

THE 'BARNUM EFFECT' IN PERSONALITY ASSESSMENT:
A REVIEW OF THE LITERATURE^{1,2}

D. H. DICKSON AND I. W. KELLY

University of Saskatchewan

Summary.—This review summarizes to date the research on the Barnum effect, the tendency for people to accept vague, ambiguous, and general statements as descriptive of their unique personalities. Studies examined address interpretation variables of the Barnum profiles in regard to generality and supposed relevance of the interpretation, favorability of interpretation, type of assessment procedure, and origin and format of interpretation. Also the role of personal factors such as characteristics of the subject and test administrator are examined. It is concluded that the level of acceptance of Barnum profiles depends on the relevance and favorability of the profile and to some extent on the type of assessment utilized. Directions for research on the Barnum effect are provided.

The psychological phenomenon whereby people accept general personality interpretations (Barnum profiles) as accurate descriptions of their own unique personalities has been given the name "the Barnum effect" after P. T. Barnum, a famous circus owner whose formula for success was always to have a little something for everybody (Snyder & Shenkel, 1976). Barnum profiles consist of a variety of statements: "Vague, e.g., 'you enjoy a certain amount of change and variety in life'; Double-headed, e.g., 'you are generally cheerful and optimistic but get depressed at times'; Modal characteristics of the subject's group, e.g., 'you find that study is not always easy'; favorable, e.g., 'you are forceful and well-liked by others'" (Sundberg, 1955).

What is of interest to the psychologist is that when Barnum profiles are perceived as accurate, subjects increase their faith in the validity of the assessment device (Snyder & Shenkel, 1977; Weisberg, 1970). Furthermore, clinicians may be reinforced by clients' praise for producing vague and general interpretations and reinforced even more for these than for more accurate and specific statements (Marks & Kammann, 1980; Merrens & Richards, 1970). Hence, the importance of the phenomenon lies in that the extent that genuine (or bogus) profiles incorporate Barnum statements, they will be perceived as accurate, giving an illusion of validity.

Forer (1949) initiated empirical research targeted at discovering the extent to which individuals accept general personality descriptions as true of themselves. Forer administered the Diagnostic Interest Blank to 39 students

¹Reprint requests should be sent to I. W. Kelly, Department of Educational Psychology, College of Education, University of Saskatchewan, Saskatoon, Canada S7N 0W0.

²The authors would like to thank Geoffrey Dean for his constructive comments and suggestions on an earlier draft of this article.

in his introductory psychology class. One week later he gave each subject an identical personality description consisting of vague, ambiguous, and general statements, which came largely from a newsstand astrology book. Students were asked to rate the accuracy of their profiles on a scale of 0 (poor) to 5 (perfect). The mean accuracy rating was 4.3. Nobody rated them less than 2, and only 5 subjects rated them less than 4.

Although individuals recognize themselves in Barnum profiles and accept them as accurate, Forer (1949) cautions that such personal validation however, does not serve to distinguish the unique attributes of one individual from another and so cannot affirm the validity of the personality assessment device. In general, subsequent studies of the Barnum effect have expanded upon Forer's ideas and questions and have utilized a similar methodological approach. Subjects (a) are administered a personality test, (b) wait while the test is scored, (c) receive a personality profile purportedly derived from the personality test they wrote, and (d) rate the personal accuracy of the profile. In most cases the subjects receive identical personality sketches.

The research indicates agreement that subjects perceive Barnum statements to be accurate descriptions of their personalities (Gauquelin, 1979; Manning, 1968; Baillargeon, *et al.*, 1984). However, some disagreement exists on the reasons for, and factors that affect the high ratings of acceptance of Barnum profiles.

We review below the effect of acceptance of variables associated with the interpretation, the test administrator, and the subjects.

Variables in the Effect of Interpretation

Generality of interpretation.—It has been repeatedly demonstrated that general personality profiles supposedly derived from psychological assessment are judged by subjects to be accurate descriptions of themselves (Bachrach & Pattishall, 1960; Carrier, 1963; Lattal & Lattal, 1967; Manning, 1968; Snyder, 1974; Snyder & Larson, 1972; Stagner, 1958; Sundberg, 1955; Ulrich, *et al.*, 1963; Dies, 1972; Hampson, *et al.*, 1968; Baillargeon & Danis, 1984). The bulk of researchers investigating the Barnum effect have used a research approach similar to Forer's (1949), perhaps varying the personality inventory from which the profile is purportedly derived, and have arrived at the same conclusion, namely, that most subjects rate the general Barnum profile as either good or excellent descriptions of their own personalities.

Several researchers (Forer, 1949; Gauquelin, 1979; O'Dell, 1972; Weinberger, *et al.*, 1980) suggest that the reason for the overwhelming acceptance is because Barnum statements have a high base rate of occurrence in the general population, that is, are universally valid. Others (Layne, 1979; Dean, *et al.*, 1977; Baucom & Greene, 1979; Manning, 1968; Marks & Kammann, 1980; Hyman, 1977, 1981) suggest that the situation is more complicated. It may

be that different items in a Barnum profile are accepted because the wording allows the subjects to project their own interpretations onto them. Other statements may be accepted because they involve socially desirable characteristics and still others because the descriptions are genuine characteristics of most people. It is important to note that a great deal of the Barnum literature seems to assume that people do not have insight into their own personalities and that they are therefore gullible, which leads them to accept Barnum statements. But surely this view is incorrect. People accept many Barnum statements because they do fit, and because they do not have anything else with which to compare them. If the statement fits, it must necessarily be accepted. For example, although almost everyone accepts "You have a tendency to be critical of yourself" and "At times you are extraverted, affable, sociable, while at other times you are introverted, wary, reserved" as true of themselves (Bachrach & Pattishall, 1960), it is unlikely that most people would be accepting of specific nonBarnum statements such as "You have two eyes, one brown and one grey." People often have no trouble distinguishing between true and false feedback of a specific nature when it is presented to them (Dana & Fouke, 1979).

Apparent relevance of interpretation.—Snyder and Larson (1972) were the first researchers to test the hypothesis that labelling a general personality interpretation as being specifically "for you" can increase acceptance of that interpretation. In this study one group of subjects was told that their personality interpretation was derived "specifically for them" and a second group was told that their interpretation was "generally true of people." Subjects who were told that their general personality interpretation was "for them" rated the interpretation as a more accurate description of their own personalities than subjects who were told that the interpretation was "for people in general." These results have been subsequently replicated (Snyder, 1974; Snyder, Larsen, & Bloom, 1976; Snyder & Shenkel, 1975, 1976; Jackson, 1978; Baillargeon & Danis, 1984). Although Collins, Dmitruk, and Ranney (1977) did not find a significant effect for this variable of relevance, the trend was in the same direction as the aforementioned studies. Hinrichsen and Bradley (1974) administered four different personality tests (Rorschach, Thematic Apperception Test, FIRO-B, and the Social Opinion Survey) to four different groups of subjects to determine whether there was an interaction between relevance and assessment. Although they found that there were no significant differences in acceptance associated with the relevance of the profile, there was a trend in the same direction as the other studies on all tests except the Social Desirability Scale where the trend was for the general interpretations to be rated higher than the personal ("for you") interpretations. According to the authors their results may differ from Snyder, *et al.* (1976) because subjects were matched according to their pretest opinions on the validity of psychological

tests and that the instructions given to the students were different from those given by Snyder and Shenkel (1976). Subjects may also have been influenced by the questionnaire that was intended to assess the subjects' opinion of psychological tests—"The Social Opinion Survey." The extent to which the Social Opinion Survey actually assessed the subjects' opinion of psychological tests is unclear, and the author's criterion for matching and assigning subjects to groups also needed clarification. To say that "in part subjects were assigned to groups (different relevance conditions) according to their test results" leads one to wonder what the other "parts" of the selection criterion were and what effect this sorting had upon the results.

Using a slightly different approach and measurement technique, Ziv and Nevenhaus (1972) and Hampson (1978) tested Forer's (1949) speculation that individuals accept general personality descriptions for themselves while failing to recognize their applicability to the general population. The researchers used a within-subject design and asked that all subjects rate the accuracy of "their" personality description both for themselves and for people in general. Ziv and Nevenhaus (1972) and Hampson (1978) found that individuals rated "their" interpretation as being more true of themselves than of people in general. These results were also replicated in studies by Snyder and Shenkel (1976) and Baillargeon and Danis (1984). The effect of relevance in these studies was qualified by an interaction between favorability and relevance.

In contrast to Snyder, *et al.* (1976), Greene (1977) stated that the "illusion of uniqueness" cannot be measured by asking the subjects, "Is this description accurate?" rather it must be directly measured by the question, "Does this interpretation describe you as a unique person?" When asked these questions Greene found that subjects rated the generalized interpretation as an *accurate* description of their personalities but did not rate it as a description of their *unique* personality. These subjects realized that the generalized interpretation did not accurately describe them as unique individuals and that the same interpretation could as accurately be applied to any of their classmates. It is clear that students can assess the accuracy and the triviality of generalized interpretations if they are asked to do so. Harris and Greene (1984) also asked their subjects directly to rate the accuracy and uniqueness of their personality profiles. They found that subjects perceived Barnum personality feedback to be significantly *more accurate* but *less individual* than either bona fide feedback (based on the results from the California Psychological Inventory) or deliberately inaccurate feedback (the inverse of those scores obtained on the inventory personality feedback).

Greene's (1977; Harris & Greene, 1984) findings that subjects are able to distinguish between the accuracy and uniqueness (or personal relevance) of Barnum profiles conflicts with results obtained by Snyder, *et al.* (1976; Ziv & Nevenhaus, 1972; Hampson, 1978; Baillargeon & Danis, 1984). It also is

unlike the spontaneous comments offered by many subjects about their Barnum profile (Gauquelin, 1979, Ulrich, *et al.*, 1963; Stachnik & Stachnik, 1980). It seems that subjects are unable to make a distinction between accuracy and uniqueness when these variables are indirectly measured by the conditions of relevance "for you specifically" or "for people generally." Subjects however, are able to make this distinction when asked directly to rate the profiles separately for accuracy and uniqueness. Perhaps it is only when the researchers suggest through direct questioning, that the personality profile can be accurate without being unique, that a subject is able to make such a distinction for himself. In addition, the subjects may not perceive the "for you specifically" condition as comparable to uniqueness, and the "for people generally" condition as comparable to "sameness" or universal validity. If this is the case, then the differing results are not really contradictory, rather both are valid results found by two different approaches intended to measure the same phenomenon but which inadvertently measure two different variables. A further possibility becomes apparent when one considers Baucom and Greene's (1979) suggestion that many Barnum statements, i.e., from a sketch by Ulrich, *et al.* (1963) are not perceived as being universally valid. Working from this assumption, it may not be necessary to have ratings to distinguish between accuracy and uniqueness because those statements rated as accurate, since they are not universally valid, also must be unique.

Favorability of interpretation.—The acceptance of Barnum profiles is affected by the favorability of the personality sketch. Sundberg (1955) provided indirect evidence that subjects preferred interpretations containing favorably as opposed to unfavorably worded statements. He based his conclusions on two judges' *post hoc* evaluations that there were five times as many favorable as unfavorable statements in the most highly accepted interpretations and two times as many favorable statements as unfavorable statements in the least accepted interpretations.

Sundberg's (1955) findings have been subsequently replicated (Halperin, *et al.*, 1976; Jackson, 1978; Mosher, 1965; Weisberg, 1970; Weinberger, 1980). By determining the favorability of the Barnum statements on an *a priori* basis and then directly manipulating the favorability of the sketch, the above researchers found that the favorable interpretations were more readily accepted than the unfavorable interpretations. Only one study reports that favorable and unfavorable personality interpretations were equally accepted by students (Dmitruk, Collins, & Clinger, 1973). Unfortunately the methodological limitations of Dmitruk, *et al.*'s study make those findings questionable. Rather than ask the subjects to rate the acceptance of the favorable and unfavorable sketches, Dmitruk, *et al.*'s acceptance measure was judges' ratings of the subjects' subjective comments. This measurement device may not have been sensitive enough to detect different acceptances based on favorability

(Snyder, *et al.*, 1976). This explanation is supported by the results of two later studies which replicated Dmitruk, *et al.*'s research except that subjects were asked to rate directly the acceptance of their profile (Collins, *et al.*, 1977; Snyder & Shenkel, 1976). Using the self-report style the results showed that the favorable interpretation was accepted more than the unfavorable one.

Weisberg (1970) and Marks and Kammann (1980) found that the extent to which subjects assented to the validity of both positively and negatively worded statements was related to the over-all context of the Barnum personality profile. Both studies found that, although favorably worded interpretations are preferred, whether the *over-all* feedback was negative or positive influenced the extent to which negatively worded individual statements were accepted.

Several reasons for the higher accuracy rating of favorable interpretations as opposed to unfavorable ones have been proposed. Snyder and Shenkel (1976) suggested that situational variables such as the favorability of the interpretation may exert little independent influence upon the subjects' acceptance of general personality interpretations. Snyder and Shenkel (1976) and Weinberger (1980) pointed out that, when the favorability of an interpretation is changed, the base rate truthfulness is altered. Marks and Kammann (1980) noted that students would even accept specific, inaccurate feedback as descriptive of themselves, albeit not very highly. They concluded that whatever they said was seen as true by the students and that the Barnum effect relies heavily on the power of suggestion.

Type of assessment procedure.—The evidence regarding effects of the various assessment devices upon subjects' acceptance of personality interpretations has been inconsistent and subject to methodological criticism (Weinberger, 1980).

Snyder (1974) obtained statistically significant results indicating differential acceptance of identical Barnum profiles when the type of assessment varied. He reported that subjects rated profiles purportedly derived from projective techniques ($n = 26$, $M = 4.54$) higher than those from an interview ($n = 28$, $M = 4.36$) or an objective personality test ($n = 27$, $M = 4.22$). Richards and Merrens (1971) did not find significant differences in terms of acceptance ratings between groups of subjects who received feedback purportedly based on either a projective, objective, or interview assessment, however, they did observe a trend in the same direction as that reported by Snyder (1974). A total of 74 subjects were divided into one of three conditions: (1) a projective assessment procedure (Rorschach) where 90% of the subjects rated the accuracy of "their" profile as either excellent or good, (2) an interview procedure (structured questionnaire) where 80% of the subjects rated the accuracy of "their" profile as either excellent or good, and (3) objective procedure (the Bernreuter) where 74% of the subjects rated

the accuracy of "their" profile as either excellent or good. Members of the Rorschach group did, however, view "their" interpretation as greater in depth than did the members of either the Questionnaire (Mann-Whitney $U = 152$, $p < .05$) or the Bernreuter ($U = 127.5$, $p < .05$) groups. Snyder, Larsen, and Bloom (1976) report a trend such that the projective technique was rated as most accurate ($n = 26$, $M = 4.54$), followed by graphological technique ($n = 64$, $M = 3.52$) and horoscopes ($n = 64$, $M = 3.44$), however, no statistically significant differences were found. Collins, *et al.* (1977) found that acceptance rating of Barnum statements purportedly derived from a valid personality test ($n = 16$, $M = 4.06$) did not differ significantly from those purportedly derived from a satirical one ($n = 13$, $M = 3.84$). Weinberger (1980) reported no significant difference in ratings of accuracy of profiles supposedly obtained from a projective technique, the Thematic Apperception Test, Minnesota Multiphasic Personality Inventory, and Personality Research Form. Unfortunately, he did not provide means or sample size which restricts an examination of the data for trends.

Hinrichsen and Bradley (1974) compared their subjects' pre- and post-experimental opinions regarding the extent to which personality tests accurately describe people. Subjects were administered either an objective or projective test, were returned a Barnum profile, and then rated the extent to which the profile described their own personalities. Those subjects who had low preexperimental opinions regarding the extent to which they thought personality tests accurately describe people also had low postexperimental opinions, while subjects who gave higher preratings also gave higher post-ratings. However, the accuracy ratings of both groups' postexperimental ratings were higher than their respective preexperimental ratings. No statistically significant difference in ratings of accuracy emerged by the two groups for the general profile. Also, ratings of accuracy did not depend on the type of assessment administered. Even when subjects were matched according to their opinions of the value of psychological tests and were given different types of personality tests, their ratings of accuracy were still either "good" or "excellent," on a scale where 4 = excellent and 1 = wrong.

In an attempt to assess further the relationship between ratings of acceptance and the type of assessment used in Barnum research Lattel and Lattel (1967) manipulated the perceived validity of the House-Tree-Person Test and then compared the ratings of accuracy for the personality interpretations purportedly based on the "valid" ($n = 24$, $M = 4.29$) and "invalid" ($n = 27$, $M = 3.55$) test. No significant difference between the ratings of accuracy by the two groups was found. However, these researchers failed to check to determine if, in fact, the students in the two groups perceived the validity of the test differently.

On the basis of the research reviewed it can be concluded that there is

evidence of a weak trend such that profiles thought to be based on projective tests are rated higher in accuracy than those thought to be derived from other sources.

The modality of the assessment may also affect the ratings of accuracy of personality profiles. Merrens and Richards (1973) investigated the possibility that a longer procedure may be perceived as more thorough and may receive higher acceptance than an interpretation based on a short assessment. The researchers gave three separate groups of subjects paper-and-pencil personality inventories (randomly selected items from the Minnesota Multiphasic Personality Inventory and the Personality Research Form) that were either long, intermediate, or short in length. Interestingly, the results showed that the short inventory was most favorably evaluated in terms of efficiency, accuracy, and depth. Sundberg (1955) also noticed that there was a tendency to accept the shorter personality sketches.

Origin and format of interpretation.—The use of the computer and its effect upon ratings of accuracy has also been investigated. Most studies, however, while utilizing the computer have not directly investigated its impact upon ratings of accuracy. O'Dell (1972), for example, provided all his subjects with personality interpretations, either fake or real, in the form of computer printouts; the testing was carried out using the paper-and-pencil form of a personality inventory. Similar procedures were adopted by Collins, *et al.* (1977), Greene (1977), and Greene, Harris, and Macon (1980).

Studies by Snyder and Larson (1972) and Baillargeon and Danis (1984) directly addressed the "question of whether or not computerized—as opposed to human—testing will affect acceptance of personality feedback." Snyder and Larson (1972) examined the possible effect of computer-scored (printouts) vs handwritten profiles on acceptance, without manipulation of the favorability of the personality description. Their results showed no significant differences in acceptance between the two scoring conditions, despite the presence of "a slight tendency for subjects to rate the computer-scored tests as being more accurate descriptions of their personalities than the human-scored tests" (Snyder, *et al.*, 1972, p. 387). Orpen and Jamotte (1975) gave subjects personality profiles purportedly based on their test data and told them one of three things: their test had been analyzed by a (1) computer, (2) psychologist, or (3) fellow student. Results showed that there were no significant differences in acceptance between the computer-analyzed feedback ($n = 29$, $M = 3.48$), the psychologist ($n = 29$, $M = 3.48$), and the student ($n = 29$, $M = 2.37$).

Baillargeon and Danis (1984) manipulated favorability as suggested by Snyder and Larson (1972) as well as feedback format (computer printout vs handwriting) and hypothesized that "the higher status associated with the computer would produce an increased acceptance of the unfavorable feedback as compared to the less prestigious status in the human testing condition"

(p. 416). The researchers found no evidence to support their hypothesis and replicated what was found by Snyder and Larson (1972). Unfortunately Baillargeon and Danis do not provide mean values so we are unable to examine the data further for trends. They suggest that their results reinforce the view that people value the outcome of psychological tests, irrespective of the testing format utilized.

Effect of Variables Associated With Test Administrator

Ulrich, *et al.* (1963) studied the influence of examiners' prestige upon ratings of accuracy of Barnum profiles by asking students to administer the House-Tree-Person Test and the Bell Adjustment Inventory to a friend and tell them that they were studying personality. Each subject was returned a Barnum profile and asked to rate its accuracy. Seventy-five percent of the students rated the interpretation as good or excellent in spite of the fact that these interpretations were given by admittedly inexperienced students. Ulrich, *et al.* compared these results with those from a previous experiment in which the profile was delivered by a psychologist and concluded that interpretations made by inexperienced students ($n = 79$, $M = 4.05$) were as readily accepted as those made by a professional psychologist ($n = 57$, $M = 4.38$). Others also found there was no significant difference in the ratings of accuracy of personality profiles between the subjects who were told their personality tests had been analyzed by a computer ($n = 29$, $M = 3.48$), a psychologist ($n = 29$, $M = 3.48$), or a fellow student ($n = 29$, $M = 2.37$; Orpen & Jamotte, 1975), graduate student ($n = 20$, $M = 4.6$), and clinical psychologist ($n = 20$, $M = 4.6$; Snyder & Larson, 1972), and astrologer and psychologist when base rate accuracy was partialled out (Rosen, 1975).

Effect of Subjects' Variables

Subjects' needs.—Several measures of personality variables have been examined in relation to the phenomenon of acceptance. Within the framework of need relevance theory, Carrier (1963) investigated whether certain need states mediate one's acceptance of a personality interpretation in a classroom. He found positive relationships between high acceptance and the Achievement, Deference, and Introception scales on the Edwards Personal Preference Schedule for men. For women, high acceptance was positively related to Introception and Abasement, and negatively related to the task endurance.

The need for approval (social desirability) has also been identified as a variable related to acceptance of general personality descriptions. Orpen, *et al.* (1975) found that subjects' scores on the Marlowe-Crowne Social Desirability Scale which estimates an individual's need for social approval, were positively and significantly related to the ratings of accuracy of Barnum profiles given under the guise of test-derived feedback. Snyder and Larson

(1972) report that high scores on the scale correlate positively, although not significantly, with acceptance of a favorably worded interpretation. Similarly, Mosher (1965) found that high scorers on the Marlowe-Crowne Social Desirability Scale were more accepting of favorable ($r = -0.32, p < 0.01$) and neutral interpretations ($r = 0.28, p < 0.05$) and significantly less accepting of unfavorable ($r = 0.31, p < 0.01$) interpretations, than low scorers. It seems that an individual's need for social approval is positively related to acceptance of favorably worded personality interpretations and inversely related to acceptance of unfavorably worded interpretations.

Locus of control.—Snyder and Larson (1972; Snyder & Shenkel, 1976; Orpen, *et al.*, 1975) reported that external locus of control as measured by Rotter's Internal-External (I-E) Locus of Control Scale was positively related to higher acceptance of the general interpretation of personality.

In another study Snyder (1974) reported that, although the I-E scale correlated positively with acceptance, the correlation was nonsignificant. In this study acceptance was a function of the type of assessment used: a projective technique, interview, objective test, or "generally true of people." The I-E scores correlated with acceptance in all conditions of assessment except in the projective condition where the correlation was negative, and this correlation lowered the over-all acceptance-control relationship to nonsignificance.

Two studies examined relationships between acceptance of astrological descriptions (horoscopes) and locus of control as measured by Rotter's Internal-External Locus of Control Scale. Weimann (1982) reports that acceptance of newspaper astrological descriptions is related to locus of control as external scorers tend to rely on and believe horoscopes more than internal scorers do. Fichten, *et al.* (1983), however, did not find a statistically significant relationship between locus of control and frequency of reading horoscopes and belief in astrology. She asserted that belief in astrology is not simply an attempt to exert control over one's life but rather is related to other personality variables (see also Tyson, 1982).

Anxiety/neuroticism/authoritarianism.—Fichten, *et al.* (1983) found that Neuroticism scores on the Eysenck Personality Inventory were positively related to both frequency of reading and belief in newspaper horoscopes. Weimann (1982) also noted that anxiety as measured by the General Trait Anxiousness Scale is related to belief in and reading of newspaper horoscopes. Although horoscopes involve Barnum statements, the above studies do not address the issue of the relationship between acceptance of Barnum statements and Neuroticism from nonastrological sources. Bachrach and Pattishall (1960) found no significant relationship between anxiety levels as measured by the Taylor Anxiety Scale and ability to distinguish between the personal relevance of a Barnum statement and its universality. However, they did not examine the relationship between acceptance of a Barnum profile and anxiety.

Orpen, *et al.* (1975) found that authoritarianism, as measured by a questionnaire consisting of an F-scale (which measures authoritarianism) was positively and significantly related to rated accuracy of the Barnum personality profile from Ulrich, *et al.* (1963).

Sex differences.—Researchers have attempted to identify the characteristics of the highly accepting individual. The bulk of such studies show no significant relationships between ratings of the general personality sketch and sex of the subject (Forer, 1949; Snyder, 1974, 1977; Marks & Kammann, 1980; Sundberg, 1955; Halperin, *et al.*, 1976). Sundberg (1955), however, noted a trend for women to prefer a fake interpretation over their bona fide MMPI results, whereas this trend was not true of men. Carrier (1963) reported sex differences in interaction with certain personality variables of the Edwards Personal Preference Schedule. These differences are reported above (p. 375).

Clients' level of sophistication.—Greene (1977) investigated the possibility that sophisticated subjects would not accept Barnum statements as readily as naive subjects. Greene's sophisticated subjects were students in a senior class for psychology majors and his naive subjects were students in a sophomore and junior class for minors in psychology. Greene found that the sophisticated subjects' ratings were consistently less favorable on all dimensions examined (accuracy, uniqueness, and extent to which the profile described a classmate) than the naive subjects' ratings. Forer (1949) also showed that naive introductory psychology students gave high ratings of accuracy to Barnum profiles irrespective of their age and occupational background. Similarly, Bachrach and Pattishall (1960) found that undergraduate students were more likely to endorse Barnum profile items as characteristic of themselves than psychiatric resident physicians. However, both groups were equally likely to attribute the profile characteristics to other people.

Schroeder and Lesyk (1976) noted a different response to feedback between groups of subjects varying on levels of "sophistication." They found on dimensions of information value and usefulness naive judges (students in a first-year psychology class) were unable to discriminate a bona fide sketch from a fake Barnum personality profile, while more informed judges (clinical psychology students) found the bona fide statements (based on the MMPI) significantly higher in information value and clinical usefulness than Barnum statements. Stagner (1958) reported that Barnum interpretations were accepted equally by college students, industrial supervisors, and personnel managers.

Greene, *et al.* (1979) gave actual and inverted (opposite) personality profiles from the California Psychological Inventory to sophomore, senior, and graduate students. The senior and graduate students could reliably select from their own profiles while sophomore students could not. In a second experiment, Greene, *et al.* gave sophomore students their actual and inverted scores

for the inventory and the Differential Aptitude Test (an achievement test which measures percentile rank on several scales, i.e., verbal reasoning, numerical ability, abstract reasoning, space relations). Analysis showed that the sophomore students were able reliably to select their actual profiles for both tests, however, they were significantly more aware of their intellectual strengths and weaknesses than of their personal characteristics. Greene, *et al.* observed that the proportions of students in Exp. 1 and Exp. 2 who selected their actual profile based on the inventory did not differ significantly. The fact that the proportion of students who selected their actual profiles in Exp. 2 was significant suggests that the observed effect is small in sophomores. Because the sample was small (17) there was insufficient power to detect this effect in Exp. 1 (p. 422). The authors suggest that this might also be the reason prior results have consistently shown that naive students are unable to discriminate between their bona fide and a fake personality profile.

Conclusion

In this article we have reviewed studies examining the acceptance of Barnum profiles in regard to interpretation variables (generality, apparent relevance) and in relation to personal characteristics of the test administrator and subjects. On the basis of the research reviewed, one can, with some confidence, state several propositions.

(1) Subjects perceive Barnum statements to be accurate descriptions of themselves. (2) One can increase acceptance of a Barnum profile by labelling the profile "for you." (3) Subjects can distinguish between the accuracy and uniqueness of a Barnum description when they are specifically asked to do so. It is unclear whether or not subjects do so when not directly asked. The fact that subjects often use such ratings of accuracy as an affirmation of the personality technique suggests not. (4) Favorable interpretations are more readily accepted as accurate descriptions of subjects' personalities than unfavorable interpretations. However, unfavorable interpretations are more readily accepted when delivered by people with high perceived status than low perceived status. (5) There appears to be a weak relationship between type of assessment device and accuracy ratings on the Barnum profile. Profiles purportedly derived from projective tests tend to be rated higher than those thought to be derived from other assessment procedures. (6) Ratings of the accuracy of the Barnum profile do *not* seem to be related to the scoring procedure administered (computer vs handwriting) or the status of the test administrator/interpreter. In the latter case, an exception would be when the feedback is negative. (7) There is some evidence that personality variables may be related to acceptance of Barnum profiles. Some of these are locus of control, authoritarianism, and the need for approval.

Suggestions for Future Research

Although research should provide further evidence relevant to the above propositions, there are other areas that need to be investigated. So far, the majority of studies have been conducted with university students. We suggest that research might examine responses to Barnum profiles with the general public. It may be found, for example, that different Barnum statements (or profiles) are differentially accepted with different subcultural or cultural groups (Hyman, 1977).

It may also be the case that new improved Barnum profiles could be developed. Bachrach and Pattishall (1960) found, for example, some statements in the original Forer (1949) sketch were accepted by more subjects as true of themselves than other statements. On the other hand, some of the items were seen as more true of other people than of the subjects themselves.

In addition, Barnum research has not adequately addressed the importance of the actual clinical situation. It may be that higher ratings would occur when personal feedback is provided on a one-to-one basis in a clinical setting. The use of the clinical setting may also allow us to study the effect of other variables which might potentially contribute to the personal validation of invalid or bogus personality techniques. For example, "cold reading effects" (utilizing the feedback from the client's postures and behavior), selective memory effects, hindsight bias, and situational dependency effects may contribute to an individual's perceiving validity where there is none (Hyman, 1977, 1981; Marks & Kammann, 1980). Also, the apparent stunning accuracy of just one or two statements may blind the subject into accepting everything (Marks & Kammann, 1980; Grange, 1982). Such research may enhance our understanding of why individuals consult astrologers, Tarot readers, and fortune tellers (Blackmore, 1983; Dean & Mather, 1977; Grange, 1982; Hyman, 1977, 1981; Randi, 1979).

It may also be useful to study the relationship between ratings of acceptance and recall over a period of time with individuals who have a strong belief in a particular personality theory or approach. One may find, for example, that individuals with a strong belief in astrology or graphology may give higher ratings of accuracy on a supposed horoscope than nonbelievers or those of moderate belief. The use of a recall measure in such situations may be useful. Snyder and Newburg (1981) asked students to recall what they remembered about their personality profile ten minutes after profiles were returned to the researchers. Recall measures should probably be utilized several weeks after the profiles were given to students.

Although it has been consistently shown that the status of the test interpreter has little effect upon acceptance except when dealing with negative feedback, the influence of the interpreter should not be underestimated. Sev-

eral researchers report that after subjects receive feedback about personality their faith in both the assessment device and in the interpreter increases (Halperin, *et al.*, 1976; Snyder, *et al.*, 1976; Mosher, 1965; Sundberg, 1955; Weisberg, 1970). The power of the test interpreter becomes of even greater significance when one considers the evidence that people tend to believe whatever the diagnostician says (Marks & Kammann, 1980). In addition, there is the possibility that subjects may take on the "personality" the test interpreter describes them as having. Delaney, *et al.* (1974) attempted to determine whether astrological profiles would affect subjects' later responses to a personality inventory. Subjects were given an astrological profile which described them as being either high or low on dominance and change and then responded to selected items of the Jackson Personality Research Form. Results showed that subjects who received astrological profiles high on dominance and change rated themselves as having significantly more of this quality than subjects who received astrological profiles which were low on dominance and change. It seems that a self-fulfilling prophecy transpired on an intellectual level, however, it is not clear whether a behavioral change consistent with the astrological description also occurred. As a result, individuals of high status may bear a special responsibility given the impact of their feedback (Halperin, *et al.*, 1976). It is important to note in this regard that individuals with perceived high status may be so perceived because of personality factors other than any special expertise (Kelly & Renihan, 1984).

REFERENCES

- BACHRACH, A. J., & PATTISHALL, E. G. An experiment in universal and personal validation. *Psychiatry*, 1960, 23, 267-270.
- BAILLARGEON, J., & DANIS, C. Barnum meets the computer. *Journal of Personality Assessment*, 1984, 48, 4.
- BAUCOM, D. H., & GREENE, E. G. The universality of generalized personality statements. *Journal of Personality Assessment*, 1979, 43, 5.
- BLACKMORE, S. J. Divination with Tarot cards: an empirical study. *Society for Psychological Research*, 1983, 52, 97-101.
- CARRIER, N. A. Need correlates of "gullibility." *Journal of Abnormal and Social Psychology*, 1963, 66, 84-86.
- COLLINS, R. W., DMITRUK, V. M., & RANNEY, J. R. Personal validation: some empirical and ethical considerations. *Journal of Consulting and Clinical Psychology*, 1977, 45, 70-77.
- DANA, R. H., & FOUKE, H. P. Barnum statements in reports of psychological assessment. *Psychological Reports*, 1979, 44, 1215-1221.
- DEAN, G. The acceptance of astrological chart interpretations: a simple test of personal validation using reversed charts. Based on a paper given at the Astrological Research Conference, Institute of Psychiatry, November, 1981.
- DEAN, G., & MATHER, A. *Recent advances in natal astrology: a critical review 1900-1976*. Rockport, MA: Para-Research, Inc., 1977.
- DELANEY, J. G., & WOODYARD, H. D. Effects of reading an astrological description on responding to a personality inventory. *Psychological Reports*, 1974, 34, 1214.
- DIES, R. R. Personal gullibility of pseudodiagnosis: a further test of the "fallacy of personal validation." *Journal of Clinical Psychology*, 1972, 28, 47-50.
- DMITRUK, V. M., COLLINS, R. W., & CLINGER, D. L. The "Barnum effect" and

- acceptance of negative personality evaluation. *Journal of Consulting and Clinical Psychology*, 1973, 41, 192-194.
- ETTINGER, R. F., MARINO, D. J., ENDLER, N. S., GELLER, S. H., & NATZIUK, T. Effects of agreement and correctness on relative competence and conformity. *Journal of Personality and Social Psychology*, 1971, 19, 204-219.
- FICHTEN, C. S., & SUNERTON, B. Popular horoscopes and the "Barnum effect." *Journal of Psychology*, 1983, 114, 123-134.
- FORER, B. R. The fallacy of personal validation: a classroom demonstration of gullibility. *Journal of Abnormal and Social Psychology*, 1949, 44, 118-123.
- FORER, B. R. Personality validation and the person. *Psychological Reports*, 1968, 23, 1214.
- GAUQUELIN, M. *Dreams and illusions of astrology*. Buffalo, NY: Prometheus Books, 1979.
- GRANGE, C. The 'Barnum effect': its relevance for non-scientific methods of personality assessment. Unpublished manuscript, Loughborough Univer. of Technology, Leicestershire, England, 1982.
- GREENE, R. L. Student acceptance of generalized personality interpretations: a reexamination. *Journal of Consulting and Clinical Psychology*, 1977, 45, 965-966.
- GREENE, R. L., HARRIS, M. E., & MACON, R. S. Another look at personal validation. *Journal of Personality Assessment*, 1979, 43, 4.
- HALPERIN, D., SNYDER, C. R., SHENKEL, R. J., & HOUSTIN, B. K. Effects of source status and message favorability on acceptance of personality feedback. *Journal of Applied Psychology*, 1976, 61, 85-88.
- HALPERIN, K. M., & SNYDER, C. R. Effects of enhanced psychological test feedback on treatment outcome: therapeutic implications of the Barnum effect. *Journal of Consulting and Clinical Psychology*, 1979, 47, 140-146.
- HAMPSON, S. E., GILMOUR, R., & HARRIS, P. L. Accuracy in self-perception: the 'fallacy of personal validation.' *British Journal of Social Clinical Psychology*, 1978, 17, 231-235.
- HARRIS, M. E., & GREENE, R. L. Students' perception of actual, trivial and inaccurate personality feedback. *Journal of Personality Assessment*, 1984, 48, 179-184.
- HINRICHSEN, J. J., & BRADLEY, L. A. Situational determinants of personal validation of general personality interpretations. *Journal of Personality Assessment*, 1974, 38, 6.
- HYMAN, R. "Cold reading": how to convince strangers that you know all about them. *The Skeptical Inquirer*, 1977, 1, 18-37.
- HYMAN, R. The psychic reading. In R. A. Sebeok & R. Rosenthal (Eds.), *The clever Hans phenomenon*. New York: Academy of Sciences, 1981. Pp. 169-181.
- JACKSON, D. E. The effects of test taking on acceptance of bogus personality statements. *Journal of Clinical Psychology*, 1978, 34, 63-68.
- KELLY, I. W., & RENIHAN, P. Elementary credibility for executives and upward mobiles: how to convince people you are right even when you are wrong. *Canadian School Executive*, 1984, 3, 16-18.
- LATTAL, K. A., & LATTAL, A. D. Student "gullibility": a systematic replication. *Journal of Psychology*, 1967, 67, 319-322.
- LAYNE, C. Relationship between the "Barnum effect" and personality inventory responses. *Journal of Clinical Psychology*, 1978, 34, 94-97.
- MANNING, E. J. "Personal validation:" replication of Forer's study. *Psychological Reports*, 1968, 23, 181-182.
- MARKS, D., & KAMMANN, R. *The psychology of the "psychic."* Buffalo, NY: Prometheus, 1980.
- MARKS, P. A., & SEEMAN, W. On the Barnum effect. *Psychological Record*, 1962, 12, 203-208.
- MERRENS, M. R., & RICHARDS, W. S. Length of personality inventory and the evaluation of a generalized personality interpretation. *Journal of Personality Assessment*, 1973, 37, 83-85.
- MOSHER, D. L. Approval motive and acceptance of "fake" personality test interpretations which differ in favorability. *Psychological Reports*, 1965, 17, 395-402.
- O'DELL, J. W. P. T. Barnum explores the computer. *Journal of Consulting and Clinical Psychology*, 1972, 38, 270-273.
- ORPEN, C., & JAMOTTE, A. The acceptance of generalized personality interpretations. *Journal of Social Psychology*, 1975, 96, 147-148.

- RANDI, J. "Cold reading" revisited. *The Skeptical Inquirer*, 1979, 3(4), 37-41.
- RICHARDS, W. S., & MERRENS, M. R. Student evaluations of generalized personality interpretations as a function of method of assessment. *Journal of Clinical Psychology*, 1971, 27, 457-459.
- ROSEN, G. Effects of source prestige on subjects' acceptance of the Barnum effect: psychologist versus astrologer. *Journal of Consulting and Clinical Psychology*, 1975, 43, 95.
- SCHROEDER, H. E., & LESYK, D. Judging personality assessments: putting the Barnum report in perspective. *Journal of Personality Assessment*, 1976, 40, 5.
- SNYDER, C. R. Acceptance of personality interpretations as a function of assessment procedures. *Journal of Consulting and Clinical Psychology*, 1974, 42(1), 150.
- SNYDER, C. R. The 'illusion' of uniqueness. *Journal of Humanistic Psychology*, 1978, 18, 33-41.
- SNYDER, C. R., LARSEN, D. K., & BLOOM, L. J. Acceptance of general personality interpretations prior to and after receipt of diagnostic feedback supposedly based on psychological, graphological, and astrological assessment procedures. *Journal of Clinical Psychology*, 1976, 32, 258-265.
- SNYDER, C. R., & LARSON, G. A further look at student acceptance of general personality interpretations. *Journal of Consulting and Clinical Psychology*, 1972, 38, 384-388.
- SNYDER, C. R., & NEWBURG, R. J. The Barnum effect in a group setting. *Journal of Personality Assessment*, 1981, 45, 622-629.
- SNYDER, C. R., & SHENKEL, R. J. The P. T. Barnum effect. *Psychology Today*, 1975, 8(10), 52-54.
- SNYDER, C. R., & SHENKEL, R. J. Effects of "favorability," modality, relevance on acceptance of general personality interpretations prior to and after receiving diagnostic feedback. *Journal of Consulting and Clinical Psychology*, 1976, 44, 34-41.
- SNYDER, C. R., SHENKEL, R. J., & LOWERY, C. R. Acceptance of personality interpretations: the "Barnum effect" and beyond. *Journal of Consulting and Clinical Psychology*, 1977, 45(1), 104-114.
- STACHNIK, R., & STACHNIK, B. Acceptance of non-specific astrological personality descriptions: an empirical demonstration. *Psychological Reports*, 1980, 47, 537-538.
- STAGNER, R. Gullibility of personnel managers. *Personnel Psychology*, 1958, 11, 347-352.
- SUNDBERG, N. D. The acceptance of "fake" versus "bona fide" personality test interpretations. *Journal of Abnormal and Social Psychology*, 1955, 50, 145-147.
- TYSON, G. A. The social psychology of belief in astrology. Unpublished doctoral dissertation, Univer. of the Witwatersrand, 1979.
- TYSON, G. A. Why people perceive horoscopes as being true: a review. *Bulletin of British Psychological Society*, 1982, 35, 186-188.
- ULRICH, R. E., STACHNIK, R. J., & STANTON, N. R. Student acceptance of generalized personality interpretations. *Psychological Reports*, 1963, 13, 831-834.
- WEIMANN, G. The prophecy that never fails: on the uses and gratifications of horoscope reading. *Sociological Inquiry*, 1982, 52, 274-290.
- WEINBERGER, L. J., & BRADLEY, L. A. Effects of "favorability" and type of assessment device upon acceptance of general personality interpretations. *Journal of Personality Assessment*, 1980, 44, 44-47.
- WEISBERG, P. Students' acceptance of bogus personality interpretations differing in level of social desirability. *Psychological Reports*, 1970, 27, 743-746.
- WYATT, W. J., POSEY, A., WELKER, W., & SEAMONDS, C. Natural level of similarities between identical twins and between unrelated people. *Skeptical Inquirer*, 1984, 9, 62-66.
- ZIV, A., & NEVENHAUS, S. Acceptance of personality diagnosis and perceived uniqueness. *Abstract Guide of XXth International Congress of Psychology*, 1972, 20, 605.

Accepted June 13, 1985.