

NIH Public Access

Author Manuscript

J Anxiety Disord. Author manuscript; available in PMC 2010 March 1.

Published in final edited form as:

J Anxiety Disord. 2009 March ; 23(2): 212–217. doi:10.1016/j.janxdis.2008.07.002.

The Role of Courage on Behavioral Approach in a Fear-Eliciting Situation: A Proof-of-Concept Pilot Study

Peter J. Norton, Ph.D. and University of Houston

Brandon J. Weiss, B.S. University of Nebraska-Lincoln

Abstract

The current study was conducted to assess courage, defined as behavioral approach despite the experience of fear, in an effort to better understand its relationship with anxiety, fear, and behavioral approach. Thirty two participants who completed a measure of courage and reported elevated spider fears during an earlier screening participated in a Behavioral Approach Test where they were shown a display of four taxidermied tarantulas and asked to move their hand as close to the spiders as they felt comfortable doing. After controlling for scores on measures of spider fears, courage scores were significantly associated with approach distance to the spiders, such that participants with greater courage moved closer to the spiders. This study advances knowledge about the relationship between courage and fear. Based on our findings, future studies can explore the extent to which (a) courage mediates willingness to engage in therapeutic exposure in treatment, and (b) whether courage can be augmented in treatment prior to implementing exposure therapy.

The study of anxiety, fear, and their disorders has traditionally viewed these phenomena as, at best, adaptive but unpleasant emotions and, at worst, maladaptive pathological conditions. Considerably less attention has been paid to the highly related construct of courage, which has important implications for understanding the nature and treatment of fear and anxiety disorders. Courage, as opposed to fearlessness, has been defined by Rachman and colleagues (Cox, Hallam, O'Connor, & Rachman, 1983; McMillan & Rachman, 1987, 1988; O'Connor, Hallam, & Rachman, 1985) as behavioral approach despite the experience of fear. In one of these studies (McMillan & Rachman, 1988), paratrooper trainees defined as courageous evidenced as much physiological arousal prior to a training jump as those defined as fearful, but were equally likely as those defined as fearless (who did not show physiological arousal) to complete the jump. Thus, according to Rachman and colleagues, courage is unique from fearlessness in that the courageous individual completes the same act as the fearless individual, despite experiencing fear. A more recent study operating under this definition (Schmidt & Koselka, 2000) took a cursory examination of courage as part of a larger study of factors mediating panic disorder. This study used a simple non-validated seven-item measure of courage (e.g., In general, are you a courageous person? How courageous are you when it comes to dealing with

Correspondence concerning this paper should be addressed to Peter J. Norton, Ph.D., Department of Psychology, University of Houston, 126 Heyne Bldg, University of Houston, Houston, TX 77204-5022, e-mail: pnorton@uh.edu. The project described was supported by Grant Number K01MH073920 from the National Institute of Mental Health awarded to the first author. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health or the National Institutes of Health.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Norton and Weiss

panic attacks?) and found no relationship between courage and any theoretically-relevant measures.

Drawing from a different model of courage, Woodard (2004; Woodard & Pury, 2007) developed a 31-item measure of courage. Woodard's definition of courage, which forms the basis for the measure, stresses the "quality of grace, nobility, credibility, sensibility, practicality, or meaningfulness" (Woodard, 2004; p. 174) of the act or cause, and the "important, perhaps moral, outcome or goal" (Woodard & Pury, 2007; p.136). This presents an interesting value judgment in the definition of courage. Although few would question the courage of individuals who "if called upon during times of national emergency... would give my life for my country" (item #5; Woodard, 2004), disagreement with this sentiment does not automatically connote a lack of courage. Many individuals might object to military service, for example, due to political, religious, pacifistic, or other reasons that are unrelated to courageousness. Indeed, conscientious objectors to military conflict who refuse mandatory service may be seen as courageously defending their beliefs in that "intense social pressure would not stop me from doing the right thing" (item #10; Woodard, 2004). Furthermore, this measure utilizes items that describe specific scenarios, such as "I would risk my life if it meant lasting world peace" that may not be applicable to, or within the scope of understanding of, many individuals who have not faced such a situation.

Most recently, a special issue of the Journal of Positive Psychology examined various emerging theories of courage. Rate, Clarke, Lindsay and Sternberg (2007), for example, utilized multiple methodologies and measurement approaches to identify implicit theories of courage using undergraduate and graduate student samples, and Air Force Academy trainees. Across each of their methodologies, a generally consistent pattern emerged wherein courage was defined by three components: fear, risk, and nobility of purpose. Pury, Kowalski, and Spearman (2007) asked a sample of 250 students to describe a time in their lives when they acted courageously, and provide ratings of their level of fear, courageousness, and self-confidence. Linguistic coding of narrative data and analysis of the ratings provided evidence distinguishing general courage, more monumental actions that would be courageous for anyone, and *personal* courage, actions that are seen as courageous due to the context of the individual. Other less empirically-derived definitions and types of courage have also been offered (e.g., Hannah, Sweeney, & Lester, 2007; Putman, 1997). Interestingly, although these definitions vary in terms of their emphases, including the nobility of the cause or the requirement of fear, most hold as part of their core definition a notion of persistence in the presence of perceived threat as described by Rachman and colleagues (Cox, Hallam, O'Connor, & Rachman, 1983; McMillan & Rachman, 1987, 1988; O'Connor, Hallam, & Rachman, 1985).

Despite the limited research, the concept of courage is important in understanding human behavior in general, and it also has important implications for understanding behavioral treatments for anxiety disorders. Exposure to feared stimuli has consistently been shown to be an integral part of anxiety disorder treatments (Norton & Price, 2007), and the Surgeon General of the United States, in his 1999 Report on Mental Health, stated that a "critical element of therapy is to increase exposure to the stimuli or situations that provoke anxiety" (Office of the Surgeon General, 1999; p. 241). By definition, exposure connotes courageous behavior – approaching a feared or anxiety-producing stimulus. Although some (e.g., Hembree et al., 2003) have demonstrated that some exposure-based treatments do not have elevated dropout rates when compared to other empirically-validated treatment approaches, Zayfert et al. (2005) documented that the majority of participants discontinuing cognitive behavioral therapy at a specialty anxiety disorder clinic did so before the initiation of the first exposure session. Although many factors could explain these data, Zayfert et al. (2005) posit that "it is possible that this reflects avoidance of direct engagement with trauma stimuli, which is required during ET [exposure therapy]" (p. 643, clarification added). Thus, it is plausible that avoidance

behavior and a perceived inability to confront one's fears – lower courage to confront fears – might underlie some clients' lack of initiation of or discontinuation from exposure-based treatments. Therefore, measuring courage may help to predict who is likely to complete exposure and identify those who would benefit from strategies to increase courage prior to initiating the exposure portion of treatment.

While several of the aforementioned studies have attempted to quantify courage (e.g., Woodard, 2004; Woodard & Pury, 2007; Schmidt & Koselka, 2000) or empirically define courage (e.g., Pury et al., 2007; Rate et al., 2007), none have attempted to predict actual behavior using the definitions or scales. Indeed, despite the care and scrutiny taken in deriving these models and scales, the lack of any comparison to actual behavior opens the possibility that self-presentational biases and/or idealized perceptions of courageousness might have influenced the findings. The purpose of this current study was, therefore, to assess whether self-reported courageousness can reasonably predict behavioral approach in fear-provoking situations. Two possible relationships between courage, fear, and behavioral approach were specifically tested. First, it was expected that courage would account for additional variance in behavioral approach above-and-beyond that accounted for by pre-existing levels of fear. Second, it is also possible that courage could moderate the relationship between fear and behavioral approach, such that as courage increases, the relationship between fear and behavioral approach becomes less negative.

Method

Participants

Participants were 31 female undergraduate psychology students¹ attending the University of Houston. Participants had a mean age of 22.13 years (SD = 2.62), and represented all years of college (3.2% Freshman, 12.9% Sophomore, 51.6% Junior, and 32.3% Senior). Ethnic distribution was as follows: 9 Asians (29.1%), 8 Hispanics (25.8%), 7 Caucasians (22.6%), 4 African Americans (12.9%), 2 Multiracial (6.5%), and 1 Middle Eastern (3.2%).

Measures

Courage—For the purposes of this study, we developed twelve rationally-derived items to assess self-perceived courageousness (Courage Measure; CM). The CM uses an operational definition of "persistence or perseverance despite having fear." Items were rated by a 7-point Likert-type scale, from 1 (Never) to 7 (Always). The items are presented in Table 1.

Spider fear—The Spider Questionnaire (SPQ; Klorman, Hastings, Weerts, Melamed, & Lang, 1974) is a 31-item self-report measure assessing the verbal-cognitive component of fear of spiders. Items consisted of statements and asked for participants to agree or disagree with the statement. The SPQ has demonstrated temporal stability (Muris & Merckelbach, 1996), discriminant validity (Fredrickson, 1983), and sensitivity to treatment (Hellstrom & Ost, 1995). For the current study, Cronbach's alpha was .80.

The Spider Phobia Beliefs Questionnaire (SBQ; Arntz, Lavy, van den Berg, & van Rijsoort, 1993) is a 42-item self-report measure assessing beliefs about, and fears of, spiders. The validation study of the SBQ found the measure to have excellent internal consistency, adequate temporal stability, and demonstrated discriminant validity and sensitivity to treatment. For the current study, Cronbach's alpha was .98.

¹Inclusion of the one male who participated in the experiment did not alter the results in any appreciable way; however, data for this male participant was removed from analyses.

J Anxiety Disord. Author manuscript; available in PMC 2010 March 1.

Anxiety and distress—The State-Trait Anxiety Inventory – State form (STAI-S; Speilberger, 1983) is a well-validated 20-item questionnaire designed to assess current levels of general anxiety. The psychometric properties of the STAI-S are strong across multiple populations (Spielberger et al., 1993). In the current sample, the internal consistency of the STAI-S was .94. Participants also reported their peak anxiety using a Subjective Units of Distress Scale (SUDS; Wolpe, 1958) rating, ranging from 0 (No fear/anxiety) to 100 (Highest anxiety ever experienced or worst imaginable anxiety).

Approach—A Behavioral Approach Test (BAT) measures approach behavior in the context of a feared stimulus. For the current study, approach was measured in inches (see Procedures) according to how close the participant came to touching the spiders.

Procedures

All aspects of the current study were reviewed and approved by the Institutional Review Board of the University of Houston. The study consisted of two phases.

Phase 1—The purpose of the first phase (T1) was to screen eligible participants for elevated spider fears. During the first phase, participants were recruited via undergraduate psychology classes to complete an online battery of questionnaires, including the CM, SPQ, and the SBQ, for extra credit. At the end of the questionnaire battery, which was presented in a single fixed order, participants were asked whether they would like to be considered for additional extra credit opportunities. Participants who expressed interest in further participation and scored 10 or greater on the SPQ, roughly one standard deviation above non-clinical sample means (Antony, Orsillo, & Roemer, 2001), were contacted to participate in the second phase. Although the focus of this study was on spider fears, measures of other specific fears (e.g., snakes, dental fears, etc. were also included to mask the purpose of the study and the eligibility requirements for the second phase of the study.

Of the 312 students who participated in the first phase of this study, 103 were eligible for, and had consented to being contacted about, possible participation in a second phase of this project. Eligible participants were contacted and informed that participation would involve attending an in-person session during which they would be asked to complete additional questionnaires and participate in a short task. Of the 103 contacted for possible participation in Phase 2, 31 participants agreed and attended a scheduled experimental session². In most cases, attrition was due to non-response to an e-mail offering participation, or non-attendance at a scheduled experimental session. In each case, participants were unaware of the nature of the second phase.

Phase 2—The second phase of the study (T2) involved a one-on-one experimental session where participants were informed that they would be shown spiders (which were hidden at the time) and reminded that they could withdraw from the study at any time. Only one participant declined to participate after learning of the spider display. After obtaining informed consent (which revealed that they would be shown spiders), participants were again administered the CM, as well as the STAI-S, before beginning the BAT. For the BAT, participants were informed that the purpose of the task was to see how close people who are fearful of spiders are willing to get and that they were not required to touch the spider if they did not want to. The spider display was uncovered, and participants were asked to move their hand as close to the spider as they felt comfortable doing along a yard stick attached to the spider display. No inducements were provided to encourage the participants to move closer or further than they chose. The distance from the spider was measured along the yard stick. All participants completed the

 $^{^{2}}$ Of those eligible for T2 participation, no differences in age, sex, courage, or phase 1 spider fears, were noted between those who did or did not attend the phase 2 session, F's = 0.07 to 1.92, p's = .17 to.79.

J Anxiety Disord. Author manuscript; available in PMC 2010 March 1.

BAT within 30 seconds of the spiders being unveiled, thus limiting the likelihood that the participants might have habituated to the spider. Immediately following the BAT, participants were asked to self-report the peak SUDS they experienced during the BAT.

Results

Analysis of the data was conducted in three steps. Initially, the data were examined to ensure distributional normality and the absence of univariate or multivariate outliers. Second, we examined CM scores to estimate the psychometric characteristics of the instrument. Finally, CM scores were examined in relation to spider fear scores and behavioral approach.

Preliminary Analyses

All variables were normally (skew < .80) distributed, with the exception of the SBQ, which was slightly skewed positively (.90). Square-root transformation of this variable normalized the distribution (skew = .09). When examining for univariate outliers, using Tukey's approach of 1.5 times the Interquartile range, two univariate outliers were identified on the CM from T1: one beyond the upper-bound and one beyond the lower-bound. Both values were Windsorized (Hoaglin, Mosteller, & Tukey, 1983). No other univariate outliers were noted. Examination using Mahalanobis distance (Tabachnick & Fidell, 2007) revealed no multivariate outliers. Corrected means and standard deviations of the scales are presented in Table 2. The median SUDS score of 62.50 indicates that, for the most part, the spider display evoked moderately high levels of distress.

Psychometric Analysis of the Courage Measure

CM items from T1, based on the full sample of 312 who completed this measure, and T2 were independently analyzed for internal consistency, both of which showed good internal consistency (T1 α = .877, T2 α = .918). Test-retest reliability of the measure, over an average of three weeks, was evidenced by no significant mean differences over time, *t* (29) = 1.13, *p* = .269, although there was only a moderate test-retest correlation between scores at the two time points, *r* = .66, *p* < .001.

Next, the factor structure of the CM was analyzed. Given the small sample that participated at T2, CM scores from the 312 participants at T1 were examined. The data were subjected to Principal Axis Factoring using an oblique (oblimin) rotation, and the number of factors to retain was determined by Scree plot examination and factor interpretability. Examination of the Scree plot supported a unifactorial solution, with item loadings ranging from .423 to .775.

Finally, simple correlations were run to examine the patterns of relationship between the CM and the other scales (Table 2). The CM showed only moderate to low correlations with measures of spider fears and general anxiety, no significant relationship with SUDS during the BAT, and a strong relationship to approach distance, suggesting that it is not simply assessing fearlessness and providing preliminary support for its predictive and discriminant validity. scores were unrelated to participant age, T1: r = .117, p = .244; T2: r = .005, p = .980, and sex, T1: r = .044, p = .664; T2: r = .252, p = .165.

Courage, Fear, and Behavioral Approach

Given that scores on the CM showed distributional normality and reasonable psychometric characteristics, two hierarchical multiple regressions were conducted to examine the relationships between courage, fear, and behavioral approach. In each equation, the distance each participant moved his or her hand toward the spiders (higher scores equal closer distance) was the criterion variable. Spider fear scores (SPQ and SBQ) were entered in the first step of the equation to control for the variability in distance predicted by spider fears. CM score from

Time 1 or from Time 2 was entered in the second step of each equation, respectively, to examine whether courage predicted variability in distance above-and-beyond that accounted for by fear. Finally, the interaction of the spider fear measures and the corresponding CM score was entered in the third step to explore whether courage moderated the relationship between spider fears and approach toward the spiders.

In the first equation (see Table 3), entry of the SPQ and SBQ in the first step significantly and negatively predicted approach distance, $R^2 = .252$, F(2,24) = 4.04, p = .031, although neither SPQ nor SBQ made significant unique predictions of approach distance. Entry of CM scores from Time 1 did not significantly improve the prediction of approach distance, $R^2 = .295$, $R^2 \Delta = .040$, $F \Delta (3,23) = 1.42$, p = .245, nor did the inclusion of the interaction terms, $R^2 = .354$, $R^2 \Delta = .059$, $F \Delta (5,21) = 0.96$, p = .399.

In the second equation, SBQ and SPQ together significantly and negatively predicted approach distance, $R^2 = .247$, F(2,25) = 4.09, p = .029, although again neither SPQ nor SBQ made significant unique predictions of approach distance. Inclusion of Time 2 CM scores, however, did significantly improve the prediction of approach distance, $R^2 = .418$, $R^2 \Delta = .171$, $F \Delta (1,24) = 5.74$, p = .014, and made a significant unique prediction of approach distance beyond that accounted for by the spider fear measures. A trend toward SBQ, but not SPQ, predicting distance was also observed in Step 2. Finally, entry of the interaction terms in the third step did not improve the prediction of the equation, $R^2 = .429$, $R^2 \Delta = .011$, $F \Delta (2,22) = 0.21$, p = .810, and only Time 2 CM scores significantly uniquely predicted approach distance (see Table 3)³.

The lack of correspondence between T1 and T2 CM scores with behavioral approach was unexpected; therefore, exploratory analyses were conducted to examine factors that might be associated with changes in CM scores from T1 to T2. CM scores were residualized, by regressing T1 CM onto T2 CM, and saving the standardized residual score as a new variable. This new variable reflected change in CM scores from T1 to T2. While peak SUDS during the task, r = -.063, p = .742, and both SPQ, r = -.298, p = .116, and SBQ, r = -.225, p = .251, scores were unrelated to the change in CM scores, STAI-S scores reported immediately after completing the T2 CM (at which point the participant was aware of the spiders) were negatively associated with the change in CM scores from T1 to T2, r = -.366, p = .047. Examination of the scatterplot indicated that participants who were more anxious (e.g., STAI-S > 43) after learning about the spiders and the study design showed decreasing courage from their previous report.

Discussion

The results of this study provide support for the hypothesis that courage is a measurable construct that can be adequately self-reported and is predictive of actual behavioral approach in the presence of a feared stimulus. Indeed, courage, as measure in the phobic context, predicted behavioral approach above-and-beyond scores on measures of spider fears. Courage scores reported three week prior, outside of the phobic context, did not predict behavioral approach. Furthermore, courage scores were not found to moderate the relationship between spider fear scores and behavioral approach.

That only courage scores obtained immediately prior to the BAT, when participants were informed of the spiders and the task but had not yet seen the spiders, significantly predicted

³The analyses were recomputed controlling for STAI-S scores, reported immediately prior to the BAT, and for peak SUDS scores during the BAT. The pattern of results held consistent with those reported above with T2 CM, but not T1 CM, showing a significant unique association to approach distance.

J Anxiety Disord. Author manuscript; available in PMC 2010 March 1.

behavioral approach, while courage scores obtained at pre-testing an average of three weeks prior were not significantly related to behavioral approach, raises questions about the assessment of courage. Although courage scores at T1 and T2 were moderately correlated and did not significantly differ from each other, their pattern of relationship to behavioral approach obviously shifted across time. Whether this reflects measurement error or a temporal instability in the courage construct is unclear. Thus, it is uncertain if courage, or at least that which was tapped by the CM, is best conceptualized as a state or trait construct. While the evidence here might seem to suggest that it is state-like, it is also possible that it is trait-like but less accurately self-reported outside of a specific fear-inducing context. Indeed, in a low fear condition, such as when completing questionnaires online, it is possible that demand characteristics might influence scores. Clearly these are important qualification that will bear on any future attempts to assess the construct. Should courage be found to possess trait-like qualities, then measures could be developed and refined to identify individuals at risk of, for example, discontinuation from or avoidance of exposure exercises. Motivational enhancement techniques could then be employed to assist the individual in developing the motivational base to persist with treatment.

The significant correlation between residual change scores in courage (i.e., change in courage scores from T1 to T2) with state anxiety immediately prior to the task, does suggest several possible explanations. First, it may be that courage is difficult to accurately self-report in the absence of a specific stressor or fear-producing situation. Indeed, we levied a similar concern with another published measure of courage (Woodard, 2004) earlier in this manuscript. It seems reasonable to assume that more specific information about a situation would yield more accurate predictions of one's behavior in that situation. Second, it may be that courage is not a single stable trait-like characteristic, but rather a series of characteristics that are highly context dependent. Future studies of courage should utilize multiple behavioral approach scenarios to estimate the extent to which measures of courage predict behavioral approach globally or specifically. While spider fearful participants were specifically used in the current study as a method of experimentally inducing a state of fear, there is no reason to assume that this fear differs appreciably from that experienced by individuals with other concerns or with anxiety disorder diagnoses. Finally, it must also be acknowledged that the scale used to measure courage may have contributed to the variability in the result. The items, although showing good psychometric properties, were developed based on face validity and were not subjected to typical scale development procedures (e.g., Spector, 1992). Thus, a logical future direction is to continue refinement in measuring courage and subject such scales to rigorous psychometric evaluation.

Obviously, the gender distribution in this study was significantly skewed, with all but one participant in the second phase of the study being women. Consequently, the results of this study should not be generalized to men, particularly given that some (e.g., Barlow, 2002) have hypothesized that societal and sex-role pressures may lead to, on average, differences in how one confronts (or not) feared stimuli. As such, replication of this study with a sample of men, or with a more gender-balanced sample, is clearly warranted. In addition, future studies using a BAT paradigm for assessing courage should obtain physiological data (e.g., heart rate, skin conductance) in addition to self-report and behavioral measures.

The results of this study support the ability to quantify courage, as measured by actual behavioral approach to a feared stimulus, using a self-report instrument incorporating an explicit behavioral definition. Findings from this study can serve as a starting point from which anxiety researchers interested in a behavioral definition of courage can evaluate its utility in predicting approach/avoidance in clinical samples. Furthermore, ongoing research should strive to better understand the relationships between courage, behavioral approach, physiological indices of fear, and other possibly related constructs such as experiential avoidance.

References

- Antony, MM.; Orsillo, SM.; Roemer, L. Practitioner's guide to empirically-based measures of anxiety. New York: Kluwer Academic/Plenum; 2001.
- Arntz A, Lavy E, Van den Berg G, Van Rijsoort S. Negative beliefs of spider phobics: A psychometric evaluation of the spider phobia beliefs questionnaire. Advances in Behaviour Research and Therapy 1993;15:257–277.
- Barlow, DH. Anxiety and its disorders. Vol. 2. New York: Guilford; 2002.
- Cox D, Hallam R, O'Connor K, Rachman S. An experimental analysis of fearlessness and courage. British Journal of Psychology 1983;74:107–117. [PubMed: 6831139]
- Fredrickson M. Reliability and validity of some specific fear questionnaires. Scandinavian Journal of Psychology 1983;24:331–334. [PubMed: 6665531]
- Hannah ST, Sweeney PJ, Lester PB. Toward a courageous mindset: The subjective act and experience of courage. Journal of Positive Psychology 2007;2:129–135.
- Hellstrom K, Ost LG. One-session therapist directed exposure vs. two forms of manual directed selfexposure in the treatment of spider phobia. Behaviour Research and Therapy 1995;33:959–965. [PubMed: 7487856]
- Hembree EA, Foa EB, Dorfan NM, Street GP, Kowalski J, Tu X. Do patients drop out prematurely from exposure therapy for PTSD? Journal of Traumatic Stress 2003;16:555–562. [PubMed: 14690352]
- Hoaglin, DC.; Mosteller, F.; Tukey, JW. Understanding robust and exploratory data. New York: Wiley; 1983.
- Klorman R, Hastings JE, Weerts TC, Melamed BG, Lang PJ. Psychometric description of some specificfear questionnaires. Behavior Therapy 1974;5:401–409.
- McMillan TM, Rachman SJ. Fearlessness and courage: A laboratory study of paratrooper veterans of the Falklands War. British Journal of Psychology 1987;78:375–383.
- McMillan TM, Rachman SJ. Fearlessness and courage in paratroopers undergoing training. Personality and Individual Differences 1988;9:373–378.
- Muris P, Merckelbach H. A comparison of two spider phobia questionnaires. Journal of Behavior Therapy and Experimental Psychiatry 1996;27:241–244. [PubMed: 8959425]
- Norton PJ, Price EP. A meta-analytic review of cognitive-behavioral treatment outcome across the anxiety disorders. Journal of Nervous and Mental Disease 2007;195:521–531. [PubMed: 17568301]
- Office of the Surgeon General. Mental health: A report of the Surgeon General. Rockville, MD: Dept. of Health and Human Services; 1999.
- O'Connor K, Hallam RS, Rachman S. Fearlessness and courage: A replication experiment. British Journal of Psychology 1985;76:187–197.
- Pury CS, Kowalski RM, Spearman J. Distinctions between general and personal courage. Journal of Positive Psychology 2007;2:99–114.
- Putman D. Psychological courage. Philosophy, Psychiatry, and Psychology 1997;4:1–11.
- Rate CR, Clarke JA, Lindsay DR, Sternberg RJ. Implicit theories of courage. Journal of Positive Psychology 2007;2:80–98.
- Schmidt NB, Koselka M. Gender differences in patients with panic disorder: Evaluating mediation of phobic avoidance. Cognitive Therapy and Research 2000;24:531–548.
- Spector, PE. Summated rating scale construction: An introduction. In: Lewis-Beck, MS., editor. Quantitative applications in the social sciences. Newbury Park, CA: Sage; 1992.
- Spielberger, CD. Manual for the State-Trait Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press; 1983.
- Tabachnick, BG.; Fidell, LS. Using multivariate statistics. Vol. 5. Boston: Allyn and Bacon; 2007.
- Woodard CR. Hardiness and the concept of courage. Consulting Psychology Journal: Practice and Research 2004;56:173–185.
- Wolpe, J. Psychotherapy by reciprocal inhibition. Stanford, CA: Stanford University Press; 1958.
- Woodard CR. Hardiness and the concept of courage. Consulting Psychology Journal: Practice and Research 2004;56:173–185.

- Woodard CR, Pury CLS. The construct of courage: Categorization and measurement. Consulting Psychology Journal: Practice and Research 2007;59:135–147.
- Zayfert C, DeViva JC, Becker CB, Pike JL, Gillock KL, Hayes SA. Exposure utilization and completion of cognitive behavioral therapy for PTSD in a 'real world' clinical practice. Journal of Traumatic Stress 2005;18:637–645. [PubMed: 16382429]

Table 1

Items used to estimate courage.

Courage is defined as persistence or perseverance despite having fear. It takes courage to engage and persist in a terrifying activity. By definition, fear is necessary for someone to display courage. Please carefully read each statement and rate how often you would or do <i>behave</i> in that way.	Factor Loading
1. I tend to face my fears.	.772
2. If the thought of something makes me anxious, I usually will avoid it.	.442*
3. Even if I feel terrified, I will stay in that situation until I have done what I need to do.	.655
4. If something scares me, I try to get away from it.	.517*
5. Other people describe me as courageous	.647
6. I would describe my self as "chicken".	.591*
7. I will do things even though they seem to be dangerous.	.491
8. I act in a courageous way.	.706
9. If I am worried or anxious about something, I will do or face it anyway.	.737
10 If there is an important reason to face something that scares me, I will face it.	.640
11 Even if something scares me, I will not back down.	.775
12 I will not face something I fear, even if avoiding it will have a negative outcome for me.	.423*

*Note: refers to reverse scored items. These items were reverse scored before Principal Axis Factoring.

7
~
_
т
<u> </u>
U
1
~
~
\mathbf{P}
~
<u> </u>
#
<u> </u>
0
Ξ.
~
\geq
01
~
0
0
-
\mathbf{O}

	Mean	SD	Minimum	Maximum	r with T1 CM	r with T2 CM
SPQ	16.34	4.96	10	30	378**	420*
ßBQ	144.74	76.75	10	420	166	298
TI CM	48.57	11.10	21	75	:	.659
r2 cm	46.34	10.63	24	65	.659	I
STAI-S	43.28	12.22	21	75	166	374*
SUDS	54.28	25.45	10	100	008	043
3AT (inches)	19.12	5.43	8	32	.312	.548

Norton and Weiss

2 Ś ų p form, SUDS: Subjective Units of Distress Scale, BAT: Behavioral Approach Test,

 $_{p < .05, }^{*}$

 $^{**}_{p < .01.}$

τ
$\mathbf{\Sigma}$
-
\geq
-
=
5
0
2
2
g
S
0
⊐.
σ
4

NIH-

 Apple Table 3
 Idiustication on behavioral approach.

T1 Multiple Regre	ssion							
	\mathbf{R}^2	${f R}^2 \Delta$	Sig. A		В	q	t	d
Step 1	.252	.252	.031	SBQ SPO	403 132	-0.57 -0.14	-1.68 -0.55	.106
I				y 1			0 0	
Step 2	.295	.040	.245	SBQ	419	-0.59	-1.76	.092
				SPQ	064	-0.07	-0.26	797.
				T1 CM	.217	0.12	1.19	.245
Step 3	.354	.059	.399	SBQ	382	-0.54	-1.56	.133
				SPQ	106	-0.11	-0.43	.673
				T1 CM	.076	0.04	0.37	.719
				$SBQ \times T1 \ CM$.214	0.02	0.65	.526
				SPQ × T1 CM	.075	0.01	0.24	.816
T2 Multiple Regress	sion							
Step 1	.247	.247	.025	SBQ	387	-0.54	-1.65	.111
				SPQ	146	0.16	-0.62	.540
Step 2	.425	.178	.010	SBQ	400	0.56	-1.90	.069
				SPQ	042	0.05	0.19	.852
				Time 2 CM	.451	0.23	2.66	.014
Step 3	.436	.011	.807	SBQ	362	-0.51	-1.61	.123
				SPQ	.056	-0.06	-0.24	.811
				T2 CM	.408	0.21	2.13	.045
				$SBQ \times T2 \; CM$.067	0.01	0.30	.765
				$SPQ \times T2 CM$.074	0.01	0.32	.753
Notes: SPQ: Spider I behavioral approach	Phobia Questionnai task).	re, SBQ: Spider B	eliefs Questionnaire, T1 Cl	M: Courage Measure from 7	Fime 1 (initial pretesting	(), T2 CM Courage Meas	sure from Time 2 (immedi	ately prior to