from the original factor analysis conducted by Hong and Zinbarg (1999) were inconsistent with their theoretical expectations in that they suggested a two-factor solution rather than a four-factor solution. Specifically, items assessing fear of physical sensations and harm, and avoidance converged in Factor 1, and items

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assessing hypervigilance and preoccupation converged in Factor 2. This two-factor solution was inconsistent with past psychometric research on the spider phobia questionnaires (Barker & Edelmann, 1987; Szymanski & O'Donohue, 1995; Watts & Sharrock, 1984), as well as with traditional three response system approaches to understanding fear and anxiety (Hoffman & Odeldal, 2001).

The purpose of the present study was to investigate the psychometric properties of the DPQ in an independent sample. Three separate studies were conducted to evaluate the DPQ. Given that no peer-reviewed papers have been published on the DPQ, Study 1 explored the factor structure of the DPQ, replicating methodology that was used in the original study by Hong and Zinbarg (1999). In addition, Study 1 investigated the convergent and discriminant validity of the DPQ by examining the association between scores on the DPQ and scores on other types of fear measures. It was hypothesized that the scores on the DPQ would be more strongly correlated with items assessing dog fear than with measures assessing other types of fears (i.e., fear of heights, fear of flying, and medical fears). Study 2 assessed the extent to which DPQ scores would be related to subjective fear ratings and avoidance during a behavioral approach test (BAT) with a live dog. It was hypothesized that scores on the DPQ would be significantly positively correlated with subjective fear ratings and significantly negatively correlated with avoidance. In addition, Study 2 investigated the extent to which DPQ scores differed among individuals with and without a clinically significant specific phobia of dogs. It was hypothesized that the scores on the DPQ would be significantly greater for individuals with a specific phobia of dogs based on criteria from the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000)*, when compared with individuals without a clinically significant specific phobia of dogs. Study 3 evaluated the test-retest reliability of the DPQ over a 2-week period. Given that the DPQ was developed as a trait measure of dog fear, it was hypothesized that its test-retest reliability would be high.

## 2. Study 1

The purpose of the first study was two-fold. The first aim was to explore the factor structure and internal consistency of the DPQ using a sample of introductory psychology students. The second aim was to investigate the convergent and discriminant validity of the DPQ.

### 2.1. Method

#### 2.1.1. Participants

One hundred eighty-two introductory psychology students were recruited through a Participant Pool and received course credit for completing the study. Data were analyzed using only participants who had complete data on the DPQ ( $N = 174$ ; 144 women, 29 men, 1 participant did not report gender). Demographic characteristics are only reported for participants who were included in the analyses. Participants were, on average, 21.52 years of age ( $SD = 4.72$ ). Most participants identified themselves as White (42.00% of the sample) or Asian (32.80% of the sample).

#### 2.1.2. Measures

**2.1.2.1. Dog Phobia Questionnaire (DPQ; Hong & Zinbarg, 1999).** The DPQ is a 27-item, self-report questionnaire designed to measure symptoms of dog phobia. Respondents are asked to "indicate the degree to which you agree or disagree with each statement as it applies to you in the past month" using a 7-point Likert-type scale, with anchors of 1 ("strongly agree"), 4 ("neutral"), and 7 ("strongly agree"). Four items are reverse scored (e.g., "I would *not* feel

nervous if I saw a dog"). The scale yields a minimum score of 27 and a maximum score of 189. The full DPQ is reproduced in the Appendix.

**2.1.2.2. Acrophobia Questionnaire (AQ; Cohen, 1977).** The AQ is a 40-item self-report questionnaire that assesses the severity of anxiety and avoidance of heights. Respondents are asked to rate their level of anxiety using a 7-point Likert-type scale that ranges from 0 (not at all anxious; calm and relaxed) to 6 (extremely anxious) for 20 different height-related situations. Respondents are then asked to rate their level of avoidance of the same 20 height-related situations on a 3-point scale that ranges from 0 (would not avoid doing it) to 2 (would not do it under any circumstances). Baker, Cohen, and Saunders (1973) found a high correlation between the anxiety and avoidance subscales ( $r = .73$ ). In addition, test-retest reliability over 3 months was also found to be good for both the anxiety subscale ( $r = .86$ ) and avoidance subscale ( $r = .82$ ; Baker et al., 1973). A moderate correlation was found between the AQ and a behavioral test (Cohen, 1977).

**2.1.2.3. Fear of Flying Scale (FFS; Haug et al., 1987).** The FFS is a 21-item self-report questionnaire that assesses the fear of flying. Respondents are asked to rate the level of anxiety that they experience in each situation using a 5-point scale that ranges from 0 (no anxiety at all) to 4 (very strong anxiety). The items are summed to obtain a total score. Total scores can range from 0 to 84. Although no psychometric data is available for the FFS, the FFS has been found to be sensitive to treatment changes (Haug et al., 1987).

**2.1.2.4. Fear Survey Schedule II (FSS-II; Geer, 1965).** The FSS-II is a 51-item self-report questionnaire that assesses fears of different objects and situations. Respondents are asked to rate the amount of fear they experience using a 7-point scale that ranges from 0 (none) to 6 (terror). Item 45 of this scale ("strange dogs") was used to assess convergent validity.

**2.1.2.5. Medical Fear Survey (MFS; Kleinknecht, Thorndike, & Walls, 1996).** The MFS is a 50-item self-report questionnaire that assesses the severity of medical fears across the following five dimensions: injections and blood draws, sharp objects, examinations and symptoms as intimation of illness, blood, and mutilation. Each subscale consists of 10 items. Respondents are asked to rate the amount of fear they experience in each situation on a 5-point scale that ranges from 0 (no fear or concern at all) to 4 (terror). Internal consistency has been found to be good to excellent for each subscale (alphas range from .84 to .94; Kleinknecht, Kleinknecht, Sawchuk, Lee, & Lohr, 1999). In addition, Kleinknecht et al. (1999) also reported high correlations between the MFS subscales and other measures of blood, injection and injury phobia ( $r$ s range from .73 to .88). Test-retest reliability for the MFS has yet to be established.

**2.1.2.6. Specific Phobia Questionnaire (SPQ; Fairbrother & Antony, 2011).** SPQ is a 45-item self-report questionnaire that was developed to assess fear and interference of different objects or situations. Respondents are asked to indicate how fearful they are of each situation using a 5-point scale that ranges from 0 (no fear) to 4 (extreme fear) and how much their fear of each situation interferes with their life using a 5-point scale that ranges from 0 (no interference) to 4 (extreme interference). Item 8 of this scale ("dogs") was used to assess convergent validity.

#### 2.1.3. Procedure

Participants provided written informed consent, and then completed the DPQ, as well as the FSS-II, SPQ, AQ, MFS, and FFS,

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