



12-1-1984

# Heuristics, Schemas and Biased Social Judgement: An Explanation of the Reports of the Sources of Self-Knowledge

David L. Nash

Follow this and additional works at: <https://commons.und.edu/theses>

---

## Recommended Citation

Nash, David L., "Heuristics, Schemas and Biased Social Judgement: An Explanation of the Reports of the Sources of Self-Knowledge" (1984). *Theses and Dissertations*. 1149.  
<https://commons.und.edu/theses/1149>

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact [zeinebyousif@library.und.edu](mailto:zeinebyousif@library.und.edu).

HEURISTICS, SCHEMAS AND BIASED SOCIAL JUDGMENT:  
AN EXPLANATION OF THE REPORTS OF THE  
SOURCES OF SELF-KNOWLEDGE

David L. Nash, Ph.D.

The University of North Dakota 1984

Faculty Advisor: Dr. Don M. Tucker

This study attempted to investigate and interpret subjects' reports of the sources of self-knowledge in light of the growing literature about the shortcomings of social judgment. The basic tenet of this study was the subjects' tendency to report self-observation at the expense of feedback and social comparison as the best source of self-knowledge is based on an implicit evaluation bias similar to Schlenker's (1980) notion of "self-projection" and Jellison and Greens' (1981) "norm of internality." It was predicted that subjects' intuitive notions about the sources are such that self-observation is seen as a generally "better" way to learn things about yourself than feedback which, in turn, is better than social comparison.

These hypotheses were tested by having subjects read four short stories in which either a male or female character learns something good or bad about him or herself

through one of the sources of self-knowledge (self-observation, unsolicited feedback, solicited feedback, social comparison or a no source ending group). They then rated the characters on semantic differential type items and rated the source itself for "accuracy," "reliability" and "believability." Although the measure of primary importance in this study was the character ratings, it was assumed that these ratings would be made in congruence with the implicit evaluative notions about the different sources. An additional set of measures used in this study was a ranking procedure similar to those used by Schoeneman (1981). Several personality scales (Self-Consciousness Scale, State-Trait Anxiety Scale, Social Desirability Scale and The Self-Monitoring Scale) were also included in an exploratory part of this study.

Results from the ranking portion of this study replicated the results of Schoeneman (1981) quite closely demonstrating that the present subjects report the source of self-knowledge in a similar manner to those reported in earlier studies. Several significant and theoretically consistent differences were found between the source of self-knowledge groups on the character rating measures. The predictions that self-observation would be seen most favorably, social comparison would be reported least favorably and solicited feedback would be reported more neutrally were generally supported. Predictions regarding unsolicited feedback and the no source ending group were not

supported; they were reported as much worse and better, respectively, than was expected. Examination of the independent variables "trait valence," subject sex and character sex produced a variety of main effects and interactions which are typically consistent with findings already reported in the sex-role stereotype literature. The only personality scale which produced any theoretically meaningful results was the social anxiety subscale of the Self-Consciousness Scale which showed that high social anxiety subjects report sources as the best and worst in a pattern nearly opposite that of the majority of subjects.

HEURISTICS, SCHEMAS AND BIASED SOCIAL JUDGMENT:  
AN EXPLANATION OF THE REPORTS OF THE  
SOURCES OF SELF-KNOWLEDGE

by  
David L. Nash

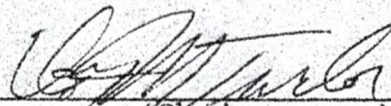
Bachelor of Science, University of North Alabama, 1979  
Master of Arts, University of North Dakota, 1981

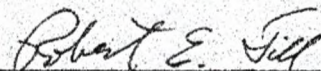
A Dissertation  
Submitted to the Graduate Faculty  
of the  
University of North Dakota  
in partial fulfillment of the requirements  
for the degree of  
Doctor of Philosophy

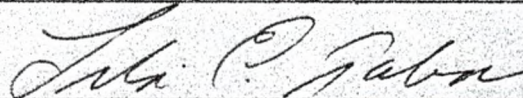
Grand Forks, North Dakota

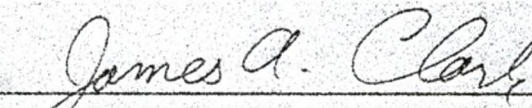
December  
1984

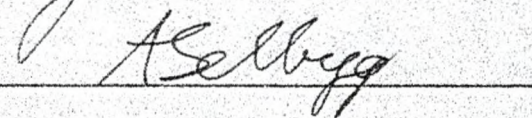
This Dissertation submitted by David L. Nash in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

  
\_\_\_\_\_  
(Chairperson)

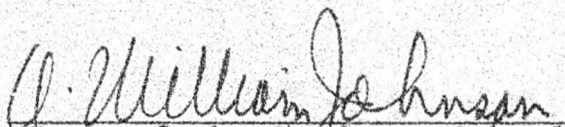
  
\_\_\_\_\_

  
\_\_\_\_\_

  
\_\_\_\_\_

  
\_\_\_\_\_

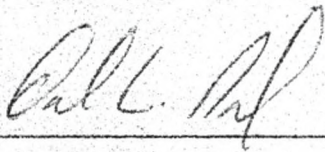
This Dissertation meets the standards for appearance and conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

  
\_\_\_\_\_  
Dean of the Graduate School  
8/3/83

Permission

HEURISTICS, SCHEMAS AND BIASED SOCIAL JUDGMENT:  
AN EXPLANATION OF THE REPORTS OF THE  
Title SOURCES OF SELF-KNOWLEDGE  
Department Psychology  
Degree Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in his absence, by the Chairman of the Department or the Dean of the Graduate School. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Signature 

Date July 18, 1983

## TABLE OF CONTENTS

LIST OF FIGURES . . . . .	vi
LIST OF TABLES . . . . .	vii
ACKNOWLEDGMENTS . . . . .	ix
ABSTRACT . . . . .	xi
Chapter	
I. INTRODUCTION . . . . .	1
II. LITERATURE REVIEW . . . . .	7
Reports of the Sources of Self-Knowledge . . . . .	7
The Tools of Social Judgment: Schemas and Judgmental Heuristics . . . . .	14
Schemas . . . . .	16
Perceptual Aspects of Schemas . . . . .	18
Interpretative Aspects of Schemas . . . . .	20
Heuristics . . . . .	25
Representativeness . . . . .	26
Availability . . . . .	30
Illusory Correlation . . . . .	34
Social Judgment, Self-Presentation and Self-Projection . . . . .	38
Statement of the Problem . . . . .	42
III. METHODOLOGY . . . . .	52
Subjects . . . . .	52
Procedure . . . . .	52
Dependent Variables . . . . .	58
IV. RESULTS . . . . .	60
Story Character and Source Ratings . . . . .	60
Summary . . . . .	82
Results of the Ranking Variables . . . . .	87
Results of the Personality Scales . . . . .	88
Self-Consciousness Scale . . . . .	89
State-Trait Anxiety Scale . . . . .	92



Social Desirability Scale . . . . .	93
Self-Monitoring Scale . . . . .	94
Summary . . . . .	95
V. DISCUSSION . . . . .	97
The Ranking Variables . . . . .	97
The Story Rating Variables . . . . .	101
Trait Valence Hypotheses . . . . .	102
The Self-Projection Hypotheses . . . . .	103
Personality Scale Variables . . . . .	116
General Discussion and Summary . . . . .	118
APPENDIX	
APPENDIX A. THE EXPERIMENTAL STORIES . . . . .	124
REFERENCE NOTES . . . . .	135
REFERENCES . . . . .	138

## LIST OF FIGURES

Figure	Page
1. Trait Valence by Character Sex by Subject Sex for Evaluative Ratings . . . . .	71
2. Character Sex by Subject Sex by Source of Self-Knowledge Condition Means for Ratings of Activity . . . . .	72
3. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of Activity . . . . .	74
4. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of Potency . . . . .	75
5. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of Curious . . . . .	77
6. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of "Controls Own Life" . . . . .	78
7. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of Intelligent . . . . .	80
8. Trait Valence by Character Sex by Source of Self-Knowledge Condition Means for Ratings of Popular . . . . .	81

## LIST OF TABLES

Table	Page
1. Percent of Subjects Citing Each Source for Four Imaginal Conditions (Schoeneman 1981) . . . .	11
2. Experimental Design and Presentation Order of Stories . . . . .	55
3. Rating Dimensions for Story Characters . . . . .	57
4. Rating Dimensions for the Sources of Self-Knowledge . . . . .	58
5. F Values for Significant Character and Source Ratings . . . . .	61
6. Trait Valence Ratings for Accurate, Believable and Reliable . . . . .	62
7. Trait Valence by Source of Self-Knowledge Condition Means for Ratings of Similar . . . .	63
8. Trait Valence by Source of Self-Knowledge Condition Means for Ratings of Enjoy the Person's Company . . . . .	64
9. Trait Valence by Source of Self-Knowledge Condition Means for Ratings of Admirable . . . .	65
10. Trait Valence by Source of Self-Knowledge Condition Means for Ratings of Emotionally Healthy . . . . .	66
11. Trait Valence by Source of Self-Knowledge Condition Means for Ratings of Desires to Look Good . . . . .	67
12. Trait Valence by Character Sex Means for Ratings of Friendly . . . . .	68
13. Trait Valence by Character Sex Means for Ratings of Likable . . . . .	69

14.	Trait Valence by Character Sex Means for Ratings of Nice . . . . .	69
15.	Trait Valence by Character Sex Means for Ratings of Have For a Friend . . . . .	70
16.	Mean Rank Order for Significant Trait Valence by Source of Self-Knowledge Interactions . . . . .	84
17.	Mean Rank Order for Significant Trait Valence by Character Sex by Source of Self-Knowledge Condition Interactions for Male Characters . . . . .	85
18.	Mean Rank Order for Significant Trait Valence by Character Sex by Source of Self-Knowledge Condition Interactions for Female Charac- ters . . . . .	86
19.	Means for Ranking Variables . . . . .	89
20.	Medians, Means and Standard Deviations for the Personality Questionnaires . . . . .	90

## ACKNOWLEDGMENTS

The author wishes to express his appreciation to the many people who have helped in the completion of this dissertation. I am deeply grateful to Dr. Thomas J. Schoeneman for the guidance, advice and friendship he has provided on this and several other projects. His support and scholarly assistance are largely responsible for this project and my interest and appreciation of the study of social judgment.

I also wish to thank my committee chairman, Dr. Don M. Tucker, and Dr. Lila Tabor who both stepped in after Dr. Schoeneman's departure from UND and provided extensive help with earlier drafts of this manuscript. I wish to thank Dr. Arne Selbyg and Dr. Robert Till who both gave scholarly criticism and have helped me to express the results and implications of the study more clearly as a result of their suggestions. Special thanks also go to Dr. James Clark, Dr. Thomas Petros and Mr. Steven Mann who all assisted me with the statistical analysis of this project. Finally I would like to thank Dean A. William Johnson and the Graduate School for providing me with financial support which enabled me to complete this study.

I also wish to thank my wife, Angela and family,

Doris, Harry and Randy Nash and Dorothy Lawson whose love, help and support would have been irreplaceable.

## ABSTRACT

This study attempted to investigate and interpret subjects' reports of the sources of self-knowledge in light of the growing literature about the shortcomings of social judgment. The basic tenet of this study was the subjects' tendency to report self-observation at the expense of feedback and social comparison as the best source of self-knowledge is based on an implicit evaluation bias similar to Schlenkers (1980) notion of "self-projection" and Jellison and Greens' (1981) "norm of internality." It was predicted that subjects' intuitive notions about the sources are such that self-observation is seen as a generally "better" way to learn things about yourself than feedback which, in turn, is better than social comparison.

These hypotheses were tested by having subjects read four short stories in which either a male or female character learns something good or bad about him or herself through one of the sources of self-knowledge (self-observation, unsolicited feedback, solicited feedback, social comparison or a no source ending group). They then rated the characters on semantic differential type items and rated the source itself for "accuracy," "reliability" and "believeability." Although the measure of primary

importance in this study was the character ratings, it was assumed that these ratings would be made in congruence with the implicit evaluative notions about the different sources. An additional set of measures used in this study was a ranking procedure similar to those used by Schoeneman (1981). Several personality scales (Self-Consciousness Scale, State-Trait Anxiety Scale, Social Desirability Scale and The Self-Monitoring Scale) were also included in an exploratory part of this study.

Results from the ranking portion of this study replicated the results of Schoeneman (1981) quite closely demonstrating that the present subjects report the source of self-knowledge in a similar manner to those reported in earlier studies. Several significant and theoretically consistent differences were found between the source of self-knowledge groups on the character rating measures. The predictions that self-observation would be seen most favorably, social comparison would be reported least favorably and solicited feedback would be reported more neutrally were generally supported. Predictions regarding unsolicited feedback and the no source ending group were not supported; they were reported as much worse and better, respectively, than was expected. Examination of the independent variables "trait valence," subject sex and character sex produced a variety of main effects and interactions which are typically consistent with findings already reported in the sex-role stereotype literature. The only



personality scale which produced any theoretically meaningful results was the social anxiety subscale of the Self-Consciousness Scale which showed that high social anxiety subjects report sources as the best and worst in a pattern nearly opposite that of the majority of subjects.

## CHAPTER I

### INTRODUCTION

How do I learn things about myself? For example, do I know that I am friendly because I can see I have many friends or because others tell me I am friendly or perhaps because I seem friendlier than my peers? How accurate and reliable are these ways of learning about myself? Is noticing my own behavior the best way (since I can only really depend on myself) or are other people even more important in these decisions (because they may provide a standard with which I may compare myself)?

Such questions and answers are examples of those a person might ask him or herself and they also exemplify an area of social psychology called "implicit personality theory." In this area the focus of study is on the average person's intuitive ideas about the structure and processes of personality.

One of the first researchers to study people's impressions of personality was Asch (1946). In his classic 1946 study, he gave brief descriptions of a target individual to subjects who then rated the individual's personality on a variety of dimensions. The results of his investigations indicated that the words "warm" or "cold" embedded in

identical lists of adjectives had a significant impact on subjects' perceptions of the target individual. "Warm" and "cold" tended to serve as central organizing concepts such that a warm individual was likely to be seen not only as warmer but also as friendlier, kinder, more honest and generally better than his or her cold counterpart. In recent years investigators have become interested in how people make use of central organizing concepts, such as warm or cold. They have termed these organizing concepts "schemas."

Schema is a generic term for a variety of knowledge structures that people use to understand the everyday world. Wegner and Vallacher (1977) note that early writers, such as Heider, suggested that schemas are "perceptual good figures--just as a person tends to see a circle with a small segment missing as a circle nonetheless, he sees groups in particular ways because they look better, more complete, and less confusing" (1977, p. 196). While such gestalt explanations do not enjoy much popularity today, this quote illustrates that schemas do have heuristic value as a form of social shorthand. Perhaps the best known form of schemas are the person-schemas more commonly known as stereotypes and schemas for sequences of events known as scripts (Nisbett & Ross 1980).

Schemas are only one type of social judgment heuristic that people use in everyday life. Tversky and Kahneman (1982) have identified two other heuristics, availability

and representativeness. These heuristics together with schemas allow social judgments to be made with a minimum of effort. People use ease of recall (availability) as an implicit measure of likelihood or frequency of events and use resemblance (representativeness) as a categorization or classification standard. Thus, schemas and judgmental heuristics may be considered as tools of social judgment because they allow decisions to be made in a relatively fast and easy manner. However, as with most "fast and easy" methods or shortcuts there are liabilities associated with their use. The tools of social judgment do often produce characteristic errors such as stereotyped perceptions of people. In addition, these tools may be used in inappropriate situations and can also be used to supply information to fill in for "missing data."

Schlenker (1980) and Jellison and Green (1981) suggest that our tools of social judgment also affect our self-perception and self-presentation. Both research and personal experience suggest that there are schemas, with an evaluative component to them, common to most members of a given culture. In other words these can be considered as stereotypes (i.e., schema or script) with a characteristic evaluation aspect (i.e., most people see the stereotype as good or bad). Consider the standard script for greeting a friend we haven't seen for months, in response to a hearty "How are you?," the expected response is "Fine, and how are you?" The poor soul who answers this "question" with a

listing of personal troubles will now have another problem: he or she has violated a social norm. Another example is the "norm of internality" where individuals who cite internal causes of behavior receive more social approval than those citing external causes (Jellison & Green 1981).

Given that peoples' tools of social judgment affect not only decisions but evaluations of people and events a unique theoretical framework to investigate people's implicit notions of personality is provided. In the opening remarks of this section allusions were made to several questions which might be investigated. One particularly interesting question is "How do people report the ways in which they learn things about themselves?"

Schoeneman (1981) was the first to study the above question; he called this area the study of "Reports of the Sources of Self-Knowledge." He used as response categories three forms of self-validation from the social psychological literature: self-observation (Bem 1972); social feedback (Cooley 1902; Mead 1934); and social comparison (Festinger 1954). Results from his studies indicate that college students (Schoeneman 1981; Nash & Schoeneman Note 1) endorse self-observation as the best way to learn something about themselves, followed by feedback and comparison. Similarly, children also rate self-observation as the "very best" source of self-knowledge (Schoeneman, Tabor & Nash Note 2). While these studies do not indicate how people actually find things out about themselves, they do suggest a tendency, or

perhaps a bias, to report self-observation as the best source of self-knowledge. These results have suggested to Schoeneman (1981) and Nash and Schoeneman (Note 1) that the subjects' desire to respond in a way which will make them appear in the best possible light may be responsible for the consistent pattern in which the sources of self-knowledge are reported.

It may be that the tendency to report self-observation as the best source of self-knowledge is a function of one's tools of social judgment. Indeed, it is the hypothesis of this study that subjects' selections of the sources of self-knowledge may be accounted for by the implicit social desirability of each source. For example, it may be that self-observation is "representative" of a better stereotype while social comparison is "representative" of less desirable stereotypes. Schoeneman (1981) presented very similar arguments when he suggested that self-observation may be associated with such typically American values as independence and self-reliance while comparison involves reliance on others, and possibly suggests uncertainty or other unfavorable dispositions.

In the present study, university students were presented with several brief narrative accounts of people who learned things about themselves by using the different sources of self-knowledge. Dependent measures were obtained from the subjects' impressions of the self-learners and of the way in which they learned about themselves. As part of

this study it was also possible to look for relationships between anxiety (Spielberger et al. 1968), self-monitoring (Snyder 1974), self-consciousness (Fenigstein, Scheier & Buss 1975), social desirability (Crowne & Marlowe 1964), and subjects' reports of the sources of self-knowledge.

Before the study is characterized in more specific detail, it is appropriate to review some relevant literature. To add clarity and organization to this task several parts will be considered independently before bringing together information from each area and forming the experimental questions. Following is a review of Schoeneman's work with reports of the sources of self-knowledge, a look at the tools of social judgment such as schemas and heuristics, and finally an examination of how these tools of social judgment affect our self-presentation.

## CHAPTER II

### LITERATURE REVIEW

#### Reports of the Sources of Self-Knowledge

The empirical study of people's reports of the sources of self-knowledge is a relatively new area of interest in the field of social psychology. Schoeneman (1981) studied college students' reports of the importance of three different self-validated processes: self-observation, feedback from others and social comparison. Schoeneman (1981) notes that the concept of self-observation is found in work by Bem (1967, 1972) and Duval and Wicklund (1972); it is defined as a condition in which an individual is attending to his or her own thoughts, feelings and behaviors. The concept of feedback from others comes from the tradition of symbolic interactionism (Cooley 1902; Mead 1934). This source of self-knowledge involves evaluating and making inferences from implicit and explicit feedback from others. The final source is social comparison (Festinger 1954) which involves comparisons between an individual's and others' thoughts, feelings and behaviors.

Studies using reports of these three sources of self-knowledge as dependent variables have yielded a consistent pattern of results. When asked the question "What is the



best way for you to learn something about yourself?," college students overwhelmingly report self-observation as the preferred mode of self-validation followed by feedback and social comparison (Schoeneman 1981, Nash & Schoeneman Note 1). Indeed, in both of these studies two independent sets of response measures, a free response method involving subjects writing brief paragraphs and a ranking procedure, yielded similar patterns of results. Use of the free response method allowed the "number of mentions" for each source to be calculated and produced ratios of 7:2:1 (for self-observation:feedback:social comparison), which gives some idea of the direction and magnitude of the self-observation preference. The ranking variables also produced similar results. In another study, Schoeneman, Tabor and Nash (Note 2) found that children aged four to eight select self-observation as the "very best" source much more often than feedback or social comparison.

Thus, studies to date indicate that subjects quite consistently report self-observation, to the exclusion of the more social sources, as the best way to learn something about themselves. Schoeneman (1981) has postulated three ways in which to account for these findings: subjects are, in fact, telling us how they learn about themselves; subjects are responding based on the relative perceptual salience of each source; or that subjects are responding based on an impression management or self-presentation strategy.

Evidence to date seems to point toward the latter hypotheses. There seems to be little justification to believe that subjects are producing a correct introspective account of their sources of self-knowledge (Nisbett & Wilson 1977). Similarly, at least one study which investigated the salience account failed to find support for this hypothesis (Nash & Schoeneman Note 1).

Nash and Schoeneman (Note 1) used two sets of manipulations to change the relative perceptual salience of each source in an attempt to influence subjects' reports of the sources of self-knowledge. One set of manipulations was the wording of stimulus questions. Subjects were given the same type of personally worded open ended questions as in Schoeneman's (1981) study: "I have come to know I am a(n) (adjective) person from \_\_\_\_\_." The wording "I" was predicted to direct attention to the self, making it more salient, resulting in higher numbers of self-observation responses. This was contrasted with an impersonal wording, "People come to know that they are (adjective) people from \_\_\_\_\_," which was expected to make the self less salient and the social sources more salient and hence reported more often.

The second set of manipulations involved having subjects complete the stimulus materials exposed to a facial mirror or an operating video camera in an attempt to induce states of private or public self-awareness (Buss 1980). Private self-awareness is a state where attention is

directed toward private inner experiences such as thoughts and feelings. The increased attention to the private self was expected to make self-observation more salient, resulting in more reports of this source. Alternatively, public self-awareness, a state where attention is directed toward aspects of the self that can be readily observed by others, was expected to increase reports of the social sources as a function of the increased attention to the public self. Thus, in each case the self-awareness manipulation serves to make different sources more "available" (Tversky & Kahneman 1974) and hence more likely to be reported (Scheier, Buss & Buss 1978). However, the results of this study provided no support for the salience hypothesis; neither set of manipulations had any effect on subject's responses.

Schoeneman (1981) has reported some support for the self-presentation account. In one study subjects' reports were correlated with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe 1964). He found that social desirability was significantly correlated with percent mention of social comparison ( $r [67] = -0.22$ ) and with average rank of feedback ( $r [67] = -0.23$ ).

In a separate investigation he asked college students to indicate which of the sources of self-knowledge was the best under four instructional conditions. They were to report which was best in order: i) to appear in the best possible light, ii) to appear in the worst possible light,

iii) to answer as most college students would, iv) to answer as truthfully and honestly as possible.

The results of this study show the "best light" and "truthful" conditions were quite similar, and that "worst light" and "other students" were also nearly identical (see Table 1).

TABLE 1  
PERCENT OF SUBJECTS CITING EACH SOURCE FOR FOUR  
IMAGINAL CONDITIONS (SCHOENEMAN 1981)

Imaginal Condition	Source of Self-Knowledge		
	Self-Observation	Feedback	Social Comparison
Best light	51	35	14
Worst light	24	25	51
Truthful and honest	52	39	9
Like other college students	21	34	40

It is curious that subjects seem to evaluate self-observation so positively and social comparison so negatively while feedback remains relatively unchanged.

Schoeneman (1981) suggests that self-observation and social comparison may vary more since these processes require more effort and must be intentionally initiated, while feedback may not always require such an active role. Thus, the element of subjective effort tells us that the self-learners

want to know something about themselves and the way subjects report going about this may then be important. It is possible that, for example, social comparison may violate the "norm of internality" (individuals who report internal causes for behavior receive more social approval than those citing external causes [Jellison & Green 1981]) and as Schoeneman (1981) suggested may imply uncertainty or other unfavorable dispositions. In contrast, a self-observer may seem more in touch with him or herself. Indeed, it is just such a hypothesis we will investigate in the present study. In general it is hypothesized that there is an implicit relationship between the sources of self-knowledge and a good-bad evaluative dimension. This relationship may be thought of as analogous to Asch's (1946) finding of a relationship between "warm-cold" and "good-bad" or Jellison and Green's (1981) finding of a relationship between "internal-external" attribution and "good-bad."

Self-observation is predicted to be seen as a subjectively "better" way of self-validation than social comparison or feedback. An individual's cognitive representation of the concept of self-observation, or a self-observer, may be organized such that there is an implicit evaluative judgment of the concept and those who use it. Similar organizing concepts, with accompanying evaluative components, may also exist for feedback and social comparison. The basic hypothesis of this study is that there is an intuitive relationship between the cognitive representations of the

sources of self-knowledge and culturally shared assumptions about human behavior.

Before specifying more clearly the parameters of the study though, it is appropriate to review some additional areas which will provide the theoretical basis for the investigation. The major area to be examined will be one which focuses on the tools of social judgment, that is, intuitive principles of person perception. Central to this discussion will be a look at human inference strategies such as schemas, scripts, stereotypes and judgmental heuristics. An important facet of these discussions will deal with the frequent inappropriate use of these strategies. Here the focus will be on the shortcomings of social judgment; situations in which people fail to correctly determine the causes of behavior. Indeed, in many cases biased reports are related to the tools of social judgment which often involve "logical shortcuts." The final area to be reviewed will deal with impression management. In particular research will be examined which suggests that impressions may be unintentionally and unknowingly biased to endorse certain traits or personality characteristics more favorably.

This will lay the groundwork for a discussion of the present study, an investigation of reports of the sources of self-knowledge as a function of implicit impression management biases.

The Tools of Social Judgment: Schemas  
and Judgmental Heuristics

The empirical study of social judgment has its roots in Asch's classic 1946 study "Forming Impressions of Personality." Interestingly enough, in the intervening years, his experimental design for studying person perception has not been significantly improved upon (Krauss 1981). Perhaps the major change in the Asch (1946, 1952) paradigm for investigating impressions of personality has been to rename this area "person perception" (Schneider, Hastorf, & Ellsworth 1979).

In the Asch (1946) study, subjects rated an individual on a variety of bipolar descriptors, such as shrewd-wise, unhappy-happy, ruthless-humane, and strong-weak, after hearing one of the following sets of descriptions of the individual: i) intelligent-skillful-industrious-warm-determined-practical-cautious or ii) intelligent-skillful-industrious-cold-determined-practical-cautious. Of course, these sets of descriptors are identical except for the words "warm" or "cold." His results indicated that these words had a pronounced effect on subject's impressions of the target individual. Asch reports that "these results show that a change in one character-quality has produced a wide-spread change in the entire impression. Further, the written sketches show that the terms 'warm-cold' did not simply add a new quality, but to some extent transformed the other characteristics" (1946, p. 264).

Thus, Asch's data clearly showed that people are quite willing to organize impressions and even infer traits based on central organizing concepts like warm or cold. What Asch did not fully address was what are these "central organizing concepts" and how do they work. This is the topic to be covered in the present section. It will be shown that Asch's central organizing concepts are merely one of the many tools of social judgment that people use.

Before starting the discussion of specific tools of social judgment a note of caution is in order. Much of the research into these concepts has focused on the liabilities associated with their use. Thus, the following discussion may, unintentionally, seem to indicate that social judgment is always very poor. In a discussion of the magnitude of social judgment errors, Wegner and Vallacher (1981) perhaps sum up the current state of this area when they say that bias is not as pervasive as some (Ross 1977; Nisbett & Wilson 1977) indicate or that attributional accuracy is not as good as others (Kelley 1967) indicate. The present author agrees with the position that bias does exist in some situations which may be clearly specified. However, the tools of social judgment also have advantages already mentioned such as ease and speed in making decisions. Indeed, Nisbett and Ross (1980) point out that the overall liabilities of misattribution in everyday life are small and the damage produced by biased judgments is probably minimal. With these thoughts in mind, the discussion will



move on to the specific tools of social judgment and their liabilities.

### Schemas

Returning to a discussion of Asch's (1946) study for a moment, recall that he found that not only could subjects' impressions be dichotomized based on warm-cold polarities but that "warm" individuals were also seen as being more good natured, socially popular, generous, humorous and humane. Indeed, as Wishner (1960) found by re-examining Asch's data there were strong correlations among certain traits which seem to suggest that these traits were perceived to go together by Asch's subjects. Implicit "going together" such as this has been called by many names: schemas, personae, stereotypes, prototypes and scripts (Taylor & Crocker 1981; Nisbett & Ross 1980). While some of these terms may be differentiated from others (i.e., schemas are a general term referring to knowledge structures; personae, stereotypes and prototypes are person-schemas and scripts are event-schemas) they are all similar in that they are knowledge structures (Nisbett & Ross 1980). While the present discussion deals primarily with the social psychological aspects of schemas, it should be noted that schemas are by no means limited to just this one area of psychology (Neisser 1976). For our purposes of studying person perception, Nisbett and Ross provide a good definition of person schemas; they are "knowledge structures

representing the personal characteristics and typical behaviors of particular 'stock characters'" (1980, p. 35).

Currently schema theory has unfortunately not reached a point where the properties of schemas can be confidently defined, and there are also still questions about the type of function they serve and the conditions under which they are used (Nisbett & Ross 1980). Taylor and Crocker (1981) indicate that most studies of schemas have merely been demonstrations of the presence of schematic effects and that schematic hypotheses are typically not formulated in a manner allowing them to be shown false. Keeping in mind that schema theory is somewhat lacking in scientific rigor, let us continue our discussion by examining the known properties of schemas.

Asch's study illustrates how schemas function: they tell us what someone should be like but less about what they should not be like (Taylor & Crocker 1981). We know "warm" people are good natured and so on, but what traits fail to appear in "warm" individuals? Schemas seem to serve a heuristic function by allowing us to say that a prototypical or "good" representation of the schema has a high number of traits in common with other schema members and a low number of traits in common with nonmembers, but they provide no information about what traits should not appear (Rosch & Mervis 1975; Cantor & Mischel 1977). As Nisbett and Ross (1980) point out, schemas are not the results of veridical data observation, storage and recall. Rather, our schemas

seem to influence both our perception and our interpretation of events and vice versa (Taylor & Crocker 1981). These two functions will be examined in more detail in the following sections.

### Perceptual Aspects of Schemas

In this section we will examine the effects that schemas have on the encoding and storage components of memory. When someone observes an event, schemas impose order and structure on the events they are seeing. Thus, when seeing a social interaction one is not likely to see it as a chaotic series of random events. Depending on what is known, or is thought to be known, about the situation it will probably be seen as containing some meaningful structure such as grouping or temporal sequence (Taylor & Crocker 1981). Consider the following example from Taylor and Crocker:

Suppose we see a room full of people chatting pleasantly and drinking. There are roughly equal numbers of men and women, and one man in the corner is talking at length to a group of assembled listeners. If we are told that this is an office party, we will probably assume, however incorrectly, that the men are executives, and the women are secretaries, and the pontificating individual in the corner is the boss. Informed that the same group is a room full of friends, we will assume that the people are of equal status, the men and women are husbands and wives, and the pontificating individual is merely pompous (1981, p. 94).

In addition to lending structure and organization to events, schemas help determine whether or not information will be encoded or retrieved from memory. When facing a

social situation such as the one presented above for example, there are potentially countless details one might remember. The way in which the situation is organized by a schema will have a pronounced effect on what is recalled about that situation. Research suggests that the mere presence of an organizing schema will facilitate recall, especially for schema-consistent information (Allport & Postman 1947, Cantor & Mischel 1977; Owens, Bower & Black Note 3). In the present discussion, encoding and retrieval effects are discussed together since studies have found evidence for both types of effects and a discussion of the relative strength of these effects is beyond the scope of the present project (see Bower Note 4 and Rothbart, Evans & Fulero 1979 for a fuller account).

In addition to affecting encoding and recall of events, a large body of literature suggests that schema-consistent information is processed more quickly than schema inconsistent information. Markus (1977) found that schemas affect processing time, problem solving speed and information flow speed. Taylor and Crocker (1981) suggest that most of the studies on which the information processing conclusions have been drawn are somewhat simplistic compared to the typically complex social schemas. However, they do feel that some degree of generalization to social schemas may be warranted and hypothesize that social schemas allow for generally shorter information processing latencies.

## Interpretative Aspects of Schemas

In this section topics more germane to the present study will be examined: such as the way schemas are used to interpret meaning and make decisions. The reader may note some similarity between topics discussed here and those mentioned in the previous section. This similarity is unavoidable since some blurring of events occurs during the rapid flow of the information processing sequences. This is due, in part, to the current inability of schema theory to differentiate these effects more clearly. Indeed, Nisbett and Ross (1980), in reviewing the current state of schema research, note that even the dynamics of schema arousal, how we call up a given schema in a given situation, are not clearly understood. (Two of the most promising leads, the availability and representativeness heuristics (Tversky & Kahneman 1974), will be dealt with in more detail in later sections.) The focus in this section will be on three major interpretation functions of schemas: providing an evaluative framework in which to view events, helping people predict future events, and helping people make decisions often using incomplete data. Several of these functions, especially the last one, will also illustrate how interpretations based on schemas may not always be accurate.

It was noted earlier that schemas tend to provide a framework in which to view events. It should come as little surprise then that schemas affect how a situation is

evaluated. Existing schemas are often used as criteria for evaluating experience. This is especially true in situations in which someone has schema-based expectations prior to stimulus situations being encountered. In such a situation, a comparison is made between the current situation and previously generated expectations. Recalling Taylor and Crocker's (1981) example of the room full of men and women, if one is led to believe it is either an office party or a group of friends the observed behaviors will be compared to very different sets of standards. Recall the lecturing boss (or the pompous friend). Our evaluation of this individual depends on two things: the desirability or value of the social role and the degree to which he or she fulfills that role (Higgins & Rholes 1976). Thus, a boss who commands the attention and respect of his or her subordinates may be seen positively while a friend displaying the same behaviors will be seen less positively since lecturing to one's friends is a poor fulfillment of the friend role.

Some research suggests that both transient emotional or situational effects and more long term personality characteristics of the perceiver may have an impact on what is seen. For example Feshback and Feshback (1963) found that scared children rate photographs of other children as being scared while controls do not. Dornbush et al. (1965) found that when two people observe someone, their descriptions overlap by 45% but when one person describes two different people the overlap is 57%. Wegner and Vallacher

(1977) interpreted this as evidence that both who we are and how we feel affects our judgments of others.

A second general interpretative aspect of schemas involves using them to predict future events or behaviors. Having a schema for events or types of persons likely to be encountered provides one which behavioral expectations for these situations (Abelson 1976; Scrunk & Abelson 1977). For example most people have a going to a movie "script." This script provides a framework to predict the sequence of events involved in going to a movie: arriving early to purchase tickets at a ticket booth, having one's ticket torn in half before entering the theater, going through the lobby and buying popcorn or a snack, being seated and remaining quiet during the movie and leaving after it's over.

Interestingly enough scripts and schemas may also change future events. Rosenthal and Jacobsen's (1968) demonstration of the "Pygmalion effect" demonstrated that leading teachers to believe in a "late bloomer" schema actually led to increased levels of academic performance in the "late bloomer" children (although it must be noted that this study has been severely criticized on methodological grounds). Other researchers have also demonstrated similar effects for attributes as diverse as perception of physical attractiveness (Snyder, Tanke & Berscheid 1977), expectation of aggression (Snyder & Swann 1976), and expectation of personality traits (Snyder & Swann 1978).

A third way in which schemas affect interpretation of

events is by supplying "missing data." When presented with a stimulus situation which is incomplete in some aspect, a schema may fill in the missing data with schema-consistent information (Taylor & Crocker 1981). Once again recall the example of the group of men and women standing in a room talking. How were the individuals dressed? If the occasion was the office party the probable reply would be suits for the men, pantsuits or perhaps dresses for the women, while jeans or causal wear would be a more likely answer if the group were friends. A better, and more natural, example of an intrusive schema effect may be found in the suggestion to recall the above example. It was stated that the group was standing in a room when in fact this information was not given in the scenario and is a schema-consistent inference (to this author). This schema-consistent inference was not inserted to "test" the reader's ability to detect intrusive errors but is one that escaped the present author's notice during earlier drafts of this paper.

The type of error made by this author is quite similar to those reported by Cantor and Mischel (1977, 1979) and Cohen (1977) for people to believe that new, schema-consistent, information has been presented earlier. Indeed, the inference created by this author was treated in exactly such a manner. Not only did he believe that the people were "standing" but that he had read this earlier.

Taylor and Crocker (1981) consider the tendency for inconsistent or irrelevant data to be accepted as schema-



consistent a "type one" error: as in this term's statistical sense it means accepting a wrong hypothesis as being correct. They postulate four ways in which this may happen: (1) the possibility that the schema is stored with a data base of confirming instances; (2) criteria for matching schemas are so general that neutral and negative instances are accepted; (3) in the rare case of schematic disconfirmation the schema is not revised but further differentiated in a "yes, but . . ." manner; (4) schemas are only checked one at a time and after the first confirming schema is found, additional processing or cross-checking with other schemas is stopped.

A result of these "type one" errors may be that schemas frequently are unknowingly used in inappropriate or wrong situations. Langer and Abelson (1974) had subjects listen to a structured conversation between two men under the instructional set that the situation was either a psychiatric intake or a job interview. Not surprisingly, in the former condition subjects heard more "pathology" than in the latter condition. Also of interest is the fact that no subjects contested the idea that the situation was either an intake or interview. Indeed, subjects had no trouble finding "evidence" on which to base interpretations of the person's job or psychiatric status. Other data also suggests that at times schemas can be quite global and undifferentiating. Miyamoto and Dornbush (1956) found that subjects perceived that I.Q., self-confidence, physical

attractiveness and likableness were all correlated. Koltov (1962) and Berman and Kenney (1976) suggest that such implicit going together are reminiscent of Asch's findings and may be due to connotative or semantic similarity between traits rather than empirical correlation of these attributes. Such indications that "good things go together" will be an important part of the present study. However, before going into a discussion of the implications of schemas for this study the discussion of tools of social judgment will continue with a look at judgmental heuristics.

### Heuristics

As has been seen in earlier sections, when people are facing a decision they often use intuitive tools of social judgment such as schemas. In a series of papers Tversky and Kahneman (1971, 1973, 1974; Kahneman & Tversky 1972, 1973; also see Kahneman, Slovic & Tversky 1982) identified two additional tools of social judgment: the availability and representativeness heuristics. These heuristics are similar to each other and to schemas, because they are used as "logical shortcuts" in decision making. By "logical shortcuts" it is meant that these heuristics are not formal decision making strategies in which evidence is carefully examined in an explicit and invariant manner. Rather, they are informal strategies which tend to be used automatically and typically without careful consideration of their appropriateness (Nisbett & Ross 1980). Even so, these relatively

simple heuristics probably result in more correct decisions than incorrect ones with a great savings of time and energy. Indeed, as Nisbett and Ross (1980) stress, such "strategies" are invaluable for organisms such as humans who must make many decisions and inferences. The present discussion of heuristics, however, will focus primarily on liabilities associated with heuristic use. This will be done since these aspects of heuristics are both better understood and more relevant for this project.

### Representativeness

The representativeness heuristic refers to a method for assessing the degree to which a given stimulus or event is representative, or similar, to a class or set of stimuli or events. Put more simply, this heuristic refers to the "goodness of fit" between the situation being evaluated and its presumed characteristics (Nisbett & Ross 1980). In the present discussion, three types of situations where the representativeness heuristic is frequently used will be presented.

The first type of situation in which representativeness is used is when someone has to predict an outcome or the chance that an event will happen based on prior knowledge about the upcoming event. In this case the judgment of "representativeness" is based on the similarity of outcome and origin. For example consider the following problem posed by Nisbett and Ross: "Subjects are asked to assess

the relative likelihood of three particular sequences of births of boys (B) or girls (G) for the next 6 babies born in the United States. Those sequences are i)BBBBBB, ii)GGBBBB, iii)GBBGGB" (1980, p. 24). They suggest most subjects will select the third choice (GBBGGB) as the most likely since it seems more "representative" of the process of birth, i.e., birth is seen as a chance event with the likelihood of a boy or girl seemingly equal. Intuitively, choices i) and ii) both seem too orderly and do not capture the spirit of the "random" process and would seem poor choices. By now a reader well versed in probability theory may have calculated that the probabilities of all three sequences are nearly identical. The first sequence is reported by Nisbett and Ross to actually be the most likely since there are more boy than girl babies born while choices two and three are equally likely.

Another closely related situation where representativeness produces incorrect decisions is the well-noted "gamblers fallacy" (Tversky & Kahneman 1974). In this example after a long run of "heads" in a coin toss or "reds" on a roulette wheel people often believe that "tails" or "black" becomes more likely. This is because on the next trial a different outcome is seen as being "due" to give the appearance of a "random process." As in the previous example a run of events, be it boy births or heads in a coin toss, does not seem as representative of a chance process as does a mixed up order.

The representativeness heuristic is also used to make decisions in the opposite situation: judging the similarity of antecedents to consequences. Here one is faced with determining the cause of some existing event. In the process of finding causal agents, people often look for something which resembles or is representative of the current situation. Evidence to the strength of this heuristic is plentiful in the medical folklore of primitive, and not so primitive, cultures where a cure is often no more than the opposite of a symptom. Indeed, in nineteenth century medicine this "property" was known as the "doctrine of signatures" and suggested that "the lungs of a fox must be a specific remedy for asthma, because the animal is remarkable for its strong powers of respiration. Tumeric has a brilliant yellow color, which indicates it has the power for curing the jaundice" (Mill 1974, p. 767).

The final use of the representativeness heuristic to be considered involves assessments of the degree of similarity between instances and categories. This type of task usually is of the form "Is part A a member of class 1 or class 2?" Consider the following description of a university professor. He is a shy individual who is small in stature and likes to read and write poetry. Is he a professor of psychology or a professor of Chinese studies? Nisbett and Ross (1980) suggest most people will answer "Chinese studies" since the data presented seem more in character, or representative, of someone in Chinese studies. If one

considers this thought experiment in light of the actual numbers of professors in each field a very different answer is suggested. Most universities have relatively larger psychology departments, and simple base rates, the only real objective criteria, would predict he was a psychologist.

Taylor and Crocker (1981) approach representativeness in a different manner, suggesting a relationship between the degree of representation and schemas. Their position holds that before representativeness can be judged, a schema must be present to be used as a standard. Thus, in the above example, before deciding which field the professor is in, we must examine schemas for "Chinese studies professors" and "psychology professors." Only then can our decision, based on resemblance, be made. Unfortunately, research into representativeness, as was the case with schema research, fails to specify any precise guidelines by which to evaluate the degree of representativeness (Nisbett & Ross 1980). Thus researchers cannot currently make formal specifications of the "degree" of representativeness or whether or not a schema must be present as a standard of comparison and this heuristic can only be used as an explanatory construct.

The representativeness heuristic may be involved in subjects' reports of the sources of self-knowledge. For example, does social comparison seem representative of different personality traits than the other sources? Self-observation seems more representative of values regarded positively in this country such as independence, individuality

or self-reliance while social comparison seems representative of less-positively valued attributes (Schoeneman 1981). As the arguments for the present study are developed such a role for representativeness will be predicted; that some sources are representative of more socially approved traits than others.

### Availability

Like representativeness, the availability heuristic is an informal decision making strategy. Tversky and Kahneman define availability in the following manner: "People assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind" (1974, p. 1127). They go on to say that availability based decisions seem to be a function of any of the following factors: the differential retrievability of examples, the efficiency of memory search set, the differential imaginability of instances or through illusory correlation. In the following discussion, each of these types of availability bias will be examined and examples of each will be given. Most of these examples are hypothetical ones; however, they are modeled quite closely on the extensive work of Tversky and Kahneman (see Kahneman, Slovic, & Tversky 1982 for an excellent compilation of this work and other research into heuristics and judgment order uncertainty).

The first type of availability effects to be examined

will be those based on the retrievability of examples. In this case estimates of the size of a class of events or the subjective probability of an event's occurrence are based on the ease of recall. A class will appear larger if its examples are easier to retrieve than another class of the same size with harder to retrieve examples. Tversky and Kahneman (1973) illustrated this in a study in which lists with equal numbers of men and women were presented to subjects. The "availability" manipulation consisted of including either several famous men's or women's names on these lists. They found that the sex with the well known, and more available, examples was consistently estimated as being the longer list.

Another way of approaching the retrievability of examples is by use of the "vividness" criteria. That is, vivid or concrete examples are more available and carry more decision making weight than pallid information such as statistical base rates. Consider the effects of almost having a car wreck. The subsequent likelihood of having an accident has not changed but the subjective likelihood has greatly increased and the driver is quite likely to drive slower and with greater caution for some time to come. This heuristic is also made use of by advertisers who try to sell products based not on empirical product performance but use much more vivid testimonials in which a person tells us "I know product X . . . ." This strategy seems to work too because people will often overlook truly "informative"



information to make use of less informative but more vivid and interesting data.

A second type of availability use is based on the efficiency of memory search set. Again an example from Tversky and Kahneman's (1982) will be used to illustrate availability principles. Subjects were asked "Are there more words which begin with the letter R or have R as the third letter?" Tversky and Kahneman's subjects gave the former answer more often while the latter one is the correct answer; there are more words with R in the third position. The basis of these findings seems to be that it is easier to recall words beginning with R (such as ripe, read or relax) than words with R as the third letter (such as error, street, or care). By way of analogy consider the following library problem. Imagine the relative difficulty of finding books about "Australia" compared to finding books by Australian authors. Nisbett and Ross (1980) suggest the greater ease in finding books about Australia tells us little about the library's holdings but a great deal about its cataloging system. Similarly, Tversky and Kahneman's example with the letter R tells us more about the memory search process than actual frequencies of words.

Another factor which affects availability is the differential imaginability of instances. Consider a question such as "How many psychologists are there in North Dakota?" A graduate student or professor of psychology might overestimate the number in the state. After all, consider the

high number of such a person's friends and acquaintances who are psychologists and the low number of non-psychologists known. A rancher in western North Dakota would probably answer with a much lower estimate since he or she may know of no psychologists, most of his or her friends are probably other ranchers. Thus, the number of examples of a class are often used to assess the size of that class. This illustrates another aspect of the availability heuristic, the non-random "sample" of events on which our availability decisions are based. The rancher and the professor although they live in the same state are likely to have experienced very different aspects of the state yet both may feel they are typical North Dakotans. Unless they take the non-randomness of their experiences into account, i.e., thinking "Most of my friends are psychologists but that's because I'm here at UND; if I were in another part of the state I would see fewer psychologists," estimates based on availability are likely to be in error.

The fourth and final factor which Tversky and Kahneman (1974) suggest may account for the availability heuristic is illusory correlation. Illusory correlation will be discussed in more detail than the other causes of availability because of its importance to the present study and the widespread attention it has received outside of Tversky and Kahneman's investigations.

## Illusory Correlation

Since this topic was first investigated it has been called by many names: correlational bias, illusory correlation, perceived co-occurrence or simply errors in detecting covariation (Tversky & Kahneman 1974, Nisbett & Ross 1980; Taylor & Crocker 1981). All of these labels seem to be describing similar phenomena so for simplicity's sake the term illusory correlation will be used in the present discussion. Illusory correlation is a condition in which events or stimuli are perceived to co-vary although empirical studies show (or would likely show) no such relationships. More simply put, they are relationships between stimuli which "ought" to exist yet do not (Jennings, Amabile & Ross 1982).

Several of the studies presented in earlier sections demonstrating schemas and heuristics can be re-interpreted using the concept of illusory correlation.

Studies such as Miyamoto and Dornbush (1956), Koltov (1962), Berman and Kenney (1976) and even Asch (1946) all demonstrate illusory correlations between personality traits. For example, Miyamoto and Dornbush found that I.Q. and physical attractiveness were perceived to correlate. There is no actual correlation, of course, between these attributes yet subjects consistently report one. Similarly Asch's findings of implicit "going together" of traits is an example of subjects' beliefs in nonexistent relationships. Some authors (Jennings, Amabile & Ross 1982) have

also noted that Thorndike's (1920) notion of the halo effect is also an example of illusory correlation because this effect found that good traits (or items) tend to be associated with good traits (or items) and negative ones with negative ones.

Perhaps the most famous studies in illusory correlational bias were the ones done by the Chapmans (Chapman & Chapman 1967, 1969). They found that certain psychometric indicators used by clinicians were erroneous and that lay people, when asked to interpret "test data," generated and believed similar indicators to be true. It seems that subjects were making a "correlational analysis" where semantic relationships were confused and possibly interchanged with real relationships (Golding & Rorer 1972). The Chapmans found that emphasis on the eyes on the Draw-a-Person Test led subjects to diagnosis "patients" as being suspicious. There is no empirical relationship between this indicator and suspiciousness but there is some face validity to such a sign. Perhaps large eyes seem representative of suspicious people or people equate suspiciousness with "prying eyes" making eyes more available.

Several writers have proposed that correlation, in general, is a concept few understand. Schweder notes that while most people have a correct intuitive perception of concepts such as class inclusion, antonymy, synonymy, part-whole, and temporality, statistical terms such as correlation are non-intuitive ones for which formal training

is needed in order to be understood (Schweder 1977; Smedslund 1963). Jenkins and Ward (1965) similarly propose that people misunderstand contingency and confuse it with desired outcome.

Schweder, in his 1977 discussion of correlation in personality judgments, presents a unique conceptual approach to this issue. His basic hypothesis sounds quite similar to those of Tversky and Kahneman (1974) and Golding and Rorer (1972); we rely on likeness and not likelihood in making "correlation" estimates. Given that correlation is a non-intuitive concept, he believes that resemblance is used as a fundamental conceptual device by both primitive and advanced cultures and often results in "magical thinking." He defines this magical thinking in the following manner: "magical thinking (confusing propositions about the world with propositions about the language) is an expression of a universal disinclination of normal adults to draw correlational lessons from their experience" (1977, p. 647).

Taylor and Crocker (1981) suggest that schemas may have a twofold impact on illusory correlation: first, schemas may influence the type of evidence use in assessing co-occurrence, and secondly schemas may make some evidence more available and hence over-utilized in making judgments. It was noted earlier that schemas tend to facilitate memory searches for schema-consistent information while ignoring inconsistent or irrelevant information (Allport & Postman 1947; Jenkins & Ward 1965; Snyder & Swann 1978; Crocker &

Taylor note 6). Such biased recall effectively "loads the dice" since our co-variation assessment is made against confirming instances, and this suggests the second way that schemas are implicated in illusory correlation: they make those schema-consistent examples more available. As Taylor and Crocker suggest "if one can recall more schema-consistent (such as extraverted salesman), than schema-inconsistent (introverted salesman), or irrelevant (dependent salesman) instances than schema-consistent instances should be over-represented in judgments of covariation" (1981, p. 122).

Thus, illusory correlations seem to involve schemas and both the availability and representativeness heuristic. This produces a confusing state of affairs because different writers propose different explanatory roles for these three tools of social judgment in explaining illusory correlation. Tversky and Kahneman (1974) originally subsumed illusory correlation under the concept of the availability heuristic. The logic here was that the strength of associative bonds was responsible for the perceived correlation. Conversely Jennings, Amabile and Ross (1982) suggest representativeness as the key element underlying illusory correlation while Taylor and Crocker (1981) propose schemas and representativeness as being responsible for illusory correlation. Indeed, it seems likely that any or all of these tools of social judgment may serve a function in this concept and future research seems to be the only solution to the current state of affairs.

While it is regrettable that illusory correlation is not better understood, it will still be an important concept in the present study. Before beginning the discussion of the study, however, one last area of literature will be reviewed: the effects of people's tools of social judgment on perceptions of themselves and others.

### Social Judgment, Self-Presentation and Self-Projection

In this section schematic processing and attributional biases such as illusory correlation will be examined in light of self-presentation theory. So far much of the groundwork for the present study has been set; showing how global judgmental strategies such as schemas and heuristics are often used inappropriately in evaluating situations and people. One key factor which has only been alluded to is how and why might one schema seem preferable or better than another. In this section that question will be answered by showing that, just as people have implicit personality theories, there is also an implicit evaluative component to these theories which may best be approached through the self-presentation literature.

Like many topics in the social sciences, self-presentation is a very broad one encompassing many aspects of human behavior. This topic, which is also called impression management, was defined by Schlenker as

the conscious or unconscious attempt to control images that are projected in real or imagined social interactions. When the images are self-relevant, the

behavior is termed self-presentation. We attempt to influence how others, real or imagined, perceive our personality traits, abilities, intentions, behaviors, values, physical characteristics, social characteristics, family, friends, job and possessions. In so doing we often influence how we see ourselves (1980, p. 6).

Such a definition is broader than the traditional interpretation of self-presentation which denotes a pragmatic, motivated effect in which public statements are used to protect the private self-image (Allport 1937; Heider 1958). However, a distinction can be made between two types of self-presentation. Self-presentation, as we will be using it in this study, does not refer to the overt calculated variety which may be used to ingratiate oneself to someone. The discussion will center on a second type which is in many respects similar to attributional and schema bias.

Schlenker has suggested calling this form "self-projection" to avoid the above mentioned Machiavellian connotations and is described as "well-ingrained habitlike responses that are triggered in particular situations and need not involve intentional subterfuge" (1980, p. 7). In discussing this type of self-presentation effect Schlenker (1980) notes that explanatory constructs such as schemas or scripts are necessary. Self schemas or self constructs (Epstein 1973; Markus 1977) are thought to be used in this case in a summary capacity which aids organization and attention to various aspects of the self. It is important to reiterate here that self schemas, like other types of schemas, are not so much dictated by reality as they are



used to make subjective realities (Schlenker 1980). Schemas seem to serve several important functions in maintaining the self-concept. They are important because they allow a lifetime of experience to be organized in a manageable way which also facilitates the maintenance of self-esteem (Epstein 1973). They are also important in terms of self-presentation since a belief that we have a certain attribute, i.e., independence, leads us to act in ways which express that belief--by acting independent (Carson 1969).

Indeed, self-schemas raise the question of whether self-presentation effects are due to public descriptions or private perceptions. The traditional manipulative forms of impression management suggest that they are likely a function of overtly managed public descriptions designed to fulfill a purpose. Such an overt description bias seems less likely with the "self-projection" form. Evidence to date is mixed with some studies finding evidence for biased private perceptions (Miller 1976; Sicoly & Ross 1977; Garn & Rosenberg 1981; Greenberg, Pyszczynski & Solomon 1982; and Reiss, Rosenfeld, Medburg & Tedeschi 1981) while others find evidence for biased public descriptions (Ajzen & Fishbein 1975, Miller & Ross 1975, Brewer 1977). A definitive answer is currently eluding self-presentation researchers although evidence does seem to be very suggestive that biased private perceptions are involved (Schlenker 1980).

In a related vein researchers are reporting tendencies for schemas (and self-schemas) to be used in congruence with

stereotypic and other culturally shared beliefs (Rothbart, Evans & Fulero 1979; Taylor, Fiske, Etcoff & Rodemann 1978). Langer (1978) suggests that schemas may be acquired, at either conscious or unconscious levels, and used without the benefit of critical or evaluative judgments. For example consider such culturally shared schemas as "fat people are jolly," "blondes have more fun" or scripts such as the obligatory smile when the boss tells a tired old joke (Schlenker 1980). These are probably schemas or stereotypes which most people are aware of and which may influence their behavior. Thus, it seems that schemas and schematic-based stereotypes can, at times, act like culturally shared norms to which there is implicit agreement.

Additional evidence for cognitive bias in self-presentation was found by Jellison and Green (1981). They propose the existence of a "norm of internality" which stresses greater value on internal, as opposed to external, attributions. They found that people implicitly judged others by this norm, believed themselves to be "more internal" than others and also described themselves as being "more internal" than others when asked to make a good impression. Thus, Jellison and Green argued that there is an implicit "goodness" to internal attributions used in both judgment of others and presentation of the self. This finding is of great interest in explaining subjects' reports of the sources of self-knowledge since there is one source, self-observation, which is more "internal" than the other

sources. Based on Jellison and Green's findings, it can be argued that self-observation's popularity among subjects (Schoeneman 1981) may be due to "approval" based on the norm of internality.

It may well be that subject's reports of the sources of self-knowledge are a function of biased self-perceptions. Schoeneman (1981) reports that when asked to respond under differing instructional sets, reports are similar under the "truthful" and "best light" conditions and "worst light" and "other student" conditions. Although his data do not address the direction of the relationship, they do suggest self-presentational implications. A different set of studies by Schoeneman (1981) suggests that overt forms of impression management may not be operating here since correlations with the social desirability scale were generally weak or nonsignificant.

#### Statement of the Problem

The present study seeks to investigate and interpret subjects' reports of the sources of self-knowledge in light of the information presented about self-projection and the tools of social judgment. The basic tenet of this study is that subjects' reports are based on an implicit evaluation bias similar to Schlenkers' (1980) "self-projection" hypothesis and Jellison and Green's (1981) "norm of internality." It is predicted that people have intuitive notions about the sources of self-knowledge. These notions are

expected to be very general and diffuse resulting in the overall effect that self-observation is seen as a better source than comparison and self-observers are perceived as better people than comparers. Such a hypothesis is very similar to Jellison and Green's (1981) where internal attributors received more social approval than did external attributors.

Although there is no evidence to date that any of the sources of self-knowledge are organized schematically, it seems plausible that they may be organized in schematic-like fashion. For example, people may have an intuitive notion and evaluation of the process of self-observation (script) and of self-observers (schemas). This is, in many ways, just a restatement of Schoeneman's (1981) hypothesis that self-observation may be associated with independence and with individualism. Indeed, his ideas suggest that at the very least sources may be "representative" of different traits and dispositions carrying evaluation connotations. The question of whether or not the sources are organized "schematically" or are merely "representative" of traits is irrelevant at this point. Similar predictions of source associations with evaluative concepts can be made with either of these tools of social judgment. Perhaps it might be best to consider this association an illusory correlation (an area it may be recalled in which heuristic and schematic use is also indistinguishable) between the various sources and a good-bad evaluative dimension. This would be an

illusory correlation since there is no reason to believe that sources like self-observation actually are used by more independent, individualistic persons or that social comparison is used by persons who are uncertain or have other unfavorable characteristics.

The data reported in Schoeneman's "imagined conditions" study (1981) would seem to support an illusory correlation hypothesis. Recall that self-observation was favored in the "best light" and "truthful and honest" conditions while comparison was favored in the "worst light" and "as others would" conditions. This clearly indicates a relationship in which self-observation is seen as "good" while social comparison is seen as "bad." Indeed, it may be that Schoeneman's (1981) results are a function of students responding based on stereotypes or "schemas" representative of the sources.

One issue which Schoeneman's (1981) study raises is why feedback remains constant throughout the instructional changes. To address this issue, several characteristics of feedback are important. Self-observation and social comparison both require intentionally initiated efforts from the self-perceiver and tell us that he or she wants to learn something. In contrast feedback does not always require this effort or motivation to learn because this source actually involves two subtypes: solicited and unsolicited feedback. These two types were not separated in Schoeneman's early work, but it may be important to separate them in the

present study because this dimension will tell us something about the person's motivation to learn. In other words, subjective effort may be important since it tells subjects that someone wants to know something about him or herself. The manner in which learning is attempted may then be reflective on the person. Users of self-observation seem more self-reliant, and perhaps more internal in Jellison and Green's (1981) approach. In contrast users of solicited feedback or comparison seem less self-reliant or even uncertain, and more external in Jellison and Green's terms. Subjects' perceptions of unsolicited feedback are harder to predict. It may be that without subjective effort to give the learned information more personal relevance, it would be viewed in a neutral manner; i.e., the person did not want or need to know so it does not matter anyway. However, it seems more likely that to a person receiving feedback without soliciting it the social situation will seem relatively out of control. Perhaps information learned via unsolicited feedback may appear to be either a compliment or an insult depending on what is learned.

The present study investigated the schema availability hypotheses by, in essence, reversing the paradigm used in earlier studies (Schoeneman 1981; Schoeneman, Tabor & Nash Note 2; Nash & Schoeneman Note 1). Instead of having subjects generate frequencies of the sources or indicate which source best fits with instructional sets, the experimental task was to rate descriptions of people who learn about

themselves via the different sources. This was accomplished by giving subjects four short stories consisting of a brief action paragraph followed by a source of self-knowledge ending in which one of the characters learns something about him or herself via a given source. This paradigm allowed differentiation of the sources of self-knowledge based on ratings such as good-bad, active-passive and the like. Although subjects were asked to rate the self-learner, it is assumed that they were actually rating a stereotyped impression of the self-learner which will be congruent with their individual source of self-knowledge schemas. This paradigm allowed testing of predictions made based on the "intuitive" properties of the sources.

Self-observation was expected to be rated as generally the best source. This rating is predicted to be quite diffuse and is expected to result in higher ratings on such unrelated dimensions as "have for a friend" or "similar" or "admirable." Social comparison is expected to be at the opposite end of the evaluative spectrum and overall to cast a negative light upon its users. Solicited feedback is expected to fall in the middle range between self-observation and social comparison. Depending on the valence of what is learned with unsolicited feedback it may appear to be either a compliment or an insult to the recipient. If this is the case, then the resulting ratings may be more extreme than either self-observation or social comparison. A fifth condition with no source of self-knowledge ending,

in which the character learns nothing, was also included as a control condition allowing an examination of subjects' impressions of the first part of the story. This condition is predicted to be a neutral one and as such to not produce extreme ratings.

In this study several other dimensions were also examined: the effects of the story character's sex, subject sex, learning positive or negative traits and an examination of relationships between responses and some personality measures.

The variable of story character and subject sex is important to the study of the sources of self-knowledge since earlier studies (Schoeneman 1981, Nash & Schoeneman Note 1) suggest a sex difference for reports of social comparison. These studies, which used the same methodological design, both found a tendency for males to report using comparison approximately twice as often as females. Thus, it may be that males find this source more acceptable in which case in the present study male subjects may rate comparison "better" than do female subjects. It was also of interest to see if male subjects would rate it as being more acceptable only for male story characters or for both sexes of characters. Indeed, it was possible to see if either, or both, male or female subjects report any relationship between their sex, story character sex and sources in general.

Similarly, the effects of trait valence were explored



by presenting stories containing negative and positive traits. One would expect that, in general, positive traits would produce more positive ratings. This variable also could reveal whether or not any sources were viewed differently when negative traits are learned. It is expected that private source ratings, such as those of self-observation and comparison may be less affected by negative traits than ratings of public sources like feedback. Results from this study also allowed for an examination for any effects between trait, subject sex and character sex.

Subjects in the experimental conditions, those with a source of self-knowledge ending, were also given a chance to rate the actual source of self-knowledge for its accuracy, believability and reliability. These variables were included as exploratory measures; however some limited predictions can be made. The norm of internality (Jellison & Green 1981) suggests that private internal sources such as self-observation would be rated better than public external sources like feedback and social comparison. Indeed, feedback and comparison's predicted "negative schematic" organization may be strong enough to bias subjects' perceptions of these sources. The ratings of the source, like the ratings of the self-learner, were expected to be global and it is likely that all three variables will be seen as implicitly going together.

A final aspect of this study looked for any relationships between personality traits and subjects' reports of

the sources of self-knowledge. The traits studied were: self-consciousness (Fenigstein, Scheier & Buss 1975), self-monitoring (Snyder 1974), social desirability (Crowne & Marlowe 1964), and both trait and state anxiety (Spielberger, Gorsuch & Lushene 1968).

The self-consciousness scale (Fenigstein et al. 1975) was designed to assess individual differences in three aspects of self-consciousness: private self-consciousness, public self-consciousness and social anxiety. The concepts of private and public self-consciousness are traits analogous to the states of private and public self-awareness discussed earlier in relation to Nash and Schoeneman's work (Note 1). Thus, private self-consciousness represents a tendency to spend more time attending to internal thoughts and feelings, i.e., "I think about so and so a lot." Public self-consciousness is a tendency to focus attention on how one is presented and how this affects others, i.e., "I think a lot about how others see me." The third measure on this scale is social anxiety. This was defined as a measure of discomfort in social situations, i.e., "I get nervous at large parties."

Snyder's self-monitoring scale is a self-report instrument designed to assess individual differences in the ability to "observe and control expressive behavior and self-presentation" (1974, p. 536). According to this scale a high self-monitorer would be someone aware of how appropriate his or her self-presentation is in a given

setting and would be likely to change his or her behavior to manipulate others' reactions. This can be contrasted with the low self-monitoring person who has very little concern for his or her self-presentation or the expressions of others. This individual would be more likely to govern behavior as a function of internal attitudes and not social reactions or pressure.

The state-trait anxiety inventory (Spielberger et al. 1968) is a self-report measure consisting of two scales. The state anxiety scale asks subjects to report how they feel "at this moment." It assesses "a transient emotional state or condition of the human organism that is characterized by subjective consciously perceived feelings of tension and apprehension" (Spielberger et al. 1968, p. 3). By way of contrast, the trait measure asks for a report of how subjects generally feel.

The last scale included in this study is the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe 1964). This scale measures the degree to which a person agrees to statements which are "'good' culturally sanctioned things to say about oneself; and second, they are probably untrue of most people" (Crowne & Marlowe 1964, p. 21). This scale is of particular interest since it was included in Schoeneman's (1981) original study. He found modest, yet significant, correlations between this scale and percent mentions of social comparison and mean rankings of feedback. Thus it was of interest to attempt to replicate these results and to

explore for any relationship between social desirability and the measures in the current study.

In summary, the hypotheses tested in this study were: that subjects' reports of the sources of self-knowledge are a function of an implicit good-bad evaluation of the sources and a replication of the ranking portion of Schoeneman's study (1981). Also included in this study were an exploration of other independent variables (i.e., subject sex, character sex, and trait valance) as well as the relationships between several traits (i.e., anxiety, self-consciousness, self-monitoring and social desirability) and the reports of the sources of self-knowledge.

## CHAPTER III

### METHODOLOGY

#### Subjects

Subjects for this study were recruited from the University of North Dakota's Introductory and Developmental Psychology subject pool. A total of 200 subjects, 100 male and 100 female, was tested in groups of fewer than 30. Test materials were distributed so that all experimental conditions were as equally represented as possible during each session.

#### Procedure

Subjects were told they were participating in a "story rating study" and were asked to read four stories and complete several questions and ratings about each story. Each subject was given two packets of experimental materials.

The first packet contained four different stories each constructed in the same format, an introductory "action" paragraph consisting of 2 same sex friends either having a pizza, going fishing, watching TV or walking back from class, and a source of self-knowledge ending paragraph (see Appendix A for the experimental stories). These stories had been studied in an earlier investigation to determine if the

format of the stories plus a source of self-knowledge ending produced a character rating effect and also allowed examination of subjects' impressions of the stories. Based on the pilot data, which is not included in the present report, it was found that the different source of self-knowledge endings did influence the character ratings.

Each packet of four stories always had the same type of ending; i.e., four self-observation, unsolicited feedback, solicited feedback, social comparison or no source endings. Thus, source of self-knowledge was a between subjects condition. Each set of four stories also contained two stories with male characters, two with female characters, two with "positive" traits and two with "negative" traits.

Positive and negative trait words were taken from a subset of 200 high meaningfulness words from Anderson's (1968) table of likableness ratings of 555 words. Positive or negative was somewhat arbitrarily defined as being within a  $\pm .40$  to  $.60$  Z score range. The positive traits, with Z scores in parentheses were "serious" (+ 0.56) and "idealistic" (+ 0.59), negative traits were "timid" (-0.42) and "sarcastic" (-0.50). Because the traits were matched on likableness ratings, it was possible to assume, for example, that the two positive traits were conceptually equal. The same assumption also holds for the negative traits allowing "timid" and "sarcastic" to both be seen as producing equivalent results.

Trait and story character sex were counterbalanced so

that each story stem appears with equal frequency with each character sex and trait (see Table 2). Additionally, presentation order was counterbalanced so each story was equally represented in each serial order.

The second packet contained the following scales, Self-Monitoring (Snyder 1974), State-Trait Anxiety (Spielberger et al. 1968), Self-Consciousness scale (Fenigstein, Scheier & Buss 1975) and Social Desirability (Crowne & Marlowe 1964).

Thus, the procedure for each subject was as follows:

- 1) Instructions were given to the subjects to first complete the packet containing the stories and then to complete the set of questionnaires. Specific instructions were given only to explain to subjects how to place an identification number on some sheets and to remind them of confidentiality policies. Subjects were then reminded to begin with the packet containing the stories which were described as a set of short stories followed by some questions and ratings. They were instructed to read each story carefully and not to turn back to them while answering test items.

- 2) Read the first story.

- 3) Complete a manipulation check to determine that subjects had read and understood the story. This check consisted of five questions for subjects in the self-observation, solicited and unsolicited feedback and social comparison conditions and the first two questions for those

TABLE 2

## EXPERIMENTAL DESIGN AND PRESENTATION ORDER OF STORIES

Experimental Condition*	Character Sex			
	Male		Female	
	+ Trait (Idealistic)	- Trait (Sarcastic)	+ Trait (Serious)	- Trait (Timid)
Self- Observation	1**	2	3	4
	2	3	4	1
	3	4	1	2
	4	1	2	3
Unsolicited Feedback	1			
	2			
	3			
	4			
Solicited Feedback	1			
	2			
	3			
	4			
Social Comparison	1			
	2			
	3			
	4			
No Source	1			
	2			
	3			
	4			

\*Experimental Condition is a between subjects variable, all others are within subjects variables.

\*\*Numbers 1-4 represent the story stems used in each condition. The same pattern was used in all between subject conditions.



in the no source ending condition. The questions used were:

- 1) What activity were the people in this story doing?,
- 2) Did someone learn something about him/herself in this story?,
- 3) Who learned something about him/herself in this story?,
- 4) What did he/she learn about him/herself?,
- 5) How did he/she learn it?

All subjects were able to correctly complete these questions, thus no subjects' data was excluded from analysis.

4) Subjects rated the character who learned something (the character's name was provided in the no source condition) on the following dimensions: good, optimistic, strong, dominant, active, dynamic, admirable, friendly, likable, nice, popular, similar, enjoy the person's company, have for a friend, desire to look good, curious, emotionally healthy, intelligent, has control over own life (see Table 3). Subjects then rated the sources of self knowledge used (those questions were not given in the no source condition) for its accuracy, believability and reliability (see Table 4).

5) Subjects went through steps 2 to 4 for each of the remaining 3 stories.

6) Subjects completed a series of 10 ranking procedures developed by Schoeneman (1981) using the format:

I have come to know I am a(n) \_\_\_\_\_ person through  
 \_\_\_\_\_ comparing my actions and opinions with those of  
 other people  
 \_\_\_\_\_ noticing the direct and indirect feedback that

TABLE 3  
RATING DIMENSIONS FOR STORY CHARACTERS

- 
- 1) good-bad\*
  - 2) optimistic-pessimistic\*
  - 3) strong-weak\*\*
  - 4) dominant-submissive\*\*
  - 5) active-passive\*\*\*
  - 6) dynamic-static\*\*\*
  - 7) admirable-not admirable
  - 8) friendly-unfriendly
  - 9) likable-unlikable
  - 10) nice-mean
  - 11) popular-unpopular
  - 12) similar-dissimilar
  - 13) enjoy the person's company--not enjoy the person's company
  - 14) have for a friend--not have for a friend
  - 15) desires to look good--does not desire to look good
  - 16) curious--not curious
  - 17) emotionally healthy--emotionally unhealthy
  - 18) intelligent--unintelligent
  - 19) has control over own life--does not/others control own life
- 

\*Items making up the evaluative scale of the semantic differential.

\*\*Items making up the potency scale of the semantic differential.

\*\*\*Items making up the activity scale of the semantic differential.

Note items 1-6 taken from Friedman and Gladden (1964) and items 7-14 modified from Jellison and Green (1981).

others give to me and their reactions to me

\_\_\_\_\_ observing my own actions, thoughts and feelings and the situations in which they occur.

Each choice was randomly rotated in position across the 10 items. The rankings used on them were 1 = most important, 2 = second in importance, 3 = third in importance, and N = not applicable, irrelevant, etc. The traits used in the ranking portion were: easy going, quiet, sarcastic, timid, versatile, serious, forgetful, mature, friendly, and idealistic.

7) Subjects completed the following questionnaires: Self-Consciousness Scale, State-Trait Anxiety Scale, Self-Monitoring Scale and Social Desirability Scale.

TABLE 4

RATING DIMENSIONS FOR THE SOURCES OF SELF-KNOWLEDGE\*

- 
1. accurate-inaccurate
  2. believable-unbelievable
  3. reliable-unreliable
- 

\*These ratings were not given to subjects in the "no source of self-knowledge" ending condition.

Dependent Variables

The variables listed in Tables 3 and 4 were all rated on 1 to 10 scales. Thus, dependent variables were simply the number assigned to each by the subject. Item pairs

comprising the semantic differential (Friedman & Gladden 1964) were averaged for the evaluative, potency and activity ratings. These dependent variables were each analysed separately using a 4 factor ANOVA design, i.e., "trait valence" by "character sex" by "subject sex" by "source of self-knowledge condition."

The dependent variables from Schoeneman's (1981) ranking procedure are simply mean rankings for each source. The number of "N" responses was summed as a separate variable.

As part of this ranking procedure the four traits used in the experimental stories were included. Thus mean rankings and sum of N responses were calculated for i) all 10 traits, ii) the 4 experimental traits, iii) the 6 non-experimental traits. The ANOVA procedure used in this analysis was a 3 factor design; "source of self-knowledge condition" by "subject sex" by "number of traits" (4 trait group vs. 6 trait group). A separate ANOVA was computed for each of the following 6 variables: mean rank of self-observation, feedback, and social comparison and the number of times "not applicable" was used for self-observation, feedback and social comparison.

## CHAPTER IV

### RESULTS

The results of this study are composed of three kinds of measures: (1) the ratings of the self-learner and (in all but the no source ending condition) the source he or she used, (2) a set of ranking variables analogous to those used by Schoeneman (1981) and Nash and Schoeneman (Note 1), and (3) analysis of the above variables in light of several personality trait and response set measures. Each of these groups was analyzed in a similar manner. A repeated measures analysis of variance was computed for each dependent variable with the traditional alpha level of .05 used as the criterion for statistical significance. The Newman-Keuls procedure was used on all significant main effects and interactions to determine which group means were different.

#### Story Character and Source Ratings

The analysis of primary importance to this study involved the story character and source of self-knowledge rating variables. As Table 5 clearly demonstrates, these variables produced a large number of significant main effects and interactions. In presenting these results each

TABLE 5  
F VALUES FOR SIGNIFICANT CHARACTER AND SOURCE RATINGS

Significant Effects <sup>a</sup>										
Dependent Variable	Source Condition	Trait Valence	Character Sex	Subject Sex	Trait Valence by Source Condition	Trait Valence by Character Sex	Character Sex by Source Condition	Trait Valence by Character Sex by Subject Sex	Trait Valence by Character Sex by Source Condition	Trait Valence by Character Sex by Source Condition
Accurate		5.09								
Believable		5.09								
Reliable		6.44*								
Similar	4.64*	11.47*								
Enjoy the Person's Company	3.26	6.91		5.31						
Admirable	2.49	37.46**			2.66					
Emotionally Healthy	2.63	39.39**			2.74					
Desires to Look Good			10.78*		3.15*					
Friendly		11.86*				9.71*				
Likable		11.46*	6.66*	4.91		8.12*				
Nice		10.35*		5.69*		24.55**				
Have for a Friend		13.01*	9.65*			7.09*				
Evaluative Scale		18.70**	9.04					5.14*		
Activity Scale	5.79*	71.63**	49.34**		10.09**	39.93**	3.63*			2.53
Potency Scale	5.17*	87.76**	87.76**		7.10**	35.19**				6.40**
Curious Controls		8.45*				4.58*				2.56
Own Life	10.46**	57.41**			3.32*	11.92*				2.47
Intelligent		15.43**	17.18*							2.70
Popular	2.52	16.61**								3.79

<sup>a</sup>Note all listed F values significant at .05 level.

\*p < .01.

\*\*p < .0001.

variable is discussed individually to allow an examination and integration of each variable's significant effects. As much as possible the individual variables are grouped with other variables that produced similar levels of effects, i.e., main effects, second or third order interactions. Following this presentation is an attempt to summarize and reiterate the main conclusions from these results.

Results from the sources of self-knowledge ratings indicate that all sources are more "accurate" ( $F [1, 148] = 5.09, p < .0255$ ), "believable" ( $F [1, 148] = 3.07, p < .0255$ ) and "reliable" ( $F [1, 148] = 6.44, p < .0122$ ) when positive as opposed to negative traits are learned (see Table 6).

TABLE 6  
TRAIT VALENCE RATINGS FOR ACCURATE, BELIEVABLE AND RELIABLE

Trait Valence	Variable Name		
	Accurate	Believable	Reliable
Positive	4.94 <sup>a</sup>	4.55	5.48
Negative	5.42	4.91	5.84

<sup>a</sup>Lower means are more "accurate" etc.

Analysis of the variable "similar" also indicates a significant main effect for trait valence ( $F [1, 186] = 11.47, p < .0009$ ) in which the use of positive traits

results in a rating of greater "similarity." A significant main effect was also found in the source of self-knowledge condition ( $F [1, 186] = 4.64, p < .0014$ ). Newman Keuls' post-hoc analysis indicates that the no source of self-knowledge ending condition resulted in a rating of greater "similarity" than did the unsolicited feedback condition; i.e., the two source conditions at either end of a continuum (see Table 7).

TABLE 7  
TRAIT VALENCE BY SOURCE OF SELF-KNOWLEDGE CONDITION  
MEANS FOR RATINGS OF SIMILAR

Trait Valence	Condition Name				
	Self-Observation	Unsolicited Feedback	Solicited Feedback	Social comparison	No Ending
Positive	4.23 <sup>a</sup>	4.93	4.63	4.69	3.86
Negative	4.79	5.38	4.71	4.83	4.29

<sup>a</sup>Lower means are more "similar."

Results from the variable "enjoy the person's company" also produced a significant main effect for trait valence ( $F [1, 185] = 6.91, p < .0093$ ), subject sex ( $F [1, 185] = 3.31, p < .0224$ ), and the source of self-knowledge condition ( $F [1, 185] = 3.26, p < .0131$ ). The trait valence effect showed that positive traits produce a rating of greater "enjoyment of the person's company" than did negative



traits. Post hoc analyses of the source of self-knowledge effects show that characters using self-observation and social comparison are more "enjoyable" than those using unsolicited feedback (see Table 8). Subject sex analysis show female subjects rate characters more "enjoyable" than did male subjects (3.55 vs. 4.01).

TABLE 8  
TRAIT VALENCE BY SOURCE OF SELF-KNOWLEDGE CONDITION  
MEANS FOR RATINGS OF ENJOY THE PERSON'S COMPANY

Trait Valence	Condition Name				
	Self- Observation	Unsolicited Feedback	Solicited Feedback	Social com- parison	No Ending
Positive	3.54 <sup>a</sup>	3.82	3.75	4.08	3.13
Negative	3.90	4.25	4.13	4.20	3.18

<sup>a</sup>Lower means are more "enjoyable."

The variable "admirable" produced significant effects for trait valence ( $F [1, 186] = 37.46, p < .0001$ ), source of self-knowledge condition ( $F [1, 186] = 2.49, p < .0449$ ) and the interaction of trait valence by source of self-knowledge condition ( $F [1, 186] = 2.66, p < .0340$ ) (see Table 9). Post-hoc analysis of the interaction indicates that for groups using positive traits, self-observation was rated as more "admirable" than all other sources while negative traits indicated the following: The no ending condition was

more "admirable" than unsolicited feedback and social comparison; self-observation and solicited feedback were more "admirable" than social comparison. Post-hoc analysis also indicated that self-observation, unsolicited feedback and social comparison showed a trait valence effect, i.e., positive trait use was more "admirable," while solicited feedback and the no ending group were not affected by the trait valence dimension.

TABLE 9  
TRAIT VALENCE BY SOURCE OF SELF-KNOWLEDGE CONDITION  
MEANS FOR RATINGS OF ADMIRABLE

Trait Valence	Condition Name				
	Self-Observation	Unsolicited Feedback	Solicited Feedback	Social comparison	No Ending
Positive	3.59 <sup>a</sup>	4.30	4.45	4.37	4.14
Negative	4.70	5.10	4.77	5.38	4.31

<sup>a</sup>Lower means are more "admirable."

The variable "emotionally healthy" produced significant effects for trait valence ( $F [1, 186] = 39.39, p < .0001$ ), source of self-knowledge ending condition ( $F [1, 186] = 2.63, p < .0358$ ) and trait valence by source of self-knowledge condition ( $F [1, 186] = 2.74, p < .0299$ ) (see Table 10). Post-hoc examination of the two-way interaction revealed that only the no ending condition did not produce

a trait valence effect. Thus, the finding that with negative traits the no ending group is more healthy than all other sources reflects the negative impact of trait valence on the self-observation, social comparison and both feedback conditions in contrast to the lack of such an effect on the no ending group. No groups of source of self-knowledge condition means were significantly different with the set using positive traits.

TABLE 10

TRAIT VALENCE BY SOURCE OF SELF-KNOWLEDGE CONDITION MEANS  
FOR RATINGS OF EMOTIONALLY HEALTHY

Trait Valence	Condition Name				
	Self- Observation	Unsolicited Feedback	Solicited Feedback	Social com- parison	No Ending
Positive	3.56 <sup>a</sup>	4.01	3.70	3.76	3.44
Negative	4.39	4.74	4.55	4.48	3.43

<sup>a</sup>Lower means are more "emotionally healthy."

The variable "desires to look good" produced a character sex main effect in which female story characters were rated as "desiring to look good" more than the males ( $F [1, 185] = 10.78, p < .0012$ ; female mean = 3.77, male mean = 4.28). The interaction of trait valence and source of self-knowledge condition was also significant ( $F [1, 185] = 3.15, p < .0155$ ) (see Table 11). Post-hoc analysis indicates that

with positive traits self-observation and social comparison are "desiring to look better" than the no ending condition while with negative traits self-observation is seen as "desiring to look better" than unsolicited feedback. Comparison of positive vs. negative groups shows that positive traits produce the best ratings for unsolicited feedback and social comparison, negative traits produce the best ratings for the no ending group while self-observation and solicited feedback are unaffected by trait valence.

TABLE 11

TRAIT VALENCE BY SOURCE OF SELF-KNOWLEDGE CONDITION MEANS FOR RATINGS OF DESIRES TO LOOK GOOD

Trait Valence	Condition Name				
	Self-Observation	Unsolicited Feedback	Solicited Feedback	Social comparison	No Ending
Positive	3.65 <sup>a</sup>	4.12	4.15	3.81	4.59
Negative	3.83	4.59	4.23	4.44	4.03

<sup>a</sup>Lower means are "desiring to look better."

Analysis of "friendly" produced a main effect for trait valence ( $F [1, 185] = 11.86, p < .0007$ ) and an interaction of trait valence by character sex ( $F [1, 185] = 9.71, p < .0021$ ) (see Table 12). Post-hoc interpretation of this interaction suggests that the negative trait male characters are responsible for both effects; these characters are rated

less friendly than all other character sex and trait combinations.

TABLE 12  
TRAIT VALENCE BY CHARACTER SEX MEANS FOR  
RATINGS OF FRIENDLY

Trait Valence	Character Sex	
	Male	Female
Positive	3.32 <sup>a</sup>	3.45
Negative	4.00	3.48

<sup>a</sup>Lower means are more "friendly."

A similar set of results was found for the variable "likable" with significant effects for trait valence ( $F [1, 185] = 11.46, p < .0009$ ), character sex ( $F [1, 185] = 6.66, p < .0106$ ) and trait valence by character sex ( $F [1, 185] = 8.12, p < .0049$ ). Once again male characters learning negative traits were rated the least well, less "likable" in this case, than all other trait and sex combinations (see Table 13). A subject sex rating difference was also found for the variable "likable" such that females reported all characters more likable than did the male subjects (2.34 vs. 3.76,  $F [1, 185] = 4.91, p < .0279$ ).

With the variable "nice, male characters learning negative traits once again suffer, being noted the least "nice" of all other combinations of trait valence and

character sex ( $F [1, 186] = 24.55, p < .0001$ ). Note also that the "negative male" group seems to be responsible for the significant trait valence main effect ( $F [1, 186] = 10.35, p < .0015$ ) (see Table 14). Subject sex was also significant for this variable indicating female subjects rate all story characters as "nicer" than did male subjects (3.28 vs. 3.70,  $F [1, 186] = 5.69, p < .0180$ ).

TABLE 13

TRAIT VALENCE BY CHARACTER SEX MEANS FOR RATINGS OF LIKABLE

Trait Valence	Character Sex	
	Male	Female
Positive	3.38 <sup>a</sup>	3.43
Negative	4.04	3.45

<sup>a</sup>Lower means are more "likable."

TABLE 14

TRAIT VALENCE BY CHARACTER SEX MEANS FOR RATINGS OF NICE

Trait Valence	Character Sex	
	Male	Female
Positive	3.35 <sup>a</sup>	3.39
Negative	4.11	3.20

<sup>a</sup>Lower means are "nicer."

With results showing male characters learning negative traits are rated the least "friendly," "likable" and "nice," it will come as little surprise that they are also rated the lowest on the variable "have for a friend" in the trait valence by character sex interaction ( $F [1, 184] = 7.09$ ,  $p < .0084$ ) and seem to have been responsible for the main effects of trait valence ( $F [1, 184] = 13.01$ ,  $p < .0004$ ) and character sex ( $F [1, 184] = 9.65$ ,  $p < .0022$ ) (see Table 15). A nonsignificant trend was also found for women subjects to rate characters as more the type of person to "have for a friend" than male subjects (3.74 vs. 3.99,  $F [1, 184] = 2.96$ ,  $p < .0872$ ).

TABLE 15

TRAIT VALENCE BY CHARACTER SEX MEANS FOR RATINGS OF HAVE FOR A FRIEND

Trait Valence	Character Sex	
	Male	Female
Positive	3.67 <sup>a</sup>	3.64
Negative	4.39	3.73

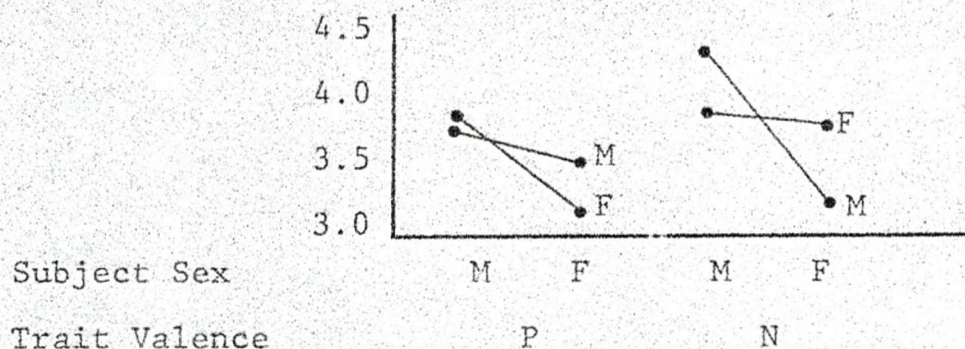
<sup>a</sup>Lower means are more the type of person to "have for a friend."

On the "evaluative" scale of the semantic differential significant trait valence ( $F [1, 185] = 18.70$ ,  $p < .0001$ ), character sex ( $F [1, 185] = 9.04$ ,  $p < .0030$ ) and trait valence by character sex by subject sex ( $F [1, 185] = 5.14$ ,

$p < .0245$ ) effects were found (see Figure 1). Analysis of the interaction using the Newman Keuls procedure shows that with positive traits female subjects rate female characters as "better" than male characters and also that female subjects rate them "better" than do male subjects. With negative traits, however, subjects rate characters of the same sex as "worse" than opposite sex characters. Female subjects also rate male characters as being "better" than do male subjects.

FIGURE 1

TRAIT VALENCE BY CHARACTER SEX BY SUBJECT  
SEX FOR EVALUATIVE RATINGS



The following abbreviations were used:  
P = positive trait valence, N = negative  
trait valence, M = males, F = females.

<sup>a</sup>Lower ratings are "better."

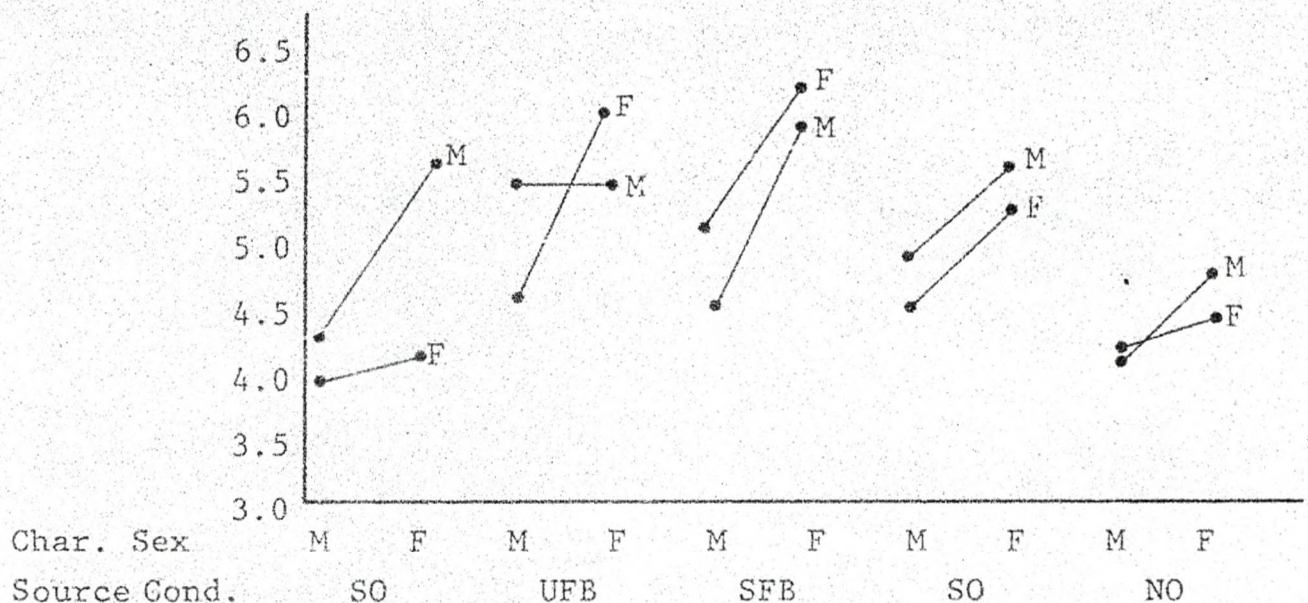
The "activity" scale of the semantic differential produced the largest number of significant main effects and interactions: Source of self-knowledge condition ( $F [1, 186] = 5.79, p < .0002$ ), trait valence ( $F [1, 186] = 71.63, p < .0001$ ), character sex ( $F [1, 186] = 49.34, p < .0001$ ),



trait valence by source condition ( $F [1, 186] = 10.09, p < .0001$ ), trait valence by character sex ( $F [1, 186] = 39.93, p < .0001$ ), character sex by subject sex by source condition ( $F [1, 186] = 3.63, p < .0071$ ) and trait valence by character sex by source condition ( $F [1, 186] = 2.53, p < .0421$ ). Post-hoc analysis of character sex by subject sex by source of self-knowledge condition (see Figure 2) reveals that male subjects rate female characters more "active" in the no ending condition than in social comparison or either feedback condition and they rate male characters more active in the no ending and self-observation conditions than in the

FIGURE 2

CHARACTER SEX BY SUBJECT SEX BY SOURCE OF SELF-KNOWLEDGE  
CONDITION MEANS FOR RATINGS OF ACTIVITY



The following abbreviations were used: M = males, F = females, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending.

<sup>a</sup>Lower ratings are more "active."

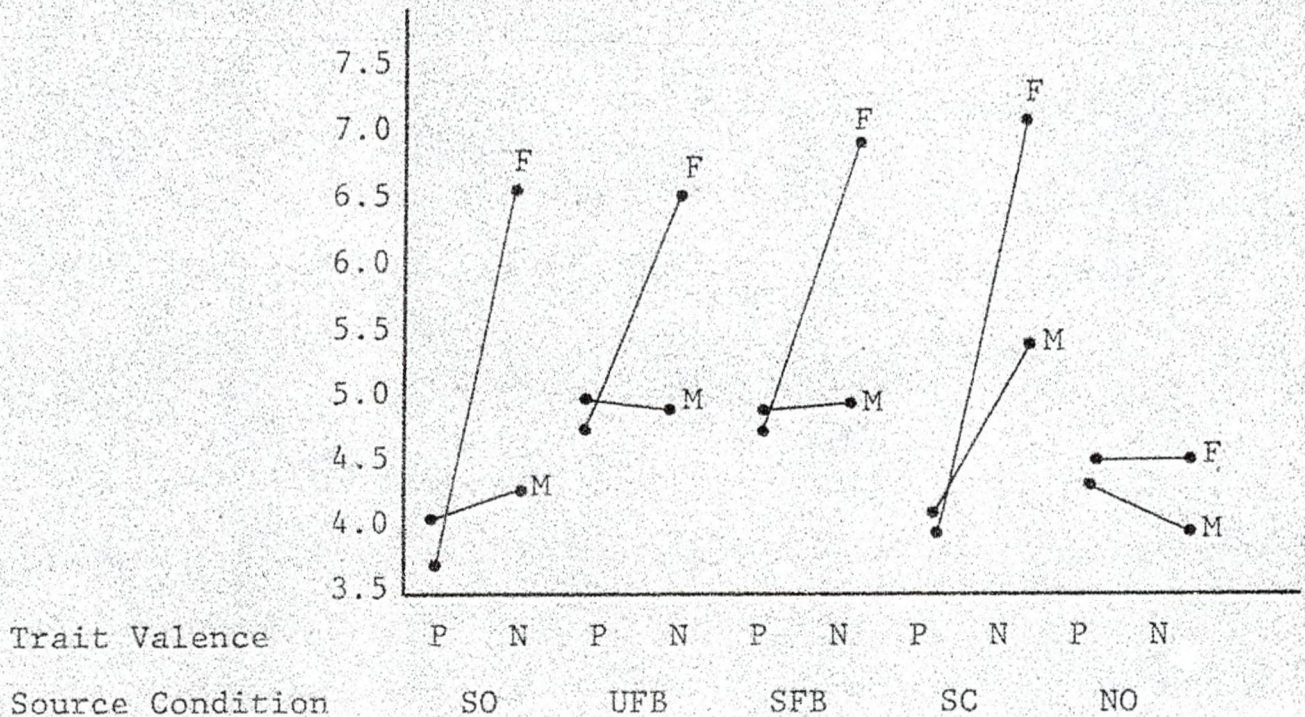
unsolicited feedback condition. Female subjects rate female characters more active in the self-observation and the no ending condition than in the social comparison or either feedback condition and the no ending, self-observation, social comparison and unsolicited feedback conditions more active than the solicited feedback condition. Thus it appears that self-observation and, rather surprisingly, the no ending condition are the most "active" modes of self-validation for same sexed characters.

Analysis of trait valence by character sex by source of self-knowledge suggest several sets of conclusions (see Figure 3). First of all it may be noted that trait valence has more impact on female characters; only in the no ending group did this dimension fail to reach significance. In contrast trait valence reached significance only once for male characters, in the social comparison condition. Different combinations of trait valence and character sex reveal somewhat different ranking of "activity" for the different sources. For female characters using positive traits self-observation and social comparison are more active than the no ending or either feedback condition. A similar pattern was found for males learning positive traits; self-observation and social comparison are more "active" than either feedback group. With negative traits females are the most "active" in the no ending condition and more "active" in self-observation and unsolicited feedback than in the social comparison condition. Once again

the results for males approximate those for females, the no ending condition is more "active" than social comparison or either feedback condition and self-observation is more "active" than solicited feedback or social comparison.

FIGURE 3

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE  
CONDITION MEANS FOR RATINGS OF ACTIVITY



The following abbreviations were used: P = positive trait valence, N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

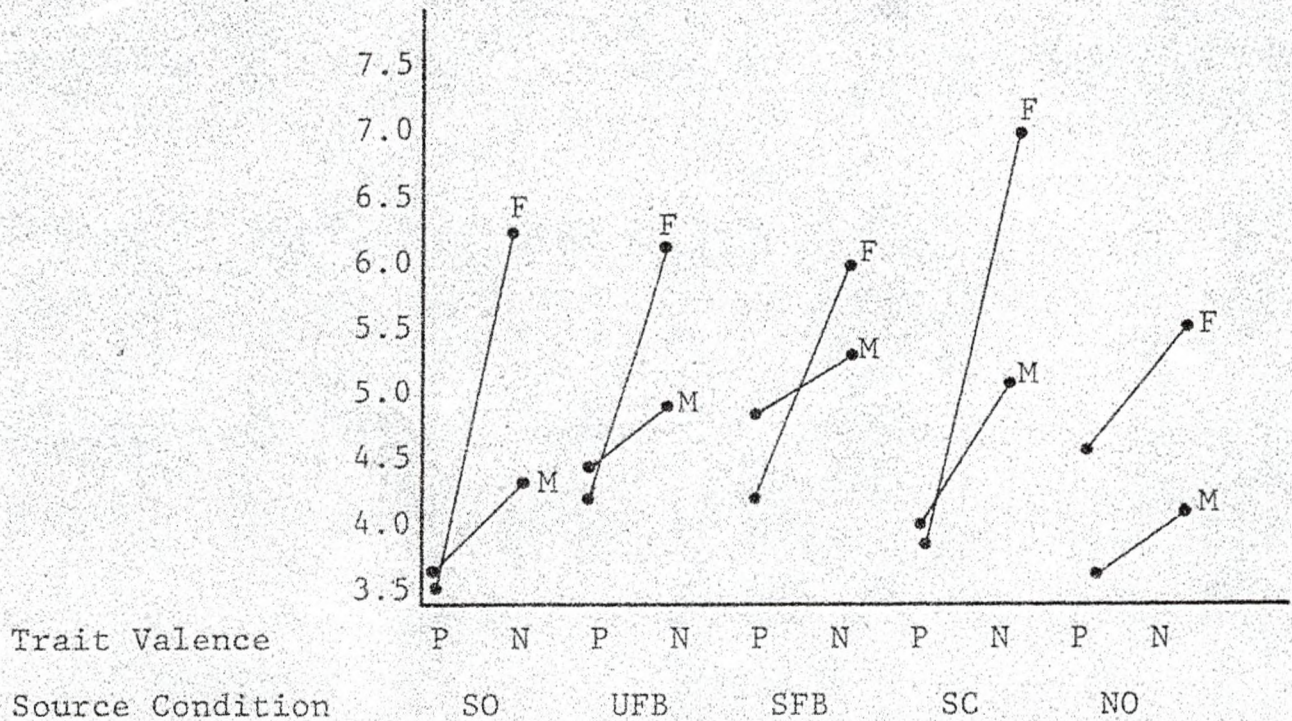
<sup>a</sup>Lower ratings are more "active."

The "potency" scale of the semantic differential also produced several significant effects; source of self-knowledge condition ( $F [1, 185] = 5.17, p < .0006$ ), trait valence ( $F [1, 185] = 87.76, p < .0001$ ), character sex ( $F$

[1, 186] = 28.77,  $p < .0001$ ), trait valence by character sex (F [1, 185] = 35.19,  $p < .0001$ ), trait valence by source condition (F [1, 185] = 7.10,  $p < .0001$ ) and trait valence by character sex by source condition (F [1, 185] = 6.40,  $p < .0001$ ) (see Figure 4).

FIGURE 4

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE  
CONDITION MEANS FOR RATINGS OF POTENCY



The following abbreviations were used: P = positive trait valence, N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

<sup>a</sup>Lower means are more "potent."

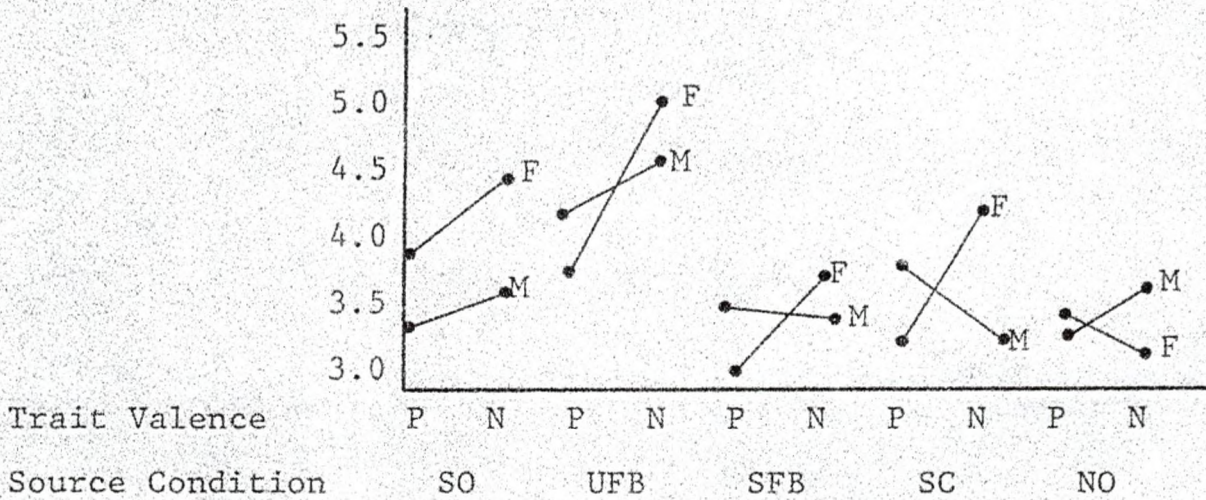
Post hoc analysis at the highest level of interaction indicates the effects of character sex and trait valence are due to the extremely poor "potency" rating given to females

learning negative traits. This is especially pronounced in the social comparison and the no ending groups. Other analyses showed that males learning positive traits in the self-observation condition are more potent than those in the solicited feedback condition. A very different set of differences was found when negative traits are learned; females in the no ending and solicited feedback conditions are more "potent" than those in the social comparison group while no groups are significantly different for male characters. There was also a non-significant trend for self-observation to be the most potent source of self-knowledge, including the no ending group, for males learning positive and negative traits and females learning positive traits.

Significant effects for the variable "curious" were found for trait valence ( $F [1, 185] = 8.45, p < .0041$ ), trait valence by character sex ( $F [1, 185] = 4.58, p < .0337$ ) and trait valence by character sex by source of self-knowledge condition ( $F [1, 185] = 2.56, p < .0402$ ) (see Figure 5). Analysis of the three-way interaction shows that trait valence has a significant effect on female characters in all but the no ending condition but is never significant for males. These female characters learning negative traits suffer the most in the self-observation and social comparison conditions, in which all other trait/sex combinations are more "curious," and in the unsolicited feedback condition in which positive trait learners are more "curious." In this unsolicited feedback condition males learning

FIGURE 5

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE  
CONDITION MEANS FOR RATINGS OF CURIOUS



The following abbreviations were used: P = positive trait valence, N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

<sup>a</sup>Lower means are more "curious."

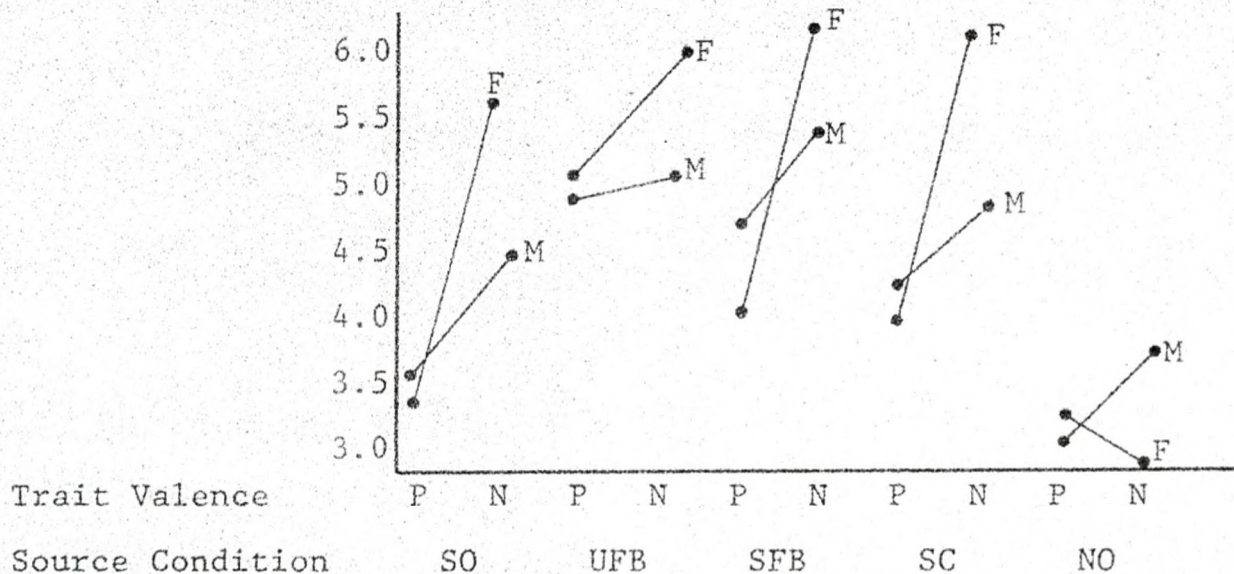
negative traits are also less curious than positive female learner groups. Differences among the ratings of the different sources of self-knowledge are also noted between the different trait and sex groups. Female characters learning positive traits are more "curious" in the solicited feedback than the self-observation group while the male characters are more "curious" in the self-observation than unsolicited feedback. A character sex difference is also apparent when negative traits are learned; for females the no ending group is more "curious" than self-observation, unsolicited feedback and social comparison, solicited feedback is also more "curious" than social comparison. However, for male

characters unsolicited feedback is less curious than all four of the other ending conditions.

Another variable producing numerous significant effects was the rating variable "has control over own life." These effects are as follows: Source of self-knowledge condition ( $F [1, 185] = 10.42, p < .0001$ ), trait valence ( $F [1, 185] = 57.41, p < .0001$ ), trait valence by source condition ( $F [1, 185] = 3.32, p < .0118$ ), trait valence by character sex ( $F [1, 183] = 11.92, p < .0007$ ) and trait valence by character sex by source condition ( $F [1, 185] = 2.47, p < .0461$ ). Conclusions regarding this variable from the post hoc tests, and as evident in Figure 6, suggest that trait valence had

FIGURE 6

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE CONDITION MEANS FOR RATINGS OF "CONTROLS OWN LIFE"



The following abbreviations were used: P = positive trait valence, N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

<sup>a</sup>Lower means are in more "control."

an effect in all male character groups except the unsolicited feedback group and all female groups except the no ending group. For positive-female characters the no ending group was in "more control" than both feedback groups and all groups were in "more control" than the unsolicited feedback group. A similar set of findings was noted for males learning positive traits; the no ending group is in more control than social comparison and both feedback groups, while self-observation is in more control than both feedback groups. For all characters learning negative traits the no ending group is in "more control" than all other groups. Additionally for the male group self-observation is in "more control than unsolicited feedback.

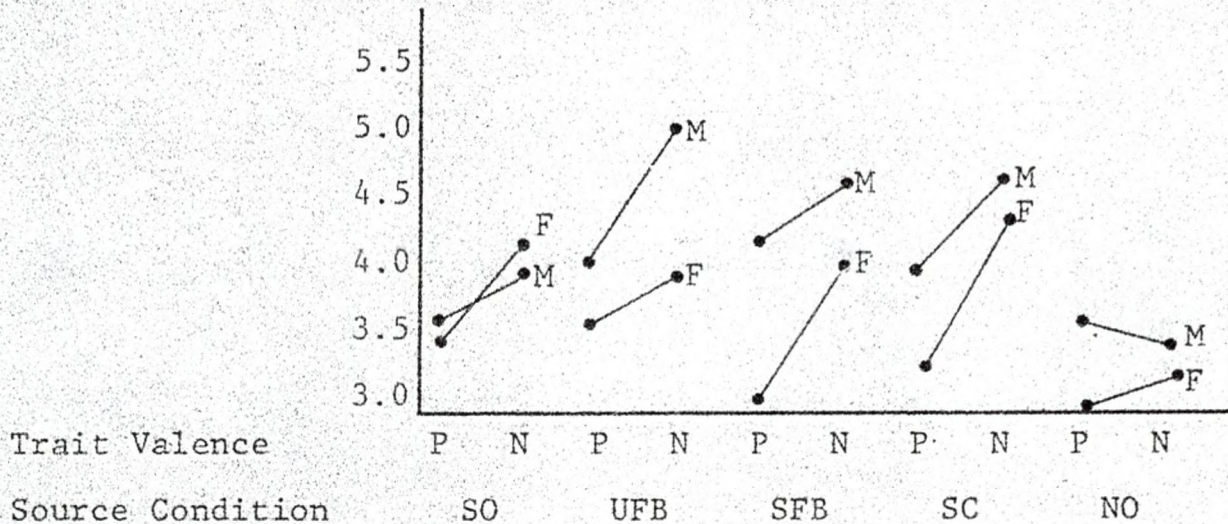
Results for the variable "intelligent" produced three significant effects, trait valence ( $F [1, 185] = 18.43$ ,  $p < .0001$ ), character sex ( $F [1, 185] = 17.18$ ,  $p < .0001$ ) and trait valence by character sex by source of self-knowledge condition ( $F [1, 185] = 2.70$ ,  $p < .0328$ ). Figure 7 illustrates the post-hoc results showing trait valence has a significant effect for all characters in the self-observation and social comparison conditions, for males in unsolicited feedback, and females in solicited feedback. For characters using positive traits no source of self-knowledge condition means were significantly different. When characters learned negative traits, the no ending condition was rated the most "intelligent" of all groups plus,



for males, all groups were more "intelligent" than those in the unsolicited feedback group.

FIGURE 7

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE CONDITION MEANS FOR RATINGS OF INTELLIGENT



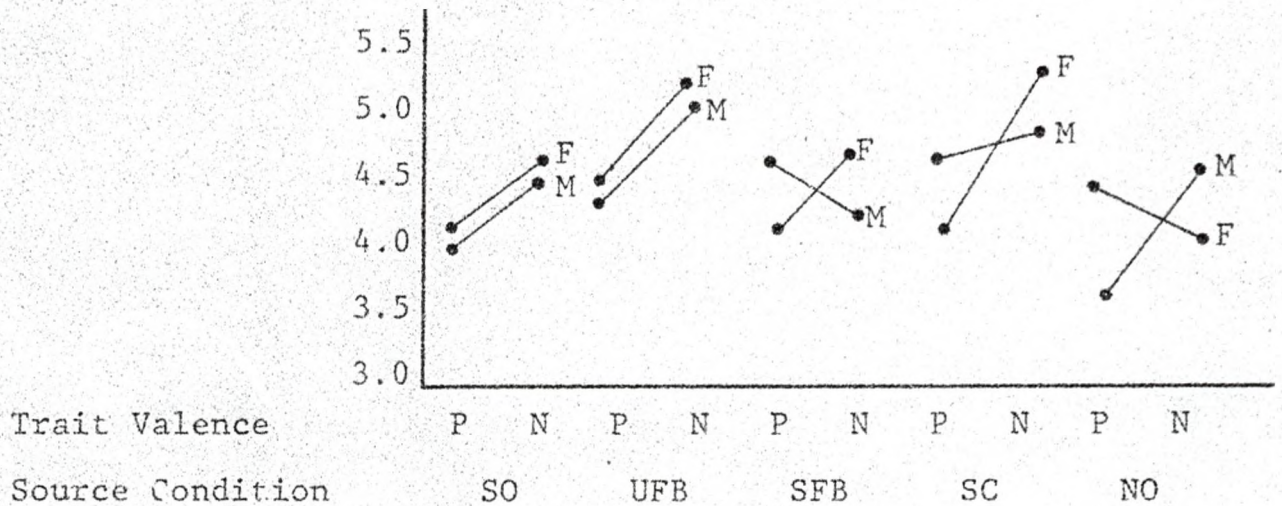
The following abbreviations were used: P = positive trait valence, N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

<sup>a</sup>Lower means are more "intelligent."

The last story rating variable is "popular" which has the following significant results: Source of self-knowledge condition ( $F [1, 186] = 2.52, p < .0425$ ), trait valence ( $F [1, 186] = 16.61, p < .001$ ), and trait valence by character sex by source of self-knowledge condition ( $F [1, 186] = 3.79, p < .0053$ ) (see Figure 8). Trait valence effects are present for both sexes in the self-observation and unsolicited feedback groups, for females using social comparison and for males in the no ending groups. Also it

FIGURE 8

TRAIT VALENCE BY CHARACTER SEX BY SOURCE OF SELF-KNOWLEDGE  
CONDITION MEANS FOR RATINGS OF POPULAR



The following abbreviations were used: P = positive trait valence N = negative trait valence, SO = self-observation, UFB = unsolicited feedback, SFB = solicited feedback, SC = social comparison, NO = no ending, M = males, F = females.

<sup>a</sup>Lower means are more "popular."

may be noted that two non-significant trends may exist, for males learning negative traits to be more "popular" than males learning positive traits in the solicited feedback group and for females learning negative traits to be more "popular" in the no ending group than females learning positive traits. Across the different sources of self-knowledge, females learning positive traits and males learning negative traits produce no significant differences. Males learning positive traits are more "popular" in the no ending group than social comparison and the feedback groups plus more popular in self-observation than social comparison.

Females learning negative traits are more "popular" in the no ending group than in all others.

### Summary

Having looked at the results of each dependent variable, the next task is to attempt to translate the above discussion of statistical significance to a format which will facilitate examination of global hypotheses such as "trait valence" and "source of self-knowledge condition" without losing the precision dictated by the frequent interaction of independent variables. Clearly, as Table 5 showed, trait valence produced the most widespread and consistent result. However, it would be incorrect to simply assume positive traits always produced lower, hence "better," mean ratings than negative traits. While such main effects were found for "similar," "accurate," "believable," "reliable" and "enjoy the person's company" the other variables produced various interactions. However when interactions with character sex are examined, it can be noted, in several instances, i.e., "potency," "activity," "admirable" and "emotionally healthy," the poor ratings of negative traits seemed due to the very poor ratings given female characters using negative traits while for "friendly," "likable," "nice," and "have for a friend" the poor ratings were due to the low ratings given male characters using negative traits.

Trait valence also produced numerous interactions with

source of self-knowledge condition. Examining these instances where trait valence differences failed to occur reveals the most frequent condition as the no ending group, i.e., for "admirable," "emotionally healthy," "popular," "intelligent," "curious"; for female characters "controls own life" and for males with "potent." Curiously the no ending group also produced the only "reverse" finding in which negative traits caused characters to be seen as "desiring to look better" than positive traits. Other source of self-knowledge conditions and the variables which did not produce significant results are listed below: 1) self-observation--potent and curious (both for males only); 2) unsolicited feedback--desires to look, for males only the variables potent, curious, and controls own life and for females only the variables intelligent and popular, 3) solicited feedback--admirable, for males only curious and intelligent, for females only the variable popular, 4) social comparison--desires to look good and for males only potent and curious.

The source of self-knowledge variable presents an equally complex picture as only two main effects are not subsequently qualified by higher order significant results. Thus, unsolicited feedback users are "less enjoyable company" than self-observers and comparers and less "similar" than all other characters. Results of source condition by trait valence are summarized in Table 16 and in Table 17 and 18 for source by trait valence by character sex.

Due to the large number of interactions involving

TABLE 16  
 MEAN RANK ORDER FOR SIGNIFICANT TRAIT VALENCE BY  
 SOURCE OF SELF-KNOWLEDGE INTERACTIONS

Variable Name	Positive Traits				
	Lowest Mean <sup>a</sup>				Highest Mean
Admirable	<u>SO</u> <sup>b</sup>	<u>NO</u>	UFB	SC	SFB
Desires to Look Good	<u>SO</u>	SC	<u>UFB</u>	<u>SFB</u>	NO
Emotionally Healthy	<u>NO</u>	SO	SFB	SC	UFB
	Negative Traits				
Admirable	<u>NO</u>	<u>SO</u>	<u>SFB</u>	<u>UFB</u>	SC
Desires to Look Good	<u>SO</u>	<u>NO</u>	SFB	SC	UFB
Emotionally Healthy	<u>NO</u>	<u>SO</u>	SC	SFB	UFB

<sup>a</sup>Lowest means are most like variable, i.e., most admirable, etc.

<sup>b</sup>The following abbreviations were used:

- SO = self-observation
- UFB = unsolicited feedback
- SFB = solicited feedback
- SC = social comparison
- NO = no ending condition

Note. Underlined sources are not significantly different.

TABLE 17  
 MEAN RANK ORDER FOR SIGNIFICANT TRAIT VALENCE BY CHARACTER  
 SEX BY SOURCE OF SELF-KNOWLEDGE CONDITION  
 INTERACTIONS FOR MALE CHARACTERS

Variable Name	Positive Traits				
	Lowest Mean <sup>a</sup>				Highest Mean
Potent	<u>SO</u> <sup>b</sup>	<u>NO</u>	<u>SC</u>	<u>UFB</u>	SFB
Active	<u>SO</u>	<u>SC</u>	<u>NO</u>	<u>UFB</u>	SFB
Popular	<u>NO</u>	<u>SO</u>	<u>UFB</u>	<u>SFB</u>	SC
Has Control Over Own Life	<u>NO</u>	<u>SO</u>	<u>SC</u>	<u>SFB</u>	<u>UFB</u>
Curious	<u>SO</u>	<u>NO</u>	<u>SFB</u>	<u>SC</u>	<u>UFB</u>
Intelligent	<u>SO</u>	<u>NO</u>	<u>UFB</u>	<u>SC</u>	<u>SFB</u>

Variable Name	Negative Traits				
Potent	<u>NO</u>	<u>SFB</u>	<u>UFB</u>	<u>SO</u>	<u>SC</u>
Active	<u>NO</u>	<u>SO</u>	<u>UFB</u>	<u>SFB</u>	<u>SC</u>
Popular	<u>SFB</u>	<u>NO</u>	<u>SO</u>	<u>SC</u>	<u>UFB</u>
Has Control Over Own Life	<u>NO</u>	<u>SO</u>	<u>SC</u>	<u>UFB</u>	<u>SFB</u>
Curious	<u>SC</u>	<u>SO</u>	<u>SFB</u>	<u>NO</u>	<u>UFB</u>
Intelligent	<u>NO</u>	<u>SO</u>	<u>SFB</u>	<u>SC</u>	<u>UFB</u>

<sup>a</sup>Lowest Means are most like variable name, i.e. most potent, etc.

<sup>b</sup>The following abbreviations were used:

- SO = self-observation
- UFB = unsolicited feedback
- SFB = solicited feedback
- SC = social comparison
- NO = no ending condition

Note. Underlined sources are not significantly different.

TABLE 18

MEAN RANK ORDER FOR SIGNIFICANT TRAIT VALENCE BY CHARACTER  
SEX BY SOURCE OF SELF-KNOWLEDGE CONDITION  
INTERACTIONS FOR FEMALE CHARACTERS

Variable Name	Positive Traits				
	Lowest Mean <sup>a</sup>				Highest Mean
Potent	<u>SO</u>	SC	UFB	SFB	<u>NO</u>
Active	<u>SO</u>	SC	<u>NO</u>	UFB	SFB
Popular	<u>SO</u>	SFB	SC	<u>NO</u>	UFB
Has Control Over Own Life	<u>NO</u>	<u>SO</u>	<u>SC</u>	<u>SFB</u>	<u>UFB</u>
Curious	<u>SFB</u>	<u>SC</u>	<u>NO</u>	<u>UFB</u>	<u>SO</u>
Intelligent	<u>NO</u>	SFB	SC	SO	UFB
	Negative Traits				
Potent	<u>NO</u>	SFB	<u>UFB</u>	<u>SO</u>	SC
Active	<u>NO</u>	<u>UFB</u>	SO	<u>SFB</u>	SC
Popular	<u>NO</u>	SFB	SO	<u>UFB</u>	SC
Has Control Over Own Life	<u>NO</u>	<u>SO</u>	SC	<u>UFB</u>	SFB
Curious	<u>NO</u>	SFB	<u>SC</u>	<u>SO</u>	<u>UFB</u>
Intelligent	<u>NO</u>	<u>SO</u>	SFB	SC	UFB

<sup>a</sup>Lowest means are most like variable name, i.e., most potent, etc.

<sup>b</sup>The following abbreviations were used:

- SO = self-observation
- UFB = unsolicited feedback
- SFB = solicited feedback
- SC = social comparison
- NO = no ending condition

Note. Underlined sources are not significantly different.

character sex, this variable is also difficult to summarize. There is only one main effect for character sex which is not qualified by interactions, females "desire to look better" than males. In several cases, i.e., "friendly," "nice," "likable," and "have for a friend," the character sex effects seem to be due to very harsh ratings given to male characters who learn negative traits. With a few other variables females learning negative traits in some of the source of self-knowledge conditions produce the "main effect." These cases show trait effects for social comparison and self observation for "curious," "intelligent," "potent," "popular," and "active"; for unsolicited feedback with "potent," "curious" and "active"; solicited feedback with "intelligent" and "active" and the no ending condition with "potent."

Perhaps the simplest variable to summarize is subject sex. Female subjects tended to rate all subjects as "nicer," more "likable" and more the type of person whose company they would "enjoy" than did male subjects. With the interactions involving subject sex it was found that with positive traits female subjects rated female characters as the least "active" and with negative traits each subject sex rates similarly sexed characters the least "active."

#### Results of the Ranking Variables

The second major set of variables in this study was a set of ranking variables similar to those used by Schoeneman (1981) and Nash and Schoeneman (Note 1).



The ANOVA procedure was used to determine if the ranking variables computed for the 4 traits used in the stories produced different results than for the 6 other traits used in the ranking procedure. It was also, of course, possible to examine the data for sex and trait valence effects.

No condition or subject sex main effects or interactions reached significance. The only significant effects are for comparison of experimental vs. nonexperimental (i.e., group of 4 traits vs. group of 6 traits) for mean rank of self-observation ( $F [1, 183] = 12.50, p < .0005$ ), feedback ( $F [1, 185] = 6.38, p < .0124$ ), and for the number of times "not applicable" was used for self-observation ( $F [1, 183] = 5.54, p < .0196$ ), and feedback ( $F [1, 187] = 7.12, p < .0083$ ) (see Table 19).

These results seem to indicate that use of the 4 experimental words made all subjects 1) interpret self-observation better apparently at the expense of feedback and 2) rate self-observation and feedback as more inappropriate ways to learn things about themselves.

#### Results of the Personality Scales

The last section of results to be examined involves the 4 personality scales. Each of these scales was used as a grouping variable and ANOVA's were computed for personality scales by source of self-knowledge condition and for personality scale by subject sex. The group varia-

bles used were students high and low on each scale as determined by median splits (see Table 20).

TABLE 19  
MEANS FOR RANKING VARIABLES

Group	Variables	Source of Self-Knowledge		
		Self-Observation	Feedback	Social Comparison
Set of 4 Traits	Mean Ranks	1.61	2.08	2.18
	Rating of Not Applicable	0.53	0.64	0.63
Set of 6 Traits	Mean Ranks	1.76	1.97	2.22
	Rating of Not Applicable	0.39	0.49	0.56
All 10 Traits	Mean Ranks	1.69	2.03	2.20
	Rating of Not Applicable	0.46	0.56	0.60

#### Self-Consciousness Scale

The self-consciousness scale is composed of three subscales, each of which was examined separately. The average score on the Private Self-Consciousness Scale was 23.54 with a median value of 24. No main effects, i.e., "condition," "subject sex," "character sex," "trait valence," or "private self-consciousness," were significant for any of the ranking and rating variables. The only interaction to reach significance was for "private self-consciousness" by "source condition" for the potency scale ( $F [4, 186] = 2.54$ ,

TABLE 20

MEDIANS, MEANS AND STANDARD DEVIATIONS FOR  
THE PERSONALITY QUESTIONNAIRES

Scale Name	Mean	Standard Deviation	Median
Private Self-Consciousness <sup>a</sup>	23.57	4.69	24
Public Self-Consciousness <sup>a</sup>	19.57	4.72	20
Social Anxiety <sup>a</sup>	13.22	4.73	13
State Anxiety <sup>b</sup>	37.64	10.47	37
Trait Anxiety <sup>b</sup>	39.79	9.45	39
Social Desirability Scale	14.74	5.86	15
Self-Monitoring Scale	12.16	4.03	12

<sup>a</sup>These scales compose the Self-Consciousness Scale.

<sup>b</sup>These scales compose the Spielberger State-Trait Anxiety Inventory.

$p < .0413$ ). Post hoc analysis indicates that for low private subjects the characters in the no ending and self-observation conditions are more potent than comparison and solicited feedback, unsolicited feedback users are more potent than solicited feedback users, while no differences were found for subjects high in private self-consciousness. It was also noted that the low trait subjects rate self-observation more potent than high subjects while high subjects rate solicited feedback as more potent than low trait subjects.

For the Public Self-Consciousness scale, with a mean of

19.57 and a median of 20, only one significant difference was found. High public subjects rate characters as desiring to look better than do their lower counterparts ( $F [1, 180] = 5.88, p < .0163$ ).

The third measure of the Self-Consciousness Scale is social anxiety which had a mean of 13.22 and a median of 13. Social anxiety produced two significant interactions with source of self-knowledge condition: the evaluative ( $F [4, 186] = 2.57, p < .0338$ ) and potency scale of the semantic differential ( $F [4, 186] = 2.87, p < .0243$ ).

Post hoc analysis indicates that low social anxiety scorers report self-observers as better people and comparers as worse people while subjects in the high social anxiety group report reverse tendencies.

Results of the potency scale show that low social anxiety subjects rate self-observers and receivers of unsolicited feedback as more potent and receivers of solicited feedback as less potent while high social anxiety subjects report the opposite pattern.

A second set of two-way interactions was produced between trait valence and the Social Anxiety Scale for the following variables: Likable ( $F [1, 182] = 6.93, p < .0092$ ), nice ( $F [1, 182] = 3.95, p < .0483$ ), popular ( $F [1, 180] = 5.38, p < .0215$ ), enjoy the person's company ( $F [1, 180] = 9.74, p < .0020$ ), have for a friend ( $F [1, 180] = 9.09, p < .0029$ ), emotionally healthy ( $F [1, 180] = 6.13, p < .0142$ ) and in control of own life ( $F [1, 180] = 4.59, p < .0335$ ).

Post hoc analysis of these interactions suggests that high social anxiety subjects rate learners using both positive and negative traits to be more likable, nice, popular, enjoyable, emotionally healthy and in control than low social anxiety scorers rate users of negative traits. High and low social anxiety subjects also see positive traits differently. High subjects see positive trait users as more the type of person to have for a friend and as less emotionally healthy and less in control while low social anxiety subjects would not have them for a friend yet see them as healthier and more in control.

Two significant three-way interactions were found between trait valence, character sex and social anxiety. For the variables popular ( $F [1, 180] = 7.18, p < .0081$ ) and curious ( $F [1, 180] = 5.09, p < .0252$ ), post hoc tests indicate that low social anxiety subjects see the positive trait female characters group as more popular and curious than high social anxiety subjects.

In addition the low group sees negative males as more curious than the high group. Significant differences are also made between the different characters by the low social anxiety group. They see negative females as less popular and curious than positive males and females and also see negative males as less popular than positive females.

#### State-Trait Anxiety Scale

The results of this scale produced a state anxiety mean

of 37.64 and median of 37 and a trait scale mean of 39.79 and median of 39. These analyses produced only a few significant effects for the state scale and none for the trait measure.

One main effect for state anxiety was found for the variable admirable-not admirable,  $F(1, 182) = 9.12, p < .0029$ . The direction of this effect was such that low state anxiety subjects rate story characters as more admirable than high anxiety subjects. The only other significant results for state anxiety are for two interactions with subject sex: For the variables admirable ( $F[1, 188] = 4.04, p < .0460$ ) and for desire to look good ( $F[1, 186] = 6.39, p < .0123$ ). These results suggest female subjects low in state anxiety see characters as more admirable and desiring to look good than highly anxious females while low anxiety males report characters as more admirable than high anxiety female subjects.

#### Social Desirability Scale

For subjects in the present study a mean of 14.74 and median of 15 was obtained. Analysis of this personality characteristic produced one significant main effect for the variable "curious-not curious" ( $F[1, 186] = 6.44, p < .0120$ ) and no interactions with source of self-knowledge, subject sex or any of the other variables. The direction of the finding reported above suggests that high social desira-

bility subjects see characters as less curious than do their low social desirability counterparts.

### Self-Monitoring Scale

The self-Monitoring Scale produced a mean of 12.16 and a median of 12. This scale produced no main effects but several significant two- and three-way interactions.

Self-monitoring by source condition produced one significant effect for curious-not curious,  $F(4, 180) = 2.45$ ,  $p < .0479$ . This result is such that it suggests low self-monitors view self-observation users as more curious and unsolicited feedback users less curious than do high self-monitors. Additionally it indicates low self-monitors view the self-observation user as more curious than the unsolicited feedback user. The high self-monitors view the no source user as more curious than all but the unsolicited feedback group.

Self-monitoring by trait valence was significant for the variable, has control over own life,  $F(1, 180) = 4.00$ ,  $p < .0479$ . The direction of these results suggest that negative trait learners are seen as having less control than those using positive traits by both high and low self-monitors. The high self-monitors also see negative trait users as having less control than the low group.

One interaction was also produced with subject sex for admirable-not admirable,  $F(1, 188) = 4.25$ ,  $p < .0406$ . This

suggests female high self-monitors view characters as less admirable than do either high or low male subjects.

The final set of results are three three-way interactions, for the activity scale of the semantic differential for trait valence by character sex by self-monitoring ( $F [1, 192] = 8.75, p < .0035$ ), character sex by subject sex by self-monitoring ( $F [1, 192] = 5.60, p < .0190$ ), and trait valence by subject sex by self-monitoring ( $F [1, 192] = 4.36, p < .0380$ ).

Post hoc analysis of the interaction with trait and character sex reveals that both low and high self-monitors view female characters learning a negative trait as the least active group. The high self-monitors report that negative-female and positive-male are less active, positive females are more active than the low self-monitors group. For the interaction with character and subject sex the data suggest female low self-monitoring subjects report female characters as less active than high female subjects. Both low male and female subjects report the opposite sex as more active than do high subjects. In the final interaction with "trait valence" and "subject sex" low self-monitoring male subjects see negative traits as more active while low female subjects see positive traits as more active, than do their high counterparts. Low female subjects also see negative traits as less active than high females.

#### Summary

To briefly review the effects of the personality



questionnaires, it was found that only two scales, State Anxiety and Social Anxiety, produced interpretable results. State Anxiety results suggest that both male and female low anxiety subjects report characters as more "admirable" than high anxiety subjects. The results of the other scale producing significant interpretable results, social anxiety, suggests that low social anxiety subjects tended to report self-observers as better and more potent people. A set of interactions with trait valence suggested that high social anxiety subjects see positive and negative trait users in a better light than low social anxiety subjects see negative trait learners.

## CHAPTER V

### DISCUSSION

Three aspects of this study's findings are considered below. The first deals with the ranking variables which are similar to those used by Schoeneman (1981) and Nash and Schoeneman (Note 1). These data served as a replication and point of comparison between the present and earlier studies of the reports of the sources of self-knowledge. The second part considers the data of primary importance to this study; that generated by the subjects' ratings of the story characters. The final area of discussion is a look at the results of the personality questionnaires. During each of these independent discussions, the predictions from Chapter II and the results from Chapter IV are frequently summarized and briefly reviewed.

#### The Ranking Variables

Briefly restated, the rationale for including a set of ranking variables similar to those used by Schoeneman (1981) and Nash and Schoeneman (Note 1) was twofold. First of all it allowed for some comparison between this study and the earlier ones. Secondly it allowed for an experimental manipulation to see if the source of self-knowledge

conditions would affect the ranking of either the 4 adjectives used in the experimental stories or the 6 adjectives subjects were not exposed to during the story rating part of this study.

The main finding of the ranking variables is a replication of the mean rank results reported by Schoeneman (1981) and Nash and Schoeneman (Note 1). The mean ranks, for self-observation/feedback/social comparison, of 1.61/2.08/2.18 for the 4 adjective set and 1.76/1.97/2.22 for the remaining 6 adjectives are quite similar to figures reported by Schoeneman (1981) 1.60/2.0/2.3 and Nash and Schoeneman (Note 1) 1.58/1.97/2.33. In this study, just as in all previous ones, the mean ranks fall into non-overlapping ranges such that self-observation is ranked as the most preferred source, social comparison the least preferred and feedback is in the middle position.

Such a close replication of earlier results was not obtained with the "not applicable" rating used in the ranking procedure. The average ratings of "not applicable," for self-observation/feedback/social comparison, for the 4 traits were .53/.64/.63, for the 6 traits .39/.49/.56 while Schoeneman (1981) reported mean ranks of .2/.7/.7 and Nash and Schoeneman (Note 1) reported .07/.33/.50. The main difference seems to be a more frequent use of the "not applicable" rating for self-observation in the present study.

One possible explanation for this difference in

subjects' use of the not applicable rating involves a methodological difference between the present and earlier studies. In this study subjects were given the ranking items with the adjective already in place. Schoeneman (1981) and Nash and Schoeneman (Note 1) both used a random number procedure to select adjectives from a completed Adjective Checklist (Gough & Heilbrun 1965) which subjects then inserted into the ranking sentence stem. Thus, the current subjects ranked a set of adjectives which may or may not have been appropriate for them while subjects in the previous studies ranked adjectives they had earlier indicated as being self-descriptors. In this case then it is likely that it is the adjectives themselves which are "not applicable" and not the sources of self-knowledge.

It is encouraging that, overall, these ranking results so closely replicate the results of Schoeneman (1981) and Nash and Schoeneman (Note 1). This additional replication underscores both the robustness and reliability of the reports of the sources of self-knowledge phenomenon first noted by Schoeneman by showing that his typically urbanized eastern subjects and two temporally separated groups of rural midwestern subjects all produce similar results. This replication is also important to the current investigation.

Had the ranking variables failed to replicate Schoeneman's earlier work it would have been very difficult to interpret any of the other portions of this study. By no

means does the replication allow the results of the self-projection hypothesis to be freely (and inappropriately) generalized to other populations. However, it does indicate that the present group of subjects reports the sources of self-knowledge in a manner consistent with the other reported studies.

The second reason the ranking data were included was to see if subject sex, source of self-knowledge condition or the number of traits (i.e., 4 vs. 6) produced any significant differences. In Chapter IV it was noted that the only significant results were four main effects for the variable "number of traits." These results show that in comparison to the 6-adjective group the 4-adjective group ranked self-observation lowest hence a better source, feedback higher hence a worse source, while both self-observation and feedback are rated "not applicable" more often.

One possible explanation for these four effects is that the four adjectives used in the stories are less desirable and/or less representative of traits possessed by student subjects. Unknown to the author while this study was being designed, the adjectives chosen for use in the other 6 ranking items were included in Anderson's (1968) table of likableness ratings. Examination of these likableness ratings showed that the average rating for the experimental words was 299 while the other 6 adjectives had an average score of 411 (within a range of 26 to 573 where higher equals more "likability"). This might make the subjects

more likely to disavow having these 4 less "likable" traits an outcome which may be reflected in the more frequent use of "not applicable" while those who do want to learn about the trait prefer the more private mode of self-observation. Currently such a hypothesis is only speculative and no definitive statement can be made regarding these data since the meaningfulness discrepancy was confounded by prior exposure to some words and none to others. The hypothesis that different sources of self-knowledge are preferable when learning about different traits is an attractive and plausible one; however, additional research is the only method to determine the validity of such a hypothesis.

For completeness sake it also should be noted that, given the large number of analyses done and small number of significant effects found, it is possible that these effects are chance occurrences. Once again, additional research is the only method to document the nature, including the reliability, of these findings.

#### The Story Rating Variables

Of all the predictions made in the course of this investigation, those concerning the self-projection hypothesis are the most important. Due to the repeated measures design of the story rating task it was possible to examine several other independent variables in addition to looking at the effects of different source of self-knowledge conditions. The present section covers all of these variables

beginning with the effects of trait valence, the ratings of the sources and finally the effects of subject and character sex.

### Trait Valence Hypotheses

Though the effects of trait valence are not the primary issues of importance in this project, it seemed reasonable to examine them before going on to the self-projection hypotheses. This decision was based not only on this variable's large number of significant results and numerous interactions but because an examination of trait valence will also facilitate an understanding of other hypotheses and results in this study.

The results of trait valence indicate that, whenever this dimension produces significant results, learners of positive traits are rated more toward the positive end of the item pair. Even though the significant results of this variable are often isolated to a specific sex or source of self-knowledge condition, the finding that negative traits consistently, i.e., only one exception, produce more "negative" ratings gives strong support to the notion that personality judgments may be organized schematically (Taylor & Crocker 1981). Although there are no empirical data on this point, it seems quite unlikely that a relationship actually exists between the learning of bad traits and low intelligence and any of the other 17 undesirable traits. However, the schematic organization hypothesis can account

for such a finding. Many studies were cited earlier which suggest that a connotative or semantic similarity between events is often used as a basis for perceiving a correlation to exist between them. The subjects in this study seem to have fallen prey to the appealing yet incorrect belief that good goes with good and bad with bad.

Earlier it was mentioned that it was important to examine the trait valence data before going on to other data. Although the data do not address the issue of whether or not the sources of self-knowledge are represented schematically, they do offer support for the position that subjects' ratings of story characters may be influenced by schematically organized information. A second implication is that the positive and negative trait groups may have an empirical distinction between them; this notion is clearly supported by the numerous interactions of trait valence with other independent variables.

#### The Self-Projection Hypothesis

Before the discussion of the self-projection hypothesis two reminders are in order. First, it should be recalled that in this portion of the experimental task although subjects were called on to rate story characters who learn about themselves via the different sources of self-knowledge, it is assumed that they are actually making decisions based on a schematic-like representation of the source of self-knowledge used by that character. Secondly, to briefly



restate the self-projection predictions, it was expected that users of self-observation would be seen in the most positive manner, users of social comparison in the least positive, ratings of users of unsolicited feedback would vary with trait valence (the compliment or insult), while those for solicited feedback and the no source of self-knowledge ending would produce more neutral or "middle of the road" evaluations relative to the other sources.

The source of self-knowledge condition analyses produced mixed support for the predictions mentioned above; self-observation, solicited feedback and social comparison most closely followed these predictions while unsolicited feedback and the no source condition did not. A second point that must be considered is that subjects' ratings of the different sources are much more complex in terms of interacting with trait valence and character sex than predicted.

Based on the reports given by subjects of this study, users of self-observation seem to often be rated differently than users of other sources. As the data summarized in Chapter IV in Tables 16, 17, and 18 illustrate, the self-observation bias generally involves favorable ratings. Indeed, in only one case, i.e., positive female characters using unsolicited feedback are more "curious" than self-observers, is this source rated inferior to another source. In the remaining cases it is either better than or equal to the other sources. This is very strong support for the

hypothesis that subjects' preference for self-observation (Schoeneman 1981; Nash & Schoeneman Note 1; Schoeneman, Tabor & Nash Note 2) is due to an implicit bias. The item pairs which reached significance plus trait and character sex restrictions where applicable suggest some characteristics of this bias. For both character sexes this bias seems to tap social approval features, being "enjoyable," "similar," "admirable," and "desiring to look good." A second set is more character sex specific and typically involves males learning both positive and negative traits but only females learning positive traits. This set seems similar to locus of control and involves being more "active," "potent," "in control," and "curious" than sources such as social comparison or the feedback conditions.

Social comparison was reported, as predicted, as a relatively unfavorable method of learning about the self. It would be incorrect, however, to characterize social comparison as the least favorable of all the sources on all rating scales. Overall it is the least "admirable" source when negative traits are learned. The three-way interactions (trait by character sex by source condition) show that, generally, with negative traits it is less "curious," "potent," "active," and "in control" than the feedback groups while with positive traits it is more "active" than the feedback groups. This outcome contradicts the prediction that social comparison users would suffer less from negative traits because it is a private source. One

possible explanation for the preference of feedback over comparing when learning negative traits may be that it seems to take more strength of character to solicit feedback in negative circumstances. Thus feedback's use involves what some consider to be open and healthy self-disclosure (Jourard 1971) while comparison may seem to have a component of purposeful secretiveness. All such speculation aside, this finding does indicate that, for some reason, comparison is reported to be particularly inappropriate when learning about undesirable traits.

Thus, the most frequent result was that comparison served as a negative anchor. That is to say other sources were typically rated better relative to it. Indeed, comparison was never reported in a manner suggesting that it was preferable to self-observation and only twice was it preferable to solicited feedback or the no ending group. Such findings are consistent with the self-projection prediction that social comparison is the least often reported source of self-knowledge (Schoeneman 1981; Nash & Schoeneman Note 1) due to people's perception of it as an inferior method of self-validation.

It is more difficult to evaluate the predictions made regarding solicited feedback. Recall that this source was expected to receive a "middle of the road" rating. The most noticeable trend with this variable is for male characters who use it to be seen as less "active" and "in control" regardless of trait valence, less "potent" and "popular".

with positive traits and less "intelligent" with negative traits. Female users are less "active" and more "curious" regardless of trait valence, more "in control" with positive ones and more "potent" with negative ones. Thus, data suggest the predictions of an intermediate ranking are more correct for female than male characters.

The remaining source of self-knowledge conditions, unsolicited feedback and the no source ending, produced results which differed substantially from the predictions. It had been predicted that with positive traits unsolicited feedback would be rated favorably as a compliment and with negative traits rated less favorably as an insult. However, unsolicited feedback was consistently reported as a poor way to learn about the self. In no instance was it reported as superior to self-observation, the no source condition or solicited feedback. An interpretation more in keeping with the data might be that, as a hapless recipient of information, the social situation seemed out of the character's control. This perceived loss of control then may have resulted in a very poor evaluation of these characters by the subjects.

The results of the no source condition also deviated in a rather surprising manner from the predictions made about it. Not only did this condition fail to produce neutral ratings, in most cases it resulted in the best character evaluations. This is especially true for female characters learning negative traits. Since subjects most

favorably endorse characters who learn nothing about themselves, i.e., those who use none of the sources of self-knowledge, the question "Is it better to not learn anything about yourself?" is raised.

The data certainly seem to suggest that, based on self-projection features, not only can subjects differentiate between various methods of learning about themselves, but that they might prefer to just not learn. Alternatively it may be that subjects simply assume that characters are already in possession of self-knowledge and thus seem more self-reliant, potent and secure. These presumed characteristics would almost certainly produce very favorable ratings much like the ones found in this study. Regardless of which interpretation of this data is accepted, it brings up an interesting point: it is better not to be actively involved in the self-validation process. The data do not address whether this is because an individual does not want to learn anything or simply prefers to think that information about him or herself is already possessed. Should the latter account be correct a double standard is suggested; there is more approval for having knowledge about the self than for any of the methods of obtaining this knowledge.

To briefly reiterate the predictions and questions associated with the two sex variables it may be recalled that evidence supporting a male preference for social comparison was expected. Since no predictions other than this

one were made, the sex variables also constitute an exploratory phase of this study.

Subject sex analyses reveal that women subjects reported story characters as "nicer," more "likable" and "more as someone with whom they would associate" than did male subjects. Since subject sex failed to produce any significant interactions with the source of self-knowledge condition, no support for the notion that men report social comparison more favorably than women can be reported.

The analysis of character sex data showed only one main effect, i.e., women are rated more as "desiring to look good," that was not subsequently influenced by interactions. Other character sex effects are more complex. One pattern suggests males learning negative traits cause the significant effects while another pattern involves females learning negative traits in specific source of self-knowledge conditions.

The first pattern, composed of the rating variables "friendly," "likable," "nice" and "have for a friend," seem to tap elements of interpersonal attraction. With this set of variables males learning negative traits are reported to be less attractive, i.e., less "friendly," less "likable," etc., than males who learn positive traits or women who learn either positive or negative traits. These interaction data seem to suggest that in terms of interpersonal attraction women are not affected by trait valence while men suffer significantly from association with negative traits.

The second pattern, which is more complex than the first, involves variables which seem to make up more of a "personal effectiveness" component involving variables such as "curious," "intelligent," "potent," "active" and "popular." On all five of these variables, the character sex effects are due to the very negative ratings given to women characters learning negative traits in, primarily, the social comparison and self-observation conditions. The variables "curious," "potent," and "active" also produce a character sex effect for unsolicited feedback, "intelligent" and "active" for solicited feedback, while only "potent" was significant in the no ending group. One hypothesis regarding these data is that women are both more adversely affected by learning negative traits than men in terms of "personal effectiveness" and affected more in internal, private modes of self-validation such as self-observation and social comparison.

The findings that association with negative traits leads to lower ratings for men on "interpersonal attraction" variables and lower ratings for women on "personal effectiveness" variables is especially interesting in light of the "traditional sex stereotypes." For example, Deaux (1976) reports that men are typically seen as independent, competitive, objective, dominant, active, logical, ambitious, self-confident as well as less emotionally responsive. Similarly Heath and Gurwitz (Note 7) report men as

independent, aggressive, competitive, strong, logical, competent and unemotional.

The set of traits involved in the interactions having to do with interpersonal attraction seems to be more in line with a traditional female stereotype. This is quite interesting because the use of positive traits does not affect male characters and, indeed, they are not significantly different from the ratings of the females. The learning of negative traits results in a significant and substantial decrement in males' ratings of attractiveness. Overall the lack of differentiation of women characters by trait valence suggests that women are rated high on the interpersonal attraction dimension (composed of stereotypically female attributes) regardless of trait valence. By way of contrast the trait variable is very important for male characters and suggests that when males are judged on traditionally female traits it is done more critically, though not necessarily more accurately, and situational factors are given more weight.

A somewhat similar interpretation emerges from the second pattern showing women characters suffer from association with negative traits on traditionally male traits. These data suggest that while negative traits somewhat affect both sexes, women are still significantly affected to a greater degree and more often than men.

To summarize, it seems that each sex's association with negative traits results in harsher character ratings on



items traditionally thought to be representative of the opposite sex. One possible account for this is that when judging, for example, women on "women's traits," trait valence information is not used because of our schemas of women which allow us to rate them favorable on the traditionally "women's traits." For example we all "know" that women are "nice" so we can discount the fact that she is learning a negative (not "nice") trait because it is not really true since "we know how women really are." However, when judging a man on the "women's traits" people may not be able to recall appropriate schemas with which to make decisions and may then use the "trait valence" data as the judgmental criteria. Even if a schema can be recalled, it would violate the traditional sex role (a sensitive man or an aggressive woman). This might cause people to disregard the schema as being "in error" and thus trait valence data is consulted in making the judgment. This latter hypothesis seems somewhat unlikely since, as presented earlier, research suggests people are very poor at detecting schemas that are "in error." These two hypotheses would be interesting ones to investigate in future research.

Several other points in regard to the "character sex" data are also important. First of all, it can be noted that the character sex ratings are in agreement with the stereotype literature such as reported by Deaux (1976) and Heath and Gurwitz (Note 7). The only possible disagreement involves the current findings noted above which suggest that

character sex is not a simple effect but interacts with other variables.

A second point worth noting is that there was an overlap between the way women story characters were rated and the way women subjects tended to respond. This overlap involved the variables "likable" and "have for a friend." It would be an inappropriate overgeneralization (especially in the context of a study investigating implicit and erroneous personality judgments) to conclude that this data suggest that women are actually more "likable" and preferable to "have for a friend" even though this interpretation has a certain common sense validity to it.

A more parsimonious interpretation is that the women subjects were aware of the "traditional" women's stereotype and for some reason their ratings conformed to it. Such a hypothesis has been demonstrated by Zanna and Pack (1975) who found that women could conform to stereotypes held by desirable others. Whether or not the women subjects in the present study perceived psychological research as having positive or negative demand characteristics is an empirical question beyond the scope of this study.

At this point all the main effects and interactions of the story character rating study have been presented. The final aspect of the story rating study was the data produced by the ratings of the accuracy, believability and reliability of the sources of self-knowledge. The predictions that these variables would parallel character rating were

not supported; indeed, the only significant effects to be found were main effects for trait valence on all three ratings. Thus, all sources are more accurate, believable and reliable when learning about good traits.

Putting aside intuitive or common sense interpretations the real importance of these data is why trait valence reached significance in the absence of any other main effects or interactions. In light of the demonstration that personality judgments of characters are influenced by schematic-like properties of the different sources, it is very surprising that the ratings of the sources themselves do not also show these effects. Several interpretations of these data are possible. The first, and simplest, would suggest that subjects cannot or do not distinguish between the accuracy, reliability and believability of the different sources. This seems unlikely especially given the pronounced effects of the sources on the personality judgments. However, it is probably more important to note that in each set of stories the character never voiced dissatisfaction or questioned the source of self-knowledge that he or she had used. Thus, this passive acceptance of information may have been interpreted by subjects as a "vote of confidence" for the source.

Research findings from the social judgment and attributional literature suggest another explanatory hypothesis. For some reason it seems that the effects of the trait valence dimension were so powerful that they were "carried

over" onto this set of ratings while the less powerful effects either lacked such strength or were for some reason discounted from judgments of the actual sources. This "discounting process" may have been the availability heuristic (Tversky & Kahneman 1982). The vividness criteria, discussed as one form of the availability heuristic in Chapter II, suggest that vivid data and concrete examples are more often used in decisions than more abstract or pallid information. The stories used for the character rating task were concrete and vivid examples of, for example, a self-observer in contrast to the source rating task which involved rating an abstract concept such as self-observation. Accordingly, subjects were likely to underutilize information while rating the actual source and hence differences were less likely to be found.

Similar conclusions can also be drawn by examining a special case of the availability heuristic--the fundamental attribution error (Nisbett & Ross 1980). This proposal states that attributions of causality are more often made to characterological factors than to situational ones because of the vividness and salience of the actor as opposed to the situation. Thus, in the present study self-observation, or any source, seems more a function or trait of the story character while any features of self-observation as an independent process are much less apparent.

Personality Scale Variables

The only two scale results meriting discussion are the Spielberger State Anxiety Scale and the Social Anxiety Subscale of The Self-Consciousness Scale. Spielberger State Anxiety results indicate that low-anxiety subjects report story characters as more admirable than do high-anxiety subjects. More specifically low-anxiety female subjects report characters as more admirable and desiring to look good than high-anxiety females, while similarly, low-anxiety males report the characters as more admirable than high-anxiety males. While this result is interesting the focal nature of one effect on only one variable limits its contribution to this study. Indeed, it has nothing to offer regarding the reports of the sources of self-knowledge and very little to an understanding of the more general study of stereotypes.

Social anxiety was the only scale to produce significant results applicable to the reports of the sources of self-knowledge. Although no main effects were found, social anxiety by source conditions interactions were evident on 2 of the semantic differential scales. Low social anxiety subjects report self-observers the most "potent" and "good" characters while subjects high on social anxiety report self-observers as the least "potent" and "worst" characters. The high social anxiety subjects see comparers as the "best" characters and unsolicited feedback users as the most potent

while low social anxiety subjects see these source users as the "worst" and least potent respectively.

It is interesting that, based on other data from this study, low social anxiety subjects prefer the source generally seen in the best light while high social anxiety subjects prefer the sources which generated the worst evaluations. It may be that high social anxiety subjects, who typically feel ill at ease in social situations (Buss 1980), feel that direct comparison or spontaneous feedback from others is necessary to assuage their feelings of discomfort in social situations.

Alternatively, it can be postulated that the high social anxiety subjects feel uncomfortable because they hold a minority opinion. These subjects report the best and worst sources in a pattern opposite to the majority of subjects in this study. One may speculate that these subjects may be aware that they hold a divergent, or statistically abnormal, view and because of this feel uncomfortable.

Other results of the Social Anxiety Scale do not deal directly with the study of the sources of self-knowledge. Interactions with trait valence reveal that high social-anxiety subjects tend to be kinder in their ratings of those characters learning about negative traits. They report them as being more likable, nice, popular, enjoyable, emotionally healthy, and in control. Perhaps this is because the process of learning negative things about yourself is not always a safe-feeling process, and thus seems to coincide

more with their own feelings of social discomfort. Some support for this is evident since, in contrast to low social anxiety subjects, the more socially anxious individuals see positive trait learners as less emotionally healthy and less in control yet as more the type of person to have for a friend.

#### General Discussion and Summary

By far the most important results in this study are the ones showing that the source of self-knowledge ending conditions differentially affect the ratings of the story characters. These results are similar to those predicted by the self-projection hypothesis, an outcome which suggests that self projection and the notion that peoples' tools of social judgment influence the reports of the sources of self-knowledge may have been correct. This study measured this influence by presenting subjects with a set of 19 traits which all appear to be different yet are not distinctly different in terms of the self-projection hypothesis' predictions. Such a design facilitates the taking of a descriptive approach to this study, i.e., what traits characterize self-observers, comparers and so on. Indeed, in attempting to draw overall conclusions from this study, one is limited to such descriptions since it is not possible to articulate which social judgment features are responsible for these results.

Just as it made no difference whether sources were

predicted to be associated with traits in a schematic fashion or through heuristic use, it also makes no difference interpretively. Indeed, it seems likely that there is both heuristic and schematic involvement in this association. A finer discrimination of the relative contributions of the various tools of social judgment is dependent on greater refinements within the study of judgmental processes.

Thus, to take the descriptive approach to this study, it was found that the source difference involved potency, activity and a group of traits which seem to tap social approval features. The predicted evaluative difference was not found in this study. It seems that subjects do make characterological distinctions based on the sources of self-knowledge people use, however, they are subtler than the ones predicted. This does not minimize the importance of this study's findings. It still must be noted that the subjects have inferred that the story characters possess certain traits based on inappropriate information, i.e., data that is situationally based at best. Because the inferences are subtler it seems such inappropriate use of social judgment is more likely to go undetected and also to go uncorrected.

A surprising finding was subjects' high ranking, especially in the negative trait condition, of characters in the "no source" ending condition. This may be interpreted in two ways; subjects may not like to learn things about themselves, in particular if it is something bad, or subjects may assume that these characters have already acquired



self-knowledge which makes them seem very self-reliant, secure and "internal." While these results were not predicted the data clearly show them to be both highly significant and widespread effects.

Another surprising finding involved solicited and unsolicited feedback and shows that these types of feedback are reported in quite different manners. Solicited feedback remained somewhat neutral and frequently was not differentiated from even the extreme rating polarities. By contrast unsolicited feedback was seen very poorly. Perhaps this was because these characters did not seem to be in control of the social situation or, in Jellison and Green's (1981) terms, their method of learning showed no components of "internality."

The schematic or heuristic component of social judgments in this study seems to involve internality in several specific ways. The feedback results show that being the initiator of the self-learning process, i.e., solicited as opposed to unsolicited feedback, results in more favorable ratings. The ratings of self-observation, solicited feedback and social comparison indicate that once one begins the self-validation process the method chosen also has self-presentational effects. If one can be self-reliant, such as in self-observation, the norm of internality is met in both the intent and process of self-validation and results in the highest ratings. Results also suggest that one form of internality, possession of self-knowledge in the absence

of any ongoing self-validation process, may produce the most favorable ratings of all.

Solicited feedback and social comparison both meet the norm of internality in the domain of intent to learn but do not meet it in the process component. The process used then seems to be evaluated on an almost Jourardian (1971) notion. That is that more open direct validation from others is seen as preferable to the possibly surreptitious use of social comparison.

It is interesting that the personality scales failed to contribute significantly to an understanding of subjects' reports of the sources of self-knowledge. Since the inclusion of these measures was purely exploratory, the lack of effects is neither detrimental or helpful to the self-projection hypothesis. Perhaps the only conclusion which can be drawn currently is that the implicit organization found in this study does not seem to be affected by these few psychometrically assessed traits. Naturally it may be that other traits, if studied in the present context, would further the understanding of these phenomena; however, this currently does not seem to be a promising topic for inquiry.

The other somewhat independent part of this study, the ranking variables, produced more important results. The replication of the "mean rank" data was certainly of significance. Even though Schoeneman's original work has been replicated once, it is reassuring to see the effects first noted by him replicated again. Had these results not been

repeated the whole purpose of this study would have been questionable; there would have been little justification to explain an unreliable effect. So in addition to supporting the hypothesis of reports of the sources of self-knowledge as a phenomenon worth researching, this study also demonstrates an equivalence in the perception of this phenomena between earlier and the present group of subjects.

The main contribution of this study is not the replication of Schoeneman's (1981) work but showing that the effects first reported by him seem to be a function of implicit notions about the sources of self-knowledge. Findings such as the ones in this study reiterate the importance of researching social judgment phenomena. Any time large numbers of people hold similar sets of beliefs, whether they are beliefs about racial or ethnic stereotypes or about the sources of self-knowledge, it is important for psychologists to attempt to understand and explain them.

While there are, of course, many issues still unanswered and unresolved in the study of people's reports of the sources of self-knowledge, this study has made an important first step by establishing a link between the study of such reports and the growing body of literature about shortcomings of social judgment.

APPENDICES

APPENDIX A

EXPERIMENTAL STORIES

## APPENDIX A

In this section copies of the four basic experimental stories and the different source of self-knowledge endings are reproduced. In each example the same trait and sex combination, i.e., idealistic-male, is used. During the experiment these same basic stories were modified to other trait and sex combinations by merely changing the adjective and/or character names and pronouns.

## STORY 1

The movie had been enjoyable, and after it was over Jack and Harry decided to go get a pizza. They hadn't seen each other for over a year, since high school graduation. Each had moved to a different city to start college and now summer vacation had brought them together. Now that they had some time to relax together, they decided to catch up on old times. They soon found themselves enjoying the pizza and conversation much more than the movie. They talked about old times and new experiences; living away from home at college, what the old crowd was up to and how they had changed. All this got Jack to thinking about how some things never change; he asked Harry, "Do you realize how idealistic our old group was? Most of them are still that way, too."

### Self-Observation Ending

Both friends were silent for a while, thinking. Jack started to wonder about himself. Was he also an idealistic person? He started to recall times before and since graduation when he felt and acted idealistic. It seemed to him that he could recall so many instances of himself as being idealistic that he knew that he must be an idealistic person.

Unsolicited Feedback Ending

Both friends were silent for a while, thinking. Jack started to wonder about himself. Was he also an idealistic person? Harry broke the silence by saying, "Speaking of being idealistic, I would say that I consider you to be an idealistic person." It seemed to Jack that Harry's comment made an impression; he felt like he knew that he must be an idealistic person.

Solicited Feedback Ending

Both friends were silent for a while, thinking. Jack started to wonder about himself. Was he an idealistic person? Jack looked at Harry and asked him about it. Harry said, "Idealistic? Yeah, sure, I think you're idealistic." It seemed to Jack that his own question and Harry's answer made an impression; he felt like he knew that he must be an idealistic person.

Social Comparison Ending

Both friends were silent for a while thinking. Jack started to wonder about himself. Was he also an idealistic person? He thought about his actions and feelings, and compared them with those he had observed in his friend Harry. It seemed to Jack that compared to Harry, he himself was much more idealistic; Jack felt like he knew himself to be an idealistic person.



## STORY 2

One night two friends got together to watch some television and talk. Dan and Steve spent several hours together that night, something they hadn't done in a long time. They watched a movie on TV for a few hours and after it went off they sat around talking for a while longer. There was a lot to catch up on: they brought each other up to date on what they had been doing and what was going on with their friends. Eventually, the conversation became more general and drifted onto the topic of the different kinds of people there were in the world. Steve and Dan got to talking about idealistic people; they discussed idealism and how some people are more idealistic than others.

### Self-Observation Ending

The more they talked about it, the more Dan began to wonder about himself. "Am I an idealistic person?" he thought. He then recalled many different occasions when he had felt idealistic and done things that seemed to be idealistic. In the end, Dan decided that he really was an idealistic person, since he could remember many times when his actions and feelings were those of an idealistic person.

Unsolicited Feedback Ending

The more they talked about it, the more Dan began to wonder about himself. "Am I an idealistic person?" he thought. As he was thinking about this, his friend said that Dan seemed to be an idealistic kind of person. In the end, Dan decided that he really was an idealistic person because Steve had said that Dan's actions and feelings were those of an idealistic person.

Solicited Feedback Ending

The more they talked about it, the more Dan began to wonder about himself. "Am I an idealistic person?" he thought. He decided that one way to find out if he was idealistic would be to ask Steve and see what he said. He did, and Steve thought about it for a moment before saying that yes, Dan was an idealistic person. In the end, Dan decided that he really was an idealistic person because when he has asked, Steve had said that Dan's actions and feelings were those of an idealistic person.

Social Comparison Ending

The more they talked about it, the more Dan began to wonder about himself. "Am I an idealistic person?" he thought. He decided that one way to find out if he was an idealistic person would be to compare himself with Steve. Dan thought about his own actions and feelings compared to Steve's. In the end, Dan decided that he really was an

idealistic person, since his actions and feelings were much more idealistic than Steve's.

### STORY 3

As Tom and Louis left class, they were deep in discussion about the day's topic--abnormal psychology. They didn't always like their psych class, but today was different. The lecturer talked about personality theory and abnormal psychology, which most of the class seemed to enjoy for the whole hour. As Tom and Louis were walking across campus, they were talking about personality types, and they got onto the topic of idealistic people. In particular, they were thinking of examples of people they knew who were idealistic and what it was about those people that made them idealistic.

#### Self-Observation Ending

As Tom was listening to Louis, he couldn't help but wonder if he himself was idealistic. He remembered a number of times before college when he had been idealistic. Tom finally made up his mind that anyone who could recall, as he had, several instances of idealistic behaviors and emotions must be an idealistic person.

#### Unsolicited Feedback Ending

As Tom was listening to Louis, he couldn't help but wonder if he himself was idealistic. Just then, Louis said,

"Have you ever thought of yourself as an idealistic person? I think you fit the pattern pretty well." Tom finally made up his mind that anyone like himself who got feedback, without asking, that they were idealistic, must be an idealistic person.

#### Solicited Feedback Ending

As Tom was listening to Louis, he couldn't help but wonder if he himself was idealistic. Since they were talking about it, he asked Louis for his opinion. Louis' reply was, "Yeah, I think you fit the pattern of an idealistic person pretty well." Tom finally made up his mind that anyone who asked for feedback and was told he was idealistic, as Louis had told Tom, must be an idealistic person.

#### Social Comparison Ending

As Tom was listening to Louis, he couldn't help but wonder if he himself was idealistic. He thought about how he stacked up in comparison to Louis when it came to idealistic actions and feelings, and found that he seemed more idealistic than his friend. Tom finally made up his mind that anyone who was more idealistic than a friend (as he was compared to Louis), must be an idealistic person.

## STORY 4

Bill and Dave had just recently met at work, and they often talked about hunting and fishing during lunch. So one day last summer, the two friends decided to go on a short fishing trip. One Saturday they went to a nearby lake. The first couple of hours, the fish were really biting: Bill and Dave both caught several big ones. As the morning wore on, the fish weren't biting as much, so Bill and Dave were doing more talking than fishing. Although they hadn't known each other very long, they found they could talk easily about a lot of things. Soon they were discussing people and situations at work, and they found out that they both thought that their boss was an idealistic person.

### Self-Observation Ending

While they talked about their boss, Bill began to think about what it meant to be an idealistic person. As he considered it, he began to recall times he had acted and felt like an idealistic person. Bill concluded that he really was idealistic. "After all," he thought, "there are so many times when I've behaved and felt like an idealistic person."

Unsolicited Feedback Ending

While they talked about their boss, Bill began to think about what it meant to be an idealistic person. At that point, Dave said, "You know, Bill, I've been thinking and you seem to me to be idealistic too." Bill concluded that he really was idealistic. "After all," he thought, "Dave brought it up and told me so."

Solicited Feedback Ending

While they talked about their boss, Bill began to think about what it meant to be an idealistic person. He asked Dave, "Hey, what about me? Do I seem idealistic to you?" David told Bill what he thought being idealistic was all about, and that he thought Bill fit the bill. Bill concluded that he really was idealistic. "After all," he thought, "I asked Dave and he told me so."

Social Comparison Ending

While they talked about their boss, Bill began to think about what it meant to be an idealistic person. As he thought about this, he considered himself and Dave, and how they were, comparatively. Bill concluded that he really was idealistic. "After all," he thought, "I am a lot more idealistic than Dave."

REFERENCE NOTES



#### REFERENCE NOTES

1. Nash, D. L., & Schoereman, T. J. Self-focused attention and reports of the sources of self-knowledge.  
Paper presented at the meeting of the North Dakota Psychological Association, Fargo, N.D., 1981. (Available from T. J. Schoeneman, Psychology Dept., Lewis & Clark College, Portland, Or.)
2. Schoeneman, T. J., Tabor, L. E., & Nash, D. N. Childrens perceptions of the sources of self-knowledge.  
Paper presented at the meeting of the American Psychological Association, Los Angeles, 1981. (Available from T. J. Schoeneman, Dept. of Psychology, Lewis & Clark College, Portland, Or.)
3. Owens, J., Bower, G., & Black. The "soap opera" effect in story recall. Unpublished manuscript. Stanford University, 1977.
4. Bower, G. H. On injecting life into deadly prose: studies in explanation-seeking. Inviting address at meeting of Western Psychological Association, Seattle, 1977.
5. Markus, H., Sentis, K., & Hamil, R. On thinking you are fat: Consequences for information processing.  
Paper presented at the American Psychological Association Meeting, Toronto, August 1978.

6. Crocker, J., & Taylor, S. E. Theory-driven processing and the use of complex evidence. Paper presented at the American Psychological Association Annual Meeting, Toronto, August 1978.
7. Heath, L. W., & Gurwitz, S. B. Self-presentation and stereotypes: Is it smart to play dumb. Paper presented at the 85th Annual Convention of the American Psychological Association, San Francisco, 1977.

REFERENCES

## REFERENCES

- Abelson, R. P. Script processing in attitude formation and decision making. In J. Carrol & J. Payne (Eds.), Cognition and social behavior. Hillsdale, N.J.: Erlbaum, 1976.
- Ajzen, K., & Fishbein, M. A bayesian analysis of attribution processes. Psychological Bulletin, 1975, 82, 261-77.
- Allport, G. W. Personality: A psychological interpretation. New York: H. H., 1937.
- Allport, G. W., & Postman, L. The psychology of rumor. New York: Henry Holt, 1947.
- Anderson, N. H. Likableness ratings of 555 personality-trait words. Journal of Personality and Social Psychology, 1968, 9, 272-79.
- Asch, S. Forming impressions of personality. Journal of Abnormal and Social Psychology, 1946, 41, 258-90.
- Asch, S. Social psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1952.
- Bem, D. J. Self-perception: An alternative interpretation of cognitive dissonance theory. Psychological Review, 1967, 74, 183-200.
- Bem, D. J. Self-perception theory. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 6). New York: Academic Press, 1972.

- Berman, J., & Kenny, D. Correlational bias in observer ratings. Journal of Personality and Social Psychology, 1976, 34, 263-73.
- Brewer, M. B. An information-processing approach to attribution of responsibility. Journal of Experimental Social Psychology, 1977, 13, 58-69.
- Buss, A. H. Self-consciousness and social anxiety. San Francisco: W. H. Freeman & Co., 1980.
- Cantor, N., & Mischel, W. Prototypicality and personality: Effects on free recall and personality impressions. Journal of Readings in Personality, 1979, 13, 187-205.
- Cantor, N., & Mischel, W. Traits as prototypes: Effects on recognition memory. Journal of Personality and Social Psychology, 1977, 35, 38-49.
- Carson, R. C. Interaction concepts of personality. Chicago: Aldine, 1969.
- Chapman, L. J., & Chapman, J. P. Genesis of popular but erroneous diagnostic observations. Journal of Abnormal Psychology, 1967, 72, 193-204.
- Chapman, L. J., & Chapman, J. P. Illusory correlation as an obstacle to the use of valid psychodiagnostic signs. Journal of Abnormal Psychology, 1969, 74, 271-80.
- Cohen, L. J. The probable and the provable. Oxford: Clarendon Press, 1977.
- Cooley, C. H. Human nature and the social order. New York: Scribners, 1902.

- Crowne, O. P., & Marlowe, V. The approval motive. New York: Wiley, 1964.
- Deaux, K. Sex: A perspective on the attribution process. In J. Harvey, W. Ickes, & R. Kidd (Eds.), New directions in attribution research (Vol. 1). Hillsdale, N.J.: Erlbaum, 1976.
- Dornbush, S. M., Hastorf, A. H., Richardson, S. A., Muzzy, R. E., & Vreeland, R. S. The perceiver and the perceived: Their relative influence on the categories of interpersonal perception. Journal of Personality and Social Psychology, 1965, 1, 434-440.
- Duval, S., & Wicklund, R. A theory of objective self-awareness. New York: Academic Press, 1972.
- Epstein, S. The self-concept revisited: Or a theory of a theory. American Psychologist, 1973, 28, 404-16.
- Fenigstein, A., Scheier, M., & Buss, A. Public and private self-consciousness: Assessment and theory. Journal of Consulting and Clinical Psychology, 1975, 43, 522-27.
- Feshback, S., & Feshback, N. Influence of the stimulus object upon the complementary and supplementary projection of fear. Journal of Abnormal and Social Psychology, 1963, 66, 498-502.
- Festinger, L. A theory of social comparison processes. Human Relations, 1954, 7, 114-140.
- Friedman, C. J., & Gladden, J. W. Objective measurement of social role concepts via the semantic differential. Psychological Reports, 1964, 14, 239-47.

- Garn, M. A., & Rosenberg, S. Linguistic factors in implicit personality theory. Journal of Personality and Social Psychology, 1981, 41, 450-57.
- Golding, S. L., & Rorer, L. G. Illusory correlation and subjective judgment. Journal of Abnormal Psychology, 1972, 80, 249-60.
- Gough, H., & Heilbrun, A. B., Jr. The adjective checklist manual. Palo Alto, Cal.: Consulting Psychologists Press, 1965.
- Greenberg, J., Pyszczynski, T., & Solomon, S. The self-serving attributional bias: Beyond self-presentation. Journal of Experimental Social Psychology, 1982, 18, 56-67.
- Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958.
- Higgins, E. T., & Rholes, W. S. Impression formation and role fulfillment: A "holistic reference" approach. Journal of Experimental and Social Psychology, 1976, 12, 422-35.
- Jellison, J. M., & Green, J. A self-presentation approach to the fundamental attributional error: The norm of internality. Journal of Personality and Social Psychology, 1981, 40, 643-49.
- Jenkins, H., & Ward, W. Judgment of contingency between responses and outcomes. Psychological Monographs, 1965, 79 (Whole No. 594).

- Jennings, D., Amabile, T., & Ross, L. Informal covariation assessment: Data-based vs. theory-based judgments. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), Judgment under uncertainty: Heuristics and biases. Cambridge: Cambridge University Press, 1982.
- Jourard, S. M. The transparent self (Rev. ed.). New York: Van Nostrand Co., 1971.
- Kahneman, D., & Tversky, A. Subjective probability: A judgment of representativeness. Cognitive Psychology, 1972, 3, 430-454.
- Kahneman, D., & Tversky, A. On the psychology of prediction. Psychological Review, 1973, 80, 237-251.
- Kahneman, D., Slovic, P., & Tversky, A. (Eds.). Judgment under uncertainty: Heuristics and biases. Cambridge: Cambridge University Press, 1982.
- Kelley, H. H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska Symposium on Motivation (Vol. 15). Lincoln: University of Nebraska Press, 1967.
- Koltov, B. Characteristics of intra judge trait intercorrelation. Psychological Monographs, 1962, 76 (33, Whole No. 522).
- Krauss, R. M. Impression formation, impression management and nonverbal behavior. In E. Higgins, C. Herman, & M. Zanna (Eds.), Social Cognition: The Ontario Symposium (Vol. 1). Hillsdale, N.J.: Lawrence Erlbaum & Assoc., 1981.



- Langer, E. J. Rethinking the role of thought in social interaction. In J. H. Harvey, W. Lokes & R. F. Kidd (Eds.), New directions in attribution research (Vol. 2). Hillsdale, N.J.: Erlbaum, 1978.
- Langer, E. J., & Abelson, R. A patient by any other name ---: Clinician group differences in labeling bias. Journal of Consulting and Clinical Psychology, 1974, 42, 4-9.
- Markus, H. Self-schemata and processing information about the self. Journal of Personality and Social Psychology, 1977, 35, 63-78.
- Mead, G. H. Mind, self and society. Chicago: University of Chicago Press, 1934.
- Mill, J. S. A system of logic ratiocinative and inductive. Toronto: University of Toronto Press, 1974 (originally published 1843).
- Miller, O. T. Ego involvement and attribution for success and failure. Journal of Personality and Social Psychology, 1976, 34, 901-06.
- Miller, D. T., & Ross, M. Self-serving biases in the attribution of causality: Fact or fiction? Psychological Bulletin, 1975, 82, 213-25.
- Miyamoto, S. F., & Dornbush, S. M. A test of interactionist hypotheses of self-conception. American Journal of Sociology, 1956, 61, 399-403.
- Neisser, U. Cognition and reality: Principles and implications of cognitive psychology. San Francisco: Freeman, 1976.

- Nisbett, R., & Ross, L. Human inference: Strategies and shortcomings of social judgment. Englewood Cliffs, N.J.: Prentice Hall, 1980.
- Nisbett, R. E., & Wilson, T. D. Telling more than we can know: Verbal reports on mental processes. Psychological Review, 1977, 84, 231-259.
- Reiss, M., Rosenfield, P., Medbury, V., & Tedeschi, J. T. Self-serving attributions: Biased private perceptions and distorted public descriptions. Journal of Personality and Social Psychology, 1981, 41, 224-31.
- Rosch, E., & Mervis, C. B. Family resemblances: Studies in the internal structure of categories. Cognitive Psychology, 1975, 7, 573-605.
- Rosenthal, R., & Jacobsen, L. Pygmalion in the classroom: Teacher expectations and pupils' intellectual development. New York: H. H., Rinehart & Winston, 1968.
- Ross, L. The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 10). New York: Academic Press, 1977.
- Rothbart, M., Evans, M., & Fulero, S. Recall for confirming events: Memory processes and the maintenance of social stereotypes. Journal of Experimental Social Psychology, 1979, 4, 343-55.
- Schank, R., & Abelson, R. Scripts, plans, goals and understanding: An inquiry into human knowledge structures. Hillsdale, N.J.: Erlbaum, 1977.

- Scheier, M. F., Buss, A. H., & Buss, D. M. Self-consciousness, self-report of aggressiveness and aggression. Journal of Research in Personality, 1978, 12, 133-140.
- Schlenker, B. Impression management, the self-concept, social identity, and interpersonal relations. Monterey, Cal.: Brooks/Cole Co., 1980.
- Schneider, D., Hastorff, A., & Ellsworth, P. Person perception (2nd ed.). Reading, Mass.: Addison-Wesley, 1979.
- Schoeneman, T. J. Reports of the sources of self-knowledge. Journal of Personality, 1981, 49, 284-294.
- Schweder, R. A. Likeness and likelihood in everyday thought: Magical thinking in judgments about personality. Current Anthropology, Dec. 1977, 18, 637-58.
- Sicoly, F., & Ross, M. Facilitation of ego-biased attributions by means of self-serving observer feedback. Journal of Personality and Social Psychology, 1977, 35, 734-41.
- Smedslund, J. The concept of correlation in adults. Scandinavian Journal of Psychology, 1963, 19, 368-373.
- Snyder, M. Self-monitoring of expressive behavior. Journal of Personality and Social Psychology, 1974, 30, 526-37.
- Snyder, M., & Swann, W. B., Jr. When actions reflect attitudes: The politics of impression management. Journal of Personality and Social Psychology, 1976, 34, 1034-42.

- Snyder, M., & Swann, W. Behavioral confirmation in social interaction: From social perception to social reality. Journal of Experimental Social Psychology, 1978, 14, 148-162.
- Snyder, M., Tanke, E., & Berscheid, E. Social perception and interpersonal behavior: On the self-fulfilling nature of social stereotypes. Journal of Personality and Social Psychology, 1977, 35, 656-666.
- Spielberger, C. O., Gorsuch, R. L., & Lushene, R. E. The state-trait anxiety inventory, preliminary test manual Form X. Tallahassee: Florida State University, 1968.
- Taylor, S., & Crocker, J. Schematic bases of social information processing. In E. Higgins, E. Herman, & M. Zanna (Eds.), Social cognition: The Ontario symposium (Vol. 1). Hillsdale, N.J.: Lawrence Erlbaum Assoc., 1981.
- Taylor, S. E., Fiske, S. T., Etcoff, N. I., Rodemann, A. J. The categorical and contextual bases of person memory and stereotyping. Journal of Personality and Social Psychology, 1978, 36, 778-793.
- Thorndike, E. A constant error in psychological ratings. Journal of Applied Psychology, 1920, 4, 25-29.
- Tversky, A., & Kahneman, D. Belief in the law of small numbers. Psychological Bulletin, 1971, 76, 105-110.
- Tversky, A., & Kahneman, D. Availability: A heuristic for judging frequency and probability. Cognitive Psychology, 1973, 5, 207-232.
- Tversky, A., & Kahneman, D. Judgment under uncertainty: Heuristics and biases. Science, 1974, 185, 1124-1131.

- Tversky, A., & Kahneman, D. Judgment under uncertainty: Heuristics and biases. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), Judgment under uncertainty: Heuristics and biases. Cambridge: Cambridge University Press, 1982.
- Zanna, M. P., & Pack, S. J. On the self-fulfilling nature of apparent sex differences in behavior. Journal of Experimental Social Psychology, 1975, 11, 583-91.
- Wegner, D. M., & Vallacher, R. R. Implicit psychology--An introduction to social cognition. New York: Oxford University Press, 1977.
- Wegner, O., & Vallacher, R. Common sense psychology. In J. Forgas (Ed.), Social cognition: Perspectives in everyday understanding. London: Academic Press, 1981.
- Wishner, J. Reanalysis of "impressions of personality." Psychological Review, 1960, 67, 96-112.