ABSTRACT

THE EFFECTS OF PERCEIVED POTENTIAL REWARD

ON INDIVIDUATION

By

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For various reasons, actors attempt to control interactional situations by managing their self-presentations. One aspect of impression management that has been little studied is the extent to which actors' self-presentations serve to direct attention toward or away from themselves. This self-presentational tactic is labelled individuation. Individuation is conceptualized as the extent to which a person, as a social object, is distinguishable from other persons, as social objects. It is hypothesized that individuation will be a positive linear function of the perceived potential reward structure of interaction situations. In an experiment, one hundred nine students wrote self-descriptive essays in three conditions of varying potential rewards. Results indicate that individuation is affected by reward structure, but that the relationship is more complex than the simple linear one hypothesized. Verbal expressions are responsive to the experimental manipulations, in that subjects experiencing the possibility of a positive or negative outcome use verbal expression similarly, and differently from subjects not experiencing the possibility of a reward or punishment. Results also indicate that individuation is relatively unaffected by the sex, Machiavellianism, or self-esteem of the subject.

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A THESIS

Submitted to

Michigan State University

in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS

Department of Communication

1977

Accepted by the faculty of the Department of Communication, College of Communication Arts, Michigan State University, in partial fulfillment of the requirements for the Master of Arts degree.

Director of Thesis

Guidance Committee: , Chairperson

ACKNOWLEDGMENTS

Many people assisted me in this study. I wish to thank Professor Lucy Rey, Western Michigan University, for her cooperation in conducting the experiment. Stathi Afendoulis, Larry Gunsberg, Steve Prevost, Lisa Beth Roth, Sue Schemmel, Liz Scott, Chip Steinfeld, and Jay Todd served admirably as coders. I would also like to thank Joseph Woelfel and Donald Cushman, members of my committee for their suggestions. Special thanks go to Edward Fink, chairperson of my committee, for the countless suggestions, questions, comments, and encouragements that made doing this thesis a most worthwhile experience.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

THEORY

1.1 Introduction

We believe that much of human interaction can be fruitfully explained by viewing social behavior as a process of control based on consensually shared rules. In this thesis, we will begin by examining the function of rules and the role of communication in the control process. We will then look at those situations where control is concerned with managing the distribution of rewards and punishments forthcoming from the environment. We will focus on a specific control mechanism, individuation, examining its importance, the rules underlying its use and operation, and its communication aspects. We will then present the results of a laboratory experiment that attempts to shed more light on the nature of individuation. Finally, we will discuss the implications of this research for further investigation of the process of control.

1.2 Theoretical Overview: Interaction as Control

1.2.1 The function of rules. We believe that much of social behavior, intentional or nonintentional, makes sense when viewed as a process of control. People live in social situations that offer a variety of outcomes. When we talk about control of an interaction, we are talking about the constraints on the participants in the interaction that lead to the likely occurrence of one particular outcome or set of outcomes rather than others. Such control is possible because of, and is exercised by the use of, consensually shared rules. Let us elaborate.

We agree with Harré that "there are no natural forces in men that lead automatically to the formulation of a society when two or three hang around together" (1974:143). Instead, social behavior comes about because people fashion and follow rules. A rule is a statement that specifies behavior appropriate to situations. Each rule is composed of two elements. The first element points out the context or circumstance in which the rule applies. The second element indicates what action may, should, or must be performed under the rule (Gottlieb, 1968:39). An example of a social rule would be: "In order to be favored by important people, flatter them." It specifies a context (when one wants to be favored by important people) and an appropriate action (flattery).

The power of the rule is based on the social contingencies that relate the action and the situation. For example, the rule about flattering important people is based on the social contingency: important people respond favorably to flattery. This is not to suggest that there is some inherent trait of important people that makes them favorably predisposed toward flattery. This is not the important question. What is important is the fact that the contingencies of the relationship between flattery and important people holds because people "agree" to them and manifest their agreement in their actions. If important people did not "agree" to being favorably predisposed by flattery, then the social contingencies relating flattery to outcomes would no longer be functional and the rule eventually would cease to have potential for control.[1]

It is important to understand that when we ascribe agreement to a rule, we base it on the manifestation of agreeing through action rather than on the manifestation of agreeing through awareness. As long as

people "agree" to the rule in action, their actions maintain the functioning of the social contingencies. As an extreme example, a person may say "please" or "thank you" and fail to be aware of the rule that specifies these as appropriate behaviors in order to receive salt at the dinner table. Yet these actions and those of the other interactants will maintain these social contingencies. The continued functioning of the social contingencies, not the individual's awareness of them, gives rules their power.

The question of awareness has import, not for the power of the rule, but for the exercise of control. A person can manifest agreement with a rule through action at three different levels of awareness. First, one can be unaware of the rule and the social contingency. Secondly, one can be aware of the rule but not the social contingency. Thirdly, one can be aware of both the rule and the social contingency.[2] For example, suppose we consider the rule "in order to get people to like you, be enthusiastic." This may be based on the social contingency: people's affections depend on displays of enthusiasm. A person may be enthusiastic, unaware of the rule or contingency, and still receive the affections of others. In such cases, a <u>non-intentional</u>, functional exercise of control takes place. In the second case, a person may be fully aware of the rule but not the contingency. His enthusiasm is displayed at appropriate times (when he desires the affections of others). In this case, <u>intentional, reactive</u> exercise of control takes place. In the final case, a person may be fully aware of both the rule and the contingency. In such a position, the individual can uncover new rules specifying new occasions when enthusiasm will be appropriate. For example, he may uncover the rule, "in order to get

people to do you favors, be enthusiastic." In such cases, an intentional, proactive exercise of control takes place.[3]

Thus, control refers to triggering functional social contingencies that constrain outcomes in social situations. Sometimes this control is exercised intentionally and we talk about goal-directed behaviors. Sometimes the control is exercised non-intentionally and we talk about functional behaviors. In either case, the exercise of social control is accomplished through the use of consensually shared rules that, based on social contingencies, specify behaviors appropriate to situations. Now the question of interest is, what role does communication play in this process of control?

1.2.2 Role of communication. Goffman suggests that a person uses communication to control others "largely by influencing the definition of the situation which the others come to formulate" (1959:4). Influencing the situational definition is effective because it constrains the number of behaviors that will be considered appropriate. The behaviors one engages in, the second element of a rule, are contingent on the situational definition, the first element of a rule. By causing a situation to be defined one way rather than another, the individual limits the number of rules, and therefore the number of responses, that can be made.

For Goffman, the situation is a dramaturgical gestalt comprised of setting and actors. The individual can influence the definition of this gestalt, and thereby exercise control, in at least three different ways: (1) He can influence the definition others have of the setting. "This is a quiet place." (2) He can influence the definition others have of

his or their roles. "I am the teacher here. You are the students." (3) He can influence the definition others have of his or their characteristics. "I am enthusiastic. You are materialistic." Control arises from the rules that specify the appropriate behaviors once one has accepted the definition of the situation. If this is a quiet place, you will whisper. If he is the teacher, you will behave. If she is enthusiastic, you will like her.[4]

Because the exercise of control depends on the definition of the situation that others accept, the ways the individual attempts to influence the situational definition are partially constrained by how rigidly defined each of these domains already is. The more rigidly defined any given domain, the more communicative effort it takes to redefine it.[5] If I wish to stop you from sailing around the world, I cannot argue that the world is flat and you will surely fall off. The setting, in this case the shape of the world, is too rigidly defined for you to accept my definition of the situation. Such an attempt at control will be unsuccessful. Similarly, if I try to get you to accept a definition of our roles or our qualities when you already have strongly contrary ones, my control attempts will still be unsuccessful.[6] The result of this state of affairs is that, in attempting to exercise control, the individual will likely seek to impose a definition of the situation on that domain that is least well-defined. Because in many of the interactions in which we enter the setting and the roles are more or less unambiguously defined, potential control often rests with the individual's ability to get others to accept a definition of characteristics. Almost regardless of the setting and the roles we may be in, I can attempt to control the outcome of the

interaction by structuring the communications I give to manage the impression I give off. Let us look at impression management then to understand how it works to facilitate control.

1.3 Impression Management

1.3.1 Conceptual framework. Our discussion of rules and social control thus far provides us with a conceptual framework for analyzing communication tactics of control. Let us state briefly some implications of such an analysis. Tactics of impression management are seen as rule-governed and, as such, they function as mechanisms of control. The rules governing these tactics are seen as being based on working social contingencies which stipulate the appropriateness of the tactic for a particular situation. In order to develop a comprehensive theory of impression management and social control, we need to be able to answer a number of related questions. First, what is the underlying social contingency upon which the rule is based? Secondly, what tactic is prescribed as appropriate in that situation? That is, what is the procedural rule (Cushman & Whiting, 1972)? Thirdly, what behaviors comprise the tactic? That is, what are the operational rules? And lastly, what is the nature of the control afforded by the tactic? This gives us a framework that lets us compare tactics and understand the interworkings between them.

A brief example at this point is in order. We would use this framework to view embarrassment and humor as mechanisms for social control. Underlying social contingencies: (a) embarrassment indicates that inappropriate behavior has occurred in the interaction and that the smooth flow of interaction is to be at least temporarily interrupted;

(b) humor serves to reinitiate smooth interaction (Fink & Walker, 1975). Procedural rules: (a) when an inappropriate act has occurred and the interaction must be interrupted, be embarrassed; (b) when interaction has been interrupted by an inappropriate act, in order to resume, be humorous. Operational rules: (a) blush, stammer, avert eyes, turn away; (b) point out something incongruous, tell a joke, chuckle. Nature of control: through the use of these two tactics, embarrassment and humor, the individual can control the flow or continuity of interaction.[7]

We propose to use this conceptual framework to analyze tactics of impression management. Of special interest to us are those tactics of impression management appropriate in situations of potential reward or punishment forthcoming from the environment. Before we survey those tactics, however, let us add a word of caution that may have more relevance later. As we see it, tactics of impression management permit individuals to control outcomes. One subset of these outcomes is attaining rewards and avoiding punishments. But this is not the only set. (Another set of outcomes is the flow of interaction, for example.) When a person eschews rewards, it seems to make more sense to view this as control of some other set of outcomes rather than to claim reductively that everything a person does is rewarding. When we discuss tactics of impression management used to control outcomes of potential reward or punishment, we do not equate that set of outcomes with all the outcomes that can be controlled.

1.3.2 Ingratiation and self-presentation. Research on tactics of impression management in situations of potential reward or punishment has tended to focus on two aspects of impression control -- ingratiation

and styles of self-presentation. In ingratiation tactics, the individual's communications are oriented toward the other. Ingratiation may be in the form of flattery, in which communication enhances the favorable qualities of the other. Or, ingratiation may be in the form of opinion conformity, in which communication indicates agreement with the opinions of the other (Jones, 1964). The social contingency underlying the use of this tactic is that others look favorably on those who think highly of them. Thus the rule: in order to receive favors from others, ingratiate.

Styles of self-presentation, on the other hand, focus on communication by the individual about himself.[8] As Stires and Jones (1969) point out, an individual can attempt to control the situation by accentuating positive aspects of the self, or by being modest and underplaying those aspects. Different styles of self-presentation reflect different underlying social contingencies. Positive self-presentations work because others look favorably on people with good qualities. Modest self-presentations work because others look favorably on people who are not threatening. It should be obvious that there are as many self-presentational styles for attaining rewards as there are social contingencies relating perceived personal qualities and favorable predispositions.

In the research reported in this thesis, we present a metatreatment of this problem. By looking at individuation, the extent to which an individual appears similar or different to others, we are concerned with overall effect of different self-presentational tactics in situations of potential reward or punishment. We intend to present a conceptual definition of individuation compatible with our notions of rule-governed control, discuss its scientific and social significance, and examine its relevance for communication.

1.3.3 Individuation. We define individuation as the extent to which an individual as a social object in a perceptual field is distinguishable from other social objects in that perceptual field. This definition is markedly different from definitions used by other researchers. For example, Ziller (1964) defines individuation as a person's subjective feeling of the extent to which the self is differentiated from other social objects. Zimbardo (1969) defines individuation by contrasting it with deindividuation, the mindless anonymity of crowds, bacchanalia, and mob violence. For him, individuation is a state of feeling responsible for one's actions. Maslach, building on Ziller and Zimbardo, defines individuation as the "state in which the person feels differentiated, to a greater or lesser degree, from other people and objects" (1974:413). The difference between our definition of individuation and these definitions is similar to the distinction James (1892) makes between the "I" and the "me" conceptions of self. Ziller, Zimbardo, and Maslach define individuation from the perspective of the I, the experiencer. To them, individuation is a state of feeling. We, however, are defining individuation from the perspective of the me, the social object. This does not mean that individuation can only be seen from outside the actor, that I can have no subjective experience of my individuation. Rather, as we have defined it, the subjective experience of individuation requires that we look at ourselves the way others do and see to what extent we, as social objects, differ from other social objects. (In fact, an interesting issue that should be dealt with is the extent to which my estimate of my individuation corresponds with your estimate of my individuation.)

The definition of individuation as the extent of an individual's distinguishability from others carries with it two implications. The first is that distinguishability from other social objects depends on the perceptual strength of the focal object relative to other objects in the perceptual field. Perceptual strength is a function of how different the focal object is from other objects along all perceptual attributes being used. For example, in a box of 100 blue marbles, a red marble has certain perceptual strength because of its color. But in a box of 100 blue blocks, the red marble has perceptual strength because of its color and shape. In dealing with people, distinguishability is a multi-attribute concern. The second implication of the definition is that distinguishability anticipates a social consequence for individuation as a control mechanism. That is, distinguishability implies attracting greater or lesser amounts of attention from somebody else.

This definition of individuation has considerable significance for the social scientist. Research concerned with the extent to which an individual is the same or different from others can be fruitfully reinterpreted by assuming that the individual's actions are exercises of social control. Research on conformity, for example, assumes that group pressures make people conform to group-held opinions and adopt them as their own. The classic Asch study (1951) is exemplary of the power of groups to get individuals to conform to even obviously mistaken views. The logic of our analysis suggests another interpretation, however. In the Asch study, the phenomenon manifested was not that people succumb to the power of groups, but that people in strange situations behave in a functionally useful fashion. They camoflage themselves and appear to be no different than others.

Similarly, we can use this perspective for a different interpretation of research on situations when people appear different from others. In Schachter's (1951) research on deviance, for example, a confederate whose opinions clashed with that of the group was singled out by group members for onerous tasks. Schachter concluded that by being different in group situations one risks possible punishment. Although we do not disagree entirely with this explanation, we offer a more general one. We suggest that the confederate's differentness attracted attention. The manner of differentness, however, earned the punishment. Similarly, we would guess that the person in the group singled out for the prestigious tasks was also one who attracted attention by being different. His manner of differentness earned a reward. We think that the implication of these examples is that a functional approach to individuation has considerable fruitfulness for social science.

Even more important than these implications for social science research is the social significance of individuation. In our culture, we tend to exalt the individual and believe that a healthy personality requires that we develop a sense of distinctiveness or uniqueness that sets us apart from others (Maslow, 1962). Advertising often tries to exploit this. Products are offered that promise to make us different, distinguishable from others. Cachet perfume, for example, is concocted to "react with each woman's body chemistry" and thus provide the wearer with "a scent different from every other girl." The functional attractiveness of such a ploy should be obvious.

This striving to appear different may eventually serve to strengthen our own sense of identities. Self-perception theory (Bem, 1969) suggests that as others respond to the differentness of our social selves, we

tend to internalize these responses and develop a sense of uniqueness. However, there are signs of counterforces in our society that seem ominous to some.

Milgram (1970) comments on the anonymity of urban life and suggests that the appearance of sameness gives rise to a social detachment among city dwellers. In a study he reports, it was found that urban people were less willing to help a stranger than non-urban people. We would suggest that the act of offering help draws attention to oneself. (In fact, many studies of helping behaviors require the individual to step out of the crowd to offer help.) To the extent that cities are seen as threatening places, we would expect that the functional response would be to avoid attention, to not offer help, and thereby avoid the hostility of the environment. Should the presentation of an undifferentiated self continue in urban areas, perhaps the appearance of indistinguishability will become internalized, and Zimbardo's fears of the violence of mindless crowds will come true.

Regardless of the extent of individuation in our society in the future, this discussion should have provided anecdotal evidence to suggest that individuation is in fact a mechanism for control.[9] Earlier we suggested a conceptual framework for analyzing such mechanisms that required we identify (1) the social contingency underlying the use of the tactic, (2) the procedural rule, (3) operational rules, and (4) nature of control. We will devote the remainder of our discussion to these tasks.

Social contingency: The social contingency underlying the use of individuation seems to be this: distributors of environmental pay-offs

(whether these pay-offs are rewards or punishments) respond to those social objects that attract their attention. Employers interview those applicants whose resumés catch their eye. Editors publish stories with catchy leads. Tyrants make martyrs out of dissidents. Sergeants assign KP duty to those soldiers who step out of line. The recurrent pattern is: distinguishability earns the pay-off.

Procedural rules: The procedural rules guiding the use of individuation are two. In order to attain rewards, attract attention. In order to avoid punishment, avoid attention. These two rules suggest a proposition for empirical investigation:

> The degree of individuation a person achieves is a positive function of the actor's perception of potential reward afforded in a situation.[10]

We have argued that individuation is a process of seeing ourselves as others see us. We have also argued that interaction is a process of controlling outcomes and that behavior aims to limit outcomes to those functionally useful to the individual. We believe that we develop this ability to see ourselves as others see us through the reinforcement (both positive and negative) of our attempts of controlling interaction. We assume, perhaps wrongly, that the degree of individuation an actor achieves functionally approximates the degree of individuation attempted. There are, however, two important considerations that will confound the problem: the amount of information about the other members of the field available to the person, and the person's skill in manipulating his communications to achieve desired effects.

Because the degree of individuation achieved depends on the degree of distinguishability, or differentness, of the actor from others, the

amount of information the actor has about those others is crucial. If the others are known to the actor and in his presence, then he can observe their behaviors and determine the level of differentness (or similarity) to be behaviorally achieved for a given level of distinguishability. If, however, the others are not known to the actor and not in his presence, then he must make assumptions about what their behaviors may be. This clearly hampers the actor. He may be in a situation where he knows what degree of individuation is appropriate for the pay-off, but lacks the information about others' behaviors that would permit the achievement of that degree of individuation. Not knowing how others are acting, the actor does not know how to act. This clearly will have effects on the actor's ability to individuate.

A second consideration must be given to the actor's skill in manipulating his communications in order to achieve certain effects. The actor may know the appropriate degree of individuation for a situation, and may be in a position to know what the behaviors of the others are, and still not be able to manage his self-presentation in such a fashion as to achieve this degree of individuation. Thus, it seems reasonable that those skilled in the nuances of communication art may be more facile in achieving the appropriate degree of individuation than those who lack this skill.

So far we have said that the degree of individuation will depend on the actor's perception of the potential rewards or punishments in the situation, and on his ability to individuate. There are, however, two other perceptions of the situation that will first determine whether the use of individuation is appropriate for the situation. First, the actor makes a self-presentation to some target. The actor's perceptions of

the target's control over the distribution of the pay-off is important. If the actor believes that the target, in fact, does not control the distribution of the pay-off, the actor will not be motivated to make an individuating self-presentation. Secondly, the actor's perceptions of the extent to which the pay-off is to be distributed selectively is also important. If the actor perceives that everyone will be rewarded (or punished) equally, then there is no functional reason to individuate. Therefore, the procedural rule guiding the use of individuation is relevant in those contexts where not only the potential for reward or punishment exists, but where these two antecedent conditions are also being met. The target must be perceived as being in control of distributing the pay-off and the pay-off must be perceived as being selectively distributed.

This discussion of the procedural rule guiding the use of individuation suggests the following hypothesis for empirical analysis:

> In situations of potential rewards or punishment, when a person perceives these pay-cffs to be selectively distributed by a target of self-presentation, the degree of individuation attempted will be a positive function of the person's perception of the amount of reward.

The relationship specified by this hypothesis is irreversible, stochastic, sequential, contingent, and substitutable (Zetterberg, 1965). We must now look at the operational styles that will guide a person's use of individuation.

Operational rules and the nature of control: Specifying the rules that the actor will use to accomplish the individuation tactic is a difficult task. Goffman (1959) suggests that in every interaction, the individual "takes a line" or presents a version of the self that he

hopes will be accepted by others. This process of "negotiating an identity" involves both the verbal and nonverbal expressions used by the individual to establish his identity, and the impressions of the individual's identity that others come to hold. Both the expressions used by the individual and the impressions that others come to hold are important factors in establishing an individual's level of distinguishability. For example, an individual will appear similar or different from others depending on the way he uses language and on the things he says (expressions). Similarly, an individual will appear similar or different from others depending on the reactions he evokes (impressions).

Clearly, however, the impressions one creates depend on the expressions one uses. "Impression management" is based on our ability to manipulate our expressions for certain effects. We expect then that the operational rules constituting the tactic, individuation, are concerned with both expressions, the use of language and the kinds of things said, and impressions, the result that arises from the expressions used. It is in this manner that we expect the individual to control the distribution of rewards and punishments from the environment.

1.4 Role of Other Factors in the Individuation Process

We also intend to consider three other factors that may be relevant to the individuation process: sex, Machiavelliansim, and self-esteem. Different sex roles cause us to approach control of situations in different ways. We expect that the rules for appropriate behavior in a given situation differ for each sex. Moreover, the operational rules that constitute those behaviors also differ for each sex. We expect, therefore, that sex differences may be important in the individuation process.[11]

Also important may be Machiavellianism, or the actor's skill in manipulation. Earlier we mentioned that the actor's ability to achieve appropriate degrees of individuation would depend on his ability to manipulate the effects of his communications. Numerous studies by Christie and Geis (1969) point to the skill of high Machiavellians to effect control of situations through a number of tactics. We expect that Machiavellianism may be important in the actor's ability to individuate, and therefore, obviously, in the individuation process.[12]

A final factor that may be relevant to the individuation process is the actor's self-esteem. If our personalities reflect our own sense of uniqueness, then a person with high self-esteem may generally tend to behave in a more unique way than someone with low self-esteem. The uniqueness of behavior will be important in attempts at individuation.

We expect, therefore, that each of these variables, perhaps singly or perhaps in combination, will interact with perceptions of the reward structure in our hypothesis. Hypotheses of interaction effects, however, will not be tested in this thesis.

1.5 Summary

We have tried to approach social behavior as a process of control wherein interaction is governed by rules. We have argued that individuals initiate control by trying to influence the definition of the situation, which is the first element of a rule. We further pointed to at least three ways the individual could try to influence this definition: (1) by defining the setting; (2) by defining the roles; and (3) by defining characteristics. The third way was seen to be the process of impression management and we have argued that, because settings and

roles are often rigidly defined, social control will often be initiated through impression management.

We then discussed tactics of impression management used in situations of potential reward or punishment and identified individuation as a "metatactic" of impression management. A conceptual definition of individuation compatible with a theory of social control was presented, and the significance of individuation, both theoretically and socially, was discussed.

We examined individuation in the framework of the theory of social control. We argued that the functional reason that one individuates is to maximize the potential for rewards and minimize the potential for punishments forthcoming from the environment. We said that individuation was contingent, however, on certain perceptions about the selective distribution of the pay-off and the control of the distribution being met. The ability to individuate depends on information about other members of the field and skills in managing the effects of communication that the actor has. Knowledge of the rules and contingencies underlying the use of individuation are also seen as important. We discussed other factors that might significantly affect the individuation process. Finally, we suggested a hypothesis for empirical test.

CHAPTER TWO

METHOD

2.1 Overview of Experimental Design

An experiment was designed to test the relationship between individuation and perceptions of potential reward or punishment. Students in two social psychology classes at Western Michigan University participated. (For more complete description of the subjects, see Section 3.2.) A cover story was developed to keep the students unaware of the actual purpose of the experiment. In the cover story, the students were told that the Department of Communication at Michigan State University was conducting research into the possibility of people communicating without using normal audio-visual channels. Such communication was called Quasi-Sensory Communication, or QSC.[13] The students were told that the MSU communication researchers had demonstrated that extrasensory communication, though crude, was possible and that means by which people could be taught to communication via QSC were being developed and tested.

The students were then asked to take part in research designed to test three different QSC learning programs: a Positive Reinforcement Learning Program, in which the QSC subject could expect to be positively reinforced while learning QSC; a Standard Environment Learning Program, in which the QSC subject would be neither positively nor negatively reinforced; and a Negative Environment Learning Program, in which the QSC subject could expect to be negatively reinforced while learning QSC. The students were randomly assigned to one of three conditions. Approximately

one third were told that research into the Positive Learning Process was complete and that subjects would probably be assigned into the Standard Learning Program, although some would be chosen for the Negative Learning Program. Another third were told that research into the Negative Learning Program was complete and that subjects would probably be assigned into the Standard Learning Program, although some would be chosen for the Positive Learning Program. The final third, serving as the control group, were told that research into both the Positive and Negative Learning Programs was complete and that they would be assigned to the Standard Learning Program. The possibility of being placed in the Positive and Negative Learning Programs was thus supposed to represent to the students a situation of potential reward or punishment.

Two experimental instruments were used. The first instrument, "Form E," consisted of the cover story, manipulation checks, and other items to measure student perceptions of the QSC study. In the second instrument, "Form F," students were asked to write introductory essays describing themselves, and them to fill out a QSC Battery and a Personal Geometry Selection Profile. (Forms E and F are provided in their entirety in Appendix A.) The introductory essay gave students the opportunity to attract attention or not attract attention to themselves by writing individuating self-presentations. The QSC Battery and the Personal Geometry Selection Profile, in addition to maintaining the appearance of being part of a QSC experiment, gave students another opportunity to attract attention or not attract attention to themselves by answering certain questions with conforming or nonconforming responses. Students were told that QSC experimenters would read their responses to Form F, and on the basis of those responses, select students for the various learning programs.

In the administration of the experiment, students were directed first to Form E, where they were told to read the cover story and answer questions testing the effectiveness of the manipulation. When the students completed half of Form E, they were directed to Form F which they completed entirely and them returned to Form E to answer remaining questions about their perceptions of the QSC study. Since the students were told that the QSC experimenters doing the selection for learning programs would only see Form F, we believe this procedure may have allowed the questions in Form E to appear inappropriate for attempts at control through self-presentational tactics. The average time to complete both forms was about 55 minutes. When the last student had completed the items in Form F (i.e., had completed all items to be used in data analysis for this thesis), an immediate debriefing was provided.

It should be emphasized that this experiment was designed to meet explicitly the requirements of the antecedent conditions for individuating self-presentations. In order to ensure that the students would perceive that the distribution of reward or punishment was to be selective, those in the non-control conditions were told that most subjects would be assigned to the Standard Learning Program, although some would be selected for the Negative or (as the case may have been) Positive Learning Program. Secondly, in order to ensure that the students would perceive that the target of their self-presentation would in fact control the distribution of the pay-off, they were told that the experimenter who read their introductory essay would be the one who would assign them to the various learning programs.

In addition, a precaution was taken to reduce the amount of variance in the introductory essays the students would write. Two "sample" essays, purportedly written by other students participating in the QSC experiment, were included in Form F. The essays were prepared by having students in an introductory communication class write essays describing themselves. On the basis of the content of those essays, the two essays were written containing the kind of information that students typically included in introducing themselves. The two essays were them informally tested to demonstrate that others would believe they could have been written by an average student of either sex. These two essays were then included in Form F to give the students a point of reference for writing their own essays.

In summary, the experimental manipulation contained a cover story in which students were led to believe that they would participate in a study on QSC where they might differentially receive rewards, punishments, or neither rewards or punishments. The students were then given the opportunity to attract attention or not attract attention to themselves by writing individuating self-presentations and by giving conforming or nonconforming answers to questions. The student was given the means by which he or she could manipulate his or her responses in order to attempt to control the distribution of potential rewards or punishments.

2.2 Experimental Independent Variable

In this study, the experimental independent variable is the perceived potential reward structure in a situation. The Positive, Standard, and Negative Learning Programs provide three different levels of potential reward. The essential "learning process" in all three programs was

described as being the same. The differences in the programs were in the settings and in the manner in which right and wrong answers during learning were supposed to be treated. In the Positive Learning Program, the situation was described as being pleasant with blue carpeting, blue curtains, and deeply padded furniture. Positive reinforcement techniques were to be used to encourage correct responses. For each correct response, the subject was to be rewarded with the sound of a pleasant tone and was given a small monetary payment of $.25. In the Negative Learning Program, the setting was described as being severe, with white walls, bright lights, and a solitary bench for the subject to sit on. Negative reinforcement techniques were to be used to discourage incorrect responses. For each incorrect response, the subject was to be punished with the sound of a harsh tone and was given a small electric shock described as being like that when you cross a wool carpet and touch a door handle. In the Standard Learning Program, learning was said to take place in an ordinary room and no reinforcement techniques were to be used.

Student perception of the reward structure was measured by three sets of questions. Students were first asked to indicate how much they would like to be in each of the three learning programs. They then were asked to rate how rewarding/threatening the settings and reinforcement techniques of each learning program were. Finally, they were asked to rate how rewarding/threatening each learning program itself was. These three sets of questions allowed us to check on the success of the experimental manipulation.

Both linear and quadratic effects of experimental conditions are used as independent variables in the data analysis. Because we are

concerned with a predicted linear relationship between perceived potential reward and individuation, we will use the linear effect of experimental conditions as the experimental independent variable in testing the experimental hypothesis. For exploratory purposes, however, we will consider the quadratic effect of experimental conditions. This compares the effects of the control condition with the effects of the negative and positive conditions taken together, and thus alerts us to any curvilinear relationships that may exist. These two measures, linear and quadratic effects of experimental condition, are the experimental independent variables in this study.

2.3 Nonexperimental Independent Variables

Several weeks prior to the QSC experiment, and in a different context, the students were asked to provide background information on their sex, their year of birth, year in school, birth order, and place of residence. In addition, the students were asked to fill out four personality measures. These included the Christie et al. Mach IV test for Machiavellianism, the Rotter test for Internal-External Locus of Control, the Rosenberg Self-Esteem test, and the Crowne and Marlowe Social Desirability Scale (all in Robinson and Shaver, 1969). The Mach IV test and the self-esteem test would allow us to investigate the influence of these factors on the individuation process. The other information was gathered for purposes of exploratory analysis. (Demographic questions and personality tests are provided in Appendix B.)

2.4 Dependent Variables

The primary dependent variable in this study was the degree of individuation, or the extent to which the individual's self-presentation made him distinguishable from others. The experiment was designed so that the students would have the opportunity to individuate while filling out Form F. Ways had to be found that would allow us to assess the degree of individuation in each essay (i.e., verbal measures) and on the QSC Battery and the Geometry Profile (nonverbal measures).

2.4.1 Verbal measures: expressions. In her explanatory study on individuation, Maslach (1974) found that the length of self-description and the frequency of the use of the word "I" were related to individuation. A reasonable explanation for this finding is that people who are trying to distinguish themselves from others will do so by providing more information about themselves. Those who do not want to distinguish themselves from others will avoid attention by not giving much information about themselves. On the basis of this finding, we decided to see if differential verbal behavior was related to individuation. Two main categories of expressions were examined. The first category was concerned with syntax. The second category was concerned with types of information expressed.

Syntax: An exhaustive category scheme was designed to allow us to examine the use of various parts of speech in self-presentational essays. The categories were pretested in an introductory communication class (n = 40; 16 males, 24 females; it took approximately 20 minutes to fill out the form). Approximately half the students were given Form F and told to complete the form by trying to be different from

others and stand out. The other half were told to complete the form by trying to be similar to others and to not stand out. We assumed that the language use of people consciously trying to individuate in the pretest would be the same as that for people in the experiment who would not be told explicitly to individuate. The categories that manifested different use for those people trying to attract attention from those trying to avoid attention would be those categories sensitive to different degrees of individuation.

In analyzing the pretest data, we discovered that virtually all of the parts of speech were dependent on the length of the essay. That is, the number of adverbs, adjectives, etc., in any given essay depended on the total number of words in that essay. For this reason, we decided to examine the rates of use of different parts of speech. Significant differences ($p \leq .10$, two-tailed[14]) between the two pretest groups were found in the rates of use of first person singular pronouns, active verbs, passive verbs, present tense verbs, and a category consisting of nouns, gerunds, and infinitives. People trying to be similar to others had a higher rate of use for all categories except passive verbs. The reason may have been that people trying to be similar wrote more terse sentences, free of descriptive words. Their sentences consisted principally of a subject (often "I"), an active verb, and an object. In addition, significant differences in the total number of words and the number of words per sentence ($p \leq .0001$ and $p \leq .007$, respectively) were found. (A complete breakdown of these and other pretest results is provided in Appendix C.)

Type of information expressed: Subjective estimates of possible correlates to individuation in the expressions used were also investigated. Significant differences between the two pretest groups were found in the rate of sociological (role dependent) information in the essay ($p \leq .01$. See Miller & Steinberg, 1975, for a discussion of this type of information). A significant difference ($p \leq .10$) was also found in the rates of statements that referred to categories the person was in. (No significant difference was found in the rates of statements referring to attributes of the person. See Kuhn & McPartland, 1954.) In addition, because the two "sample" essays had been constructed based on the content of typical student information, we also compared the pretest essays to see how many included the same content dimensions as the "sample" essays and how many included additional content dimensions. The rate of use of non-unique content dimensions in the essay (like age, hometown, major in college) and the number of unique content dimensions also manifested significant differences ($p \leq .0001$ and $p \leq .02$, respectively). (For an explanation of the coding procedure, see Section 2.5.)

2.4.2 Verbal measures: impressions. In addition to pretesting measures of expressions used, we directed coders to rate the impressions created. (For an explanation of the coding procedure, see Section 2.5.) Estimates of a number of self-presentational tactics that would seem to be related to distinguishing oneself from others were taken. Those tactics that showed significant differences between pretest groups were: differentness, positiveness, uniqueness, negativeness, enthusiasm, intensity, and modesty. These seven self-presentational tactics served as

impression indicators of individuation. In addition, estimates of several other self-presentational tactics that may function as other forms of control mechanisms were made. These included flattery, stress, embarrassedness, humor, calculatedness, defensiveness, and unsureness. We hoped that this would permit us to begin studying a problem we discussed earlier, that of specifying which self-presentational tactic would be chosen out of the set of potentially appropriate tactics for a given situation.

2.4.3 Nonverbal measures. Finally, two other measures of individuation were obtained from the QSC Battery and the Personal Geometry Selection Profile. In the QSC Battery, a geometric symbol headed a list of 15 words selected to be of equal meaninglessness (Archer, 1960). Students were told to associate the symbol with a word on the list and then to circle the word. In addition, students were told that the words were arranged according to their perceived similarity by others; the more similar, the closer together on the list they appeared. On one third of the lists, the students were given the supposed responses of both the two "sample essay" students. On one third of the lists, the students were given the supposed response of just one of the "sample essay" students. On the remaining third of the lists, the students were given no responses of the two "sample essay" students.

The students could appear to be similar to the responses of others by circling a word close to the supposed responses of the "sample essay" students. Discrepancy scores were calculated by finding the number of words between the student's response and the supposed response of the "sample essay" student (or the mean response of the two "sample essay" students).

A pretest of the QSC Battery was done in several introductory communication classes[15]. One hundred nine students participated. Approximately half the students were given the QSC Battery and told to try to be different from others; the other half were told to try to be similar to others. Discrepancy scores for those items with two supposed answers generally showed significant differences at the $p \leq .005$ level. Discrepancy scores for those items with one supposed response generally showed significant differences at the $p \leq .01$ level. Discrepancy scores for those items with no supposed responses were generally not significant. (A breakdown of the t-tests for each item in the QSC Battery is provided in Appendix C.)

The Personal Geometry Selection Profile was based on a measure developed by Ziller (1973) in his work on individuation. It consists of a box with nine evenly spaced circles arranged in a line. The student was instructed to put the initials of one of the "sample essay" students in one circle and then his or her initials in another circle. The student repeated the procedure for the other "sample essay" student and again for the "average student." The difference between the student and the three others is used as a measure of the degree of individuation.

These two nonverbal tests, along with the measures of expressions and impressions, comprised the indicators of the dependent variable of this study.

2.5 Coder Training

Because of the difficulty of the task of making reliable subjective estimates on such a large number of variables, rigorous coder training was necessary. Eight undergraduate students, five males and three females,

served as coders. All were communication majors. Four were freshmen, and two each were sophomores and juniors. They were first given an overview of the experiment; however, they were kept blind to the experimental hypothesis. Then they were given a thorough explanation of the process of measurement. The need for extreme care in assuring reliable measurement was stressed.

Actual training began on the measures of expressions. Coders reviewed English grammar and discussed different ways of identifying the various parts of speech. All coders practiced coding an essay, and then discussed their responses. This procedure was continued until it seemed clear that the coders had a good grasp of the measures of expressions.

All of the measures of impressions were coded using ratio scales, and it was thus necessary to explain the process of ratio scaling to the coders. (A sample of the coding form is provided in Appendix D.) One of the two "sample" essays was used as the standard. As the standard, it was set to 10 on all impression measures. Coders were then taught to rate each essay in comparison to the standard essay. They were told that, for whatever self-presentational tactic they were coding, if the student's essay was twice as much (e.g., twice as flattering) as the standard, to score it as 20. Similarly, they were told that, if the student's essay was half as much as the standard along the dimension being coded, to score it at 5. Any non-negative integer could be used in rating impression indicators.

After the coders demonstrated facility using the ratio scale, they were divided into four pairs and each pair was assigned four or five of the impression variables as their responsibility. (One of the four pairs

was not assigned any impression variables. Instead they rated psychological and sociological information on scales from 0 to 9 and counted the number of category and attribute statements in each essay.) The coders first had to arrive at a mutual definition of the impression variables they were to code. (Definitions are included in Appendix E.) They then began to practice the ratio scaling techniques on a set of 33 essays (17 male, 16 female) written by students in an introductory sociology class at Lansing Community College (LCC). Administration of the pretest forms took approximately 20 minutes. The coders were told to compare responses after every two essays, to discuss their discrepancies, and to agree to a common response. Each coding pair spent approximately 15 hours working on the LCC essays.

After the initial training period on the LCC essays, the coders began work on 40 pretest essays (p. 25) written by students in an introductory communication class. The coders were instructed to discuss discrepancies if they were unusual (i.e., more than two points off in the range from 0 to 15, more than three points off in the range from 16 to 25, more than four points off in the range from 26 to 35, etc.) The coders also divided the 40 essays and, with the coders working independently, each coding pair scored the measures of expressions for ten essays. Each coding pair spent approximately 20 hours working on the pretest essays.

On the basis of the pretest, those measures of expression syntax that showed significant differences between groups were selected for the experimental data. In addition, the coders were given feedback on the reliability of their subjective estimate measures. This feedback proved useful. Because the coders were unsure of how successful they

had been up to this point, the feedback confirmed their areas of strength and indicated those areas where more work was needed.

After final discussion of the task, coders began coding the experimental data. Coding pairs began each scoring session by doing their impression questions on two LCC or pretest essays so that they could reset the standard and work out any discrepancies. During the actual coding, the coders of any coding pair worked in separate rooms. After completing four essays, the coders would compare and discuss responses. No responses were changed, however. If the coders' discrepancy was unusual (as discussed before), they were instructed to reset their standards by doing additional LCC or pretest essays.

The experimental essays were broken into approximate quarters. Each coding pair scored the expression variables for their quarter as well as their four or five impression variables across all subjects. Each coding pair spent approximately 30 hours coding the experimental data. (A table showing the items that were coded by each coding pair is provided in Appendix F.)

2.6 Ethical Considerations

In the negative condition, students were led to believe that if they were chosen for and participated in the Negative Learning Program, they might receive small electric shocks while learning QSC. This was part of the experimental manipulation and at no time did we intend to carry out any "QSC studies." Nonetheless, from the students' point of view, the possibility of receiving electric shocks could definitely be anxiety-producing. Therefore, immediately after the experimental instrument was filled out, all students were fully debriefed. They were told that there

would be no electric shocks given to any of them. Furthermore, they were given a complete explanation of the experimental hypothesis and the experimental design.

2.7 Summary

In this chapter, we reviewed the methods used to test the experimental hypothesis relating individuation to perceived reward structure. We described an experimental manipulation that would permit students to make individuating self-presentations to a target that controlled the selective distribution of potential rewards and punishments. We also described the ways the success of this manipulation would be checked.

We discussed at some length the development of three sets of dependent measures of individuation: expressions and impressions, which were both measures of verbal behaviors, and nonverbal measures that allowed students to give conforming and nonconforming responses. Finally, because many of the dependent measures were scored by coders using ratio scales, an extensive coder training program was followed to assure reliable measures. This program was also discussed.

CHAPTER THREE

FINDINGS AND DISCUSSION

3.1 Overview

Any scientific investigation aims ultimately to provide a test of some theoretic notion. But before such a test can be meaningful, the investigator must have confidence in the internal and external validity of his procedures. In this chapter, we will present an analysis of our data that represents a systematic assessment of the evidence upon which arguments for accepting or rejecting the experimental hypothesis are based. In this analysis, we attempt to answer four sets of questions.

1) What confidence do we have in our sample?

   Are there problems of external validity? (i.e., is the sample representative? are there unusual distributions of any variables within the sample?) Are there problems of internal validity? (i.e., has the randomization of subjects across conditions successfully controlled for other variables that might confound the results?)

2) What confidence do we have in our measures?

   Are our measures of independent nonexperimental and dependent variables reliable and internally consistent? Are there anomalous relationships among dependent indicators that would make some measures suspect? Are our measures valid?

3) What confidence do we have in our experimental treatment?

   Has our attempt to structure differentially subjects' perceptions of reward been successful?

4) What evidence do we have for accepting or rejecting the experimental hypothesis?

   What is the functional form of relationship and magnitude of effect of the experimental treatment on the dependent indicators? Are the dependent indicators affected by nonexperimental independent variables?

To answer these questions, we present the results of various statistical tests and procedures.

1) In order to demonstrate our confidence that the sample does not jeopardize the internal or external validity of the study, we present frequency distributions of, and intercorrelations among, a number of demographic and personality variables. These statistical analyses are evidence of the representativeness of the sample. In addition, because these variables are not manipulated in this study (hence their designation as nonexperimental independent variables), we have controlled for them by randomly assigning subjects to treatment conditions. Therefore, to indicate how successful the randomization process has been, we also present the correlations between the nonexperimental independent variables and the experimental independent variables (i.e., linear and quadratic effects of experimental condition).

2) In order to demonstrate our confidence that the measures used in the study are meaningful, we present internal consistency scores for the multiple-item personality tests and the QSC Battery. In addition, we present intercoder correlations as measures of reliability for each of the expression and impression indicators of individuation. Intercorrelations among dependent indicators are also presented to reveal the nature of the dependent indicators and to establish the construct validity of these measures.

3) In order to demonstrate our confidence that the subjects' perceptions of reward in the situation has been differentially structured across conditions, we present statistical tests of the manipulation checks.

4) In order to assess the impact of the various nonexperimental and experimental independent variables on the dependent indicators, we present the results of correlational, regression, and canonical analyses.

Because of the large number of measures involved in this study, we have identified different sets of variables and indicators by different prefixes. NX identifies nonexperimental independent variables; X identifies experimental independent variables; DE identifies expression indicators of the dependent variable, individuation; DI identifies impression indicators of individuation; and DB identifies the QSC Battery and Personal Geometry Profile measures. Measures without prefixes are those used to create the various dependent indicators.

3.2 Results of Data Analysis Pertaining to Sample

Table 1 provides demographic and personality data for the sample. Higher values for the personality scores indicate greater presence of the trait. Higher values on the Internal-External Locus of Control scale indicate greater perception of external control. The means and standard deviations of the personality scores reflect the lack of many extreme values in the sample.

Most of the demographic variables also show no anomalous distributions that would cause us to suspect the composition of our sample. Year of birth (NX4) does reveal a somewhat greater diversity in ages than what might be expected in most undergraduate classes, but we do not see this as a problem. One aspect of the sample demographics that may pose a problem for the study is the sex distribution (NX2). In the sample, the number of female subjects is twice the number of male subjects. In the validation study (where the expression and impression indicators of individuation were selected), the female/male ratio was more even. If there are sex differences in the use of expression or impression indicators of individuation, then the indicators selected on the basis of the validation study (where sex differences were not controlled for) may not be appropriate for the experiment. If inappropriate indicators were selected, then it would be less likely that the experimental hypothesis would be confirmed. More information relevant to this issue can be found in Table 12, in which correlations of sex with expression and impression indicators are presented.

Table 2 shows the linear intercorrelations among the demographic and personality variables that constitute the nonexperimental independent variables in the study. Table 3 shows the correlations of these

Table 1. Description of Sample

Subjects	n
Filling out personality measures only	14
Filling out experimental instrument only	10
Filling out both	90
Total	114

(NX1) Class

Morning Class	60
Afternoon Class	40
Missing	14

(NX2) Sex

Male	33
Female	69
Missing	12

(NX3) Year in School

Freshman	2
Sophomore	14
Junior	52
Senior	33
Other	3
Missing	10

(NX4) Year of Birth

	n
1955	10
1954	22
1953	33
1952	10
1951	4
1950	3
1949	1
1948	1
1947	3
Before 1947	12
Missing	15

(NX5) Birth Order

First born	34
Later born	66
Only child	4
Missing	10

(NX6) Place of Residence

	n
Farm	5
Open country but not farm	8
Village less than 2,500	6
Town of 2,500-10,000	16
City of 10,000-100,000	46
City over 100,000	22
Missing	11

Personality Scores	Mean	Standard Deviation	Range
(NX7) Machiavellianism (104)	72.12	14.66	36-124
(NX8) Self-Esteem (104)	54.09	8.01	36-70
(NX9) Internal-External Locus of Control (102)	11.30	4.83	1-21
(NX10) Social Desirability (103)	11.05	4.63	1-21

nonexperimental independent variables with the experimental independent variables, linear effect of experimental condition (X1) and quadratic effect of experimental condition (X2; see Section 2.2). In Table 2, we are especially interested in the correlations among sex (NX2), Machiavellianism (NX7), and self-esteem (NX8), because these are variables that we suspect may affect the individuation process. The linear correlations show them to be relatively independent of one another, with the strongest relationship being a nonsignificant $\underline{r} = -.16$ between sex and self-esteem.

In Table 3, correlations indicate that the random assignment of subjects to conditions was fairly successful in controlling for the nonexperimental independent variables. Self-esteem (NX8) and social desirability (NX10) both show small but significant associations with the linear effect of experimental condition (X1; $\underline{r}$'s = -.20 and -.25, respectively, $\underline{p}$'s $\leq .05$). The relationship between self-esteem and linear effect of experimental condition will pose some slight problem in terms of multicollinearity when both variables are entered into regression or canonical analysis with the dependent indicators.

Let us summarize the implications arising from the investigation of the first three tables. First, our sample appears fairly representative of a college population.[16] Most of the nonexperimental independent variables show no abnormalities in their distributions. Moreover, they are relatively independent of the experimental independent variables. Thus, their effects on the dependent indicators have been effectively controlled by the successful random assignment of subjects to condition.

Two potential problems are worth noting, however. First, if the expressions used or impressions created in individuating differ by sex,

Table 2. Intercorrelations Among Nonexperimental Independent Variables

		NX1	NX2	NX3	NX4	NX5	NX6	NX7	NX8	NX9	NX10
NX1	Class										
NX2	Sex[a]	-.05									
NX3	Year in school	.00	-.15								
NX4	Year of birth	.08	-.02	-.34**							
NX5	Birth order	-.29**	.08	-.11	.06						
NX6	Place of residence	-.06	-.11	.03	-.05	.08					
NX7	Machiavellianism	-.13	-.13	.17*	-.01	-.09	.04				
NX8	Self-esteem	-.02	-.16	.06	-.08	-.15	-.05	.08			
NX9	Internal-external locus of control	-.03	.09	-.01	.23**	.06	-.19*	.28**	-.19*		
NX10	Social desirability	-.10	.03	-.19*	.01	.07	.04	-.08	.24**	.05	

* $p \leq .05$ (one-tailed)

** $p \leq .01$ (one-tailed)

(Minimum n = 83, Maximum n = 104)

[a]Male = 1, female = 2.

Table 3. Intercorrelations Among Experimental and Nonexperimental Independent Variables.

		X1 Linear effect of experimental condition	X2 Quadratic effect of experimental condition
NX1	Class	-.01	.04
NX2	Sex [a]	-.01	.10
NX3	Year in school	-.02	.10
NX4	Year of birth	-.13	-.04
NX5	Birth order	-.12	-.04
NX6	Place of residence	-.10	.00
NX7	Machiavellianism	.05	-.12
NX8	Self-esteem	-.20*	.15
NX9	Internal-external locus of control	.04	.01
NX10	Social desirability	-.25*	.00

(Note: $r_{X1, X2} = -.02$. This correlation would be .00 if all cell sizes were equal.)

* $p \leq .05$ (one-tailed)

(Minimum $n = 84$, Maximum $n = 99$)

[a] Male = 1, female = 2.

then the high female/male ratio in the sample may lessen the chance of failing to reject the experimental null hypothesis. Secondly, there is a slight problem of multicollinearity among one of the nonexperimental independent variables, self-esteem, and the linear effect of experimental condition. Nonetheless, Tables 1-3 lead us to be fairly confident that the constitution of the sample does not jeopardize the validity of the findings of this study. Let us now examine the strength of our measures.

3.3 Results of Data Analysis Pertaining to Measures

Tables 4 through 9 present evidence upon which we can establish a level of confidence in our various independent and dependent measures. Table 4 shows the internal consistency of each of the multiple-item personality measures. We are concerned with the possible effects of Machiavellianism (NX7) and self-esteem (NX8) on individuation, so we are especially concerned with the reliability of these two measures. Cronbach's α for Machiavellianism is .70 and for self-esteem is .80. These values demonstrate moderate levels of internal consistency for both measures.

Table 4. Internal Consistency of Personality Measures

		n	Cronbach's α	Number of items
NX7	Machiavellianism	(83)	.70	20
NX8	Self-esteem	(86)	.80	10
NX9	Internal-external locus of control	(84)	.79	23
NX10	Social desirability	(83)	.77	30

Tables 5 through 8 describe three sets of dependent indicators of individuation: expression indicators, impression indicators, and non-verbal indicators from both the QSC Battery and Personal Geometry Profile test. Table 5 presents descriptive statistics and intercoder reliability for the expression and impression measures of individuation coded by each coding team. The correlations between coders for expression measures range from .35 to 1.00, with the majority of correlations above .87. Among the measures of impressions, intercoder correlations range between .31 and .85. The .31 correlation for flattery (DI3) is significant at the $p \leq .005$ level (one-tailed). All other correlations are significant at the $p \leq .001$ level (one-tailed).[18] The correlations among the impression measures, demonstrate that complex subjective estimates on ratio scales can be reliable, given sufficient coder training. Except for the measures of number of category statements (DE10) and the amount of flattery (DI3), the expression and impression measures of individuation are fairly reliable, with many of them being highly reliable.

Table 6 presents the means and standard deviations for the constructed expression and impression indicators of individuation. (For more information on how these indicators were constructed, see Section 2.4.) Except for number of words (DE1) and number of unique dimensions (DE9), the expression indicators are all expressed in terms of rates per word. Reliabilities were not recalculated for these measures because the correlation between coders for number of words is .99+, and reliabilities of these rate indicators would show essentially no change from the reliabilities of the measures not expressed as rates.

Table 5. Descriptive Statistics and Intercoder Reliabilities for Verbal Measures.

Measure	Coding Team 1 Mean	Coding Team 1 S.D.	Coding Team 2 Mean	Coding Team 2 S.D.	r_{12} (Intercoder Reliability)
Number of sentences	5.9	2.4	5.8	2.4	.97++
words	78.0	36.0	77.6	36.1	1.00++
first person singular pronouns	8.5	4.2	8.6	4.1	.98++
nouns[a]	18.6	8.2	18.1	8.0	.92++
active verbs	8.8	5.1	8.9	5.3	.89++
passive verbs	0.7	1.1	0.7	1.4	.65++
present tense verbs	7.7	4.5	7.3	4.5	.92++
similar dimensions	4.1	1.3	4.1	1.2	.87++
different dimensions	1.2	1.4	1.2	1.4	.70++
category statements	1.1	0.5	1.0	0.4	.35++
sociological information	5.2	1.4	5.9	1.6	.53++
Subjective estimate of differentness	11.4	2.0	11.5	2.5	.74++
positiveness	10.2	1.3	10.5	1.8	.66++
flattery	10.1	1.4	10.2	0.8	.31+
uniqueness	10.6	1.5	10.6	1.7	.79++
calculatedness	11.1	1.9	10.9	1.6	.52++
enthusiasm	10.6	1.7	10.4	1.4	.85++
intensity	10.2	1.4	10.3	1.1	.79++

\+ $p \leq .005$ (one-tailed)

++ $p \leq .001$ (one-tailed)

(Minimum n = 98, Maximum n = 99)

[a]In the tables in this chapter, the indicator "nouns" includes nouns, gerunds and infinitives.

Table 6. Means and Standard Deviations of Verbal Dependent Indicators.

	Dependent Indicator[a]	n	Mean	S.D.
DE1	Number of words	99	77.81	36.00
DE2	Rate of sentences	99	0.08	0.02
DE3	Rate of first person singular pronouns	99	0.12	0.03
DE4	Rate of nouns	99	0.24	0.05
DE5	Rate of active verbs	99	0.12	0.04
DE6	Rate of passive verbs	99	0.01	0.01
DE7	Rate of present tense verbs	99	0.10	0.03
DE8	Rate of non-unique dimensions	99	0.06	0.03
DE9	Number of unique dimensions	99	1.19	1.29
DE10	Rate of category statements	99	0.02	0.01
DE11	Rate of sociological information	99	0.08	0.03
DI1	Subjective estimate of differentness	98	11.46	2.09
DI2	positivenss	98	10.34	1.43
DI3	flattery	98	10.16	0.91
DI4	uniqueness	98	10.62	1.50
DI5	calculatedness	99	10.96	1.53
DI6	enthusiasm	99	10.50	1.50
DI7	intensity	99	10.23	1.21

[a]Dependent indicators are the average of the scores from the two coding sets. Rate variables are standardized by dividing by number of words in the self-descriptive essay.

In Tables 7 and 8, data about the nonverbal measures of individuation are summarized. Table 7 shows the internal consistency of the QSC Battery. The battery was developed to check on the extent to which students would give conforming or nonconforming responses to a set of test questions. The low α suggests that the QSC Battery is not internally consistent.

Table 8 presents the means, standard deviations, ranges, and intercorrelations of the Personal Geometry Profile items. The evidence suggests that we may have a problem with our measure. The Personal Geometry Profile items were devised to allow subjects to appear similar to or different from three others -- R.S., J.L., and "the average student."

If the subjects used the items in such a fashion, we would expect consistent scores across items and high correlations between items. Although these items are significantly intercorrelated, it does not appear that the subjects used the scale as a unidimensional test of similarity. We will consider the possible problems of these two non-verbal measures of individuation in more detail when we discuss Tables 9D and 9E.

Table 7. Internal Consistency of QSC Battery.

	n	Mean	S.D.	Cronbach's α	Number of Items
Two Check Items	96	19.30	6.04	.16	4
One Check Items	96	16.32	5.10	.12	4
No Check Items	96	14.89	4.70	.13	4
All Items B1 QSC Battery Score	96	50.54	10.09	.28	12

Table 8. Means, Standard Deviations, and Ranges of Personal Geometry Profile Constructs.

Item	n	Mean	S.D.	Range
Discrepancy between student and R.S.	97	2.83	1.73	1.0 to 8.0
Discrepancy between student and J.L.	97	3.23	2.10	1.0 to 8.0
Discrepancy between student and average student	96	2.42	1.72	1.0 to 8.0

Tables 9A through 9E present the intercorrelations among all dependent indicators of individuation. In examining these intercorrelations, we are looking for two things: 1) Are there anomalous relationships that identify certain measures as problematic? 2) Are there patterns of relationships that demonstrate the construct validity of our measures?

Table 9A presents the intercorrelations among the expression indicators of individuation. A problem in the rate indicators is immediately apparent. Except for the rate of passive verbs (DE6), all the rate indicators are significantly correlated with number of words (DE1). These correlations range from -.18 for rate of active verbs (DE5; $p \leq .05$) to -.72 for the rate of similar dimensions (DE8; $p \leq .001$). The original justification for computing the rate indicators was to minimize the effects of essay length on the various expression measures. Whenever a rate measure is computed, it correlates with both its numerator and denominator. But in this case, the correlations of rates with number of words is substantial. Because of the nature of the data analysis used to test the experimental hypothesis (the set of dependent indicators is regressed onto a single experimental independent variable--see page 67), these high intercorrelations mean that problems of multicollinearity will make interpretation and significance of some results problematic. This problem will be discussed in more detail in the next chapter.

Table 9B presents the intercorrelations among the impression indicators of individuation. These seven self-presentational tactics were selected as impression indicators on the basis of their differential use in the validation study. Two of these indicators, differentness (DI1) and uniqueness (DI4), have face validity as measures of individuation.

Table 9A. Intercorrelations Among Dependent Indicators.

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
DE1	Number of words											
DE2	Rate of sentences	-.48++										
DE3	Rate of first person singular pronouns	-.33++	.61++									
DE4	Rate of nouns	-.36++	.44++	.12								
DE5	Rate of active verbs	-.18*	.27+	.43++	.24**							
DE6	Rate of passive verbs	.13	-.24**	.02	-.20*	-.22*						
DE7	Rate of present tense verbs	-.19*	.31++	.42++	.21*	.78++	-.16					
DE8	Rate of non-unique dimensions	-.72++	.53++	.50++	.41++	.38++	-.24**	.41++				
DE9	Number of different dimensions	.50++	-.11	-.08	.02	.10	.20*	.11	-.39++			
DE10	Rate of category statements	-.60++	.61++	.38++	.56++	.28+	-.18*	.35++	.67++	-.23*		
DE11	Rate of sociological information	-.81++	.46++	.30++	.40++	.03	-.15	.13	.78++	-.38++	.64++	

(n = 99)

*$p \leq .05$ (one-tailed) **$p \leq .01$ (one-tailed) +$p \leq .005$ (one-tailed) ++$p \leq .001$ (one-tailed)

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The high correlations of these two indicators with positivness (DI2), enthusiasm (DI6), and intensity (DI7), suggest that these indicators are tapping the same underlying construct. Surprisingly, flattery (DI3) and caculatedness (DI5) are only slightly related to each other (r = .19, $p \leq .05$) and not too strongly related to the other five indicators. This may reflect a second (and third) dimension underlying our dependent variable, individuation. More likely, however, is that this study reflects the low reliabilities of these two indicators. The intercoder correlations reported in Table 5 reveal flattery and calculatedness to be the two least reliable impression measures (r's = .31 and .52, respectively). Although the averaging procedure used in computing these indicators will improve reliability, the low correlations of these indicators with the other impression indicators probably reflects their still insufficient reliabilities. Thus, even though flattery and calculatedness are problematic, the other impression indicators appear to be valid measures of individuation.

Table 9B. Intercorrelations Among Dependent Indicators (cont.)

		DI1	DI2	DI3	DI4	DI5	DI6	DI7
DI1	Differentness							
DI2	Positiveness	.68++						
DI3	Flattery	.43++	.17*					
DI4	Uniqueness	.83++	.62++	.48++				
DI5	Calculatedness	.01	-.38++	.19*	-.12			
DI6	Enthusiasm	.63++	.59++	.38++	.73++	-.14		
DI7	Intensity	.52++	.56++	.24**	.67++	-.28◆	.81++	

*$p \leq .05$ (one-tailed) **$p \leq .01$ (one-tailed)

+$p \leq .005$ (one-tailed) ++$p \leq .001$ (one-tailed)

(Minimum n = 98, Maximum n = 99)

Table 9C presents the correlations between the expression and the impression indicators of individuation. The number of significant correlations show the two sets to be richly interconnected and we might assume that this is evidence for the earlier assertion that the impressions we create arise from the expressions we use. Upon closer examination, however, we are forced to reserve our judgment. This is because of the multicollinearity problem among number of words (DE1) and the rate indicators that we mentioned earlier. Table 9E shows that number of words correlates highly with each impression indicator. Correlations range from .27 for calculatedness (DI5; $p \leq .01$) to .73 for enthusiasm (DI6; $p \leq .001$). Except for the correlation with calculatedness, all the impression indicators correlate with number of words at a significance level of $p \leq .001$. Given the strength of these correlations, and remembering the multicollinearity problem, it is no wonder that the rest of the expression indicators correlate so well with the impression indicators. Thus the relationship between expression indicators and impression indicators remains somewhat problematic. The extent to which the impressions we create arise from the various expressions we use remains unknown. We will discuss possible solutions to this problem in the next chapter.

Tables 9D and 9E present the intercorrelations of the remaining dependent indicators of individuation. In Table 9D, the correlations between the QSC Battery and the items from the Personal Geometry Profile are shown. Earlier, in discussing Tables 7 and 8, we pointed to the low internal consistency of both scales. Now we see that the correlations between these scales are not significant. Given that both of these scales attempts to measure the same variable, we can assume that at least one

Table 9C. Intercorrelations Among Dependent Indicators (cont.)

		D1 words[a]	D2 sentences	D3 first person singular pronouns	D4 nouns	D5 active verbs	D6 passive verbs	D7 present tense verbs	D8 non-unique dimensions	D9 unique dimensions	D10 category statements	D11 sociological information
DI1	Differentness	.69++	-.51++	-.37++	-.40++	-.21*	.23*	-.21*	-.66++	.49++	-.56++	-.62++
DI2	Positiveness	.45++	-.40++	-.20*	-.33++	-.17*	.13	-.22*	-.40++	.37++	-.54++	-.33++
DI3	Flattery	.35++	-.27+	-.37++	-.30++	-.06	-.09	-.11	-.39++	-.04	-.35++	-.44++
DI4	Uniqueness	.66++	-.51++	-.29+	-.63++	-.20*	.23*	-.21	-.69++	.38++	-.70++	-.69++
DI5	Calculatedness	.27+	.08	-.06	.31++	.05	-.02	.12	-.07	.12	.27+	-.18*
DI6	Enthusiasm	.75++	-.52++	-.32++	-.46++	-.12	.09	-.21*	-.69++	.35++	-.78++	-.69++
DI7	Intensity	.52++	-.41++	-.18*	-.41++	-.10	.21*	-.19*	-.55++	.36++	-.65++	-.53++

*$p \leq .05$ (one-tailed)

**$p \leq .01$ (one-tailed)

+$p \leq .005$ (one-tailed)

++$p \leq .001$ (one-tailed)

(Minimum $n = 98$, Maximum $n = 99$)

[a]The indicators "words" and "unique dimensions" are expressed as actual numbers. All other indicators are expressed as rates.

of them (and possibly both) fails as a measure of individuation. Table 9E provides more information relevant to this issue.

In Table 9E, we present the correlation of the nonverbal measures, the QSC Battery and the Personal Geometry Profile items, with the verbal expression and impression indicators of individuation. The QSC Battery (DB1) shows only one significant correlation (with calculatedness, DI5; $\underline{r} = -.20$, $p \leq .05$) among the 18 verbal indicators. Given the evidence that already has been presented to establish the reliability and validity of the verbal measures, we can only conclude that, in this particular instance, the QSC Battery does not measure individuation. The QSC Battery, therefore, will not be used in further analysis.

For the first two constructs from the Personal Geometry Profile (DB2, the discrepancy between self and R.S., and DB3, the discrepancy between self and J.L.), we have a similar situation. The constructs are uncorrelated with established measures of individuation and will also be dropped from further analysis. The third construct from the Personal Geometry Profile (DB4), the difference between self and the "average student," presents a rather unusual problem. It is significantly correlated with many of the rate expression measures, as we would like; however, it is negatively correlated with number of words and all of the impression indicators. This means that as students' essays reveal more positiveness, differentness, uniqueness, etc., the students are reporting themselves to be more, not less, like the average student. This is the opposite of what we expect. Except for the correlation with enthusiasm (DI6; $\underline{r} = -.18$, $\underline{p} \leq .05$), the relationship of this Personal Geometry Profile construct to impression measures is not significant. Nonetheless, this indicator of individuation will be used cautiously in further analysis.

Table 9D. Intercorrelations Among Dependent Indicators (cont.).

		DB1	DB2	DB3	DB4
DB1	QSC Battery Score				
DB2	Discrepancy between student and R.S.	.11			
DB3	Discrepancy between student and J.L.	.04	.40++		
DB4	Discrepancy between student and average student	.11	.33++	.24**	

**$p \leq .01$ (one-tailed)

++$p \leq .001$ (one-tailed)

(Minimum n = 94, Maximum n = 97)

Table 9E. Intercorrelations Among Dependent Indicators (cont.).

		DB1	DB2	DB3	DB4
DE1	Number of words	-.05	-.01	-.02	-.10
DE2	Rate of sentences	-.08	.12	-.01	.18*
DE3	Rate of first person singular pronouns	-.01	.07	-.01	.20*
DE4	Rate of nouns	-.08	.05	-.04	.22*
DE5	Rate of active verbs	.10	.17*	.04	.23*
DE6	Rate of passive verbs	.09	.02	.27+	.02
DE7	Rate of present tense verbs	.13	.03	.03	.19*
DE8	Rate of non-unique dimensions	.00	.04	-.11	.17*
DE9	Number of different dimensions	.08	.14	.13	.06
DE10	Rate of category statements	-.06	-.01	.08	.11
DE11	Rate of sociological information	.02	-.08	-.09	.08

		DB1	DB2	DB3	DB4
DI1	Differentness	.05	.02	.04	-.06
DI2	Positiveness	.03	-.06	-.10	-.03
DI3	Flattery	.07	-.04	-.06	-.14
DI4	Uniqueness	.10	.02	.10	-.13
DI5	Calculatedness	-.20*	-.08	.06	.09
DI6	Enthusiasm	-.01	.00	.00	-.18
DI7	Intensity	.08	.06	.07	-.12

*$p \leq .05$ (one-tailed)

**$p \leq .01$ (one-tailed)

+$p \leq .005$ (one-tailed)

++$p \leq .001$ (one-tailed)

(Minimum n = 94, Maximum n = 97)

Let us summarize briefly the implications of this last set of tables. Our purpose in presenting these tables was to demonstrate the reliability and validity of our measures. The tables revealed mixed success over the many measures we considered. Some measures proved reliable and valid, and some measures less so.

The Cronbach's $\underline{\alpha}$ for Machiavellianism and self-esteem demonstrate moderate internal consistency for these nonexperimental independent variables. They will be used in further analysis. Intercoder correlations of the dependent expression and impression measures were generally high enough for us to consider these reliable indicators of individuation. Correlations among indicators were used to establish the construct validity of the impression indicators. Unfortunately, the high correlations of number of words with the rate of expression indicators suggests that the hoped for independence of expression indicators was not achieved. Problems of multicollinearity may confound subsequent analysis. Because of its problematic relationship with the impression indicators, one of the Personal Geometry items, the self-report of difference between the individual and the "average student," will be used cautiously as an indicator of individuation. The other two of the three items on the Personal Geometry Profile and the QSC Battery revealed questionable internal consistencies and/or relationships with other indicators that made their validity as indicators of individuation suspect. These measures will not be used in further analysis. Having pointed out the strengths and weaknesses of our measures, let us now consider the effectiveness of our attempts to construct situations that the students would perceive as differentially rewarding.

3.4 Results of Data Analysis Pertaining to Experimental Manipulation

Table 10 presents the results of three questions used to check the successfulness of our attempts to manipulate the students' perception of the reward situation. Students were asked to report how much they liked each QSC training program, how rewarding they felt the treatments were in each learning program, and how rewarding they felt each learning program was. To check to see if the different learning programs represented situations of differing reward, we compared the ratings of conditions by students in those conditions. That is, evaluations of the Positive Learning Program made by students in the positive condition were compared with evaluations of the Standard Learning Program made by students in the control condition and with evaluations of the Negative Learning Program made by students in the negative condition. For all three manipulation checks, significant differences between conditions ($p \leq .0001$) were found. The Positive Learning Program is rated highest, the Standard Learning Program next highest, and the Negative Learning Program is rated lowest. Thus, student perception of the reward structure seems to have been successfully manipulated in the experiment.

Before we present the data analyses used in assessing the relationships between our independent and dependent variables, let us review briefly what we have already presented in this chapter. At the beginning of the chapter, we said that before any test of a hypothesis could be meaningfully interpreted, we needed to have confidence in the representativeness of our sample, in the reliability and validity of our measures, and in the successfulness of our experimental manipulation. The results presented so far are the bases for different levels of confidence in our methods.

Table 10. Means, Standard Deviations, and Analyses of Variance for Manipulation Checks.

Table 10. Means, Standard Deviations, and Analyses of Variance for Manipulation Checks.[a]

	Question	Group	Mean	S.D.	n
(a)	Degree of Liking of Own QSC Learning Program	Positive	9.00	1.62	30
		Standard	5.94	2.19	34
		Negative	2.74	2.81	35
(b)	Perceived Reward of Treatments in own QSC Learning Program	Positive	9.33	1.58	30
		Standard	5.50	1.96	34
		Negative	2.37	2.43	35
(c)	Rating of QSC Learning Program	Positive	9.16	1.42	30
		Standard	6.00	2.26	34
		Negative	2.91	2.71	35

	Question	Source	SS	df	MS	F	p
(a)	Liking	Condition	634.6	2	317.3	60.61	.0001
		Error	502.5	96	5.2		
(b)	Reward	Condition	783.1	2	391.6	94.13	.0001
		Error	399.3	96	4.2		
(c)	Rating	Condition	642.9	2	321.4	65.80	.0001
		Error	469.0	96	4.9		

[a]High numbers indicate greater magnitudes of the dependent variables.

First, the sample appears reasonably representative of the population of "average college students" for which the experiment was designed. However, we did notice a higher female/male ratio in the experiment than in the validation study and cautioned that sex difference in expression and impression indicators could confound any of the hypotheses. Second, our measures seem valid and fairly reliable, with a few exceptions. There is some question about the strong relationship of number of words with other expression indicators. Multicollinearity among expression indicators poses two problems: (1) testing the hypotheses by relating the whole set of expression indicators with the linear effect of experimental condition is likely to be biased conservatively because degrees of freedom will be used up among the highly correlated expression indicators, and (2) interpreting the causal links within the set of expression indicators is made difficult by their rich intercorrelation. These issues make the testing of the experimental hypotheses less than straightforward. Finally, the experimental manipulation proved very successful. Whatever complications may arise because of the sample of the measure, we can be confident that students confronted situations of different reward.

3.5 Results of Data Analysis Pertaining to the Relationship Between Individuation and Perceived Potential Reward

Having reviewed our findings so far, and having sensitized outselves to possible complications, let us now look at the results of data analyses that reflect on the relationship of the independent and dependent variables of this study. In examining these relationships, there are several things we want to do. Obviously we want to test the experimental

hypothesis that the degree of individuation will be a positive function of perceived reward in a situation. To do this, we will examine the relationships between the experimental independent variable, linear effect of condition (X1), and the dependent indicators taken individually and in sets. Moreover, to get a more complete picture of the overall impact of experimental treatments on individuation, we will also consider the quadratic effect of experimental condition (X2) on our dependent indicators. But in addition, we want to know the extent to which our dependent indicators are the results of other nonexperimental effects. To do this, we will consider the effects of the nonexperimental independent variable, sex (NX2), Machiavellianism (NX7) and self-esteem (NX8), on our indicators of individuation.

First, let us consider these nonexperimental effects. Tables 11A and B show the zero-order correlations of sex, Machiavellianism, and self-esteem with the indicators of individuation. These nonexperimental independent variables are differentially related to the dependent indicators. Among expression indicators, sex (NX2) is significantly related to rate of sentences (DE2; $\underline{r} = -.25$, $\underline{p} \leq .01$), rate of similar dimensions (DE8; $\underline{r} = -.28$, $p \leq .05$). Among impression indicators, sex is significantly related to differentness (DI1; $\underline{r} = .23$, $\underline{p} \leq .05$), flattery (DI3; $\underline{r} = .20$, $\underline{p} \leq .05$), enthusiasm (DI6; $\underline{r} = .23$, $\underline{p} \leq .05$), and intensity (DI7; $\underline{r} = .23$, $\underline{p} \leq .05$). This means that in the sample, women tend to write longer sentences and have lower rates of similar dimensions and category statements than men. They also are significantly more different, flattering, enthusiastic and intense in their self-presentations than men. As we noted above, the different sex compositions of validation and experimental samples could be a confounding factor if these were significant sex

differences in the expression and impression indicators. These findings suggest such a sex difference. This issue will be examined further in Table 12 below.

Like sex, self-esteem is also significantly related to a number of expression and impression indicators. Students with high self-esteem tend to use a lower rate of active verbs (DE5; $\underline{r} = -.21$, $p \leq .05$) and a higher rate of category statements (DE10; $\underline{r} = .19$, $p \leq .05$). Interestingly, students of higher self-esteem present themselves less positively (DI2) and less uniquely (DI4) than those of lower self-esteem, but not significantly so. High self-esteem students appear significantly more calculating (DI5; $\underline{r} = .19$, $\underline{p} \leq .05$), less enthusiastic (DI6; $\underline{r} = -.25$, $\underline{p} \leq .01$), and less intense (DI7; $\underline{r} = -.28$, $p \leq .005$) than low self-esteem students. This suggests that perhaps the high self-esteem students, confident in themselves, appeared detached in their self-presentations and that this detachment was seen as a calculated strategy.

Sex and self-esteem are both also significantly related to the degree of individuation reflected in the Personal Geometry Profile item (DB4; $\underline{r}$'s = -.20 and .20, respectively, $\underline{p}$'s $\leq .05$). This suggests that women and students with higher self-esteem see themselves as being more different from the average college student, than do males and students with lower self-esteem. Surprisingly, Machiavellianism (NX7) is not significantly related to any of these indicators of individuation.

The reason for presenting the results of Tables 11A and B is to allow us to assess some nonexperimental influences on individuation. These results suggest that some of the expression and impression indicators are significantly related to two of our nonexperimental independent variables: sex and self-esteem. Our next concern is whether or not these

Table 11A. Correlations of Sex, Self-Esteem, and Machiavellianism with Dependent Indicators.

		NX2 Sex[a]	NX7 Machiavellianism	NX8 Self-Esteem
DE1	Number of words	.17	-.05	-.04
DE2	Rate of sentences	-.25**	-.03	-.08
DE3	Rate of first person singular pronouns	-.16	-.02	-.03
DE4	Rate of nouns	-.12	.05	.16
DE5	Rate of active verbs	-.10	.03	-.21*
DE6	Rate of passive verbs	.02	-.05	.14
DE7	Rate of present tense verbs	-.07	-.03	-.12
DE8	Rate of non-unique dimensions	-.18*	.01	.07
DE9	Number of unique dimensions	.13	.02	.05
DE10	Rate of category statements	-.22*	.06	.19*
DE11	Rate of sociological information	-.13	-.03	.14

		NX2 Sex	NX7 Machiavellianism	NX8 Self-Esteem
DI1	Differentness	.23*	-.12	-.03
DI2	Positiveness	.17	.06	-.10
DI3	Flattery	.20*	-.11	-.03
DI4	Uniqueness	.11	-.10	-.17
DI5	Calculatedness	-.08	.08	.19*
DI6	Enthusiasm	.23*	-.14	-.25**
DI7	Intensity	.23*	-.11	-.28+

*$p \leq .05$ (one-tailed)

**$p \leq .01$ (one-tailed)

+$p \leq .005$ (one-tailed)

++$p \leq .001$ (one-tailed)

(Minimum n = 87, Maximum n = 89

[a]Male = 1, female = 2.

Table 11B. Correlations of Sex, Self-Esteem, and Machiavellianism with Dependent Indicators. (cont.)

		NX2 Sex[a]	NX7 Machiavellianism	NX8 Self-Esteem
DB1	QSC Battery Score	.08	.21*	.02
DB2	Discrepancy between student and R.S.	-.17	.00	.06
DB3	Discrepancy between student and J.L.	-.10	-.01	.17
DB4	Discrepancy between student and average student	-.20*	.14	.20*

*$p \leq .05$ (one-tailed)

(Minimum n = 85, Maximum n = 87)

[a]Male = 1, female = 2.

nonexperimental independent variables are significantly related to the entire set of expression or impression indicators.

Table 12 presents the results of multiple regression analysis of the relationships between the nonexperimental independent variables, sex (NX2), Machiavellianism (NX7), and self-esteem (NX8), taken singly with the sets of expression and impression indicators. Some of these relationships are moderately strong. The $\underline{R}^2$ of sex with impression indicators is .14. $\underline{R}^2$'s of self-esteem with expression and impression indicators are .19 and .15. None of the relationships are significant, however. We are forced to conclude that individuation, as reflected in subjects' self-presentation essays, is only slightly influenced by our nonexperimental independent variables.

So far we have found that individuation, as reflected in the expression and impression indicators, is relatively unaffected by sex, Machiavellianism, or self-esteem. A third indicator of individuation, however, the Personal Geometry Profile construct is significantly affected by sex and self-esteem. This contradiction may be due to problems of multicollinearity that make suspect our assessment of the expression and impression analyses. Or it may be due to the questionable validity (see p. 51) that makes the Personal Geometry Profile item suspect. In either case, no strong general evidence for direct effects of nonexperimental independent variables on individuation has been found. Let us now examine the effects of our experimental variables on individuation.

Table 13 presents the correlations of dependent indicators with the two experimental independent variables, linear and quadratic effects of experimental conditions. Linear effect of experimental conditions

Table 12. Multiple Regression of Nonexperimental Independent Variables with Indicators of Individuation.

		NX2 Sex Beta Wt.	NX7 Machiavellianism Beta Wt.	NX8 Self-Esteem Beta Wt.
Expression Indicators				
DE1	Number of words	-.02	-.31	.12
DE2	Rate of sentences	-.29	-.26	.08
DE3	Rate of first person singular pronouns	.11	.18	-.07
DE4	Rate of nouns, gerunds, and infinitives	.07	.05	.13
DE5	Rate of active verbs	-.16	-.01	-.40
DE6	Rate of passive verbs	-.10	-.13	.19
DE7	Rate of present tense verbs	-.09	-.18	.05
DE8	Rate of non-unique dimensions	-.08	.03	.27
DE9	Number of unique dimensions	.11	.17	.11
DE10	Rate of category statements	-.15	.19	.20
DE11	Rate of sociological information	.09	-.29	-.08
	R^2	.10	.07	.19
	Significance	>.10	>.10	>.10
Impression Indicators				
DI1	Differentness	.55	-.27	.47
DI2	Positiveness	-.19	.25	-.17
DI3	Flattery	.11	-.08	.15
DI4	Uniqueness	-.56	.10	-.22
DI5	Calculatedness	-.08	.13	.00
DI6	Enthusiasm	.14	-.12	-.19
DI7	Intensity	.21	.03	-.23
	R^2	.14	.04	.15
	Significance	<.10	>.10	<.10

(Minimum n = 87, Maximum n = 89)

is significantly related to only one expression indicator, rate of category statements (DE10; $\underline{r} = -.17$, $\underline{p} \leq .05$). It is significantly related to three of the impression indicators, positiveness (DI2; $\underline{r} = .19$, $\underline{p} \leq .05$), enthusiasm (DI6; $\underline{r} = .22$, $p \leq .05$), and intensity (DI7; $\underline{r} = .20$, $\underline{p} \leq .05$). Surprisingly, linear effect of experimental conditions is negatively and almost significantly related to the Personal Geometry Profile indicator of individuation (DB4; $\underline{r} = -.16$, $\underline{p} \leq .10$).

The experimental hypothesis predicted a positive relationship between the linear effect of experimental conditions and individuation. These results are not sufficient to confirm or reject the hypothesis. Certainly some support for the hypothesis is found in some of the relationships between linear effect and expression and impression indicators. The negative relationship between linear effect and the Personal Geometry Profile indicator may be evidence for rejecting the hypothesis. Alternately, it may further question the validity of that item as an indicator of individuation. Further analysis of linear effect will be presented in Table 14.

Tables 13A and B also show the correlation of the dependent indicators with the quadratic effect of experimental conditions. Quadratic effect (X2) is significantly related to number of words (DE1; $\underline{r} = .22$, $p \leq .05$), rate of first person singular pronouns (DE3; $\underline{r} = -.18$, $p \leq .05$) and calculatedness (DI5; $\underline{r} = .20$, $\underline{p} \leq .05$). This means that compared to students in the standard condition, students in the negative and positive conditions wrote longer introductory essays, used a lower rate of first person singular pronouns, and were more calculating.[19]

Table 13A. Correlations of Experimental Independent Variables with Dependent Indicators.

		X1, Linear effect of experimental conditions	X2, Quadratic effect of experimental conditions
DE1	Number of words	.07	.22*
DE2	Rate of sentences	-.07	.02
DE3	Rate of first person singular pronouns	-.10	-.18*
DE4	Rate of nouns	.05	.10
DE5	Rate of active verbs	.12	-.01
DE6	Rate of passive verbs	-.12	-.12
DE7	Rate of present tense verbs	.04	.01
DE8	Rate of non-unique dimensions	-.10	-.13
DE9	Number of unique dim dimensions	-.06	.12
DE10	Rate of category statements	-.17*	.04
DE11	Rate of sociological information	-.06	-.01

*$p \leq .05$ (one-tailed)

(Minimum n = 98, Maximum n = 99)

Table 13B. Correlations of Experimental Independent Variables with Dependent Indicators. (cont.)

		X1, Linear effect of experimental conditions	X2, Quadratic effect of experimental conditions
DI1	Differentness	.05	.16
DI2	Positiveness	.19*	.13
DI3	Flattery	.12	.10
DI4	Uniqueness	.04	.04
DI5	Calculatedness	-.06	.20*
DI6	Enthusiasm	.22*	.11
DI7	Intensity	.20*	.07
		(Minimum n = 98, Maximum n = 99)	
B1	QSC Battery Score	.09	-.18*
B2	Discrepancy between student and R.S.	.00	-.05
B3	Discrepancy between student and J.L.	-.10	.00
B4	Discrepancy between student and average student	-.16	-.05
	*$p \leq .05$ (one-tailed)	(Minimum n = 96, Maximum n 97)	

These results, for both experimental independent variables, consider the relationships between experimental effects and individual dependent indicators. A more complete analysis would have us look at the relationship between each experimental independent variable and the sets of dependent indicators.

Table 14 presents the results of multiple regression analysis of the effects of experimental conditions taken singly on expression and impression indicators of individuation. The regression relating linear effect of experimental conditions (X1) with the sets of expression and impression indicators is our strongest test of the experimental hypothesis. The multiple $\underline{R}^2$ for linear effect with expression indicators is .41 ($\underline{p} > .10$). The multiple $\underline{R}^2$ for linear effect with impression indicators is .31 ($\underline{p} > .20$). Because we hypothesized a positive linear relationship between the reward structure of the experimental condition and individuation, we cannot reject the null hypothesis of no difference by experimental condition (linear). Again, however, we are unsure of what to attribute this failure. On the one hand, the failure may signify a failure of the theory. On the other hand, the failure to find a significant relationship between linear effect of experimental conditions and expression and impression of individuation may be due to the conservative significance level produced by having highly related dependent indicators. We will discuss this issue in greater detail below.

Table 14 also presents multiple regressions of the sets of dependent indicators with the quadratic effect of experimental conditions. These reveal a significant relationship with expression indicators ($\underline{R}^2 = .52$, $\underline{p} \leq .01$) and a non-significant relationship with impression indicators ($\underline{R}^2 = .29$, $\underline{p} > .20$). This means that although there were no significant

Table 14. Multiple Regression of Experimental Independent Variables with Indicators of Individuation.

		X1, Linear effect of experimental conditions Beta Wt.	X2, Quadratic effect of experimental conditions Beta Wt.
Expression Indicators			
DE1	Number of words	.16	.73
DE2	Rate of sentences	.13	.31
DE3	Rate of first person singular pronouns	-.21	-.32
DE4	Rate of nouns, gerunds, and infinitives	.07	-.03
DE5	Rate of active verbs	.45	.29
DE6	Rate of passive verbs	-.06	-.00
DE7	Rate of present tense verbs	.02	.07
DE8	Rate of non-unique dimensions	-.41	-.40
DE9	Number of unique dimensions	-.20	-.18
DE10	Rate of category statements	-.33	.09
DE11	Rate of sociological information	.47	.76
	R^2	.17	.28
	Significance	$>.10$	$\leq .01$
Imression Indicators			
DI1	Differentness	-.04	.15
DI2	Positiveness	.27	.25
DI3	Flattery	-.04	.01
DI4	Uniqueness	-.38	-.34
DI5	Calculatedness	.02	.22
DI6	Enthusiasm	.25	.05
DI7	Intensity	.14	.10
	R^2	.09	.09
	Significance	$>.10$	$>.10$

(Minimum n = 83, Maximum n = 89)

differences in impressions across conditions, the expressions of students in the negative and positive conditions were significantly different from those of students in the control condition. One of the significant among the expression indicators is number of words ($\underline{b}$ = .73, std. err. = .01). We will discuss this finding in greater detail below.

Although the multiple regression analysis with linear effect of experimental condition would have us fail to reject the null hypothesis, further investigation may give a more complete picture of the sources of variation in individuation. Tables 15 through 20 present the results of canonical correlation analysis of the overall effects of the nonexperimental and experimental independent variables on the sets of expression and impression indicators.

Table 15 presents the results of a canonical correlation analysis of the overall linear and quadratic effects of experimental conditions on the set of expression indicators. The table shows a significant canonical relationship ($\underline{R}_c$ = .58, $\underline{p} \leq .01$). This is certainly strong evidence suggesting that the experimental manipulation had considerable impact on the verbal behavior of the students. As with the relationship between quadratic effect and expression indicators, rate of sociological information, number of words, and rate of similar dimensions seem most instrumental in the relationship.

Table 16 presents the results of a canonical correlation analysis of the overall linear and quadratic effects of experimental conditions on the set of impression indicators. The table shows a nonsignificant canonical relationship ($\underline{R}_c$ = .37, $\underline{p} > .10$). This implies that although the experimental manipulation affected verbal behavior, it did not affect the specific impressions that arose from the verbal behavior.

Table 15. Canonical Correlations of Linear and Quadratic Effects of Experimental Conditions with Expression Indicators of Individuation.

Expression Indicators

Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.58	41.36	22	$\leq .01$

First Set (Independent)	Variate 1
X1 Linear effect of experimental conditions	.53
X2 Quadratic effect of experimental conditions	.83
Second Set (Dependent)	
DE1 Number of words	1.18
DE2 Rate of sentences	.55
DE3 Rate of first person singular pronouns	-.66
DE4 Rate of nouns, gerunds, and infinitives	.03
DE5 Rate of active verbs	.82
DE6 Rate of passive verbs	-.08
DE7 Rate of present tense verbs	.11
DE8 Rate of non-unique dimensions	-.98
DE9 Number of unique dimensions	-.46
DE10 Rate of category statements	-.17
DE11 Rate of sociological information	1.50

(Minimum n = 87, Maximum n 89)

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Table 16. Canonical Correlations of Linear and Quadratic Effects of Experimental Conditions with Impression Indicators of Individuation.

Impression Indicators				
Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.37	16.01	14	$>.20$

First Set (Independent)	Variate 1
X1 Linear effect of experimental conditions	.75
X2 Quadratic effect of experimental conditions	.64
Second Set (Dependent)	
DI1 Differentness	.20
DI2 Positiveness	.97
DI3 Flattery	-.05
DI4 Uniqueness	-1.40
DI5 Calculatedness	.41
DI6 Enthusiasm	.60
DI7 Intensity	.47

(Minimum n = 87, Maximum n - 89)

Tables 17 and 18 present the results of canonical correlation analysis of the overall effects of sex, Machiavellianism, and self-esteem on the sets of dependent indicators of individuation. Table 17 shows the canonical relationship of these nonexperimental independents with the expression indicators to be nonsignificant (R_c = .42, $p > .10$). Similarly, Table 18 shows the relationship of these nonexperimental independents with the impression indicators to be also nonsignificant (R_c = .40, $p > .10$). Both analyses suggest that the nonexperimental independent variables are not powerful predictors of individuation.

Tables 19 and 20 present the results of canonical correlation analysis of the overall effects of both the experimental and nonexperimental independent variables on the sets of dependent indicators. Table 19 shows the relationship of the independent variables with the expression indicators to be nonsignificant (R_c = .60, $p > .10$). R_c for the experimental effects alone is .58, suggesting that little additional explanatory power is gained by adding the nonexperimental independent variables. Table 20 shows the relationship of the independent variables with the impression indicators to be nonsignificant (R_c = .47, $p > .10$). In general, it appears that the nonexperimental variables are better predictors of impression indicators, while the experimental variables are better predictors of expression indicators.

Table 17. Canonical Correlation of Nonexperimental Independent Variables with Expression Indicators of Individuation.

Expression Indicators

Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.42	28.06	33	$>.10$

First Set (Independent)		Variate 1
NX2	Sex	-.07
NX7	Machiavellianism	-.06
NX8	Self-esteem	.99
Second Set (Dependent)		
DE1	Number of words	.27
DE2	Rate of sentences	.19
DE3	Rate of first person singular pronouns	-.14
DE4	Rate of nouns, gerunds, and infinitives	.25
DE5	Rate of active verbs	-.86
DE6	Rate of passive verbs	.48
DE7	Rate of present tense verbs	.13
DE8	Rate of non-unique dimensions	.57
DE9	Number of unique dimensions	.25
DE10	Rate of category statements	.55
DE11	Rate of sociological information	-.19

(Minimum n = 87, Maximum n = 89)

Table 18. Canonical Correlation of Nonexperimental Independent Variables with Impression Indicators of Individuation.

Impression Indicators				
Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.40	28.25	21	>.10

First Set (Independent)		Variate 1
NX2	Sex	-.59
NX7	Machiavellianism	.12
NX8	Self-esteem	-.89
Second Set (Dependent)		
DI1	Differentness	-1.86
DI2	Positiveness	.67
DI3	Flattery	-.51
DI4	Uniqueness	1.28
DI5	Calculatedness	.09
DI6	Enthusiasm	.16
DI7	Intensity	.21

(Minimum n = 87, Maximum n = 89)

Table 19. Canonical Correlations of Experimental and Nonexperimental Independent Variables with Expression Indicators of Individuation.

Expression Indicators

Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.60	67.31	55	$>.10$

First Set (Independent)		Variate 1
X1	Linear effect of experimental conditions	.53
X2	Quadratic effect of experimental conditions	.77
NX2	Sex	-.14
NX7	Machiavellianism	-.18
NX8	Self-esteem	-.28
Second Set (Dependent)		
DE1	Number of words	1.11
DE2	Rate of sentences	.61
DE3	Rate of first person singular pronouns	-.65
DE4	Rate of nouns, gerunds, and infinitives	-.05
DE5	Rate of active verbs	.97
DE6	Rate of passive verbs	-.11
DE7	Rate of present tense verbs	.09
DE8	Rate of non-unique dimensions	-1.01
DE9	Number of unique dimensions	-.56
DE10	Rate of category statements	-.29
DE11	Rate of sociological information	1.45

(Minimum n = 87, Maximum n = 89)

Table 20. Canonical Correlation of Experimental and Nonexperimental Independent Variables with Impression Indicators of Individuation.

Impression Indicators				
Canonical Variate Number	Canonical Correlation	X^2	df	Significance
1	.47	47.18	35	>.10

First Set (Independent)		Variate 1
X1	Linear effect of experimental conditions	.56
X2	Quadratic effect of experimental conditions	.31
NX2	Sex	.70
NX7	Machiavellianism	-.10
NX8	Self-esteem	-.00
Second Set (Dependent)		
DI1	Differentness	.92
DI2	Positiveness	.16
DI3	Flattery	.15
DI4	Uniqueness	-1.54
DI5	Calculatedness	.02
DI6	Enthusiasm	.57
DI7	Intensity	.55

(Minimum n = 87, Maximum n = 89)

3.6 Summary

At the beginning of the chapter, we said that in order for us to have confidence in the meaningfulness of our test of the hypothesis, we first had to have confidence in the internal and external validity of our methods. This meant we had to have confidence in the representativeness of our sample, in the reliability and validity of our measures, and in the successfulness of our experimental treatments.

We then presented the results of a number of data analyses relevant to these issues. We concluded that our sample was representative of the population of average college students. We also concluded that our measures, for the most part, were reliable and valid. In addition, we concluded that our experimental treatment was successful. Nonetheless, we noted several problematic areas in our methods. (This will be discussed in more detail later.)

We then began examining the relationships between the independent variables and the dependent indicators. We were especially interested in testing the experimental hypotheses that individuation is a positive linear function of experimental conditions. However, we were also looking for other sources to explain the variance in individuation.

The results of these analyses was to fail to reject the experimental null hypothesis. Although some individual indicators of individuation were significantly related to the linear effect of experimental condition, the sets of expression and impression indicators were not. We also failed to find significant explanatory power in our nonexperimental independent variables: sex, Machiavellianism, and self-esteem. We did find, however, significant relationships between quadratic effect of experimental conditions and overall effects of experimental conditions on expression indicators.

In the next chapter, we will try to offer explanations for these findings, both methodological and theoretical. We will also consider different implications arising from our analysis.

CHAPTER FOUR

IMPLICATIONS

4.1 Summary of Results

Before we begin a discussion of the implications of our research, let us briefly review the findings reported in Chapter Three. In that chapter, we presented the results of a number of data analyses performed to provide evidence for assessing the internal and external validity of the research design and for testing the experimental hypothesis. We found that for the demographic variables we measured, the sample was relatively free of extreme values or unusual distributions. Moreover, random assignment of subjects to conditions controlled for the possible effects of sex, Machiavellianism, and self-esteem, three variables we believed might influence individuation. We also found that most of our measures, including the ratio-scaled measures of self-presentational impressions, were reliably coded. Intercorrelations among indicators established the validity of these measures, and pointed to possible problems in interpreting some significance tests for the experimental hypothesis. Manipulation checks showed that the experimental treatments were very successful in getting students to perceive differential reward in experimental conditions.

Of the 18 measures in the two sets of dependent indicators, few were sensitive to the linear effect of experimental conditions. Positiveness, enthusiasm, and intensity, all impression indicators of individuation, were the only ones showing significant relationships with the linear effect of experimental conditions. When taken as sets, neither expression

nor impression indicators of individuation were significantly related to the linear effect of experimental condition. Expression indicators of individuation, however, were significantly related to both the quadratic and the overall effects of experimental conditions. No significant effects on the set of impression or expression indicators were found for sex, Machiavellianism, or self-esteem.

The net result of these findings is twofold:

1) The findings cause us to fail to reject the experimental null hypothesis that degree of individuation is positively and linearly related to perceptions of potential reward.

2) The findings raise the question of why quadratic and overall effects of experimental conditions are related to the expression indicators of individuation.

In the rest of this chapter, we will consider methodological and theoretical explanations that may account for our failure to reject the experimental null hypothesis. We will also offer some interpretations of the surprising relationships of quadratic and overall effects of experimental conditions on individuation. Finally, we will suggest areas for further research.

4.2 Failure to Reject the Null Experimental Hypothesis

The results of the experiment leave us with at least two interpretations: either 1) the hypothesis as stated is incorrect, or 2) problems of method failed to subject the hypothesis to a true test. In the theoretical discussion of individuation, sufficient anecdotal evidence was presented to suggest that the hypothesis is grounded in social behavior. In the results section, evidence was provided to suggest that there were no problems with the sample, that the indicators used were valid and reliable, and that the manipulation was successful. Let us look at both

experimental and analytical aspects of the methods to see whether weaknesses there could confound the results.

Two arguments can be raised to suggest that the experimental methods did not subject the hypothesis to a true test. The nature of the validation study and the nature of interaction in the experiment both may have been inappropriate for testing the hypothesis.

The first argument suggests that the hypothesis was not subjected to a true test because of weakness in the set of dependent indicators used to test it. The dependent indicators were chosen in a validation (pretest) study in which students writing self-descriptive essays were differentially directed either to try to attract attention or to try to avoid attention. No such explicit directions were given in the experiment. Thus, the conscious pretest verbal behaviors and the perhaps not so conscious verbal behaviors in the experimental situation may not be compatible. This is certainly a reasonable argument, and one that we anticipated in our methods section. But our response is that the indicators chosen in the validation study are sensitive to differences in the positive and negative experimental conditions compared to the control condition, and that they are therefore sufficiently sensitive to reflect a linear relationship in the experimental situation, if it is there.

A second descrepancy between experiment and validation (pretest) study can be noted. In the experiment, there were three conditions: negative, control, and positive conditions. In the validation study, we told students to avoid attention or to attract attention, strategies we felt would correspond with the negative and positive conditions. Thus the dependent expression and impression indicators were chosen on the basis of differences in two conditions, not three. The possible effect

of this is that by looking for differences only between two extreme conditions, we may have included indicators that would not have showed significant differences across three conditions. Thus, weak indicators may have been selected for the experiment, and these indicators caused us to fail to reject the null hypothesis. But if this were the case, if our dependent indicators only reflected differences at the extremes of our conditions, then we would be even less likely to find a quadratic effect due to experimental condition. Among expression indicators, however, a quadratic effect is precisely what is found. Thus, we are reluctant to ascribe our failure to confirm the experimental hypothesis to problems in the nature of our validation study.

A second argument suggests that the weak nature of the interaction between student and supposed QSC experimenter may have contributed significantly to the results. The interaction in the experiment, this argument would point out, was not face-to-face. Instead, the students wrote our self-descriptive essays that they thought would later be read by QSC experimenters. Writing self-descriptive essays is not an ordinary event, and the rules that govern such an activity are probably more formal, making responses conform to social expectations. This may have limited the variance in behavior across conditions. Nonetheless, regardless of how extraordinary written essays are, and regardless of how formally rule-governed they are, significant differences in behaviors were observed in the validation study and in the negative and positive experimental conditions as compared to the standard (i.e., control) condition. Although face-to-face interaction may provide a different test of the hypothesis, we believe that the written self-descriptions are sensitive enough to reflect a linear relationship between experimental condition and

individuation, if it is there. Thus, we are also reluctant to ascribe the failure to confirm the experimental hypothesis to the nature of interaction in the experimental situation. Having rejected these critiques of our experimental methods, let us consider some possible problems in our analytic techniques.

We can identify at least three possible problem areas in our analysis that may have contributed to our failure to reject the experimental null hypothesis. These are: 1) the failure to examine interaction effects among experimental and nonexperimental independent variables, 2) the use of untransformed data in the expression and impression indicators of individuation, and 3) the use of multiple regression techniques that may have given biased significance estimated because of the multicollinearity among dependent indicators. Let us consider each of these problem areas in turn.

4.2.1 Failure to examine interaction effects. Our analysis revealed no main effects for sex, Machiavellianism, or self-esteem on dependent indicators of individuation. This could be due to problems of multicollinearity (to be discussed below), or it may reflect an actual absence of main effects. Nonetheless, it is reasonable to assume that these nonexperimental independent variables may interact with experimental conditions. (Perhaps because of their "machismo", males feel the need to stand out in spite of the threateningness of the negative condition. Such an interaction effect for sex is certainly consistent with Maslach's [1974] findings.) Similar arguments could be made for interaction effects of Machiavellianism or self-esteem with experimental condition. We recommend that future research be conducted to investigate these possibilities.

4.2.2 Use of untransformed data. In the data analysis, expression and impression indicator data were untransformed in any way. (The expression indicators themselves, however, were constructed as rates.) That is, the values of the expression indicators represented actual counts of parts of speech or rates of parts of speech in each essay. The values of impression indicators were the actual ratio-scaled judgments made by the coders. For each set of indicators, but for different reasons, we can argue that instead of untransformed data, logarithmically transformed data should have been used.

Research on writing samples from a single individual shows that the use of different parts of speech is not normally distributed.[20] This non-normal distribution violated the normality assumption required in our correlational analyses. A logarithmic transformation of our expression data may more closely approximate a normal distribution.

Similarly, research shows that ratio-scaled judgments of psychophysical phenomena are often scaled logarithmically. Perhaps the ratio-scaled judgments of impression indicators are also based on an underlying logarithmic scale. If so, then the assumption of intervality required by our correlational analyses is violated. A logarithmic transformation of the impression data may more closely approximate an interval scale.

Nonetheless, we believe that the problems solved by such transformations may not be all that crucial to the test of the hypothesis. The problem of non-normal distribution of expression indicators is based on writing samples from a single individual. In the experiment, we are dealing with a sample of 99 individuals. Similarly, the problem of non-intervality among impression indicators is most important when one's scale has a considerable range. In the experiment, this problem is

attenuated by the relatively short range used in scaling impression indicators. For each impression indicator, the mean is near 10 (the standard) and the standard deviation is less than 2.5 (see Table 5). Thus, although additional analyses can be easily conducted using the logarithmic transformations of expression and impression indicator data, such a move does not in our opinion warrant high priority.

4.2.3 Multicollinearity. We believe that the single greatest problem in our analytical methods is the multicollinearity among dependent indicators. Our hypothesis is rejected not solely on the basis of the strength of the relationship uncovered, but also on the basis of the significance of that relationship. In the regression analyses, the expression and impression indicators of individuation are highly related to one another. We do not have eleven (or seven) independent indicators. The result is a very conservative estimate of the significance of the strength of relationship uncovered.

Ironically, the problem of multicollinearity was one we considered and attempted to circumvent by standarizing the expression indicators accoring to number of words. Unfortunately, these rate indicators proved to be highly related to number of words and to one another. One way of ameliorating this problem would be to standardize on number of sentences rather than number of words. The resulting rate of indicators will probably be more independent of one another.

Such a procedure, however, does not change the multicollinearity problem among impression indicators. Thus, we are forced to look for another solution. One likely possibility is to create impression and expression indexes of individuation based on a new analysis of validation data. We used the validation study only to select the dependent indicators.

The validation study could be used more powerfully by entering the selected validation indicators into a regression analysis to predict the validation condition (i.e., attract attention/do not attract attention), and then using the resulting beta weights to create individuation indices for the experimental data. We heartily recommend that further data analyses employing this procedure be conducted.

4.2.4 Summary of problems of analytical methods. We have considered three different problems of analytical methods that may have contributed to our failure to confirm the experimental hypothesis. Of the three, problems of untransformed data seem least crucial. Failure to examine interaction effects, and problems of multicollinearity, however, do seem to be relevant.

Recognizing these possible shortcomings (and the resulting tentativeness of our results), let us now consider the findings of significant relationships between expression indicators of individuation and quadratic and overall effects of experimental conditions.

4.3 Quadratic Effect of Experimental Condition

Having considered some of the possible methodological reasons for our failure to reject the experimental null hypothesis, let us now turn our attention to an issue that may be considered a failure of our theory. Results of the data analysis of expression indicators suggest that people in both the positive and negative conditions were individuating to the same extent, while we had predicted that people in the negative condition would attempt to avoid attention. What plausible interpretations can we offer to account for this finding?

One possible explanation for this is that in the manipulation of the standard condition, students were told that both the positive and negative conditions are filled and that they would be assigned to the standard condition as a matter of course. In essence, they are being told that no matter what they do, they cannot control the outcome of selection to a learning program. Possibility of control is left open, however, to students in both the positive and negative conditions. The quadratic effect found in the data may reflect differences due to this control/no control possibility. The question then is why the students in the negative condition seem to engage in the same behaviors as those in the positive condition.

The answer may be that our definition of the situation in the negative condition was not the same as the students'. We assumed that the student would see the situation as being one where behavior ought to be exercised to avoid a negative outcome, the negative learning program. We reasoned that because most people are supposedly going to be selected for the standard program, the appropriate move for the student would be to avoid attracting attention. This may have been an erroneous assumption. Perhaps the student thought that, as long as there was the possibility of being selected for either the standard or the negative learning program, he had better engage in behaviors that would earn the preferred outcome, the standard learning program.

What we are suggesting is that we must not be misled by the labels given to the learning programs. From the point of view of the student in the negative condition, the standard learning program may have been rewarding compared to the negative learning program. In fact, by examining the results of the manipulation checks (Table 8), we can see that for

question (a), the difference in perceived reward between the positive and standard condition is 3.06, while the difference in perceived reward between standard and negative is 3.20. For question (b), the differences are 3.83 and 3.17. For question (c), the differences are 3.16 and 3.09. If we expect someone in the positive condition to individuate for a 3-point increase in perceived reward, we should also expect the same from students in the negative condition.

Thus, the failure to confirm the hypothesis may be related to this problem. In the theoretical discussion of individuation, we assumed that we were considering situations where a single outcome was to be distributed among members of a perceptual field. In these single outcome situations (depending on the perceived reward value of that outcome), we argued that the individual's self-presentation would be directed by a single rule. A positive outcome would be met by behavior that attracted attention; a negative outcome would be met by behavior that avoided attention. Thus, we posited the linear relationship between perceived reward and level of individuation.

In the experiment, however, it is possible that we were not dealing with a single outcome situation, but with a two outcome situation. That is, students could have looked at the situation from either one of two different perspectives. (1) I want to be selected for the preferred outcome, therefore I ought to attract attention. Or (2), I do not want to be selected for the aversive outcome, therefore I ought to avoid attention. Students in both the positive and negative conditions acted similarly in regard to the verbal expressions used. Thus, the findings show that there is a significant relationship between perceived reward structure and the indicators of level of individuation. However, this relationship is more complex than the simple linear one we had posited above.

4.4 Future Research

In this discussion of the implications of our research findings, we have uncovered two areas that seem especially fruitful for future research. First, we recommend that expression indicators be standardized according to number of sentences, that indices of the expression and impression indicators be created by using beta weights for each indicator obtained from multiple regression analyses of validation data, and that these indices of expression and impression indicators of individuation be used in retesting the experimental hypothesis and in testing for interaction effects with the nonexperimental independent variables.

The second area emerges from our discussion of the quadratic effect found in the data. We suggested that the reason the students in both the positive and negative conditions were similar in regard to their expression indicators was that students in both conditions may have been trying to attract attention to achieve the preferred outcome open to them. However, this explanation leaves open the question of why there is not a similar quadratic effect among impression indicators. The relationship between expression and impression indicators is a yet unexplicated. It seems to us that intensive efforts at elaborating the ways in which certain impressions arise from the use of certain expressions would be very theoretically rewarding. By conducting further research in these two areas, perhaps we shall gain even greater insight into the individuation process.

4.5 Summary

We began this thesis by considering the rule-governed nature of communication behavior. We argued that such a rules approach was the foundation for conceiving of self-presentations as ways of controlling interaction. We then discussed the use of self-presentations in controlling the distributions of potential reward or punishment in situations. We argued that individuation was a crucial dimension of such interpersonal behavior. Individuation was formally conceptualized as the extent to which a person, as a social object, is distinguishable from other social objects in a perceptual field. This conceptualization indicated that a crucial function of individuation was to manage the amount of attention drawn to the individuation in interaction. We then considered the communication behaviors related to individuation, and the conditions under which we expected individuation to vary systematically.

Based on the insights of Goffman (1959), we pretested and selected two sets of communication indicators of individuation: expression indicators (differences in language use and information provided), and impression indicators (differences in self-presentational styles). We then argued that these indicators of individuation should vary systematically with the individual's perceptions of the reward structure in a situation. In fact, because people would tend to avoid attention in situations of potential punishment and attract attention in situations of potential reward, we argued that individuation would be a positive linear function of the perceived amount of reward.

An experiment was designed to test this hypothesis. One hundred nine students from introductory social psychology classes were randomly assigned to three conditions, a positive condition, a standard condition, and a

negative condition, where the potential reward in each condition was experimentally manipulated. Students were asked to write self-descriptive essays and fill out additional questions. The essays were coded based on a category scheme devised through validation (pretest) studies.

Data analysis revealed that the sample appeared to be representative of the college population, and that the effects of certain nonexperimental independent variables (sex, Machiavellianism, and self-esteem) were effectively controlled for by random assignment of subjects to condition. Indicators of individuation were checked for their reliability and validity. Some indicators were dropped from further analysis. Manipulation checks showed that subjects' perception of the reward structure in the experimental conditions had been successfully manipulated. Although significant relationships between linear effect of experimental condition and some of the individual impression indicators were found, no evidence of significant linear relationships between experimental conditions and the sets of expression or impression indicators were found. We were thus forced to fail to reject the experimental null hypothesis. Significant relationships were found, however, between the expression indicators of individuation and the quadratic and overall effects of experimental condition.

In discussing the results, we considered a number of possible explanations for our failure to reject the experimental null hypothesis. We concluded that some failures in the analytical methods, especially with problems of multicollinearity in both sets of dependent indicators of individuation, were possible obstacles in testing the hypothesis. We suggested improvements in the analytical methods that should provide for a stronger test of the hypothesis.

We also considered the significance of the quadratic findings in light of our original theoretical discussion. We concluded that perhaps student perception of the experimental situation differed from our own perception of it, and that perhaps students in both the negative and positive conditions were similarly acting in an attempt to attract attention so that they might earn the preferred outcome open to them.

This study represents our initial attempt to understand more fully the process of negotiating identities that is part of every interactional situation. We believe that impression management requires that the individual be concerned with the extent to which he is distinguishable from others. Therefore, we also believe that understanding interpersonal communication requires that we, as social scientists, concern ourselves with actor's afforts at individuation.

APPENDICES

APPENDIX A

FORMS E AND F

*** BEGIN READING THIS FORM FIRST ***

(For description of subject perceptions only. NOT to be used by QSC experimenter.)

QSC STUDY

SUBJECT EXPERIMENTAL ATTITUDES

(FORM E)

Funded by All-University Grant
Number 11-6893

For Use At:

Quasi-Sensory
Communication Laboratory
Department of Communication
Michigan State University
1974-1975

*** BEGIN READING THIS FORM FIRST ***

Extrasensory perception or ESP is a phenomenon that has long been associated with mysticism and the occult. Most social scientists, therefore, have been inclined to dismiss ESP as outside the realm of appropriate study. Some legitimate researchers, however, are still intrigued with the way some people can apparently communicate using a transmission channel other than speech, writing, or sign language. To distinguish this area of study from the unscientific realm of ESP, researchers have coined the term "quasi-sensory communication" or QSC.[1]

Recent advances in physio-psychology are opening the QSC area to new efforts of intensive study. Biofeedback training mechanisms (which are often used in the study of transcendental meditation) have been used in sensitizing people to parapsychological experience. Moreover, in certain situations, galvanic skin response (GSR) and electroencephalographic activity (EEG) have been linked to people's ability to learn foreign languages.

Researchers in the Department of Communication at Michigan State University have begun adapting these techniques to teach people how to communicate via QSC. Of course, the "language" of QSC is a rudimentary one and is limited to communication about fundamental feelings and objects in our experience. However, the successes to date are encouraging.

What we are now trying to do is figure out the best way to teach people how to communicate via QSC. We have been conducting a study of different Quasi-Sensory Communication Learning Programs at colleges and universities throughout Michigan. Several hundred students have participated. Your instructor has agreed to our using the students in this class as part of our subject pool.

In this study, we are investigating three different QSC learning programs. These are the Positive Environment, Standard Environment, and Negative Environment Learning Programs. Each requires the subject to attend three twenty-minute sessions. In all three programs, during the first session, the subject meets with an experimenter and learns to monitor his or her mental activity through the biofeedback techniques described earlier. It is during the second and third sessions that the three programs differ.

Positive Environment Learning Program

It has been hypothesized that when a subject's galvanic skin response and electroencephalographic activity show minimal disturbance, the subject is more receptive to cognitive learning, such as QSC. Therefore, in this learning program, the subject learns in a pleasant environment. A specially designed "warm room" is used. Blue carpeting, blue curtains, and deeply-padded furniture have been found to be very pleasing.

During the second session, the subject sits in the "warm room" while the experimenter is in a separate room. The experimenter then tries to

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[1] W.N. McBain et al. "Quasi-Sensory Communication: An Investigation Using Semantic Matching and Accentuated Affect." Journal of Personality and Social Psychology, 14 (April, 1970), 281-291

communicate to the subject via QSC a series of feelings (like hunger, love, sleepiness, etc.). Each time the subject correctly interprets the QSC message, a pleasant tone will be sounded. The subject will also be given a small monetary reward ($.25) for each correct interpretation. After the subject can correctly identify the feelings, the experimenter tries to communicate a second series of common objects (food, chair, pencil, etc.). In this fashion, the subject begins to learn the "vocabulary" of QSC. In the final session, the subject is once again placed in the "warm room" while the experimenter is in a separate room. The experimenter and the subject review the "vocabulary" of QSC. Then the experimenter tries to relate the feelings and objects together into "sentences" and tries to communicate these sentences to the subject. In this session, the subject is again positively reinforced with pleasant tones, and small monetary rewards for correct interpretations. The subject can expect to be rewarded about 40 times during the second and third sessions. Subjects in this program have reported QSC learning to be quite enjoyable.

Standard Environment Learning Program

In this program during the second and third sessions, the subject is placed in an ordinary room while the experimenter is in a separate room. The experimenter then tries to communicate to the subject via QSC a series of feelings, objects, and "sentences." At no time is the subject positively or negatively reinforced for correct or incorrect interpretations of QSC messages. This program allows the researchers to test the effectiveness of teaching QSC in everyday environments.

Negative Environment Learning Program

It has also been hypothesized that a subject's ability to learn is greater when his or her galvanic skin response and electroencephalographic activity show mild disturbances. Therefore, in this QSC program, rather than being placed in an ordinary room or a "warm room" for the second and third sessions, the subject is placed in a more severe environment. White walls, bright lights, and a solitary bench have been found to produce a mild degree of anxiety.

As in the other two programs, the experimenter tries to communicate feelings, objects, and "sentences." However, each time the subject incorrectly interprets the QSC message, a harsh tone will be sounded. The subject will also be given a small electric shock (like that when you cross a wool carpet and touch a door handle). The subject can expect to be shocked about 40 times during the second and third sessions. Subjects in this program have reported QSC learning to be slightly discomforting.

E-3

FIGURE 1

A COMPARISON OF QSC LEARNING PROGRAMS

Learning Program	Positive Environment Learning Program	Standard Environment Learning Program	Negative Environment Learning Program
Setting	"Warm Room" - blue carpeting, blue curtains, deeply padded furniture	Ordinary Room	White walls, bright lights, solitary bench
Reinforcement Techniques	For each correct response: pleasant tone, small monetary reward ($.25)	No reinforcement techniques	For each incorrect response: harsh tone, small electric shock (like that when you cross a wool carpet and touch a door handle)

E-4

Research to Date

Research on the effects of the Negative Environment on QSC learning has been completed. Subjects are now needed for the Standard Environment and the Positive Environment Learning Programs. The subject pool of which you are a member has been designated for the most part to be in the Standard Environment Learning Program. However, there is a need for some subjects in the Positive Environment Learning Program. Some of you will be selected for this group.

Whether you will be selected for the Standard Environment Learning Program or for the Positive Environment Program depends entirely on your responses on the yellow form, Form F. You will be asked to write a brief 'introduction' describing yourself and also given two standardized QSC exercises. QSC experimenters will then look through the responses on all the yellow forms filled out by all the subjects and will decide who will be in which learning program. To avoid schedule conflicts, we will schedule the sessions with each of you individually. Male and female subjects will be matched with experimenters of the same sex.

Please follow the directions carefully and answer the remaining questions on this form as instructed. This will permit us to assess the perceptions you have of the experiment before you participate. To avoid biasing the study, the QSC experimenters will not be allowed to see your answers to questions on this form. The QSC experimenters will only see Form F (yellow).

If you have any questions, please re-read this section of the form. Then turn the page.

(This version of page E-4 was given to students in the positive condition.)

E-4

Research to Date

Research on the effects of the Positive and Negative Environments on QSC learning has been completed. Subjects are now needed for the Standard Environment Learning Program. The subject pool of which you are a member has been designated to be in the Standard Environment Learning Program. All of you have been selected for this group.

You will be asked to write a brief "introduction" describing yourself and also given two standardized QSC exercises. QSC experimenters will then look through the responses on all the yellow forms filled out by all the subjects. To avoid schedule conflicts, we will schedule the sessions with each of you individually. Male and female subjects willlbe matched with experimenters of the same sex.

Please follow the directions carefully and answer the remaining questions on this form as instructed. This will permit us to assess the perceptions you have of the experiment before you participate. To avoid biasing the study, the QSC experimenters will not be allowed to see your answers to questions on this form. The QSC experimenters will only see Form F (yellow).

If you have any questions, please re-read this section of the form. Then turn the page.

(This version of page E-4 was given to students in the control condition.)

E-4

Research to Date

Research on the effects of the Positive Environment on QSC learning has been completed. Subjects are now needed for the Standard Environment and the Negative Environment Learning Programs. The subject pool of which you are a member has been designated for the most part to be in the Standard Environment Learning Program. However, there is a need for some subjects in the Negative Environment Learning Program. Some of you will be selected for this group.

Whether you will be selected for the Standard Environment Learning Program or for the Negative Environment Program depends entirely on your responses on the yellow form, Form F. You will be asked to write a brief "introduction" describing yourself and also given two standardized QSC exercises. QSC experimenters will then look through the responses on all the yellow forms. filled out by all the subjects and will decide who will be in which learning program. To avoid schedule conflicts, we will schedule the sessions with each of you individually. Male and female subjects will be matched with experimenters of the same sex.

Please follow the directions carefully and answer the remaining questions on this form as instructed. This will permit us to assess the perceptions you have of the experiment before you participate. To avoid biasing the study, the QSC experimenters will not be allowed to see your answers to questions on this form. The QSC experimenters will only see Form F (yellow).

If you have any questions, please re-read this section of the form. Then turn the page.

(This version of page E-4 was given to students in the negative condition.)

F-5

PLEASE ANSWER THE FOLLOWING QUESTIONS:

1. What is your name? _____

2. What is your student number? |__|__|__|__|__|__|__|__|__|

3. What is your sex? (circle one) male female

4. What is today's date? _____

5. List two twenty-minute periods during the next two weeks when you would be available for the first session of the QSC study. If you aren't sure of your schedule at the moment, please write in your phone number so that we may contact you.

	Date	Time (between 8:00 AM and 10:00 PM)	Circle one	
a.	_____	_____	AM	PM
b.	_____	_____	AM	PM

Phone Number: _____

6. What is a Positive Environment Learning Program? (answer briefly)

_____

_____

_____

7. What is a Standard Environment Learning Program? (answer briefly)

_____

_____

_____

8. What is a Negative Environment Learning Program? (answer briefly)

_____

_____

_____

PLEASE CONTINUE.

****

20. The subject pool of which you are a member has been designated for the most part to be in the Standard Environment Learning Program. Some of you, however, will be selected for the Positive Environment Learning Program. What percentage of people in the subject pool do you feel are likely to be selected for the Positive Environment Learning Program? . . . . . ____%

PLEASE CONTINUE.

(This version of page E-7 was given to students in the positive condition.)

****

20. The subject pool of which you are a member has been designated to be in the Standard Environment Learning Program. Some subjects, however, have been selected for the Positive and Negative Environment Learning Programs. What percentage of all people in all subject pools do you feel are likely to be selected for the Standard Environment Learning Program? . . . . . ____%

PLEASE CONTINUE.

(This version of page E-7 was given to students in the control condition.)

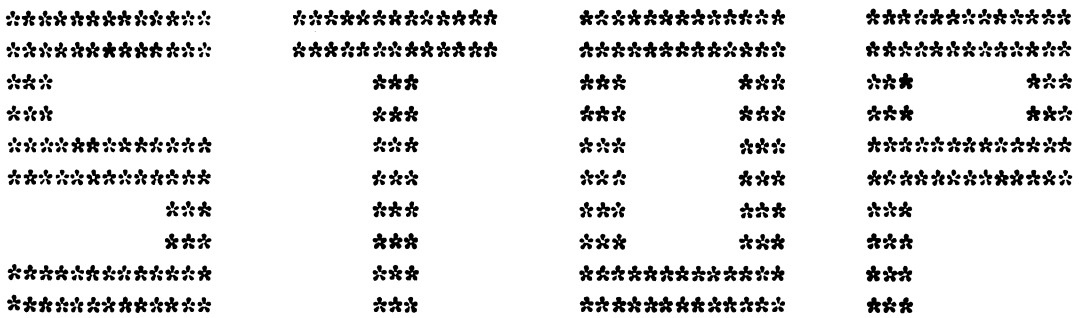
****

20. The subject pool of which you are a member has been designated for the most part to be in the Standard Environment Learning Program. Some of you, however, will be selected for the Negative Environment Learning Program. What percentage of people in the subject pool do you feel are likely to be selected for the Negative Environment Learning Program? . . . . . ____%

PLEASE CONTINUE.

(This version of page E-7 was given to students in the negative condition.)

E-8



STOP!!! DO NOT TURN THE PAGE. PLEASE OPEN FORM F AND BEGIN READING.

STOP!!!

E-9

Now that you have completed Form F, we are interested in your reactions to the form and the selection procedures used in the study.

Please read the following statements. Then indicate how much you agree or disagree with each statement by rating the statement on a scale from 0 to 10.

If you absolutely disagree with the statement, mark down a 0.
If you absolutely agree with the statement, mark down a 10.

Use any number from 0 to 10 that best describes your feelings.

Think of the "average student." Now rate the following statements.

21. I feel that R.S. is similar to the average student . . . . . _____

22. I feel that J.L. is similar to the average student . . . . . _____

23. I feel that I am similar to the average student . . . . . _____

24. I feel that R.S. is similar to J.L. . . . . _____

25. I feel that I am similar to R.S. . . . . _____

26. I feel that I am similar to J.L. . . . . _____

27. I predict that the average student will be chosen for the Standard Environment Learning Program. . . . . _____

28. I predict that R.S. will be chosen for the Standard Environment Learning Program. . . . . _____

29. I predict that J.L. will be chosen for the Standard Environment Learning Program. . . . . _____

30. I predict that I will be chosen for the Standard Environment Learning Program. . . . . _____

PLEASE CONTINUE.

How do you feel that people will be selected for one learning program or the other? Below is a list of possible reasons for being selected for one program or another. Rate how important you think each reason is on a scale from 0 to 10.

If you think the reason is extremely unimportant, mark down a 0.
If you think the reason is extremely important, mark down a 10.

Use any number from 0 to 10 that best describes your feelings.

In selecting you for a given learning program, how important would you estimate the following things to be:

31. The school one is from . . . . . ____

32. One's "introduction" . . . . . ____

33. One's sex . . . . . ____

34. One's handwriting . . . . . ____

35. One's responses on the QSC Battery . . . . . ____

36. One's responses on the Personal Geometry Selection Profile . . . ____

37. The impression the experimenters get from reading Form F . . . . ____

38. Chance (i.e., the choice will be made randomly) . . . . . ____

****

Please read the following statements. Then indicate how much you agree or disagree with each statement by rating the statement on a scale from 0 to 10.

If you absolutely disagree with the statement, mark down a 0.
If you absolutely agree with the statement, mark down a 10.

Use any number from 0 to 10 that best describes your feelings.

39. I think this QSC research is valuable and useful . . . . . ____

40. I would describe myself as being highly manipulative . . . . . ____

41. I have a pretty good opinion of myself . . . . . ____

****

PLEASE CONTINUE.

E-11

42. Of the two learning programs for which we need subjects, which learning program would you like to be in?

_____

Please answer the following question on a scale from 0 to 10 where 0 means "none of it is due to my own efforts" and 10 means "all of it is due to my own efforts."

43. Sometimes whether or not we are chosen for things depends on our own efforts. Sometimes our efforts don't make a difference. If you are chosen for the learning program you listed in Question 41, how much of it do you feel will be due to your own efforts? _____

PLEASE CONTINUE.

E-12

****

Please answer the following question on a scale from 0 to 10 where 0 means "I did not try at all to influence the experimenters" and 10 means "I tried very hard to influence the experimenters."

44. How much did you try to write your "introduction" and answer the QSC Battery and Personal Geometry Selection Profile as as to influence the experimenters? _____

45. How did you try to influence the experimenters?

_____

_____

_____

****

Please answer the following question on a scale from 0 to 10 where 0 means "I was completely unsuccessful" and 10 means "I was completely successful."

46. Earlier we asked you to imagine that you were with R.S. and J.L. while completing the QSC exercises. How successful do you feel you were in imagining that situation? . . . . . _____

47. Do you have any other reactions to this study?

_____

_____

_____

_____

_____

_____

STOP!!! THANK YOU FOR YOUR COOPERATION.

*** DO NOT BEGIN READING THIS FORM UNTIL INSTRUCTED TO DO SO ***

(Learning Program Selection. For use of QSC experimenters only.)

QSC STUDY

SUBJECT COGNITIVE CONFIGURATION

(FORM F)

Funded by All-University Grant
Number 11-6893

For Use At:

Quasi-Sensory
Communication Laboratory
Department of Communication
Michigan State University
1974-1975

*** DO NOT BEGIN READING THIS FORM UNTIL INSTRUCTED TO DO SO ***

F-1

You will be selected for a given learning program for this QSC study based solely upon the responses you give to the questions in this form.

You will be asked to write a brief "introduction" describing yourself and to take two standardized QSC exercises. The introduction and the QSC exercises have been given to several hundred college students in Michigan.

Please fill out the questions on this page, and then continue.

1. What is your name?_____

2. What is your student number?_____

3. What is your sex? (circle one) male female

4. What is today's date?_____

PLEASE CONTINUE.

F-2

You are about to respond to three exercises that have been found useful to QSC researchers. When you answer these exercises, please try to imagine that you are actually with other people of the same sex who you have just met.

First, they will "introduce" themselves to you. Then you will be asked to write down what you would tell them about yourself. Imagine that you are speaking to them when you "introduce" yourself.

Now, we would like you to "meet" these people, R.S. and J.L. (These "introductions," from actual introductions by subjects in earlier QSC research, are not necessarily good nor bad. They are presented to give you an idea of what others have written. R.S. and J.L. are awaiting selection to a QSC learning program.)

****
****

"I am a sophomore at Northern Michigan. My home town is Manistique, Michigan. Right now I'm an English major although I have a strong interest in journalism and news reporting. Last summer I worked part time for a small weekly and really enjoyed my experience. After I graduate, I would like to write for a newspaper, possibly doing movie and theater reviews." (by R.S.)

"My name is J.L. I'm an eighteen-year-old student at Central Michigan University. I've lived all my life here in Mt. Pleasant. I really enjoy travelling and sightseeing. My main academic interest is in American history -- particularly the colonial and revolutionary period. I hope that I will eventually be able to find a job teaching somewhere after I'm through school."

****
****

We ask you now to turn the page and "introduce" yourself. Please write legibly.

F-3

"INTRODUCTION"

(Please Write Legibly)

QSC COGNITIVE BATTERY

This is a standard form in quasi-sensory communication, or QSC. We are trying to find out how people put symbols and "words" together. There are no right or wrong answers. The form compares the way you put symbols and "words" together with the way other people have put them together.

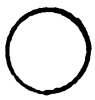
On the following pages are lists of "nonsense words." The words have been arranged in order by a large number of subjects on the basis of how similar one word is to another. The closer any two words are on the list, the more alike those words have been found to be. Likewise, the further away any two words are, the less alike they have been found to be. Thus, a word that is sixth on the list is more similar to the seventh word than to the thirteenth.

At the top of each list is a symbol. What we'd like you to do is look at the symbol, then look down the list of words. Try to associate a word on the list with a symbol. Circle that word. In completing this form, imagine that you, R.S., and J.L. will answer each list aloud in turn. If either R.S. or J.L. has answered before you, their responses are marked on the form. R.S.'s responses are indicated by a "√," and J.L.'s responses are indicated by an "x."

On some lists, you will see both of their choices. Sometimes, however, you will see the choice made by only one of them. And sometimes, you won't see either of their choices.

Remember, there are no right or wrong answers to this form. You may choose any word on the list, even one that has already been chosen. After you have chosen the word, circle it, and then go on to the next list.

PLEASE READ THE DIRECTIONS ON THIS PAGE ONCE MORE, THEN CONTINUE.

					
FAW	WAF	YIG	GAW	LIW	DEB
ZAR	WAM	YOF	QAK	HIW	DEL
SAZ	WYN	VOF	CAG	NYW	JEL
SYG	DIV	XOM	KOS	FYW	HEY
GEY	DAG	XUC	KUN	ZEV	HUG
JEY	GAR	XIC	LUT	✓XOR	HUM
✓HEF	✓HAR	HIJ	PUZ	JOF	YUM
LEH	LOR	FAJ	PID	YAF	TUX
MEZ	BOL	FYQ	RYN	GAX	TAX
X MIF	NOG	QAZ	FYL	GUX	YAK
FID	PON	QIW	✓FYX	QUF	WAS
NYK	PUC	RYM	ZYP	QOX	BAM
NUW	PUK	KYV	YEZ	QUK	GAD
KUL	KUM	LUJ	WEV	VUK	NOX
VOS	NEY	MUJ	X SOV	KUY	POD

PLEASE CONTINUE.

F-6

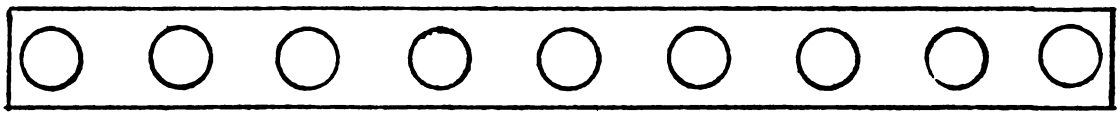
					
PEM	BEM	QID	JYC	DUT	CAZ
HEG	QIK	MIP	KIJ	NUJ	CUX
YUH	QIN	FIP	ZIY	RAJ	WUY
MUY	KYX	FIM	ZUV	✓RYF	RUZ
MOY	JIS	FEX	ZUF	RUK	ROH
MOG	JYN	GEB	ZAJ	WYR	REH
X GOZ	✓VID	GOW	WUJ	JOR	SEH
POV	HYL	GUD	X WUQ	JAH	TEQ
JOH	CYR	GUV	XUB	BEH	QER
JOX	PYR	LUQ	XUT	BEZ	MEP
✓WOB	ROH	PUQ	XAB	SEQ	BUP
WYM	WOH	NEQ	✓XEK	PEQ	ZOP
WYG	FOW	BEW	QEF	PIV	HOQ
MYG	SAH	VAZ	QIY	KIB	DYQ
QIC	LUF	VOK	QOH	YOC	NIW

PLEASE CONTINUE.

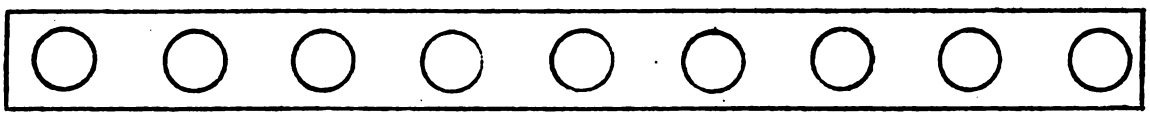
F-7

PERSONAL GEOMETRY SELECTION PROFILE

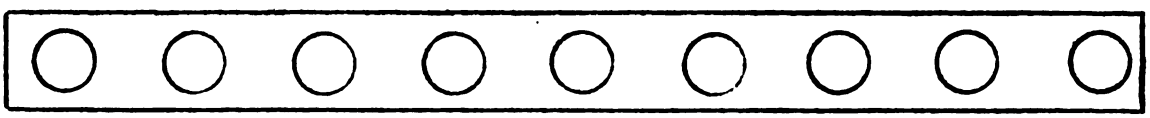
Now think about R.S. In the box below, there are nine circles. Put an "R.S." in one circle to represent "R.S." and an "I" in a different circle to represent yourself.



Now think about J.L. In the box below, there are nine circles. Put a "J.L." in one circle to represent "J.L." and put an "I" in a different circle to represent yourself.



Finally, think about the "average student." In the box below, there are nine circles. Put an "A.S." in the circle to represent the "average student" and put an "I" in a different circle to represent yourself.



PLEASE CLOSE THIS FORM AND OPEN FORM E TO PAGE E-9.

APPENDIX B

INTERACTION ANALYSIS PROFILE

INTERACTION ANALYSIS PROFILE

INTER-UNIVERSITY RESEARCH

Part I

Please read the following questions carefully. Then answer each to the best of your ability.

1. Name: _____

2. Student Identification Number: _____

3. Sex (please check): ____ Male
   ____ Female

4. Year of Birth _____/ /_____

5. Year in School (please check): _____ Freshman
   _____ Sophomore
   _____ Junior
   _____ Senior
   _____ Other

6. In your family, you are (please check): _____ First-born
   _____ Later-born
   _____ Only child

7. I live (please check): _____ On a farm
   _____ In the open country but not on a farm
   _____ In a village under 2,500
   _____ In a town of 2,500-10,000
   _____ In a city of 10,000-100,000
   _____ In a city over 100,000

ID#_____

PART II

Listed below are a number of statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion.

Read each statement carefully. Then indicate the extent to which you agree or disagree by circling the number below each statement. The numbers and their meaning are indicated below:

If you agree strongly, circle +3
If you agree somewhat, circle +2
If you agree slightly, circle +1

If you disagree slightly, circle -1
If you disagree somewhat, circle -2
If you disagree strongly, circle -3

First impressions are usually best in such matters. Read each statement, decide if you agree or disagree and the strength of your opinion, and then circle the appropriate number below the statement. Give your opinion on every statement.

If you find that the numbers to be used in answering do not adequately indicate your own opinion, use the one which is closest to the way you feel.

8. Never tell anyone the real reason you did something unless it is useful to do so.

+3 +2 +1 -1 -2 -3

9. The best way to handle people is to tell them what they want to hear.

+3 +2 +1 -1 -2 -3

10. One should take action only when sure it is morally right.

+3 +2 +1 -1 -2 -3

11. Most people are basically good and kind.

+3 +2 +1 -1 -2 -3

12. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

+3 +2 +1 -1 -2 -3

II-2

13. Honesty is the best policy in all cases.

+3 +2 +1 -1 -2 -3

14. There is no excuse for lying to someone else.

+3 +2 +1 -1 -2 -3

15. Generally speaking, men won't work hard unless they're forced to do so.

+3 +2 +1 -1 -2 -3

16. All in all, it is better to be humble and honest than to be important and dishonest.

+3 +2 +1 -1 -2 -3

17. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.

+3 +2 +1 -1 -2 -3

18. Most people who get ahead in the world lead clean, moral lives.

+3 +2 +1 -1 -2 -3

19. Anyone who completely trusts anyone else is asking for trouble.

+3 +2 +1 -1 -2 -3

20. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.

+3 +2 +1 -1 -2 -3

21. Most men are brave.

+3 +2 +1 -1 -2 -3

22. It is wise to flatter important people.

+3 +2 +1 -1 -2 -3

23. It is possible to be good in all respects.

+3 +2 +1 -1 -2 -3

24. Barnum was wrong when he said that there's a sucker born every minute.

+3 +2 +1 -1 -2 -3

25. It is hard to get ahead without cutting corners here and there.

+3 +2 +1 -1 -2 -3

26. People suffering from incurable diseases should have the choice of being put painlessly to death.

+3 +2 +1 -1 -2 -3

27. Most men forget more easily the death of their father than the loss of their property.

+3 +2 +1 -1 -2 -3

ID#_____

PART III

Please read the following pairs of statements. Then circle the letter beside the statement that you believe is most true. Give your opinion for every pair of statements.

28. a. Children get into trouble because their parents punish them too much.
    b. The trouble with most children nowadays is that their parents are too easy with them.

29. a. Many of the unhappy things in people's lives are partly due to bad luck.
    b. People's misfortunes result from the mistakes they make.

30. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
    b. There will always be wars, no matter how hard people try to prevent them.

31. a. In the long run people get the respect they deserve in this world.
    b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

32. a. The idea that teachers are unfair to students is nonsense.
    b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

33. a. Without the right breaks one cannot be an effective leader.
    b. Capable people who fail to become leaders have not taken advantage of their opportunities.

34. a. No matter how hard you try some people just don't like you.
    b. People who can't get others to like them don't understand how to get along with others.

35. a. Heredity plays the major role in determining one's personality.
    b. It is one's experiences in life which determine what they're like.

36. a. I have often found that what is going to happen will happen.
    b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

37. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

III-2

38. a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.
    b. Getting a good job depends mainly on being in the right place at the right time.

39. a. The average citizen can have an influence in government decisions.
    b. This world is run by the few people in power, and there is not much the little guy can do about it.

40. a. When I make plans, I am almost certain that I can make them work.
    b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

41. a. There are certain people who are just no good.
    b. There is some good in everybody.

42. a. In my case getting what I want has little or nothing to do with luck.
    b. Many times we might just as well decide what to do by flipping a coin.

43. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

44. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
    b. By taking an active part in political and social affairs the people can control world events.

45. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
    b. There really is no such thing as "luck."

46. a. One should always be willing to admit mistakes.
    b. It is usually best to cover up one's mistakes.

47. a. It is hard to know whether or not a person really likes you.
    b. How many friends you have depends on how nice a person you are.

48. a. In the long run the bad things that happen to us are balanced by the good ones.
    b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

49. a. With enough effort we can wipe out political corruption.
    b. It is difficult for people to have much control over the things politicians do in office.

50. a. Sometimes I can't understand how teachers arrive at the grades they give.
    b. There is a direct connection between how hard I study and the grades I get.

51. a. A good leader expects people to decide for themselves what they should do.
    b. A good leader makes it clear to everybody what their jobs are.

52. a. Many times I feel that I have little influence over the things that happen to me.
    b. It is impossible for me to believe that chance or luck plays an important role in my life.

53. a. People are lonely because they don't try to be friendly.
    b. There's not much use in trying too hard to please people; if they like you, they like you.

54. a. There is too much emphasis on athletics in high school.
    b. Team sports are an excellent way to build character.

55. a. What happens to me is my own doing.
    b. Sometimes I feel that I don't have enough control over the direction my life is taking.

56. a. Most of the time I can't understand why politicians behave the way they do.
    b. In the long run the people are responsible for bad government on a national as well as on a local level.

ID#_____

PART IV

Read each of the following statements. Then circle the number in the column at the right according to how much you agree or disagree with it. Please answer every statement. The responses are as follows:

1. I disagree very much
2. I disagree on the whole
3. I disagree a little
4. I neither agree nor disagree
5. I agree a little
6. I agree on the whole
7. I agree very much

		DISAGREE VERY MUCH						AGREE VERY MUCH
57.	I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4	5	6	7
58.	I feel that I have a number of good qualities.	1	2	3	4	5	6	7
59.	All in all, I am inclined to feel that I am a failure.	1	2	3	4	5	6	7
60.	I am able to do things as well as most other people.	1	2	3	4	5	6	7
61.	I feel I do not have much to be proud of.	1	2	3	4	5	6	7
62.	I take a positive attitude toward myself.	1	2	3	4	5	6	7
63.	On the whole I am satisfied with myself.	1	2	3	4	5	6	7
64.	I wish I could have more respect for myself.	1	2	3	4	5	6	7
65.	I certainly feel useless at times.	1	2	3	4	5	6	7
66.	At times I think I am no good at all.	1	2	3	4	5	6	7

ID#_____

PART V

Read each of the following statements. Then indicate in the column at the right whether you feel the statement is true or false. Please answer every statement.

CIRCLE ONE

67. I can remember "playing sick" to get out of something. . . . . .TRUE FALSE

68. On a few occasions, I have given up doing something because I thought too little of my ability . . . . . .TRUE FALSE

69. I sometimes feel resentful when I don't get my way . .TRUE FALSE

70. I have never deliberately said something that hurt someone's feelings . . . . . .TRUE FALSE

71. There have been times when I felt like rebelling against people in authority even though I knew they were right. . . . . TRUE FALSE

72. If I could get into a movie without paying and be sure I was not seen, I probably would do it. . . . . .TRUE FALSE

73. My table manners at home are as good as when I eat out in a restaurant. . . . . .TRUE FALSE

74. I never hesitate to go out of my way to help someone in trouble . . . . . .TRUE FALSE

75. I am always careful about my manner of dress . . . . .TRUE FALSE

76. I have never intensely disliked anyone . . . . . .TRUE FALSE

77. It is sometimes hard for me to go on with my work if I am not encouraged. . . . . TRUE FALSE

78. No matter who I'm talking to, I'm always a good listener . . . . . .TRUE FALSE

79. I am sometimes irritated by people who ask favors of me . . . . . TRUE FALSE

80. I have never felt that I was punished without cause...TRUE FALSE

81. I have never been irked when people expressed ideas very different from my own . . . . . .TRUE FALSE

82. There have been occasions when I felt like smashing things . . . . . .TRUE FALSE

83. I am always courteous, even to people who are disagreeable . . . . . TRUE FALSE

84. I have almost never felt the urge to tell someone off..TRUE FALSE

85. When I don't know something I don't at all mind admitting it . . . . . TRUE FALSE

86. Before voting I thoroughly investigate the qualifications of all the candidates . . . . . .TRUE FALSE

87. I sometimes try to get even, rather than forgive and forget . . . . . TRUE FALSE

88. There have been times when I was quite jealous of the good fortune of others . . . . . TRUE FALSE

89. I sometimes think when people have a misfortune they only got what they deserved . . . . . TRUE FALSE

90. At times I have really insisted on having things my own way. . . . . TRUE FALSE

91. I would never think of letting someone else be punished for my wrongdoings . . . . . .TRUE FALSE

92. I never resent being asked to return a favor . . . . . TRUE FALSE

93. I always try to practice what I preach . . . . . TRUE FALSE

94. I'm always willing to admit it when I make a mistake...TRUE FALSE

95. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people . . . . . .TRUE FALSE

96. There have been occasions when I took advantage of someone . . . . . .TRUE FALSE

APPENDIX C

VALIDATION (PRETEST) RESULTS

VALIDATION (PRETEST) RESULTS

	Variable	Group 1 Mean	Group 1 S.D.	Group 2 Mean	Group 2 S.D.	df	F	Significance
Expression Indicators								
DE1	Number of words	43.471	13.44	84.304	37.49	1,38	18.32	.001
DE2	Rate of sentences	.112	.03	.085	.03	1.38	8.14	.007
DE3	Rate of first person singular pronouns	.135	.02	.117	.03	1,38	4.10	.05
DE4	Rate of nouns, gerunds, and infinitives	.281	.05	.241	.05	1,38	6.96	.01
DE5	Rate of active verbs	.137	.04	.117	.04	1,38	2.90	.10
DE6	Rate of passive verbs	.002	.01	.008	.01	1,38	3,78	.06
DE7	Rate of present tense verbs	.122	.04	.093	.04	1,38	4.41	.04
DE8	Rate of non-unique dimensions	.105	.04	.059	.03	1,38	19.00	.001
DE9	Number of unique dimensions	.559	.79	1.500	1.40	1,38	6.22	.02
DE10	Rate of category statements	.028	.02	.020	.01	1,38	2.97	.09
DE11	Rate of sociological information	.135	.05	.092	.04	1,38	9.09	.005
Impression Indicators								
DI1	Differentness	10.059	.98	13.565	2.55	1,38	28.89	.001
DI2	Positiveness	9.941	1.04	12.109	2.15	1,38	14.61	.001
DI3	Flattery	9.794	.56	10.413	1.00	1,38	5.40	.03
DI4	Uniqueness	10.118	.94	13.022	2.82	1,38	16.57	.001
DI5	Calculatedness	10.324	1.07	11.609	2.32	1,38	4.50	.05
DI6	Enthusiasm	9.765	2.61	12.587	4.24	1,38	5.86	.02
DI7	Intensity	9.735	2.13	11.174	3.10	1,38	2.71	.10

VALIDATION (PRETEST) RESULTS (cont.)

Variable	Group 1 Mean	Group 1 S.D.	Group 2 Mean	Group 2 S.D.	df	F	Significance
QSC Battery Items							
Item 1	2.955	2.51	5.915	1.88	1,106	47.99	$\leq .005$
Item 2	2.909	2.10	5.679	1.92	1,106	51.05	$\leq .005$
Item 3	7.765	3.22	7.652	3.66	1,106	.03	$>.05$
Item 4	4.364	4.62	8.717	3.34	1,106	31.35	$\leq .005$
Item 5	3.400	2.46	5.849	2.29	1,106	28.60	$\leq .005$
Item 6	8.000	3.51	6.667	3.82	1,106	3.10	$>.05$
Item 7	2.727	2.92	6.453	1.87	1,106	61.85	$\leq .005$
Item 8	3.473	2.05	5.208	2.00	1,106	20.19	$\leq .005$
Item 9	6.906	3.50	7.915	3.65	1,106	1.99	$>.05$
Item 10	2.527	2.93	6.925	2.69	1,106	65.90	$\leq .005$
Item 11	3.855	2.88	7.811	2.83	1,106	51.77	$\leq .005$
Item 12	8.075	3.90	7.298	4.18	1,106	.93	$>.05$

APPENDIX D

CODING FORM

CODING FORM - FORM F ESSAYS

1. Record Respondent ID Number.

2. Condition (Leave Blank)

3. Record Coder Set (1 - Liz, Steve, Lisa, Chip
   2 - Larry, Jay, Stathi, Sue)

4. Count the number of sentences.

5. Count the number of words.

6. Count the number of first person singular pronouns.

7. Count the number of nouns, gerunds, and infinitives.

8. Count the number of active verbs.

9. Count the number of passive verbs.

10. Count the number of verbs in the present tense.

11. How many of the following dimensions are used in the essay?

    Name____ Age ____ School ____ Home town____

    Academic interest ____ Hobbies ____

    Goal after graduation ____

12. How many additional dimensions are used in the essay?

****

13. Count the number of statements that put the person into a category.

14. Count the number of statements that refer to attributes of the person.

15. Estimate the "psychological" content of the essay. (0 = no psychological content, 9 = high in psychological content.)

16. Estimate the "sociological" content of the essay. (0 = no sociological content, 9 = high in psychological content.)

17. Estimate the size of the handwriting on a scale from 0 to 9. (0 = very small, 9 = very large)

18. Is the essay printed or written? (0=printed, 1=written, 2 = both.)

You will be asked to rate the essay along several dimensions. Read the essay by R.S. (page F-2). Assume that someone rating R.S.'s essay would rate each dimension as 10. If you feel that the essay you are reading is greater in respect to the dimension than R.S.'s, give it some number greater than 10. If you feel it is less, then give it some number less than 10.

Remember, for each question, R.S.'s rating would be 10.

19. How different is this person from the typical student?

10. How positive is this self-presentation?

21. How much does this self-presentation attempt to flatter the reader?

22. How unique is this self-presentation?

****

23. How negative is this self-presentation?

24. How much stress does there appear to be in this self-presentation?

25. How embarrassed is this self-presentation?

26. How humorous is this self-presentation?

27. How calculated is this self-presentation?

****

28. How defensive is this self-presentation?

29. How enthusiastic is this self-presentation?

30. How intense was the language in this self-presentation?

31. How modest was this self-presentation?

32. How unsure was this self-presentation?

****

33. Card Number (Leave Blank)

APPENDIX E

DEFINITIONS OF SELF-PRESENTATIONAL TACTICS

DEFINITIONS OF SELF-PRESENTATIONAL TACTICS

Differentness	extent to which student's life history is unusual relative to R.S.
Positiveness	extent to which student discloses attributes that would be positively valued by society.
Flattery	extent to which student's communications are expressly directed toward a positive response on the part of the reader.
Uniqueness	extent to which the student's style of presentation is unusual.
Negativeness	extent to which student discloses attributes that would be negatively valued by society.
Stress	extent to which the overall tone of the essay revealed an uncomfortableness or feeling of being in a bind in writing the essay.
Embarrassment	extent to which the student made explicit or near explicit references to situations he/she regarded as "bad" or made apologies for past, present, or future situations.
Humor	extent to which student intentionally tries to be funny.
Calculatedness	extent to which essay appears to be written in a manner as to effect a specific response.
Defensiveness	extent to which student withholds personal information or attempts to justify statements.
Enthusiasm	extent to which student expresses positive affect.
Intensity	extent to which student uses language intensifiers or de-intensifiers.
Modesty	extent to which student presents information without further comment.
Unsurely	extent to which student uses indecisive language or expresses doubts about feelings or situations.

APPENDIX F

CODING SCHEDULE

CODING SCHEDULE

One hundred fourteen students filled out the Interaction Analysis Profile and/or Form F. Their responses were divided into four approximately equal groups. Four coding pairs read their essays and used a coding form (see Appendix D) to code different questions. The actual coding assignments are indicated below:

Coding Form Questions	Subject I.D.	1-28	29-57	58-86	87-114
1-12		Pair 1	Pair 2	Pair 3	Pair 4
13-18		Pair 1	Pair 1	Pair 1	Pair 1
19-22		Pair 2	Pair 2	Pair 2	Pair 2
23-27		Pair 3	Pair 3	Pair 3	Pair 3
28-32		Pair 4	Pair 4	Pair 4	Pair 4

FOOTNOTES

FOOTNOTES

1. The question arises, functional for what? The individual? The interaction? Society? We understand that the interplay of functional dynamics between individuals, interaction, and society is complex. However, in this thesis, we will discuss social behavior as it is functional for the individual.
2. A fourth situation, where one is aware of the contingency but not the rule, is somewhat meaningless inasmuch as the contingency is that which relates the rule to the outcome.
3. This issue of awareness of rules and social contingencies has a problematic implication for research (especially experimental research) on control. In presenting subjects with a situation, even if we can guide all subjects to preferring a given outcome, we cannot be sure that they all have the same level of awareness of rules of social contingencies that impinge on the situation. We can thus expect different behaviors due not only to experimental manipulations, but also due to differential exercise of control.
4. These three ways of influencing the definition of the situation can be used singly or jointly. Depending on the outcome or set of outcomes the individual seeks, he may also try to define himself as "an enthusiastic teacher," or as "impressed with this magnificent place."
5. This seems to be a relatively straightforward proposition which many theories would predict. See, for example, Woelfel and Saltiel (1974).

6. For a discussion of one aspect of getting others to accept your definition of their roles or qualities, see the literature on altercating (e.g., Weinstein, 1967).

7. Implicit in this model are the actor's social skills, the social skills of other actors, and relative status factors that may be exogenous determinants of control.

8. Jones considers the presentation of positive aspects of the self as a third form of ingratiation. This obscures the differences in the underlying social contingencies between the first two forms and the third. Moreover, because of the assumption that one presents positive aspects of the self, it is limiting in the kinds of self-presentations that it covers. For these reasons, we prefer to see positive self-presentations as being different from ingratiation tactics and only a subset of all possible self-presentational tactics.

9. The problems of control in urban societies are of great importance to classical social macro-theorists.

10. One may object to mixing the "observed" and "observer" modes of analysis in the same proposition. We assume that, given the tremendous amount of feedback individuals have about their performance in interactional situations, they are fairly capable of seeing themselves as others see them.

11. In her study on individuation, Maslach (1974) indeed found this to be the case.

12. Snyder (1975) has developed a test for monitoring awareness of self-expressive behavior. A person who has a high awareness of these behaviors may be able to manipulate them to effect an appropriate degree

of individuation. The test for awareness of self-expressive behavior correlates significantly with the Mach IV test for Machiavellianism ($r = .19$, $p \leq .05$).

13. To strengthen the credibility of the story, the students were referred to a journal article on Quasi-Sensory Communication (McBain, 1976).

14. The significance levels of all tests of differences in pretest or validation studies reported in this chapter are two-tailed.

15. The pretest for the QSC Battery consisted of a sample of students and a set of measures different than those of the validation study concerning verbal measures discussed above.

16. By including the "essays" from R.S. and J.L. in Form F, and by making the members of the "field" those college students who might also be selected for one of the learning programs, we felt we would sharpen the students' sense of whom they needed to be similar to or different from. These techniques somewhat limit our experimental concern to individuation in college populations. However, we don't believe that the individuation process is theoretically limited to college populations.

17. It is important to note that the intercoder correlation for each measure is not as high as the reliability for the corresponding indicator. The indicator is the average of the two coders and, as such, it is more reliable than the intercoder correlation indicates.

18. The significance levels of all tests reported in this chapter are one-tailed.

19. Because of the multicollinearity among these indicators, these tests (and all other multiple-indicator tests in this chapter) are not independent, and the experiment-wise error is not maintained at $p \leq .05$.

20. Personal communication with Katrina Simmons, April, 1976. She also notes that rates differ depending on essay length and essay length did vary in this study.

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