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Two Bass Scale Factors and Response to Placebo and Anxiolytic Drugs

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Abstract. Two principal oblique factors are identified in the Bass Social Acquiescence Scale, a measure previously shown to correlate positively with placebo response and negatively with anxiolytic drug response. The two factors appeared very similar in separate analyses of data from samples of 941 psychiatric outpatients and 1,837 college students. Also, results are presented which indicate that one factor, tentatively labeled "traditionalism", accounted for the empirically observed relationships to placebo and drug response in two clinical trials.

Key words: Bass Social Acquiescence Scale – Placebo response – Anxiolytic drugs – Diazepam – Factor analysis – MMPI

The Bass (1956) Social Acquiescence Scale (ACQ) is of interest because of its demonstrated relationship to response during placebo and anxiolytic drug treatment. Four studies have shown a positive correlation between ACQ and placebo response (Fisher and Fisher, 1963; McNair et al., 1968, 1970a, 1979). Two studies have shown a negative correlation between ACQ and clinical improvement during antianxiety drug treatment (McNair et al., 1968, 1970a). One purpose of this paper is to report on two factors identified in the ACQ scale. Evidence is presented of the factor structure in two samples (patients and normal subjects) in an effort to further define and clarify the nature of the constructs measured. A second aim is to present comparisons of the factor scores with total ACQ scores as predictors of clinical response to placebos and anxiolytic drugs. Before presenting these results, however, it is appropriate to review briefly the development and prior use of the ACQ.

Scale Development. Bass developed his scale by selecting 56 items that maximally discriminated between the upper and lower quartiles of 200 college students in endorsing 300 statements which described 13 types of human behavior. Respondents indicated "agree", "uncertain", or "disagree" for each of the items (see Tables 1–3 for examples). Total ACQ scores represented the number of agreements or acceptances. Bass intended to construct a measure of the tendency to accept or reject widely varying statements regardless of content, i.e., "yea saying" or acquiescence response set. He concluded tentatively, after examing validity data, that high agreement scores predicted unquestioning conformity to social demands, or Babbittry. The measure, thus, was constructed specifically to measure test-taking acquiescence, but it also was interpreted as a measure of more general social conformity.

There appears to be no solid evidence that high ACQ scores predict behavioral conformity. Schutz and Foster (1963) found no relation in normal subjects between ACQ scores and two behavioral indices of conformity. A clinical research study indicated that significantly more high ACQ than low ACQ outpatients refused to participate in a follow-up evaluation several months after they had completed a drug trial (McNair et al., 1970b). In another clinical trial, high ACQ patients deviated more often than low ACQ patients in following the research protocol (McNair et al., 1970a). In unpublished studies with normal subjects, our laboratory found and replicated a negative relationship between an abbreviated ACQ and volunteering for single-dose drug experiments. Thus, while evidence from a nonpsychopharmacology study suggests no relationship between ACQ and conformity, the evidence from psychopharmacology research suggests, if anything, a negative relationship. The only known data which might be construed as indicating a positive relationship concern the clinical improvement of high

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Table 1. Factor I: Traditionalism

No.	Item	Loadings (× 100)			
		Factor I		Factor II	
		Patients	Students	Patients	Students
(29)	Obedience is the mother of success	67	54	−08	−15
(28)	No principle is more noble or holy than that of true obedience	65	58	−09	−16
(12)	To be happy, always stay within the law	55	40	−08	−06
(5)	The only known cure for fear is faith	47	31	−01	12
(35)	Giving is always better than receiving	45	26	02	18
(11)	A sense of duty is the basis of character	44	33	06	06
(9)	No gift is more precious than good advice	42	21	06	17
(26)	Better one safe way than a hundred of which you are not sure	39	30	08	13
(24)	The victory always goes to those who admire rather than to those who criticize	39	25	08	13
(34)	Seeing is believing	39	16	09	18
(3)	They never fail who die in a great cause	37	16	08	15

Table 2. Factor II: Rugged individualism

No.	Item	Loadings (× 100)			
		Factor II		Factor I	
		Patients	Students	Patients	Students
(27)	We like best that which lies beyond our reach	48	40	−15	−04
(33)	The greatest fortunes are for those who leave the common path and blaze a new trail	37	33	−02	−01
(8)	One false friend can do more harm than one hundred enemies	36	33	06	07
(16)	Empty heads go with loud talk	33	38	12	07
(30)	He conquers all who conquers himself	32	32	00	01
(22)	It is difficult to do excellent work without great strain	32	27	04	04
(17)	Never trust a flatterer	30	32	03	−02
(20)	Those in high places are in greater danger than those in lowly ones	30	30	04	01
(19)	The grass is always greener in the other fellow's yard	27	32	14	−04
(21)	Life is a struggle from beginning to end	26	31	06	−04

ACQ patients following placebo treatment (see below).

Bass (1956) cited, as evidence that the ACQ scale measures "yea saying", six correlations with the California E and F Scales (Adorno et al., 1950): These correlations, in fact, were −0.06 to 0.49. Schutz and Foster (1963) performed a factor analysis involving many ACQ items and other scales, and they found no evidence to support the "yea saying" interpretation. Unpublished studies with normal subjects by this laboratory have found only moderate correlations between ACQ and other measures purported to show "yea saying", such as Couch and Kenniston's (1960) Overall Agreement Scale ($r = 0.42$, $N = 74$) and total agree scores on subsets of Minnesota Multiphasic Personality Inventory (MMPI) items ($r = 0.42$, $N = 74$). All items in the original ACQ were actually in the initial item pool from which Couch and Kenniston (1960) derived their measure, but almost none were retained in their final version. In any event, it may be fruitless to pursue the response set issue. Vast research efforts on this topic during the past 30 years have failed to establish agreement acquiescence as an important dimension of individual differences (Block, 1972; Samelson, 1972). Which traits the ACQ does measure remains unclear from this review of earlier work.

ACQ and Clinical Drug Trials. Fisher and Fisher (1963) first demonstrated the relationship of the ACQ to placebo response. They found that high ACQ college students manifested more experimentally suggested effects of a placebo than did low ACQ students. Later, in a 2-week double-blind clinical trial of diazepam and placebo, McNair et al. (1968) found that an abbreviated (35 item) ACQ predicted response to medication by a group of 60 psychiatric outpatients. High ACQ

Table 3. Remaining items

No.	Item	Loadings (× 100)			
		Factor I		Factor II	
		Patients	Students	Patients	Students
Weak factor I definers					
(25)	You can't teach an old dog new tricks	36	06	10	22
(1)	He that has many friends need never fear disaster	28	13	01	08
(13)	Sweet is the sleep of men with virtue	27	21	10	12
(10)	Our chief want in life is somebody who will make us do what we can	26	07	11	17
Weak factor II definers					
(32)	Amusement is the medicine for worry	14	13	27	20
(23)	Wild colts make good horses	11	−06	25	27
(14)	Stay away from the proud man who is ashamed to weep	11	00	17	23
Bivocals					
(31)	Still water runs deep	31	01	20	31
(15)	Happiness must be won through great effort	25	07	24	30
(7)	He who laughs last laughs longest	24	10	26	20
(18)	Every man is blind to his own defects	24	09	24	23
Non defining					
(2)	There is no satisfaction without a companion to share it	24	10	16	18
(4)	Success against odds is the greatest of American ideals	15	14	22	17
(6)	Love of the opposite sex makes the world go round	24	15	10	20

patients improved on placebo but not on diazepam; low ACQ patients responded well to diazepam but little to placebo. In an effort to equate patients on as many characteristics as possible and to reduce the influence of confounding factors, the data from this trial were reanalyzed for a subset of 18 patients. These were the patients of nine psychiatrists who treated either two high ACQ or two low ACQ women. The drug-personality interaction was even more pronounced in the smaller group than in the total sample. A subsequent follow-up of the patients in this trial indicated the combined effects of medication and ACQ endured for at least a period of several months (McNair et al., 1970b).

The next evidence came from a multiple crossover study which compared chlordiazepoxide and placebo in a small group of anxious women outpatients selected for contrasting ACQ scores (McNair et al., 1970a). It confirmed both the positive correlation between ACQ and symptom relief during placebo treatment and the negative relationship during anxiolytic treatment. Recently, ACQ was studied as a predictor of change in three more samples of psychiatric outpatients (McNair et al., 1979). Two groups, 73 patients from a research clinic in the same medical center as the above studies and 56 patients from a college health service, underwent 1 week of placebo treatment prior to switching to either anxiolytic or antidepressant medicines. The third group was a no pill, medication-free, quasi-control group of 112 patients who waited no more than 2 weeks before beginning psychotherapy in the medical center's psychiatric clinic. In the research clinic, ACQ predicted placebo response in numerous self-ratings and psychiatrist ratings. The evidence was weaker and less consistent in the student clinic; psychiatrist ratings supported the prediction, but self-evaluations did not. On the other hand, ACQ was clearly unrelated to change in the control group, indicating that it may predict "true" placebo effect, i.e., the difference between a response to a placebo and a response to no pill, under at least some conditions rather than simply predicting nonspecific improvement.

Materials and Methods

Samples. The outpatient sample was a group of 941 new admissions to a medical center psychiatric clinic during 1967–1969. At their intake evaluation these patients completed a brief, standard assessment battery of self-rating measures which included the 35-item ACQ Scale. As a group they appeared fairly typical of outpatients at clinics in large urban communities. Women comprised 66% of the group. Average age was 29.6 years. Median education was high school graduation. The sample was 33% Protestant, 39% Catholic, 16% Jewish, and 13% other. Racial composition was 21% Black and 79% White. The major referral sources were self or family (41%) and other

medical center services (22%). Less than half (44%) had prior psychiatric treatment and less than a fifth (17%) were receiving a psychotropic drug at the time of admission. Diagnostically, 75% were classified as neuroses, adjustment reactions, or personality disorders (DSM-II), with depressive neurosis the most common diagnosis (32%).

The normal sample included 1,837 college and graduate students obtained from a variety of sources between 1967 and 1971. About 80% came from a large Eastern private university. They had registered for psychology courses in 1969 and, as part of that procedure, had received a packet of forms, including the ACQ, to complete and return if they were interested in participating as subjects in psychopharmacology research. About 100 students came from each of four other sources: Two large, Eastern private universities; a small, mideastern private liberal arts college; and an Eastern medical school. Women comprised 60% of the group. Average age was 18.6 years (range 17–36). Most were freshmen or sophomores and they were diverse with respect to socioeconomic status.

Data Analysis. An abbreviated (35-item) ACQ was completed by all subjects. All items were scored dichotomously as "agree", "not agree". The average item was endorsed by 45% of the patients and 34% of the students. The items ranged in endorsement value from 22–75% for patients and 7–74% for students, with only two items endorsed by less than 10% of the students. These item *p*-values (proportion of endorsements) were judged satisfactory for inclusion in the factor analyses.

The data for the two samples were factored separately by the principal components method with squared multiple correlations of each item with all others as communality estimates. Factors with latent roots ≥ 1.00 were retained for rotation to oblique simple structure by the biquartimin method (Harman, 1967). Factor scores were obtained later by simply summing the number of "agree" responses to the major items defining each factor.

Results and Discussion

Factor Analysis. In each group, two principal components were obtained that accounted for slightly over 90% of the common factor variance. After rotation to oblique simple structure, factors I and II correlated moderately ($r = 0.47$ and 0.41 for patients and students, respectively). Factor I was the larger factor in patients, whereas factor II was larger in students. Congruency coefficients, which are estimates of factor similarity across groups (Harman, 1967), were 0.96 for factor I and 0.94 for factor II, indicating a high degree of factorial invariance.

Tables 1–3 present the ACQ items and their loadings on both factors for both samples. Factor I is defined by 11 items with loadings ≥ 0.30 in one or both groups and no correlations ≥ 0.20 on factor II for either patients or students (Table 1). It is tentatively named "traditionalism" because a common theme of most of the definers appears to be endorsement of conventional, often simplistic, values. Several statements stress deference, respect, or even blind obeisance to authority (29, 28, 12, 9, and 24). Included in the factor are acceptances of religious values with a somewhat fundamentalist tone (5 and 35); not only is tribute paid to God, but also to country (3). There were no "motherhood" statements in the set. Also more or less explicit in the item content is the view that the rewards of life come from sources outside the self (29, 12, 5, 9, and 24). You get the rewards or solve human problems by playing it safe, by acting cautiously, by obeying the rules, by following but not leading. Finally, there are touches of grace and gentleness (28, 35, 11, and 24).

Factor II is defined by the ten items in Table 2. The loadings are somewhat more consistent in the two samples than for factor I. The factor is named tentatively "rugged individualism". In contrast to factor I, a common theme is that reward and achievement depend upon the self (33, 30, and 21), and that they require initiative, striving, and hard work (33 and 22). It is also necessary to take risks (33 and 20). Toughness, self-reliance, and self-control are virtues (30, 8, 17, 20, and 21) and others are regarded with a bit of mistrust and disdain (8, 16, 17, and 20), and perhaps envy (19). There is an entrepreneurial quality about this factor; a concern with acquisition, mastery, and material success through self-reliance and perseverance against great odds.

Table 3 shows the items that did not load clearly on either factor. A few appear to be weakly related to either factor I or II in at least one group, and, substantively, these seem consistent with the above interpretations of the factors. Only four items are bivocals (roughly equal loadings on both factors) and in only one case are both loadings ≥ 0.30.

It obviously will require a network of correlates of the two factors to determine their construct validity. Until such evidence is available, the interpretations offered must be regarded as hypotheses about the nature of the attribute dimensions represented. It is quite unclear, for example, whether a high score on factor I is indicative of a genuine "true believer" personal value system that pervades behavior. Instead, high scores on factor I could reflect a cognitive style characterized by rather thoughtless, "lip service" acceptance of simplistic and superficial, yet traditional, generalizations about human experience. The importance of the factor may be its potential for assessing such a cognitive style rather than its validity for assessing a strongly held value system of a particular type. If so, factor I should relate to measures of cognition. Other possibilities will surely occur to other researchers.

The Factors and Placebo-Drug Response. One might have expected factors I and II to be uncorrelated or even negatively related if the interpretations offered above are valid. Since they actually had a moderate positive correlation, it is conceivable that the second-order factor represents a "yea saying" response style. In

Table 4. ACQ and factor I relationships (r_p) to improvement in the diazepam-1 and placebo-1 groups

Criterion	ACQ		Factor I	
	Diazepam-1	Placebo-1	Diazepam-1	Placebo-1
[c] POMS: Tension-anxiety	−29	27[a]	−33	37[b]
Depression-dejection	−47	32[b]	−58	41[b]
Anger-hostility	−08	15	−22	36[a]
[d] HSCL: Anxiety	−32	30[a]	−36	44[b]
Depression	−36	26[a]	−30	29[a]
Patient target symptoms	−41	16[a]	−44	12[a]
Doctor target symptoms	−16	25	−23	38[a]
N	30	30	30	30

[a, b] $P < 0.05, 0.01$ (two-tail), respectively, for the difference between r_p in the diazepam and placebo groups
[c] Factor scores from the Profile of Mood States (McNair et al., 1971)
[d] Cluster scores from the Hopkins Symptom Checklist (Derogatis et al., 1974)

any case, the total ACQ score can be regarded as an approximation of the second-order factor score, whatever its substantive meaning. A comparison of factors I and II with total ACQ as predictors of placebo and drug response, then, is one step toward accounting for the empirically observed relationships.

Factors scores were obtained for patients in three groups in two studies for whom total ACQ scores had predicted improvement. Two groups (placebo-1 and diazepam-1) participated in study 1, a clinical trial described above (McNair et al., 1968). The third group (placebo-2) participated in study 2 and was the research clinic sample also cited above (McNair et al., 1979). Factor I and II scores were computed, respectively, as total "agree" responses to the first eight items in Table 1 and to the first nine items in Table 2. Estimates of the internal consistency reliability (coefficient α) of the factor scores were determined from the factor analytic samples. For factor I, coefficient α was 0.82 based on the patient sample and 0.63 based on the student sample. For factor II, coefficient α was 0.64 and 0.59, respectively, for the two samples. The first of the four coefficients is in the range expected of a "good" homogeneous test. The others are in the range characteristic of measures which may be useful in practice but which have considerable room for improvement.

Scores on factors I and II correlated 0.11, 0.25, and 0.34 in the placebo-1, placebo-2, and diazepam-1 groups, respectively. These factor score correlations were considerably lower than in the samples of patients ($r = 0.56$) and students ($r = 0.53$) which defined the factors, constituting further evidence of factorial independence.

Table 4 shows the study 1 relationships of ACQ and factor I with seven principal criteria of improvement. Factor II is not included as it had no significant associations with outcome. The table displays partial correlations (r_p) between the predictors and the 2-week criterion scores adjusted for baseline level of distress on the respective criterion. In general, both ACQ and factor I related positively to improvement during placebo treatment and negatively to improvement during diazepam treatment. The differences between the r_p in the diazepam-1 and placebo-1 groups were significant for most criteria, whether the predictor was ACQ or factor I: Differences between the partial slopes, i.e., the equivalent of testing for drug-attribute interactions by analyses of covariance, also were significant in all cases where the r_p differences were significant. Most factor I relationships to outcome were somewhat stronger than those of ACQ, and factor I predicted change significantly on two more criteria than did ACQ. The main point here, however, is that factor I predicted at least as accurately as did the total ACQ score which, of course, includes factor I as a subset.

Table 5. ACQ and factor I relationships (r_p) to improvement in the placebo-2 group

Criterion	ACQ	Factor I
POMS: Tension-anxiety	0.18[a]	0.26[b]
Depression-dejection	0.22[b]	0.20[b]
Anger-hostility	0.33[c]	0.31[c]
HSCL: Anxiety	0.19[b]	0.25[b]
Depression	0.24[b]	0.21[b]
Patient global improvement	0.24[b]	0.26[b]
Doctor global improvement	0.16[a]	0.18[b]
Doctor depression rating	0.21[b]	0.23[b]
N	73	73

[a, b, c] $P < 0.10, 0.05$, and 0.01, respectively, for $r_p > 0.00$ (one-tail)

Similarly, Table 5 shows the study 2 relationships of ACQ and factor I with baseline-adjusted improvement during a 1-week placebo "washout" period. As before, factor II failed to significantly predict outcome. And again, factor I predicted improvement at about the same level of magnitude and significance as did the

total ACQ score. Detailed evidence from study 2 indicates that ACQ, and hence factor I, *may* predict "true" placebo effect under at least some conditions, and not simply nonspecific improvement which happens to occur during placebo treatment (McNair et al., 1979).

We conclude from the present results that one factor in the ACQ, tentatively labeled "traditionalism", appears to account for the empirically observed relationships to placebo response and anxiolytic drug response. Construct validation efforts should focus on this factor.

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