A MORE BIAS-PROOF MEASURE FOR THE TYPE A SUBCOMPONENT OF EXAGGERATED INTERPERSONAL CONTROL

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This study reports the development and initial psychometric refinement of a forced-choice version of the Way of Life Scale (WOLS), a measure of the coronary prone/Type A behavior pattern (TABP) subcomponent of exaggerated interpersonal control. The format of this new instrument requires respondents to choose one of two items that are of equal "favorability." This method is designed to limit the influence of social desirability and of denial on subjects' test responses. Initial results suggest that scores on the new (forced-choice) version of the WOLS are more similar to scores obtained by the most valid measure of the TABP (i.e., the structured interview) than are the same subjects' scores on the original version of the WOLS. This closer approximation of the forced-choice WOLS to the structured interview appears to result from the forced-choice scale's ability to reduce respondents' social desirability and/or denial tendencies. Suggestions are offered for both clinical applications and further research with the new forced-choice scale.

The term "exaggerated interpersonal control" (EIC) refers to the tendency of some individuals to usurp a disproportionate amount of decision-making authority unto themselves in what should be more mutual social situations (e.g., in the home/family, the workplace). Examples are being the one who always decides at which restaurant the family will eat; whether the family will buy an automobile, and if so, what kind; and where to set the thermostat at work.

EIC is similar, but not identical, to Cattell's (1946) Factor E of dominance (hypomania) versus submissiveness. Factor E is a factorially determined but

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nonetheless conceptually heterogeneous construct, described as synonymous with "egotistic," "predatory," "willful," "smart," "rigid," and "vindictive." EIC is a more circumscribed "I'll decide for all of us" concept derived from clinical observations of high Type A behavior pattern (TABP) heart patients (see Wright, von Bussman, Friedman, Khoury, & Owens, 1990). Rosenman (1978), in defining TABP, mentions EIC along with other factors such as anger and time urgency as subcomponents of his so-called coronary-prone personality. EIC is measured via the structured interview (SI; Rosenman's technique for assessing the TABP) by observing, among other things, whether the subject competes with the examiner for control of the SI itself.

The meta-analysis and review by Friedman and Booth-Kewley (1987), demonstrated the prospective relationship between the TABP and coronary heart disease (CHD). However, more recent research on the TABP has focused on the so-called active ingredient TABP subcomponents rather than on the global TABP itself. As stated by Dembrowski and Williams (1989) "Only certain aspects of the multidimensional TABP are 'toxic,' . . . assessment of the global TABP will provide a measure which contains a considerable amount of 'noise' in addition to the coronary-prone 'signal' " (p. 559). Because EIC is one of the primary subcomponents of the global TABP, it becomes essential to know what role, if any, is played by this particular variable in the etiology of CHD.

Wright et al. (1990) and Wright, May, and Jackson (1991) have developed and refined (psychometrically) the Way of Life Scale (WOLS) for assessing the EIC construct. However, as earlier discussed by Wright (1988), many Type Bs seem to regard small amounts of anger, time urgency, and/or stress as excessive. Type As, on the other hand, often regard extensive amounts of anger, time urgency, and/or stress as commonplace. Thus Type As may report themselves as being minimally angry, time urgent, and/or stressed; whereas Type Bs may report their minimal anger, time urgency, and stress as overwhelming.

Wright (1988) speculated further that the TABP may be an obsessive/compulsive-type disorder, and like other obsessive compulsive problems, it is frequently accompanied by a denial mechanism. When combined with a tendency of many subjects to make what they perceive to be socially desirable responses in completing self-report measures (Crowne & Marlowe, 1964), the end result is that Type As commonly report themselves as being Type Bs and vice versa.

Because of the above described failure of respondents to accurately report their Type A/Type B behaviors, the SI has emerged as the best method for predicting Type A-related CHD (Friedman & Booth-Kewley, 1988). The SI, however, is individually administered and thus time consuming, expensive, and ideally suited only for studies with relatively small *N*s. Provided that more biased-proof self-report measures could be developed, these would provide great advantage over the more time-consuming SI method.

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The purpose of the present investigation was to apply a method developed originally by Wherry and Fryer (1949), for controlling the effects of respondent bias on self-report measures, to an existing device for assessing the TABP subcomponent of exaggerated social control. Thus the Wherry/Fryer technique was applied to the WOLS (Wright et al., 1990), which has been shown previously to correlate with both self-report and interview-based measures of the TABP (Wright et al., 1991).

The Wherry and Fryer (1949) method for test construction produces a forced-choice test format requiring respondents to choose between two items designed to be equally difficult to acknowledge from a social desirability and/or denial standpoint. However, based on data from individual items (not forced-choice paired responses), one of the items correlates in a significantly more positive direction with a relevant criterion, in this case the TABP. The alternative item of each pair correlates significantly less positively with the relevant criterion. Under these circumstances, it is hypothesized that respondents will acknowledge the truth about themselves in choosing which item in the pair is more descriptive of them, as both are presumably of equal "favorability" (i.e., equally difficult to acknowledge). The more times the relevant or higher criterion-correlated item of each pair is chosen, the higher an individual's score.

Method

An initial group of subjects comprised 48 married Caucasian males between 40 and 55 years of age. Thirty of these subjects were patients on the coronary care unit of a large southwestern medical center, and 18 were without documented coronary heart disease (CHD). Favorability ratings for all items were obtained by asking respondents to rate themselves on a 6-point Likert-type response-formatted scale according to how willing they would be to admit the behavior described by each item. The rated items were from the WOLS and from a pool of 410 additional items created by a group of seven behavioral science faculty and graduate students who assisted the authors. The 410 additional items were created in order to form a pool from which to choose items to pair with the existing WOLS items to form the new forced-choice version of the WOLS.

To ascertain the validity for each of the WOLS and pool items, the 48 subjects were next asked to rate themselves (not the favorability of the item) on the WOLS and the 410 additional items. These subjects were also administered the SI. Based on these data, a forced-choice version of the WOLS was generated by pairing a WOLS item with a pool item of equal favorability but one that possessed a significantly less positive correlation with SI-measured TABP than did its paired WOLS item.

Table 1 shows the favorability ratings, the validity coefficients (i.e., correlation with SI-measured TABP), the actual wording, and a scoring key

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Table 1
Item Means and Standard Deviations for Favorability Ratings (low scores = high item favorability) and Item Correlation With SI-Measured TABP ($r_{SI\text{-}TABP}$) (N = 40)

Item		Mean	*SD*	$r_{SI\text{-}TABP}$
† 1.	a. I am easily awakened by noise.			
	b. I shudder when I hear talk of a World War III.			
2.	*a. When it is time to make a major decision, like purchasing a house or a car, I usually make the decision.	2.02	1.10	.11
	b. Some problems are too big for one to solve by oneself.	1.98	1.10	−.31
3.	*a. When it is time to make a major decision about moving, I usually make the decision.	2.10	1.29	.11
	b. No matter how hard you try, someone will always be dissatisfied.	2.19	1.39	−.22
† 4.	a. My daily life is full of things that are interesting.			
	b. I sometimes forget to brush my teeth.			
† 5.	a. I enjoy detective or mystery stories.			
	b. Living is a wonderful experience.			
† 6.	a. I hate to cook.			
	b. I work under a great deal of tension.			
7.	*a. When it is time to discipline the children, I make the decision.	2.10	1.07	.08
	b. I sometimes perspire.	2.02	1.18	−.23
† 8.	a. I believe most people are liars.			
	b. No one seems to understand me.			
9.	a. It is okay for men to have long hair.	2.35	1.30	−.23
	*b. When it is time to decide about social events with friends or family, I usually make that decision.	2.37	1.23	−.08
10.	a. I probably smell occasionally.	2.97	1.60	−.19
	*b. I like to be bossy.	2.87	1.23	.16
† 11.	a. I felt unwanted as a child.			
	b. At times I feel like swearing.			
12.	a. It is best to live for the present and not to worry about tomorrow.	2.58	1.39	−.19
	*b. I like to get in the last word.	2.79	1.54	.29
† 13.	a. I find it hard to keep my mind on a task.			
	b. I often doubt that my dreams will come true.			
† 14.	a. I am not very sentimental.			
	b. At times I feel like smashing things.			
15.	a. I would make a terrible salesman.	3.40	1.90	−.28
	*b. I like to know the details about other people's phone conversations.	3.43	1.74	.16
† 16.	a. I cannot take people poking fun at me.			
	b. I do not always tell the truth.			
17.	a. I am annoyed by people with body odor.	2.41	1.51	−.25
	*b. I like to have rules and structure for handling most or all situations.	2.35	1.22	.13
18.	*a. I like to monitor people to make sure things are the way they should be.	2.70	1.41	.17
	b. When I am in the midst of doing a job and someone (not my boss) interrupts me, I feel okay because I work better after an occasional break.	2.71	1.56	−.13

(continued)

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Table 1: Continued

Item	Mean	*SD*	$r_{SI\text{-}TABP}$
19. *a. I like to make sure everything goes according to plan.	1.95	1.77	–.12
b. Even though some tasks are unpleasant, they just have to be done.	1.97	1.48	–.37
† 20. a. I often have a problem saying no.			
b. I am a good mixer.			
21. a. I strongly support the military draft.	2.27	1.48	.13
*b. I like to lead conversations or group discussions.	2.43	1.52	–.25
† 22. a. My feelings are easily hurt.			
b. I am liked by most people.			
† 23. a. I get angry sometimes.			
b. I would resort to stealing if I were hungry.			
24. a. I would make a terrible artist.	2.31	1.51	–.24
*b. I may be inclined to interrupt people if they are not responding in the way they should be.	2.47	1.23	.34
† 25. a. I think most people would lie to get ahead.			
b. Some people may think I am eccentric.			
† 26. a. I would rather keep to myself than "open up."			
b. I am lacking in self-confidence.			
† 27. a. I am an important person.			
b. The government refuses to tell the truth about flying saucers.			
28. a. I rarely put words in a person's mouth to speed things up.	2.89	1.54	–.25
*b. I have a tendency to manipulate, maneuver, or control other people.	3.00	1.51	.10
29. *a. I am a good leader but not particularly a good follower.	2.52	1.22	.35
b. In conversation, I am a much better listener than a talker.	2.38	1.30	–.17
30. *a. I like to give directions about driving or other activities.	3.12	1.24	.22
b. I am not hesitant to burp in a public restaurant, due to the fact that it is a natural biological function.	3.06	1.57	–.15
† 31. a. I prefer to keep my problems to myself.			
b. I am happy most of the time.			
32. *a. I am a person, who, if I am going out for an evening, like to decide where to eat, what movie to attend, etc.	2.18	1.23	.30
b. I read often.	2.19	1.46	–.14
† 33. a. My hardest battles are with myself.			
b. Sometimes I do not feel very alive.			
† 34. a. I seem to be about as capable and smart as most others around me.			
b. I could get along all by myself if I had to.			
35. *a. I tend to overstructure spontaneous time such as vacations, etc., and turn them into controlled events.	2.41	1.19	.22
b. I believe heredity plays the major role in determining a person's personality.	2.45	1.35	–.14
† 36. a. I often feel bad upon waking.			
b. I feel useless at times.			
37. a. I gossip at times.	2.85	1.30	–.15
*b. I have ideas about controlling things with the children and other people such as how much food they should have on their plates, etc.	2.85	1.59	.28

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Table 1: Continued

Item	Mean	*SD*	$r_{SI\text{-}TABP}$
38. a. I sometimes wish I could just disappear.	2.51	1.34	–.15
*b. I am seen by relatives as being a dominant member of our extended family.	2.45	1.33	.35
39. *a. I am the one who usually decides which television channel to watch.	2.22	1.34	–.24
b. I enjoy shopping.	2.43	1.68	.31
40. *a. I am the one who usually controls the thermostat.	2.29	1.30	.17
b. I enjoy talking with people about their problems.	2.27	1.28	–.18
† 41. a. Criticism or scolding hurts me terribly.			
b. I would enjoy songwriting.			
† 42. a. A person's sex life is no one else's business.			
b. I would rather win than lose in a game.			
† 43. a. I do not tire quickly.			
b. I enjoy a good dessert.			

†Irrelevant filler item.
*Relevant item in relevant forced-choice pair.

for the 21 relevant forced-choice pairs contained within the new forced-choice WOLS.

One concern regarding this procedure is the use of only 48 subjects to obtain validity coefficients for the 410 pool items. The purpose of these correlations was, of course, to provide a basis for pairing items with the existing WOLS items to create 21 matched pairs. However, in this circumstance, the search is not for items that correlate highly and positively with the criterion, but for more irrelevant (criterionwise) items. If spuriously unrepresentative correlations were obtained for any of the 21 matching items selected from the pool of 410, it would serve only to suppress the validity of the final forced-choice scale. Thus, in the final analysis, the proof of the efficacy of the procedure lies in the validation results obtained with the final forced-choice version of the WOLS as a whole and does not rest on the original correlations obtained for any of the 410 pool items with SI-measured TABP.

As can be seen from Table 1, the forced-choice WOLS also contains 22 irrelevant pair (filler) items. The purpose of the filler items was to obscure further what the new scale is designed to measure. This, it was hoped, would reduce even more the effects of respondents' social desirability and/or other defensive tendencies.

To assess the test-retest reliability of the new forced-choice version of the WOLS, 40 males between 22 and 60 years of age were administered the new forced-choice scale and then completed it again after a 2-week interval.

To measure the internal consistency of the new forced-choice WOLS, coefficient alpha was estimated, using the responses of 80 subjects. These

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included the pretest scores of the 40 subjects in the test-retest study described above and the scores of 40 subjects from a validity study described in the next paragraph.

To validate the new forced-choice version of the WOLS as a whole, the forced-choice WOLS along with the original WOLS and the SI were administered to a sample of 40 married Caucasian male CHD patients, aged 40-55 years. This procedure was done to test whether subjects' scores of regular WOLS or those for the forced-choice WOLS more closely approximated the subjects' scores on the SI (the best available method for assessing the TABP). First, a Pearson product-moment correlation was obtained between regular WOLS scores and SI ratings. A correlation was also estimated between the forced-choice WOLS and the SI. It was predicted that the correlation between the forced-choice WOLS and SI would be significantly higher than the correlation between the original WOLS and the SI.

A second method was employed to estimate whether responses to the forced-choice WOLS more closely approximate SI ratings than did those of the original WOLS. To do this, the global TABP (as measured by the SI) scores for the 40 subjects just described were rank ordered. The subjects' scores on the regular WOLS and the forced-choice WOLS were also rank ordered. Difference scores were then calculated between the rank order scores for SI-measured TABP and the rank order scores for the regular WOLS. Difference scores between subjects' ranks on the forced-choice WOLS and their ranks on the SI were also calculated. It was predicted that the mean rank order difference (from SI-based TABP ratings) for the *forced-choice* WOLS would be significantly *less* than the mean of rank differences between the regular WOLS and SI-measured TABP. If so, it would suggest that the forced-choice WOLS produces scores more like SI-measured TABP than does the regular WOLS. Because rank order data fail to meet the interval data assumption for *t* tests, a Wilcoxon *T* was used to determine if the mean of the difference scores between the forced-choice WOLS and the SI was significantly less than the mean of the difference scores between the regular WOLS and SI-measured TABP.

Results

The obtained correlation between the total score for the original WOLS and the SI was .12. The correlation between the forced-choice WOLS and the SI was .52. A Fisher's *Z* transformation was applied to the two correlations to determine if they differed significantly from one another. The resulting *Z* score ($Z = 1.97$, $p < .025$) indicates that the forced-choice version of the WOLS correlated significantly higher with SI-measured TABP than did the original version.

The results for the test of differences between ranks of SI-measured TABP and (a) rank order scores for the forced-choice WOLS, on one hand, and (b)

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rank order scores for the regular WOLS, on the other, as measured by Wilcoxon's T, was $T = 317$, $p < .01$, with subjects' forced-choice WOLS scores being more similar to SI ratings than were regular WOLS scores. The coefficient alpha for the forced-choice WOLS obtained from the performance of 80 subjects was .73. The test-retest reliability based on the performance of the 40 subjects was .78.

Discussion

The obtained test-retest reliability for the forced-choice WOLS of .78 is viewed as adequate. The somewhat modest coefficient alpha of .73 obtained in this study is also viewed as acceptable, which is not surprising as alpha represents a minimum-bounds estimate of internal consistency, and in light of the earlier (Wright et al., 1990) report that indicates a two-factor (factor analytic) structure for the original WOLS.

The fact that subjects' forced-choice WOLS scores differed less from their SI-measured TABP scores than did the same subjects' regular WOLS scores, suggests that the forced-choice WOLS is a more valid measure of the TABP-related subcomponent of exaggerated interpersonal control. The fact that the forced-choice version of the WOLS correlates significantly higher with SI-measured TABP further supports the conclusion that it is a more valid measure of the TABP-related subcomponent of exaggerated social control.

The forced-choice WOLS would appear to be a valuable tool for use in clarifying the relationship between an important aspect of social behavior (i.e., exaggerated social control) and an important disease point, CHD. The increased validity of the forced-choice WOLS would seem to result from its lesser susceptibility to the effects of respondent social desirability tendencies and/or from the lessened effects of respondent denial. As such, the forced-choice WOLS is recommended for both clinical and research-based efforts to measure individuals' exaggerated social control tendencies.

Further research should focus on the psychometric status of the forced-choice WOLS, that is, its validity and reliability as determined by data from additional and hopefully larger samples. Whether the new scale is best employed by itself or in combination with the original WOLS should also be clarified by additional research. Future research might also attempt to compare how Cattell's Factor E/Dominance Scale, the original WOLS, and the forced-choice versions of the WOLS all correlate with CHD.

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