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THE DESIRABILITY OF CONTROL SCALE: STILL RELIABLE AND VALID TWENTY YEARS LATER

Lynn E. McCutcheon
Florida Southern College

ABSTRACT

Burger's Desirability of Control Scale (DC) was developed in response to the need "to measure individual differences in the level of motivation to control the events in one's life" (Burger & Cooper, 1979, p. 381). Numerous early attempts to demonstrate the reliability and validity of the Scale have largely been successful. In the first of two studies the DC Scale and two subscales of the Alienation Test (Maddi, Kobasa, & Hoover, 1979) were administered to 94 participants from the Orlando area. In the second study the DC scale was administered to 109 participants with the Need for Uniqueness Scale (NUS; Snyder & Fromkin, 1977). Alpha coefficients were high in both studies. Significant correlations between the DC Scale and both Alienation subscales, a significant difference between those nominated as high and low on the desire for control in study one, and a significant correlation between the DC Scale and the NUS in study two all suggest that the DC Scale is still psychometrically sound more than 20 years after its introduction.

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INTRODUCTION

The Desirability of Control Scale was developed in response to the need "to measure individual differences in the level of motivation to control the events in one's life" (Burger & Cooper, 1979, p. 381). Examples of items include: "I would prefer to be a leader than a follower," and "I enjoy making my own decisions." The desire for control has been linked to gambling (Burger, 1992), anxiety (Wilkinson & Chamove, 1992), the ability to cope with stress (Burger, 1992), and feelings of discomfort stemming from crowding (Burger, Oakman, & Bullard, 1983), among other constructs. It has even been found to predict the likelihood of engaging in domestic violence (Prince & Arias, 1994).

In their original article the authors used Nunnally's (1967) method to produce maximum internal consistency. This resulted in K-R 20 reliability coefficients of .80 and .81 for their two samples.

Correlations of each item with the total DC Scale score ranged from .31 to .66 for sample one and .26 to .71 for sample two. The Scale was also shown to have good test-retest reliability, as well as adequate construct validity. Since then others have confirmed these initial psychometric successes (Braukman, 1981; Burger, 1980; Myers, Henderson-King, & Henderson-King, 1997; Reed, 1989; Ryland & Levy, 1988; Smith, Wallston, Wallston, Forsberg, & King, 1984).

The two studies described here were an attempt to both re-examine and shed new light on the psychometric properties of the DC Scale. In light of the previous successes one might ask why these studies were undertaken. There are at least three reasons. First, there is a substantial and continuing interest in the Scale and its many correlates. There is little need to scrutinize scales that have generated minimal research interest, but judging from the reference list in Burger's book, Desire for control (1992), the DC Scale has been used to generate a substantial amount of research in the first dozen years of its existence.

Secondly, it has been more than 20 years since the DC Scale was first used. One of the lessons learned from psychometric history is that the meaning of some words and phrases changes with the passage of time. Items which "made sense" several years ago may be misunderstood today if they contain words or phrases that have taken on new meaning or are no longer widely used. An item analysis could be useful in identifying items that no longer add to the internal consistency of a scale as they did 20 years ago.

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A third reason for undertaking these studies is the opportunity to add to what we know about the psychometric properties of the Scale. The validation of any psychological measure has been described as a process that "continues indefinitely" (Gregory, 1996, p.107). It is a good idea to continue to learn as much as we can about the strengths and weaknesses of any scale, whether that scale is new or old.

The first study used two techniques to examine the construct validity of the DC Scale. To my knowledge neither technique has previously been used in connection with this Scale.

Participants were nominated by recruiters as likely to be either high or low in the need for control before being administered the DC Scale. If "highs" scored significantly higher than "lows" this would be an indication of the Scale's construct validity.

Persons who score low on the DC Scale have been characterized as nonassertive and unlikely to attempt to influence others (Burger & Cooper, 1979). Individuals who feel powerless are unlikely to try to influence others; and a vegetative person is nonassertive. Thus participants who score high on the Alienation Test's Powerlessness and Vegetativeness Subscales (Maddi, Kobasa, & Hoover, 1979) would be expected to score low on the DC Scale because high scores on these two Subscales typify those who feel powerless and passive.

STUDY 1 METHOD

Participants

The participants were 50 females (mean age = 34.2 years, SD = 13.4) and 44 males (mean age = 35.9 years, SD = 13.9) recruited from the Orlando area by a class of graduate students in education. One individual declined the request to participate. Although the recruiters were asked to use cultural and socio-economic diversity as criteria for selecting participants, the sample is most accurately regarded as one of convenience. Minorities and well-educated persons were slightly over represented. Each participant filled out the DC Scale and the Powerlessness and Vegetativeness Subscales from the Alienation Test.

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Procedure

The recruiters were teachers who were enrolled in a tests and measurements course taught by the author. Recruiters were given some general instructions on how to administer psychological tests. They were also told that one of the attitude scales they were administering was the Desirability of Control Scale. They were read the following description of persons high and low in the desire for control provided by Burger and Cooper (1979, p. 383):

Persons high in the desire for control can be described as assertive, decisive, and active. They generally seek to influence others when such influence is advantageous. They prefer to avoid unpleasant situations or failures by manipulating events to ensure desired outcomes. These persons usually seek leadership roles in group situations. The person low in the desire for control is generally nonassertive, passive, and indecisive. These persons are less likely to attempt to influence others and may prefer that many of their daily decisions be made by others.

Recruiters were then asked to recruit four participants, including one or more who they believed were either high or low in the need for control based on the above description. In so doing, three conditions were emphasized: one was that no participants were to be told that they had been nominated as high or low; two, that all nominations were to be made before any nominee filled out any scales; and three, that it was not necessary to nominate any participant as either high or low unless the recruiter felt certain that the participant fit the description that was read.

Compliance with these three conditions was probably very high. Of the 94 participants less than half were nominated (30 high and 15 low). Recruiters were not told in advance what constituted a high or low score, and there was some overlap between the two sets of scores. Furthermore, recruiters had no motive for telling participants that they had been nominated for either category.

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Recruiters were given detailed feedback about the purpose and results of the study only after the scales had all been scored, handed in, checked and analyzed by the author. Recruiters were encouraged to report the results to their participants.

STUDY 1 RESULTS

Item Analysis

An item analysis of the 20-item DC Scale showed that the corrected item-total correlations ranged from .66 (item 4) to -.04 (item 17). Item 2 correlated .17 with the corrected total. Coefficient alpha was .78. Using the method described by Nunnally (1967) the removal of items 17 and 2 would raise alpha by .02 and .01, respectively. The deletion of any other items would either lower alpha or leave it unchanged.

The two best predictors of Powerlessness were items 16 (-.31) and 20 (-.27), and the two worst were 11 (.20) and 1 (.10). The two best predictors of vegetativeness were items 2 (-.31) and 20 (-.29), and the worst were 11 (.13) and 12 (.04). The two items that were most highly correlated with being nominated as high (coded 2) or low (coded 1) on DC Scale scores were items 14 (.59) and 4 (.54); those most weakly correlated were items 6 (.04) and 17 (.07).

Construct Validity

The mean DC Scale score for all 94 participants was 102.0 (SD = 14.1). The mean for the 30 participants nominated as "high" in desire for control was 109.5 (SD = 11.4). For the 15 "lows" it was 90.5 (SD = 13.4), $t_{43} = 4.99$, $p < .001$. The correlation between DC Scale scores and Powerlessness Subscale scores was $-.21$, $p < .05$. The correlation between DC scores and Vegetativeness Subscale scores was $-.28$, $p < .01$.

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STUDY 1 DISCUSSION

Burger and Cooper initially reported a coefficient alpha of .80 (1979). Reed (1989) reported an alpha of .77 and Woodward and Wallston (1987) reported one of .78. The present result (.78) shows that the internal consistency of the instrument has not diminished over time. An argument could be made for dropping item 17, "When driving, I try to avoid putting myself in a situation where I could be hurt by another person's mistakes," inasmuch as its inclusion reduced coefficient alpha by .02 and it was the second weakest predictor when the nomination technique was used.

The overall DC Scale mean and standard deviation reported here are comparable to those (mean = 100.5, SD = 11.8) found initially by Burger and Cooper (1979). Their participants were 453 introductory psychology students at a large mid-western university, who would be expected to have a slightly lower standard deviation because they were a more homogenous sample as compared to the present one.

The three attempts to add to our knowledge about the construct validity of the DC Scale yielded consistent and interpretable results. All three were successful inasmuch as results were statistically significant in the predicted direction. Those nominated as "highs" did score higher than "lows." As the need for control increased, feelings of powerlessness and passivity decreased.

The second study represented an attempt at cross-validation of the item analysis carried out in the first study. The method of nominations was used again, this time nominating those believed to be high and low in the likelihood of seeking a position of leadership in a group situation. Based on results obtained by Burger and Cooper (1979) those nominated as "likely" were hypothesized to score higher on the DC Scale than those nominated as "unlikely." Additionally, a brief literature review suggested that a positive correlation might exist between the desire for control and the need for uniqueness.

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The need for uniqueness has been described as a "positive striving for abnormality relative to other people" (Snyder & Fromkin, 1977, p. 518). They developed a 32-item Need for Uniqueness Scale (NUS) which has been shown to have good psychometric properties. There are several reasons to postulate a positive relationship between DC and NUS scores. Persons high in desire for control have been found to prefer privacy and time spent alone (Burger, 1992). Given the highly social nature of Western society this might cause such persons to feel unique. Persons high in the desire for control are less popular than average, and there is evidence that they are aware of this (Burger, 1992). They tend to have and prefer to have fewer friends than the average person (Burger, 1992). Such awareness might contribute to the self-perception of differentness. High DC scorers tend to be more active than their peers (Burger & Cooper, 1979). Since activity levels typically decline with age, older persons high in the need for control may realize that they differ from their peers in terms of vigorous activity. As noted in the previous paragraph, high DC scorers have been found to seek (and often gain) leadership roles when placed in ambiguous group situations (Burger & Cooper, 1979). Since there are typically fewer leaders than followers in any group situation this might also tend to make high DC scorers believe in their own uniqueness.

STUDY 2 METHOD

Participants

The participants were 56 females (mean age =40.7 years, SD = 11.0) and 53 males (mean age= 38.4 years, SD = 11.6) recruited from the Orlando area by a class of eight undergraduate students. The sample included 63 Whites, 27 Blacks, 15 Hispanics and 4 Asian-Americans. No one declined to participate. Recruiters were asked to use cultural and socioeconomic diversity as criteria for selecting participants, but the sample is most accurately described as one of convenience. Each participant filled out the DC Scale and the NUS in either order to minimize the likelihood of a systematic order effect.

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Procedure

The procedure was essentially the same as in the first study. Recruiters were asked to collect data from 12 or more participants and from that group select 2 or more who they believed would be most and least likely to seek leadership in a group situation. The same 3 conditions for nominating participants that were used in the first study also prevailed in the second. Of the 109

participants less than half were nominated (24 high and 21 low). As in the first study, recruiters were told little about the hypotheses and the results until the data were scored, checked, and analyzed. Recruiters were urged to report the results to their participants.

STUDY 2 RESULTS

Item Analysis

The second item analysis of the DC Scale showed that the corrected item-total correlations ranged from .64 (item 4) to .06 (item 16). The second lowest item (item 17) correlated .14 with the corrected total. Coefficient alpha was .76. The removal of item 16 would raise alpha by .01. The deletion of any other items would either lower alpha or leave it unchanged.

The two best predictors of total NUS scores were items 4 (.33) and 15 (.28), and the two worst were items 16 (-.01) and 17 (.02). The two DC items that were most highly correlated with being nominated as most (coded 2) likely to attempt to lead were items 7 (.38) and 12 (.29); those most weakly correlated were items 1 (.00) and 18 (.01).

Construct Validity

The mean DC Scale score for all 109 participants was 101.08 (SD = 13.1). The mean for the participants nominated as "most likely" was 104.3 (SD = 12.9). For the "least likely" it was 98.7 (SD = 12.9), $t_{43} = 1.44$, $p > .05$. The correlation between DC Scale scores and NUS scores was .32, $p < .001$.

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GENERAL DISCUSSION

The coefficient alphas from the two studies both suggest that the DC Scale has better than adequate internal consistency. Item 17, inclusion of which lowered alpha in the first study, produced the second lowest item-total correlation, and was the second weakest predictor of NUS scores in study 2. Any attempt to modify the DC Scale should begin (and perhaps end) with item 17.

The overall DC Scale mean (101.08) and standard deviation (13.3) were comparable to those of the first study, the original findings of Burger and Cooper (1979), and the later findings (mean = 106.2) reported by Myers, et al. (1997), with 249 adult female college graduates. Thus the similarity in scores suggests stability over time.

The attempt to correlate DC scores with nominations of persons most and least likely to assert themselves as leaders fell short of statistical significance. With the wisdom of hindsight perhaps it could be said that Burger and Cooper's (1979) comments about desire for control and leadership were premature. Years later, in Burger's book (1992), individuals with high desire for control were described as preferring privacy (p. 58). Furthermore, "no clear pattern" was said to have emerged linking desire for control with a number of social interaction variables (p. 62). Little mention was made of leadership. However, it may be noteworthy that the two best

predictor items in the present study were both clearly related to leadership (item 7, "Others usually know what is best for me," reversed; and item 12, "I'd rather run my own business and make my own mistakes than listen to someone else's orders").

The positive and highly significant correlation between NUS and DC scores found in study 2 extends our knowledge about the desirability of control in a new direction. Apparently those with a high desire for control are likely to perceive themselves as being "different," but they do not necessarily view their uniqueness as a negative attribute. Further research should be aimed at a more precise determination of the link between these two constructs.

Overall, the results of the present studies suggest that the Desirability of Control Scale is still a reliable and valid instrument today. Its continued use is recommended.

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AUTHOR'S NOTE

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AUTHOR'S BIOGRAPHY

Dr. Lynn E. McCutcheon has taught various psychology courses over a 32-year career. His interests include social, tests and measures, personality, and sport psychology. He has authored or co-authored over 90 scholarly papers and is currently the editor of the *North American Journal of Psychology* (<http://najp.8m.com>). Correspondence should be addressed to Dr. Lynn E. McCutcheon, 240 Harbor Dr., Winter Garden, FL 34787, or E-mail him at najp@mpinet.net.

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