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Self-Esteem and Intelligence Affect Influenceability: The Mediating Role of Message Reception

Nancy Rhodes and Wendy Wood
Texas A&M University

Although there is general agreement that people differ in how easily they can be influenced, little evidence is available concerning the source of these individual differences. A meta-analytic review was conducted to determine whether message recipients' self-esteem or intelligence predicts influenceability. Recipients of moderate self-esteem proved to be more influenceable than those of low or high esteem. According to the Yale-McGuire model, this curvilinear pattern stems from individual differences in reception of as well as yielding to the influence appeal. Recipients low in self-esteem have difficulty receiving the message; those high in self-esteem tend not to yield. Adequate data were not available to examine curvilinear effects of intelligence. Instead, low intelligence recipients were more influenceable than highly intelligent ones. In general, the findings highlight the importance of message reception in understanding the processes of opinion change.

The relationship between individual-difference variables and ease of influence is of interest for a variety of applied and theoretical reasons. Marketing researchers and consumer behavior analysts have long identified target audiences on the basis of psychological characteristics (e.g., Kassarjian, 1971) and recently have expressed renewed interest in predicting behavior from consumers' general personality and ability (Alwitt, 1989). From the standpoint of influence theorists, the study of individual differences provides an avenue for examining the psychological mechanisms implicated in acceptance of or resistance to an influence appeal. Message recipients' attributes may affect attention to the appeal, comprehension of it, and yielding to the position advocated.

Despite the potential importance of this area, psychological research has not proceeded in a continuous fashion. The research group at Yale during the 1950s initiated a glorious burst of theorizing and empirical investigations examining broad individual differences in influence (e.g., Hovland, Janis, & Kelley, 1953). McGuire's (1968a, 1968b) subsequent theorizing provided clarity and form to this initial conceptualization, and a few researchers continued to examine the Yale model, most notably Eagly and her colleagues (1974, 1981; Eagly & Warren, 1976). However, in the 1970s and early 1980s, the use of broad predispositions as predictors of social action generally fell out of favor in social psychological theorizing (a phenomenon often associated with Mischel's, 1968, review critical of personality research).

We are currently seeing an increasing wave of optimism concerning personality predictors of social behavior (e.g., Snyder & Ickes, 1985; West & Graziano, 1989; Wood & Stagner, in press) and a renewing of interest in individual differences in influenceability—for example, need for cognition (Cacioppo & Petty, 1982; Cacioppo, Petty, Kao, & Rodriguez, 1986) and uncertainty orientation (Sorrentino, Bobocel, Gitta, Olson, & Hewitt, 1988). This article complements and furthers these trends by evaluating the research evidence linking broad personality and ability attributes to influence. We focus our analysis on two attributes in particular, intelligence and self-esteem.

The Yale Communication and Persuasion Program

The best-known and most extensive treatment of individual differences in influenceability was developed by Hovland's research group at Yale (e.g., Hovland et al., 1953; Hovland, Lumsdaine, & Sheffield, 1949; Janis et al., 1959). Hovland and his colleagues considered two main types of individual differences that underlie responses to influence. Such factors can be specific, in that they are bound to some aspect of the communication, or they can be unbound, communication free. *Communication-bound* factors are predispositions to accept or reject certain types of appeals, such as those on a given topic or with a particular type of communicator. *Unbound* attributes reflect general tendencies to respond in a particular way to all communications. Although the Yale group did not themselves pursue the study of bound attributes, these have received considerable attention in more recent work—for example, such content-bound attributes as evaluative–cognitive consistency (Chaiken & Yates, 1985; Rosenberg, 1968) and extent of working knowledge (Wood, 1982; Wood, Kallgren, & Preisler, 1985).

The work of the Yale group on unbound attributes culminated with publication of the book *Personality and Persuasibility* (Janis et al., 1959). The volume documents consistent individ-

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Correspondence concerning this article should be addressed to Wendy Wood, Department of Psychology, Texas A&M University, College Station, Texas 77843.

ual differences in message recipients' responses to influence attempts across topics and sources (e.g., Abelson & Lesser, 1959; Janis & Field, 1959a; King, 1959). For example, Janis and Field (1959a) correlated persuasion on one issue with persuasion on apparently unrelated topics. Message recipients demonstrated small, but reasonably consistent, tendencies to respond similarly to the various appeals. Furthermore, a factor analysis on the persuasion scores revealed a single, general tendency to yield or to resist influence.

The volume also contains a variety of approaches to understanding what form this general tendency might take. A direct self-report measure of influenceability yielded disappointing relations with actual propensities to yield or to resist (Janis & Field, 1959a). Personality measures proved more rewarding. For example, self-esteem related to influence, so that low-esteem people were generally easier to influence than high-esteem people (A. R. Cohen, 1959; Janis & Field, 1959b; Janis & Rife, 1959; Lesser & Abelson, 1959). Intellectual abilities were less congenial. Echoing earlier reviews (e.g., Murphy, Murphy, & Newcomb, 1937), intelligence had little consistent relation to opinion change (Janis & Field, 1959b; Janis & Rife, 1959; Lesser & Abelson, 1959; Linton & Graham, 1959).

The primary contribution of the Yale group was to develop a general theoretical structure linking individual attributes and persuasion (see particularly Janis & Hovland, 1959). Influence was thought to proceed according to a series of steps: *attention* to the appeal, *comprehension* of the advocated position and supporting argumentation, *anticipation* of the potential rewards and punishments associated with the position, and finally *critical evaluation* of the cogency of message content. The effects of individual differences on each of these stages was elaborated in subsequent work by McGuire (1968a, 1968b).

McGuire's Two-Stage Model

William McGuire (1968a, 1968b, 1985) further developed the Yale model and linked the theoretical mediators of influence to constructs easy to measure. McGuire's formulation retained the idea that influence proceeds according to sequential stages, although the number and form of these stages has varied across the many presentations of the model. In the study of individual differences, McGuire has emphasized *reception* (the attention and comprehension stages of the Yale group) and *yielding* (including anticipation and critical evaluation). Reception is commonly assessed through recall or retention of message arguments, and yielding is commonly assessed through opinion change.[1]

According to McGuire (1968b), the effects of personal attributes on reception and yielding represent negatively accelerating exponential functions with opposing outcomes for influence. Following the ideas of the Yale group, ability and motivational attributes were predicted to be positively related to reception. For example, recipients of high but not low intelligence typically receive more of messages because they are more interested in others' opinions and possess the necessary cognitive skills to attend to and comprehend the appeal. Recipients of high but not low self-esteem are socially engaged and not particularly anxious or distracted, which should similarly facilitate attention and comprehension.

However, individual attributes were also predicted to be negatively related to yielding (opinion change). That is, recipients of high (vs. low) self-esteem hold their opinions with high certainty and confidence, which inhibits acceptance of others' views. Similarly, recipients of high (vs. low) intelligence tend not to yield because they are confident of their opinions, they can marshal counterarguments against persuasive attacks, and they can identify flaws in others' positions.

The result of these opposing effects of individual differences on reception and yielding is a nonmonotonic relation between personality–ability variables and influence. In the general case in which both processes receive equal weight in determining influence, people who possess middle-range levels of ability or motivation are most likely to be influenced: Those high in the attribute should not yield to the message suggestion, and those low in the attribute should not receive the message content.

Given the opposing forces involved in influence, almost any relation between an individual-difference variable and opinion change can be explained by the model. To allow for more exact predictions, McGuire (1968b) presented specific weights reflecting the effects of message attributes and situational contexts on reception and yielding. For example, conformity studies typically present an opinion with no supporting argumentation. With these easily comprehended appeals, individual differences should appear in yielding, resulting in negative relations between personality–ability variables and opinion change. Persuasion studies present supporting arguments along with the message position. With persuasive messages, particularly those containing complex arguments, reception becomes the critical factor, and positive relations are more likely to emerge.

Evidence for Influence Predictions

Several earlier reviews have evaluated the empirical support for the Yale-McGuire approach. Wylie's (1979) review of the relation between self-esteem and influence identified only partial support for the model, with a number of the reviewed studies obtaining null findings and unreplicated interactions. Similarly, Eagly's (1981) review of eight studies linking individual differences and influence noted inconsistent effects. McGuire (1985) presents the most optimistic view of the model's effectiveness, although he is willing to accept a relatively broad range of findings as consistent with predictions. These reviews do not, however, provide a clear basis for evaluating the model's effectiveness because each considered only a small subset of the available research findings.

[1] In more recent treatments, yielding has been considered a separate process from opinion change, assessed through cognitive responses to the influence appeal (e.g., McGuire, 1985, Petty & Cacioppo, 1986). However, most research on individual differences in influence has treated yielding as synonymous with opinion change and has not measured these separately. We follow this convention in the present review.

Evidence for Mediating Processes

Recipients' reception of the message plays a critical role in forming exact predictions for influence in the Yale-McGuire model. Eagly's (1981) review explicitly evaluated the role of this mediator. Of the handful of studies she located that examined reception, only two yielded a significant positive relation between chronic levels of recipients' attributes and recall of message content (i.e., Eagly & Warren, 1976; H. H. Johnson, Torcivia, & Poprick, 1968). Thus there is only suggestive evidence linking recipient attributes to attention and comprehension processes.

It is interesting that more general reviews of the role of reception processes have also failed to provide strong support for this factor as a mediator of influence. In particular, weak and variable correlations have been documented between communication retention (measured as recall or recognition of message arguments) and persuasion (e.g., Cacioppo & Petty, 1989; Fishbein & Ajzen, 1972; Greenwald, 1968; although see also Eagly & Chaiken, 1984, in press).

These kinds of disappointing results for message reception have been associated with a waning of interest in influence models that emphasize reception mediators. In recent years, social psychologists have focused on theoretical perspectives that emphasize yielding (e.g., Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986). In addition, the inconsistent findings for message retention have directed researchers to identify the limiting conditions for effects of this variable. For example, retention is most likely to be correlated with influence when (a) influence is dependent on reception because yielding is uniformly high, as is the case when message arguments provide strong support for the advocated position (Chattopadhyay & Alba, 1988), (b) variability is obtained in reception across message recipients, as is the case when messages are challenging to understand (Eagly & Chaiken, 1984), and (c) retention accurately represents the message content that recipients initially received, as is the case when arguments are encoded with little elaboration (Mackie & Asuncion, 1990) or address novel issues about which subjects have made no prior judgments (Chaiken & Stangor, 1987).

However, it is premature to conclude that reception is not a generally important mediator of influence. Despite the difficulty establishing broad evidence for the retention–influence link in social psychological research, attention and comprehension have continued to be critical considerations in real-world advertising and media campaigns. Indeed, treatments of influence in natural settings uniformly stress attention-getting devices and strategies to ensure message comprehension. We suggest that one reason retention has not emerged as an important predictor of influence in experimental research is that reception represents but a single step in a multichain process of influence. It is unlikely that attention and comprehension will uniformly emerge as direct predictors of opinion change given that their effects depend on the intermediary step of yielding. Considering the complete sequence of processes may clarify the role of reception and establish its importance in accounting for influence.[2]

Because the stages involved in influence have been spelled out clearly with respect to message recipients' attributes, an especially good test of the importance of reception, and the feasibility of the Yale-McGuire model, is provided by examining research on individual differences in recipients' intelligence and self-esteem. As we noted earlier, these attributes should have opposing effects on reception and yielding, with higher levels of self-esteem and intelligence facilitating reception but attentuating yielding. Thus, influence should not always correlate positively with reception. Instead, support for the model would be obtained if self-esteem and intelligence were positively related to message retention and if influence appeared to be a product of the probability of reception and the probability of yielding. This product should be greatest and influence highest with moderate levels of self-esteem and intelligence; low levels of the dispositions are associated with low reception (thus low influence) and high levels with low yielding (again, low influence).

Separate Effects of Intelligence and Self-Esteem

An appealing feature of the Yale-McGuire model is its integration of diverse motivational and ability attributes into a common framework. However, intelligence and self-esteem have also been addressed from separate theoretical perspectives, and we briefly mention these:

Intelligence. Theoretical frameworks that emphasize yielding predict a linear relation between intelligence and influence. This is because recipients of higher intelligence generally know more about any given issue than those of lower intelligence. According to the elaboration likelihood model (Petty & Cacioppo, 1986; Petty, Unnava, & Strathman, 1991), intelligence (in the form of knowledge) confers resistance to influence. Indeed, recipients high in *working knowledge,* which reflects the accessibility of attitude-relevant information in memory, appear to possess the ability to critically evaluate and reject all but the most cogent messages (Wood, 1982; Wood, Kallgren, & Preisler, 1985). Thus, if the effects of intelligence on influence work through the mediator of yielding, intelligence may typically attenuate influence.

Self-esteem. Motivational attributes such as self-esteem might affect opinion change through routes other than message reception. In particular, the psychodynamic approach developed by A. R. Cohen (1959) suggests that influence varies with defensive motivation to protect the self against persuasive attack (see also Steiner, 1968). People high in self-esteem may use avoidance defense mechanisms, such as repression and reaction

[2] Of course, influence will not always proceed according to these sequential steps. Research on preference judgments suggests that preferences for people as well as inanimate stimuli sometimes form in the absence of conscious attention to and recognition of the stimulus object (Bornstein, Leone, & Galley, 1987; Zajonc, 1980). An additional complicating factor in understanding reception is that reception can refer to attention and comprehension concerning message content or concerning noncontent cues, such as communicator attributes (Eagly & Chaiken, 1984, in press). Although we focus on reception of message content in the present research, reception may also mediate influence through this alternate avenue.

formation, which enable them to ignore or repress information threatening to their self-concept. These types of defenses result in low levels of yielding. In contrast, low-self-esteem people are more likely to use expressive defenses, such as projection and regression, which permit threatening information to be expressed. Because expressive defenses are less effective than avoidant ones, a linear relation between self-esteem and opinion change might obtain, so that recipients of low esteem yield more than recipients of high esteem and are more easily influenced.

Acute Versus Chronic Self-Esteem

In experimental research, personality attributes are sometimes measured through personality scales and are sometimes manipulated by inducing an acute state believed to be comparable to the measured chronic disposition (see, for example, self-awareness, Fenigstein, Scheier, & Buss, 1975; Webb, Marsh, Schneiderman, & Davis, 1989). Although intelligence as a predictor of influence is usually measured, self-esteem is represented in manipulated as well as measured forms.

Manipulations of self-esteem typically provide participants with false feedback concerning their performance on an initial task or test, before exposure to an influence attempt. Success is equated with high self-esteem; failure is equated with low self-esteem. It is not clear whether such manipulations are comparable to chronic assessments. Instead of general self-regard, feedback on performance at a particular task may vary task-specific competence, and feedback on general personality or intelligence tests may vary subjects' anxiety level or distractibility (Wylie, 1979). If false-feedback manipulations vary these other factors, they are unlikely to yield effects comparable to assessments of chronic states. Furthermore, when acute and chronic variables have a similar impact on influenceability, the effects are not necessarily due to a uniform underlying process.

Even if acute manipulations of self-esteem tap the same process as measures of chronic self-regard, they still may have very different effects on influence (McGuire, 1968a). For example, the effects of measured attributes are confounded with many other naturally occurring factors, and a greater range of scores may typically be available for study with measured rather than manipulated attributes.

The Present Research

To test the Yale-McGuire model, we conducted a comprehensive review of previous research that examined the relation between message recipients' intelligence or self-esteem and influence. The review used meta-analytic techniques (Hedges & Olkin, 1985). These are statistical procedures to estimate the magnitude and direction of study outcomes. The findings from individual studies are calculated in standardized form and then aggregated across studies to determine the size and direction of an effect across a whole body of literature. Meta-analytic techniques are ideal for the present investigation because they can provide a precise test of nonlinear relations. We were able to calculate differences in the influenceability of people with high versus medium levels and with medium versus low levels of self-esteem or intelligence.

In addition, meta-analysis is particularly appropriate to examine moderators of an effect (Eagly & Wood, 1991). The predictions of the Yale-McGuire model vary with the presence of message arguments, and this factor should emerge as an important moderator of the relation between individual differences and influence. Conformity studies, which present simply a statement of others' views (e.g., Asch, 1951), should yield a negative linear relation between influence and intelligence or self-esteem. For such appeals, influence is a function of yielding, because reception is high for all recipients. However, for persuasion studies, which present argumentation supporting the message position, both reception and yielding should be important mediators. The low levels of reception of recipients low in self-esteem or intelligence and the low levels of yielding of those high in self-esteem or intelligence should result in an inverted U-shaped relation between these dispositions and influence.

We also examined whether linear relations obtain between individual differences and influence and whether the linear patterns hold across conformity and persuasion appeals. Such a pattern might emerge if intelligence or self-esteem affects influence primarily through yielding processes (A. R. Cohen, 1959; Petty & Cacioppo, 1986).

In addition, the form of self-esteem assessment might moderate the relation between this attribute and influence. We compared the effects of chronic self-esteem, assessed through personality questionnaires, with manipulated esteem, varied through success versus failure feedback on a task. We then evaluated the effects of manipulations that provided false feedback on global attributes and abilities versus those that provided feedback concerning specific skills relevant to the influence issue.

Finally, we examined the effects of recipients' age. Although we had no clear predictions concerning the relation between dispositions and influence at various ages, age may be linked to levels of message reception and yielding. Indeed, overall susceptibility to influence is believed to vary across the life span, with influence peaking at ages plausibly associated with high reception as well as high yielding, that is, the years from 9 to 12 (McGuire, 1985) or late adolescence and early adulthood (Krosnick & Alwin, 1989).

Method

We identified articles through computerized searches on PsycLIT (1974 to 1989), *Dissertation Abstracts International* (1861 to 1989), and Educational Resources Information Center (1983 to 1990), using the key terms *persuasion, attitude change, conformity, intelligence, influence,* and *self-esteem.* Reference lists of previous reviews (e.g., Eagly & Chaiken, 1984; McGuire, 1968a, 1968b, 1985; Wylie, 1979) and other articles were also searched. The final sample of studies consisted of 57 separate publications.

To be included in the meta-analysis, a study must have varied either the self-esteem or the intelligence of the participants, as measured by a standardized questionnaire, test, or experimental procedure. Furthermore, studies must have exposed subjects to a persuasive message or others' opinions and subsequently measured attitude change.

Several social influence paradigms were ineligible for inclusion be-

cause they did not present a standard message to subjects. Thus we did not include studies in which the persuasive appeal was prepared by the subject (e.g., the writing condition in Watts, 1973), those in which persuasion was assumed to result from discussions of the target issue by groups of subjects (e.g., Cummings, 1974; Wilterding, 1970), and those studies of anticipatory change in which subjects expected a persuasive appeal that was never presented (e.g., Deaux, 1972; Dinner, Lewkowicz, & Cooper, 1972). One study that had been included in McGuire's (1985) review was not retained in our sample because the dispositional measure of intelligence was narrowly defined as reading comprehension, rather than general intelligence or verbal ability (i.e., Schumacker, 1981).

Each study that met the criteria for inclusion in the meta-analysis was coded according to a number of study attributes. The following variables were examined: (a) year of publication, (b) publication type (journal vs. book vs. dissertation), (c) categorized age of subjects (children vs. college student vs. noncollege adult), (d) whether self-esteem was chronic or manipulated, and (e) the nature of the test used to manipulate self-esteem (feedback concerning specific performance on influence task vs. feedback concerning specific performance on an irrelevant task vs. feedback concerning global abilities).

A number of different measures of intelligence were used in the obtained reports. The verbal intelligence test by Thorndike (1942) was used in two separate reports, and each of the following tests was used in one report: ACE Intelligence Test; Concept Mastery Test; Cooperative Reading Test-Vocabulary, Form C2; Cooperative School and College Ability Test, Form 2A; Otis Advanced Intelligence Test; Otis Mental Ability Test; Raven's Progressive Matrices Test; Terman Group Test; and the Wechsler-Bellevue Intelligence Test. The self-esteem scale used most frequently in the obtained reports was that developed by Janis and Field (1959a). Fourteen studies used this scale or a modification of it. In eight reports, the authors developed a new scale. Three reports used Rosenberg's Self-Esteem Scale (1965); two used the Texas Social Behavior Inventory (TSBI; Helmreich & Stapp, 1974); two used the scale developed by Rosenbaum and deCharms (1960); scales that appeared in only one report were those of Cobb, Brooks, Kasl, and Connelly (1966), Levonian (1961), and Sears (1960) and the Tennessee Self Concept Scale.

For each study that provided sufficient data, effect sizes in the form of g were computed (Hedges & Olkin, 1985). These calculations were conducted independently by Nancy Rhodes and Wendy Wood using DSTAT (B. T. Johnson, 1989), a computer program for meta-analytic calculations. The effect size is the difference between the mean levels of influence for two experimental groups, divided by the pooled standard deviation assumed to be common to the two groups. Effect sizes were adjusted for the bias due to small sample sizes (i.e., the tendency with small samples to overestimate population effects; Hedges & Olkin, 1985; B. T. Johnson, 1989) and in this way were converted to ds.

The effect sizes computed for the present study compared the amount of influence demonstrated by subjects with high levels versus low levels of self-esteem or intelligence, high versus medium levels of these attributes, and medium versus low levels. The categories of high, medium, and low self-esteem and intelligence were defined following the distinctions adopted by the original authors. That is, no attempt was made to impose a standard categorization across studies. A positive sign was assigned to effect sizes when recipients with greater self-esteem or intelligence exhibited greater influence, and a negative sign was assigned to effect sizes when recipients of lesser self-esteem or intelligence exhibited greater influence.

Additional effect sizes were computed to evaluate processing of message content. When possible, effect sizes were calculated to represent the amount of recall for high versus low self-esteem or intelligence, high versus medium levels, and medium versus low levels. Again, the direction of the effect size was coded so that positive numbers indicated higher reception in those of higher self-esteem and intelligence.

Evidence for a Linear Effect

Studies that evaluated subjects at only two levels of the individual-difference variable or that presented a correlation between self-esteem or intelligence and influenceability could only provide data on the existence of a linear relation between individual differences and influenceability. For these studies, the effect size represented a comparison between high versus low intelligence or self-esteem recipients. A total of 48 effect sizes was obtained for these analyses (10 for intelligence and 38 for self-esteem). In 40% of these cases, the effect size was calculated from means and standard deviations, 15% were obtained directly from a Fisher's significance test or a t test, 35% were obtained from correlations, and 10% were calculated from the percentage of subjects demonstrating influence.

The effect sizes obtained for each of the studies used in the linear analysis are presented in Table 1.

Evidence for a Curvilinear Effect

Some studies evaluated persuasion or conformity at three or more levels of self-esteem or intelligence and therefore allowed a test for nonlinear relations between individual differences and influence. For these studies, effect sizes were calculated representing comparisons between low versus medium levels of self-esteem or intelligence, as well as medium versus high levels. A total of 45 effect sizes was obtained for these analyses (4 for intelligence and 41 for self-esteem). In 81% of these cases, the effect size was calculated from means and standard deviations, 6% were obtained directly from a Fisher's significance test or a t test, and 13% from the percentage of subjects demonstrating influence.

The effect sizes obtained for each of the studies used in the nonlinear analysis are presented in Table 2.

Results

Characteristics of the Studies

Of the 57 separate reports included in the meta-analysis, 79% were published in journals, 7% were retrieved from books, and 14% were dissertations. The median publication year of the reports was 1968. Twenty-two percent of the studies were conducted on children, 63% of the studies were conducted on college students, and 15% were conducted on noncollege adults.

Of the 53 reports for which one or more effect sizes could be calculated, 79% were published in journals, 8% were reported in books, and 13% were dissertations. The median publication year was 1967. Children served as subjects in 24% of the studies, college students constituted 63% of these samples, and noncollege adults served as subjects in 13% of the studies. The median number of subjects used in the reports was 66.

Intelligence and Influenceability

Evidence for a linear effect. Studies investigating only two levels of intelligence revealed that recipients of higher intelligence were more resistant to influence than those of lower intelligence ($d = -0.28$, 95% confidence interval (CI) = $-0.45/-0.11$, $n = 7$; and $d = -0.75$, 95% CI = $-1.03/-0.48$, $n = 3$, for persuasion and conformity, respectively, see Figure 1). Significant heterogeneity was obtained for the persuasion findings ($Q = 50.25$, $p < .001$), indicating that the effect sizes vary within this grouping and do not represent a common estimate (Hedges & Olkin, 1985). The conformity findings proved to be homogeneous ($Q = 4.45$, *ns*), although this is to be expected given the small number of estimates in this sample.

Evidence for a curvilinear effect. Only one study provided

Table 1
Studies Included in Analysis of Linear Effect

Study	Individual differences established by[a]	High vs. low comparison	
		d	95% CI
Intelligence and persuasion			
Hovland & Mandell (1952)	Chronic levels	−0.13	−0.46/0.21
Janis & Field (1959a)	Chronic levels	−0.21	−0.19/0.51
Janis & Rife (1959)	Chronic levels	0.16	−0.36/0.69
Sinha & Dhawan (1971)	Chronic levels	−1.55	−2.00/−1.11
Watts (1973)	Chronic levels	−1.04	−1.73/−0.34
Watts (1977)	Chronic levels	−0.94	−1.88/0.00
Wegrocki (1934)	Chronic levels	−0.21	−0.77/0.35
Intelligence and conformity			
Crutchfield (1955)	Chronic levels	−1.19	−1.79/−0.58
DiVesta & Cox (1960)	Chronic levels	−0.49	−0.86/−0.13
Tuddenham (1959)	Chronic levels	−0.99	−1.55/−0.44
Self-esteem and persuasion			
Farkash (1967)	Chronic levels	0.03	−0.27/0.34
Gill (1975)	Global feedback	0.46	0.02/0.91
Gollob & Dittes (1965)	Global feedback	0.13	−0.18/0.43
Janis (1954)	Chronic levels	−0.53	−1.00/−0.06
Janis (1955)	Chronic levels	−0.39	−0.95/0.17
Janis & Field (1959a)	Chronic levels	−0.29	−0.59/−0.002
Janis & Rife (1959)	Chronic levels	−1.76	−2.37/−1.14
Lehman (1970)	Chronic levels	−0.17	−0.54/0.21
Leventhal & Perloe (1962)	Chronic levels	0.75	0.22/1.29
Levonian (1968)	Chronic levels	−0.28	−0.50/−0.06
Nisbett & Gordon (1967)	Global feedback	−0.20	−0.52/0.12
Rule & Rehill (1970)	Unrelated task	0.69	0.17/1.22
Silverman (1963)			
Study 3	Chronic levels	−0.19	−0.62/0.24
	Unrelated task	−0.31	−0.75/0.13
Silverman, Ford, & Morganti (1966)			
Study 2	Chronic levels	−0.44	−0.76/−0.09
Self-esteem and conformity			
Campbell, Tesser, & Fairey (1986)	Task feedback	−0.84	−1.28/−0.40
deCharms & Rosenbaum (1960)	Chronic levels	−0.56	−1.03/−0.09
DiVesta (1959)	Task feedback	−0.45	−1.01/0.11
Ettinger, Marino, Endler, Geller, & Natziuk (1971)	Task feedback	−0.88	−1.53/−0.23
Gelfand (1962)	Chronic levels	0.08	−0.42/0.59
Hochbaum (1954)	Task feedback	−0.96	−1.31/−0.62
Kanareff & Lanzetta (1960)	Task feedback	−0.49	−1.07/0.08
Lesser & Abelson (1959)			
Study 1	Chronic levels	−0.25	−0.58/0.09
Study 2	Chronic levels	−1.10	−1.96/−0.24
	Task feedback	2.19	1.32/3.07
Replication	Chronic levels	−1.04	−1.78/−0.30
	Task feedback	2.08	1.22/2.94
Malvetti (1984)	Chronic levels	−0.41	−0.74/−0.07
Moore & Krupat (1971)	Chronic levels	−0.52	−1.11/0.08
Nisbett & Gordon (1967)	Global feedback	0.17	−0.15/0.49
Rios-Garcia (1975)	Chronic levels	−0.15	−0.63/0.33
Rosenbaum, Horne, & Chalmers (1962)	Chronic levels	−0.31	−0.74/0.12
Santee & Maslach (1982)	Chronic levels	−0.16	−0.59/0.27
Stang (1972)	Chronic levels	−0.43	−0.92/0.06
Stang (1976)	Chronic levels	−0.11	−0.60/0.37
	Task feedback	−0.24	−0.73/0.25
Wicklund & Brehm (1968)	Task feedback	−0.65	−1.02/−0.27
Ziller (1973)	Chronic levels	0.68	0.05/1.31

Note. Positive effect size (*d*) values reflect greater influence among recipients of higher levels of self-esteem or intelligence. Negative *d* values indicate greater influence among recipients of lower self-esteem or intelligence. CI = confidence interval.

[a] A variety of scales were used to assess chronic levels of self-esteem and intelligence. A comprehensive listing of these can be found in the Method section of this article.

Table 2
Studies Included in Analysis of Nonlinear Effect

Study	Individual differences established by[a]	High vs. medium comparison		Medium vs. low comparison	
		d	95% CI	*d*	95% CI
Self-esteem and persuasion					
Brockner & Elkind (1985)	Chronic levels	−0.61	−1.10/−0.12	0.50	0.28/0.97
Cox & Bauer (1964)	Chronic levels	−0.36	−0.65/−0.06	0.51	0.21/0.82
Maile (1977)	Chronic levels	−0.18	−0.51/0.15	0.14	−0.13/0.41
Nisbett & Gordon (1967)	Chronic levels	0.19	−0.20/0.58	0.20	−0.19/0.59
Romer (1981)	Chronic levels	−0.12	−0.57/0.33	−0.23	−0.68/0.22
Silverman, Ford, & Morganti (1966) Study 1	Chronic levels	−0.80	−1.22/−0.38	0.29	−0.22/0.79
Whalen (1986)	Chronic levels	0.48	0.14/0.83	0.10	−0.24/0.44
Zellner (1970)	Chronic levels	0.30	−0.27/0.87	0.11	−0.46/0.67
	Global feedback	0.30	−0.27/0.87	0.71	0.12/1.29
Self-esteem and conformity					
Eagly (1969)	Chronic levels	−0.48	−0.81/−0.15	0.28	−0.05/0.60
Gelfand (1962)	Global feedback	−1.13	−1.80/−0.46	−0.72	−1.36/−0.08
Gergen & Bauer (1967)	Chronic levels	−0.32	−0.90/0.26	0.06	−0.50/0.61
Misra (1973)	Global feedback	0.49	−0.06/1.05	0.14	−0.40/0.68
Nisbett & Gordon (1967)	Chronic levels	−0.44	−0.84/−0.05	0.40	0.01/0.80
Rios-Garcia (1975)	Global feedback	0.38	−0.22/0.98	0.11	−0.48/0.70
Silverman (1964)	Chronic levels	0.05	−0.54/0.64	−0.50	−1.10/0.10
	Global feedback			−0.14	−0.62/0.35
Venkatesan (1968)	Chronic levels	−0.86	−1.65/−0.07	0.44	−0.44/1.33
Zellner (1970)	Chronic levels	0.01	−0.55/0.58	0.21	−0.35/0.78
	Global feedback	−0.002	−0.57/0.56	0.72	0.14/1.30
Zwillinger (1964)	Global feedback	−0.74	−1.39/−0.09	0.47	−0.15/1.08
Intelligence and persuasion					
Eagly & Warren (1976)	Chronic levels	0.32	−0.31/0.95	−0.08	−0.71/0.55
Intelligence and conformity					
Eagly & Warren (1976)	Chronic levels	−0.28	−0.91/0.36	−0.54	−1.20/0.11

Note. Positive effect size (*d*) values reflect greater influence among recipients of higher levels of self-esteem or intelligence. Negative *d* values indicate greater influence among recipients of lower self-esteem or intelligence. CI = confidence interval.

[a] A variety of scales were used to assess chronic levels of self-esteem and intelligence. A comprehensive listing of these can be found in the Method section of this article.

information on a curvilinear relation between intelligence and influenceability (Eagly & Warren, 1976). Because these findings are based on just one experiment, conclusions are speculative, and we do not report them here.

Self-Esteem and Influenceability

Evidence for a linear effect. The persuasion studies which compared high versus low levels of self-esteem revealed that low-esteem recipients were more easily persuaded ($d = -0.16$, 95% CI = −0.25/−0.07, $n = 15$, see Figure 1). A similar effect for conformity indicated that recipients of low self-esteem demonstrated greater conformity than those of high self-esteem ($d = -0.31$, 95% CI = −0.41/−0.21, $n = 23$). Both of these study groupings were significantly heterogeneous ($Q = 73.67$ and $Q = 118.15$, for persuasion and conformity, respectively).[3]

Evidence for a curvilinear effect. The persuasion studies that evaluated three levels of self-esteem yielded a nonlinear relation (see Figure 2), so that recipients of medium self-esteem were more persuaded than those of high or low self-esteem

[3] We also calculated the linear effect of self-esteem in those studies that reported influence levels of recipients low, medium, and high in the attribute. In this analysis, we discarded the medium levels and compared low versus high self-esteem. For persuasion appeals, the analysis yielded $d = 0.24$ (95% CI = 0.11/0.37, $n = 10$), and for conformity appeals the analysis yielded $d = -0.09$ (95% CI = −0.24/0.07, $n = 11$). These findings diverge somewhat from the linear analyses on the total data sets reported in the text. This instability may be due to the inverted U-shaped relation between self-esteem and influence; with this pattern, selected subsets of data could reveal correlations in either a positive or a negative direction.

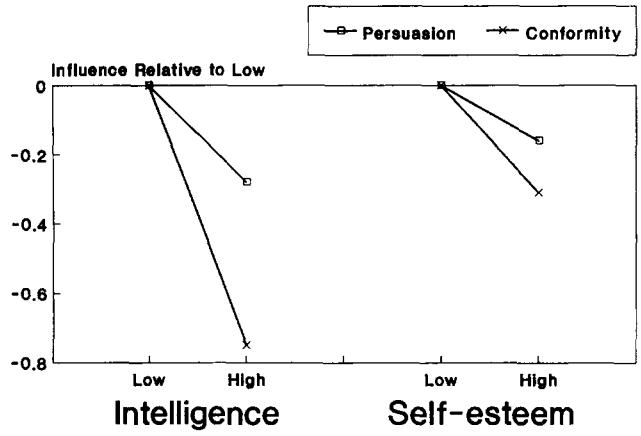

Figure 1. The relation between intelligence and influence and between self-esteem and influence for studies yielding information on a linear effect. (Effect sizes are represented so that low levels of intelligence and self-esteem are assigned a value of zero. All comparisons with low attribute levels then assume a negative value. The sample size for each comparison is as follows: For intelligence, persuasion $n = 7$ and conformity $n = 3$; for self-esteem, persuasion $n = 15$ and conformity $n = 23$.)

($d_{low/med} = 0.24$, 95% CI = 0.11/0.37, $n = 9$; $d_{med/high} = -0.12$, 95% CI = −0.25/0.01, $n = 9$). Significant heterogeneity was obtained for the effect sizes representing the medium versus high comparison ($Q = 31.72$, $p < .001$).

Similar results were obtained for the conformity studies. As shown in Figure 2, recipients with moderate self-esteem showed greater conformity than those with low self-esteem ($d_{low/med} = 0.16$, 95% CI = 0.01/0.31, $n = 12$). In addition, recipients with moderate self-esteem demonstrated more change than those with high self-esteem ($d_{med/high} = -0.27$, 95% CI = −0.43/−0.12, $n = 11$). Significant heterogeneity was obtained in both of these groupings ($Q = 26.93$, $p < .005$, and $Q = 19.82$, $p < .02$, for the high vs. medium and medium vs. low comparisons, respectively).

Message Processing

To assess the relation between subjects' level of self-esteem or intelligence and their processing of the content of the message, effect sizes were computed on measures of message recall. Although reception of message content plays a primary role in the Yale-McGuire model of persuasion, few studies in our sample reported message processing for recipients at varying levels of self-esteem or intelligence. Four of the studies that investigated self-esteem did provide this information, and consistent with the Yale-McGuire model, greater self-esteem was associated with greater recall ($d = 0.32$, 95% CI = 0.13/0.50).

Assessments of Chronic Versus Manipulations of Acute Self-Esteem

To determine whether chronic and manipulated forms of self-esteem tap comparable processes, we compared the pattern of findings associated with each. In our study sample, three methods were used to vary self-esteem experimentally. In some studies, message recipients were given positive or negative false feedback on some type of global personality assessment or intelligence test. Because this manipulation parallels closely the kinds of self-judgment associated with chronic self-regard, we anticipated results similar to chronic self-esteem. Other studies provided success or failure on a task very similar to the critical influence task. This kind of manipulation was used exclusively in conformity studies. The final method provided recipients with task-specific feedback, but on a task unrelated to the subsequent influence appeal.

We compared the effects of these various forms of self-esteem on influence. The results for the linear comparisons with persuasion and with conformity appeals are presented in Table 3.

In general, the post hoc tests (Hedges & Olkin, 1985) revealed that assessments of chronic self-esteem yielded uniform effects across persuasion and conformity appeals; higher self-esteem was associated with resistance to influence. Feedback manipulations of self-esteem, however, functioned differently within the two types of influence appeals.

For the persuasion studies, regardless of whether subjects were given feedback on a global measure or on an unrelated task, no significant effect of the manipulation was obtained. Furthermore, no difference was obtained between the global and unrelated task. For the conformity studies, global feedback did not have a significant impact on opinion change, similar to the findings for persuasion. However, feedback on a task related to that in the influence appeal resulted in significantly greater conformity among those supposedly failing (low manipulated self-esteem) than those succeeding (high manipulated self-esteem). Thus, only one form of manipulated self-esteem affected influence in the linear analyses, specific task-relevant feedback, and this was obtained only with conformity appeals.

The possibility of nonlinear effects of manipulated self-esteem was examined with studies that provided three levels of feedback to subjects: positive, negative, and neutral (no feedback). Comparisons were conducted between positive versus neutral feedback and neutral versus negative feedback. Sufficient data for manipulated self-esteem were available to conduct these analyses only on conformity studies that provided global feedback. None of these comparisons yielded effects significantly different from zero.

Effects of Recipients' Age

Categorical analyses were conducted on the age category of the subjects used in the experiment. No differences were obtained between studies using college versus noncollege adult subjects, thus these two categories were collapsed and compared with the results obtained with children.

For children, level of self-esteem had no effect on persuasion or conformity ($d = 0.17$, 95% CI = −0.04/0.38, $n = 2$, and $d = -0.19$, 95% CI = −0.42/0.04, $n = 5$, for persuasion and conformity, respectively). In contrast, adults of low self-esteem demonstrated both more conformity and more persuasion than adults of high self-esteem ($d = -0.31$, 95% CI = −0.45/−0.18, $n = 8$,

Table 3
Tests of Categorical Models for Chronic and Manipulated Self-Esteem

Variable	Between-class effect (Q_B)	n	Weighted effect size (d)	95% CI for d (lower/upper)	Homogeneity within class (Q_W)
Persuasion	10.55*				
Chronic		10	-0.26_a	−0.37/−0.07	42.23*
Global feedback		3	0.07_b	−0.13/0.26	5.87
Unrelated task feedback		2	0.10_{ab}	−0.23/0.44	8.22*
Conformity	12.40*				
Chronic		13	-0.28_a	−0.40/−0.15	21.48*
Global feedback		1	0.17_b	−0.15/0.49	
Related task feedback		9	-0.48_a	−0.64/−0.31	80.94*

Note. These effect sizes are based only on those studies reporting comparisons between high versus low self-esteem or correlations between self-esteem and influence. Effect sizes are scored so that positive numbers represent greater influence in those of higher self-esteem and negative numbers represent greater influence in those of lower self-esteem. Within each type of influence, effect sizes without a common subscript are significantly different from each other in post hoc tests ($p < .05$). CI = confidence interval.
* $p < .05$.

and $d = -0.33$, 95% CI = −0.50/−0.16, $n = 7$, for persuasion and conformity, respectively). Similarly, no effect of intelligence was obtained for children in the persuasion studies ($d = 0.11$, 95% CI = −0.15/0.38, $n = 2$), whereas for adults low intelligence was associated with greater persuasion than high ($d = -0.58$, 95% CI = −0.79/−0.37, $n = 5$). Sufficient data were not available to evaluate age as a moderator of the link between intelligence and conformity.

Thus, the pattern of results for adults proved consistent with the linear trends apparent in the total data set. The null findings for children could be due to a variety of factors. It is difficult to measure reliably self-esteem and intelligence in young children, and low reliability might obscure effects. Also, children may have shown very little variability in overall influence; their uniformly low levels of reception might have attenuated influence or their high levels of yielding might have facilitated influence.

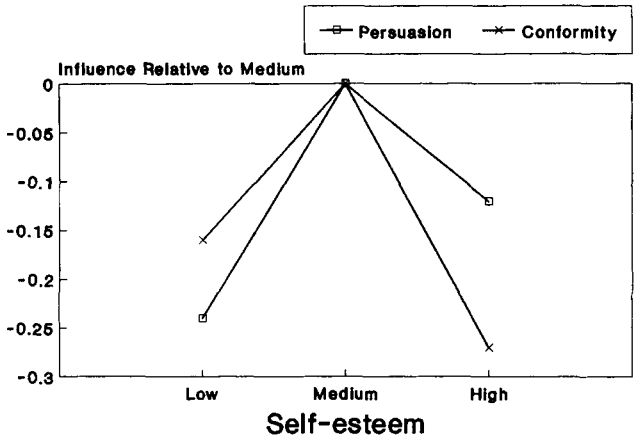

Figure 2. The relation between self-esteem and influenceability for studies reporting results for medium levels of self-esteem as well as low and high levels. (Higher numbers represent greater influence. Effect sizes are represented so that medium levels of self-esteem are assigned a value of zero; all comparisons with the medium levels are then forced to assume negative values. The sample size for each comparison is as follows: For conformity, low versus medium comparison $n = 12$ and medium versus high comparison $n = 11$; for persuasion, both comparisons $n = 9$.)

Discussion

Intelligence and self-esteem affect how easily one can be influenced. The effects of these dispositions were not identical, and we discuss the findings for each separately.

Self-Esteem

We used two approaches to evaluate the effects of self-esteem. A number of studies in our review provided information on the amount of influence of recipients possessing low versus high levels of the attribute. This comparison yielded information on a linear relation between individual differences and opinion change. The findings indicated that recipients of high self-esteem were more resistant to influence than those of low self-esteem. However, this linear pattern apparently masked a curvilinear relation. Studies reporting comparisons across high, medium, and low levels of self-esteem yielded the greatest amount of influence among recipients of moderate self-esteem. Those low and those high in this attribute demonstrated significantly less opinion change.

This inverted U-shaped pattern was exactly as predicted by the Yale-McGuire model (Janis et al., 1959; McGuire, 1968a). According to the model, message recipients with high levels of self-esteem receive (i.e., attend to and comprehend) more of the message than those low in self-esteem; low-esteem people are too distracted and withdrawn to receive the message. In addition, recipients high (vs. low) in self-esteem yield less to the message because they are especially confident of their own opinions. The combination of reception and yielding processes

results in a curvilinear relation between individual attributes and influence such that recipients possessing middle self-esteem levels are easier to influence than those possessing high or low levels. Low self-esteem recipients demonstrate little reception; high self-esteem recipients demonstrate little yielding.

The very different patterns obtained in the linear and curvilinear analyses highlight the importance of evaluating medium levels of dispositional predictors of influence. To further demonstrate the inaccuracy of linear analyses, we evaluated the six persuasion studies in our sample that provided evidence on both linear and curvilinear trends. When the study findings were presented as correlations or median splits (i.e., allowing estimate of the linear effect), a negative relation obtained (d = −0.08, 95% CI = −0.24/0.07), indicating that low-esteem people were easier to influence than high. Although this effect did not reach significance with the small sample size, it also did not differ from the finding we reported in the results for the total set of studies (i.e., d = −0.16, 95% CI = −0.25/−0.07). These six studies also yielded a curvilinear effect indicating that medium self-esteem recipients were easier to influence than those high or low ($d_{low/med}$ = 0.11, 95% CI = −0.08/0.29; $d_{med/high}$ = −0.31, 95% CI = −0.49/−0.13). Again, the findings from this subset did not differ from the results we reported earlier for the total sample (i.e., $d_{low/med}$ = 0.24, 95% CI = 0.11/0.37, $d_{med/high}$ = −0.12, 95% CI = −0.25/0.01).

Additional support for the Yale-McGuire model was obtained from those studies assessing recall of content of persuasive messages. The findings for the few studies in our review that measured recall were consistent with the idea that low self-esteem inhibits message reception. Recipients of low esteem demonstrated less recall of arguments than those of high self-esteem. Recall measures thus provide reassuring support for the Yale-McGuire model.

Intelligence

The findings for intelligence are less easy to interpret. We had anticipated that intelligence would function similarly to self-esteem. Indeed, like the self-esteem findings, recipients of high intelligence proved to be more resistant to influence than those of low intelligence. Because too little data were available to evaluate the presence of a curvilinear relation between intelligence and influence, we cannot be certain of the true relation between these variables.

Given that the linear pattern obtained with self-esteem appeared to mask the predicted inverted U-shaped function, we guess that a curvilinear relation between intelligence and influence would similarly appear if adequate data were available. Indeed, considerable support for this view can be obtained if one assumes that the relation between intelligence and influence is due to highly intelligent (vs. less intelligent) people's greater knowledge on a variety of topics. Research relating *working knowledge* (Wood & Rhodes, in press) and reception indicates that knowledgeable people not only recall more arguments from counterattitudinal messages than less knowledgeable ones but also that knowledgeable people show greater attention to such messages in a selective exposure paradigm (Wood, Rhodes, & Agans, 1992). The greater reception of recipients high in knowledge, coupled with the lesser yielding found with more knowledgeable recipients (Wood, Kallgren, & Priesler, 1985), lends credence to the idea that, given sufficient data, a curvilinear relation would have emerged in the present review between intelligence and influence.

Persuasion Versus Conformity Appeals

The surprise in our findings was that comparable patterns were obtained with both conformity appeals, which did not present arguments supporting the advocated position, and persuasion appeals, which were accompanied by argumentation. According to the Yale-McGuire model, in conformity settings all recipients receive the simple message, and individual differences in self-esteem and intelligence primarily affect yielding. A linear relation would then result between these attributes and influence. In persuasion settings, individual differences affect opinion change through their effects on both reception and yielding, and a curvilinear function should emerge.

Our findings of a linear pattern with conformity and persuasion appeals for intelligence and both linear and curvilinear patterns with conformity and persuasion for self-esteem suggest that these forms of appeal may be highly similar. Perhaps these appeals affect recipients' processing capacity in a similar manner, so that messages are challenging to receive in both conformity and persuasion contexts. In conformity studies, attending to and comprehending the opinions of others, along with the consequences of stating one's own opinion, might require high receptive abilities. This would explain why curvilinear relations were observed between self-esteem and influence for both conformity and persuasion.

Implications for Current Models of Persuasion

The present findings suggest that self-esteem and intelligence affect influence because these attributes affect recipients' motivation and ability to attend to, comprehend, and yield to persuasive messages. Although our aggregated view of reception effects and of influence outcomes is useful for identifying overall patterns of relationships, it provides little insight into the specific mechanisms by which motivational and ability variables affect influence. Two recent accounts of persuasion, the heuristic/systematic model (Chaiken, Liberman, & Eagly, 1989) and the elaboration likelihood model (Petty & Cacioppo, 1986), provide insight into these mechanisms and suggest that recipient attributes can be understood as an example of the broad range of motivational and ability variables that affect persuasion.

According to the heuristic/systematic model, strategies to process persuasive messages represent a compromise between the accuracy of judgments (with accuracy believed to be maximized through careful, effortful analysis of relevant information) and the efficiency by which judgments are generated (with efficiency maximized through reliance on easily received cues). Recipients engage in effortful, careful scrutiny of the message, termed *systematic* or *central processing*, only to the extent necessary to achieve a sufficient level of certainty. When recipients' ability and motivation are high, they engage in extensive pro-

cessing to achieve highly certain judgments. Lower certainty, and minimal processing, suffices when motivation and ability are low. Within this framework, the enhanced processing associated with higher self-esteem in the present research stems from the greater striving for certainty of high-, compared with low-, self-esteem people. In our review, message processing was reflected in response to the content of the appeal. In general, recipients of high ability and motivation may carefully process and elaborate on additional, noncontent, aspects of the message when these seem likely to enhance judgment validity or appear to be central to the attitude issue (cf. Petty & Cacioppo, 1986).

The heuristic/systematic and elaboration likelihood models have emphasized a single aspect of message processing, the cognitive elaboration or critical scrutiny of the message, that can be considered a form of yielding. Our findings for self-esteem suggest the utility of including attention and comprehension as aspects of message analysis. The broad range of motivational variables (e.g., involvement) and ability variables (e.g., distraction) that affect critical evaluation of persuasive messages quite likely will also prove to affect reception processes. We guess that, given the opposing effects of reception and yielding on influence, the tendency to engage in systematic or central processing may generally have the inverted U-shaped relation to influence outcomes we documented in the present review, at least when message arguments are of weak-to-moderate strength. However, when the message contains especially strong, cogent arguments, high processing levels would be associated with both reception and yielding and thus high influence (generating an overall positive linear relation between likelihood of message processing and influence).

Finally, according to heuristic/systematic and elaboration likelihood models, note that yielding can also be based on heuristic rules invoking easily received cues. For example, recipients might rely on a communicator's likability or expertise and reason that people generally agree with those they like or experts can be trusted (Chaiken et al., 1989). Reception of these kinds of cues should be uniformly high across a broad range of recipient self-esteem and intelligence. Indeed, subjects in the research we reviewed may have relied on these cues to accept or reject the message; a number of the reviewed studies provided information concerning the communication source as well as other cues (e.g., message length) that could have been processed heuristically. Aggregating across studies, and thus across the specific effects associated with given heuristic cues, allowed the obtained relations to emerge between recipient attributes and systematic or central processing, that is, the reception of and yielding to message content.

In summary, considering the effects of recipient attributes in the context of recent models of influence provides insight into the psychological processes underlying the aggregated view of attitude change provided by our review. In turn, our findings illustrate the importance of according reception an expanded role within these models.

Manipulations of Acute Versus Assessments of Chronic Self-Esteem

A recurring question in research on self-esteem has been the comparability of manipulated and measured versions of this construct (Wylie, 1979). Manipulations of self-esteem typically provide research participants with feedback that they have performed well or poorly on some test, whereas chronic assessments of this construct typically consist of participants' global evaluations of themselves on a self-esteem scale. These two forms of self-esteem did not have comparable effects on influence.

We were able to calculate the linear relation between self-esteem and influence for both persuasion and conformity appeals. For both forms of influence, studies using a chronic assessment yielded an inverse relation between self-esteem and opinion change. However, the provision of global feedback about one's worth, which should have yielded findings comparable to assessed self-esteem, revealed no linear effect of the manipulation. The few studies that provided evidence on a curvilinear effect for global manipulated self-esteem also found this predictor nonsignificant.

Global manipulations of acute self-esteem and assessments of chronic self-esteem thus do not have comparable effects. This discrepancy is consistent with the view that chronic self-concept is a result of cumulative experiences across the life span and that this kind of disposition is not effectively manipulated through short-term incidents in the laboratory (e.g., Swann, 1983). Another possibility is that the exact effects of manipulations of global self-esteem depend on message recipients' existing, chronic levels of these attributes (McGuire, 1968a). We do not believe this is a promising explanation because the effects of task-specific feedback did not appear to depend on recipients' initial levels of self-esteem; instead they yielded the same negative relation with influence observed with chronic self-esteem.

Other methods of manipulating self-esteem in our studies provided recipients with specific feedback about their competence relevant to the topic of the influence induction. Information about task competence did affect influence in a manner comparable to chronic variations; feedback of low competence enhanced recipients' influenceability in comparison to feedback of high competence. Although the effects of this manipulation paralleled those of chronic assessments, it seems likely to us that the processes underlying these two constructs are very different. Scales assessing chronic self-esteem tap recipients' global sense of self-worth. Feedback about specific task competence most plausibly varies recipients' belief in the correctness of their own ideas and confidence in their ability to perform well. Although these two forms of self-confidence may at times yield parallel effects, they are unlikely to do so through a uniform process.

Size of Effect

How important are the effects we documented in our review? One index of importance is magnitude. According to J. Cohen's (1977) intuitive rule of thumb that effects (*d*s) of about 0.20 or less are small in magnitude, those of 0.50 are medium, and those of 0.80 or greater are large, the present relations fall into the small-to-medium-sized range. Cohen identified small effects as typical of predictors in social, personality, and clinical psychology.

The labels *small* and *moderate* might suggest a phenomenon

that is trivial and typically unimportant. However, meaningfulness of an effect depends on a variety of considerations. Effect size can be illustrated empirically by Rosenthal and Rubin's (1982) binomial effect size display. This procedure was initially used in the context of biomedical research and in general demonstrates the effect of a "treatment," or independent variable (in the present case, intelligence or self-esteem) on "success" rate, or dependent variable (i.e., influence). Using the binomial effect size display, we can calculate the increase in accuracy for selection of high- versus low-influenceable recipients from knowledge of intelligence or self-esteem. Using only the linear analysis, for intelligence this increase is 14% for persuasion and 35% for conformity, for self-esteem this increase is 8% for persuasion and 15% for conformity.

From another perspective, we can compare the magnitude of the present predictors of influenceability with other known determinants (cf. Cooper, 1981). It is not possible to present a comprehensive review here, but a few selected studies provide useful comparisons.

A meta-analysis of sex differences in influenceability by Eagly and Carli (1981) noted that the mean difference between men and women ranged from $d = 0.16$ to $d = 0.26$, when findings were aggregated across the persuasion and conformity studies in their review. A more recent review of the relation between involvement in the attitude issue and persuasion yielded effect sizes of $d = -0.48$ for value-relevant involvement, $d = 0.02$ for outcome-relevant involvement, and $d = -0.17$ for impression-relevant involvement (B. T. Johnson & Eagly, 1989). Somewhat larger sized effects were obtained by Tanford and Penrod (1984) in their review of research on minority influence, deviate rejection, and conformity: Percentage of influence proved to be a function of the number of influence sources ($d = 1.53$), the number of targets of influence ($d = -0.89$), and the consistency of the source's behavioral style ($d = 0.49$). However, the type of influence task and whether the group was real or simulated had less impact (*d*s ranged from 0.16 to 0.06 for task type, and $d = 0.08$ for group type).[4] The effects of intelligence and self-esteem on influence that we documented in the present review are of comparable magnitude to these other predictors, with the exception of the relatively large effects associated with the numbers of sources and targets.

Conclusions

In our review, message recipients' levels of intelligence and of self-esteem proved to be significant predictors of how easily they could be influenced in both persuasion and conformity settings. We believe that meta-analytic investigations of recipient attributes are particularly informative because they reveal effects aggregated across the various situations and attitude topics employed in the original research (cf. Epstein, 1979). Aggregation across factors incidental to our investigation allowed relations to emerge between individual difference variables and influence.

The Yale-McGuire model received strong support from investigations of chronic self-esteem and influence. Our review provides a particularly good test of this perspective because the model's predictions have been outlined clearly with respect to individual differences (Janis et al., 1959; McGuire, 1968b). Our findings run counter to the view that message reception is typically an unimportant determinant of influence (e.g., Greenwald, 1968); the pattern of opinion-change findings we identified with self-esteem is consistent with the view that influence is dependent on both reception and yielding processes.

Two aspects of the generalizability of our findings deserve comment. First, we do not believe that the importance of reception mechanisms is limited to investigations of message recipients' attributes. Reception of message content and of nonconent aspects of influence appeals is likely to prove a generally important mediator of influence for a range of input factors, including source and message as well as receiver variables. In addition, in real-world contexts we guess that attention and comprehension have even greater impact than our findings might suggest. Reception in natural settings is likely to vary widely across people and circumstances, whereas it was probably of moderate-to-high levels in the reviewed research. Our studies tested predominantly college students, who are unlikely to possess particularly low levels of self-esteem, in controlled laboratory settings with few distractions to message processing. Furthermore, the influence appeals were typically constructed to be simple to understand. Our success using reception to explain effects of receiver differences is a promising beginning to the development of a general understanding of the mechanisms underlying influence.

[4] Tanford and Penrod (1984) reported findings in the metric of correlations (*r*s), and we converted these to *d* statistics for ease of comparison.

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(*Appendix follows on next page*)

Appendix

Studies Included in Meta-Analysis

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