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Internal versus external self-esteem : a new measure.

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INTERNAL VERSUS EXTERNAL SELF-ESTEEM:

A NEW MEASURE

A Dissertation Presented

By

LYNN MARY KARJALA

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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Department of Psychology

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ABSTRACT

Internal versus External Self-Esteem: A New Measure

September 1977

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Current theories on the nature of self-esteem can be roughly divided into two categories. The social theories contend that an individual's self-esteem is contingent on the feedback he receives from the environment and on the way in which he perceives himself in relation to the standards and values of his culture. The dual process theories, while agreeing that these factors have an impact, also suggest that the individual has an opinion of himself (self-esteem) that is at least partially independent of the feedback he receives from the environment and the value of his social roles (degree of perceived support).

In order to test the validity of the dual process theories, the Internal-External Self-Esteem (IESE) scale was devised to measure internal-external self-esteem (IE) and support-nonsupport (SN) as separate dimensions. The IE dimension describes the individual's degree of dependence on the environment. The internal person has a sense of self-worth that rests within himself (high self-esteem) and does not require ratification by the environment to maintain this good opinion of himself. The external person thinks poorly of himself and of his abilities (has low self-esteem) and is therefore dependent on

the environment to reassure him of his own worth. The SN dimension describes the amount of positive feedback--in the form of admiration, respect, love and so on--that the individual is presently receiving from his environment, regardless of whether or not he needs such support to reassure him.

The IESE scale was administered to 41 male and 88 female college students along with measures of locus of control, independence of judgment and social desirability and an index of the subjects' social and school-related activities and relationships. It was hypothesized that the IE and SN dimensions would be independent, that locus of control (scored for externality) would correlate negatively with IE and would not be related to SN, that independence of judgment would correlate positively with IE and would not be related to SN, that the activity scores would correlate positively with SN and would not be related to IE, and that neither dimension would be correlated with social desirability. The locus of control results were much as expected. However, independence of judgment failed to correlate with IE and was negatively related to SN. It was also found that the IE and SN dimensions were significantly correlated with each other. The results with regard to the activity scores were mixed: several of them correlated with SN, as expected, but one score was more strongly related to IE and several correlated either with both dimensions or with neither. In addition, both dimensions were significantly correlated with social desirability. Further statistical analyses essentially replicated these results. The findings were then discussed

in terms of their relation to previous research, their significance for the validity of the IESE scale and the dual process theory on which it is based, and their implications for future research.

TABLE OF CONTENTS

| | |
|--|----|
| ACKNOWLEDGMENTS | iv |
| ABSTRACT | v |
| LIST OF TABLES | ix |
| INTRODUCTION | |
| Theoretical Perspectives on the Nature of Self-Esteem | 1 |
| The Social Theories of Self-Esteem | 2 |
| The Dual Theories of Self-Esteem | 5 |
| Research on Characteristics Associated with Self-Esteem and Support | |
| Self-Esteem and Internal vs. External Locus of Control | 12 |
| Self-Esteem and Autonomy vs. Dependency | 23 |
| Possible Correlates of Support vs. Nonsupport | 31 |
| Response Sets and Social Desirability | 35 |
| METHOD | |
| Subjects | 38 |
| Measuring Instruments | 39 |
| Procedures | 42 |
| RESULTS AND DISCUSSION | 48 |
| SUMMARY, CONCLUSIONS AND IMPLICATIONS | 75 |
| REFERENCES | 82 |
| APPENDICES | 88 |

LIST OF TABLES

| Table | Page |
|-------|--|
| 1 | Correlations between Internal, External, Support and Nonsupport Scores 49 |
| 2 | Correlation Matrix of Fifteen Major Variables 50 |
| 3 | Factor Structure of Internal-External and Support- Nonsupport Items 58 |
| 4 | Correlations of Factor Items with Social Desirability . . 63 |
| 5 | Factor Structure of Internal-External and Support- Nonsupport Items with High Social Desirability Items Removed 65 |
| 6 | Correlations of Factor 1 and Factor 2 Scores with Other Major Variables 68 |
| 7 | Regression on Factor 1 and Factor 2 Scores by Other Major Variables 69 |

CHAPTER I

INTRODUCTION

Theoretical Perspectives on the Nature of Self-Esteem

The literature on self-esteem is extensive and complex. The theoretical speculations in this area span several decades, and each year sees hundreds of new articles published on the topic. One reason for the complexity and confusion in the recent literature is the lack of consistent operational definitions of self-esteem (Viney, 1969). The wide variety of definitions, and of the testing procedures based on them, makes it difficult to compare the findings of different investigators.

Moreover, the divergence in empirical approaches is a reflection of the diversity of the theoretical conceptualizations that underlie them. In spite of its uncertain scientific status, the concept of self-esteem has undeniable phenomenological validity (U'Ren, 1971) and a personal significance for almost every individual, at least in our culture. Clinicians have repeatedly documented the deleterious effects of the feelings of worthlessness and helplessness that are the hallmarks of chronic low self-esteem. It is not surprising, then, that there has been a wealth of speculation and description from all of the major psychological perspectives.

The conceptualizations of self-esteem can be divided roughly into two groups according to their views on the sources of self-esteem. The first group is comprised of the social theories, and the second group is made up of the dual theories.

The Social Theories of Self-Esteem

One group of conceptions can be described as social theories of self-esteem, because they focus on the importance for the individual of recognition, acceptance and approval from others. White (1971), for example, described both the behaviorist and the psychoanalytic formulations of self-esteem as "input" theories. Although they use different terminology, both of these theories view a child's self-esteem as a function of the way other people treat him and not as a result of what he himself does. For the behaviorist theories the input is selective positive reinforcement, for psychoanalytic theory it is the narcissistic supplies of love and praise, but in both cases the focus of attention is on the input of the parents rather than the output of the child. Mead (1934) put forward a similar view when he suggested that we see ourselves as others see us. This kind of social interaction approach can be seen in much of the literature on self-esteem.

Another type of social theory is represented by the work of Ziller (Ziller, Hagey, Smith & Long, 1969), which also provides an example of a social theory translated into an empirical procedure. In this procedure the individual is given the task of serializing the elements of six sets of social objects. Each list is made up of five "significant others" and the self. The items on the lists include depictions of social roles (doctor, actor, housewife), relationships ("your best friend," "your sister or someone who is most like a sister") and personal characteristics ("someone you know who is unsuccessful," "the happiest person you know"). The self-esteem score is based on the positioning of the self relative to the other items. In this

approach, then, unlike "input" theory as described by White, the individual is not seen as completely passive. It appears to be assumed that he is actively involved in the process of evaluating himself. However, he is assumed to do so through a social mechanism, that is, by comparing himself and his performance with his conception of a prestigious or unprestigious social role or, more simply, of someone who is successful or unsuccessful. Another way of expressing this view is that the individual is thought of as grading himself on a curve rather than on an absolute scale.

Related to Ziller's approach is the view that self-esteem can be defined in terms of the discrepancy between the self and the ideal self. A variety of procedures has been devised to measure this discrepancy, and judging by their popularity in the research literature (Wylie, 1974), this concept of self-esteem is a common one. At first glance it would appear to be less socially oriented than Ziller's formulation, but whether this is true of a particular investigator's findings must depend to a large extent on the measure that he uses. Insofar as the ideal self--or rather, the ideal self as it is measured in a given study--is based on the ideals of the individual's parents, peers or culture, he is making the same kinds of judgments and comparisons that are tapped by Ziller's procedure. In addition, if the particular measure allows for it, each subject may manifest a different balance of input and output values in his ideal self. However, the research does not differentiate subjects on the basis of the content of their ideal concepts, only on the magnitude of the discrepancy. Thus this view still includes only one process, and the individual's self-esteem

score is at least influenced, if not completely determined, by his input rather than by his output.

To review this section, the social theories tend to view self-esteem in much the same way as a meteorologist does a barometer. A barometer needle goes up when the weather is going to be fair and down when it is going to be stormy. In a similar fashion, the social theories see self-esteem as an indicator of the emotional climate surrounding the individual. It increases when the emotional climate is favorable, when he appraises himself favorably in terms of the ideals he has learned from his culture. It decreases when the emotional climate is unfavorable, when the judgments expressed by others or made by the individual himself are negative.

The major problem with these theories, then, is that they place the person at the mercy of the prevailing winds of circumstance. If we extend the logic of the psychoanalytic and behaviorist views, we should expect to see day-to-day fluctuations in the self-esteem according to the ratio of praise and disapproval that the individual has received. Ziller's formulation and the self-ideal self discrepancy definition see the person as somewhat less vulnerable, but they are open to much the same criticism. According to these theories, if something occurs to move an individual farther away from his goals, instead of closer to them, his self-esteem should suffer. This reasoning does not allow for circumstances in which he is not at fault. (Ziller et al. (1969) imply this kind of distinction in their theoretical discussion, but it is not reflected in their measure.) Such events should presumably affect one's self-esteem in the same way as events for which he is indeed responsible.

Although this kind of reaction may occur--one example would be the immediate impulse to blame oneself for the death of a loved one--it is unreasonable to assert that it is the only possible reaction. Thus none of the social theories reviewed here gives an adequate delineation of the nature of the self-esteem.

The Dual Theories of Self-Esteem

The second group of conceptions of self-esteem overcomes the problem faced by the social theories. This second group can be generally described as dual theories, because they posit two kinds of processes or sources of self-esteem. Most of them fit roughly into the type of input-output model suggested by White (1971)--that is, they recognize the importance of social sources of self-esteem (input) but take the position that self-esteem also depends partially on the individual's own abilities and experience (output).

One of the most basic formulations in this category is White's (1959) concept of the sense of competence. This concept was developed from the observation that children actively explore and manipulate their environment even in the absence of such motivation as hunger, thirst or anxiety. White proposed that such behavior was directed by "effectance motivation," the urge to improve one's abilities and to test one's powers to "make things happen." He also suggested that there is an inherent satisfaction in influencing the environment that does not depend on reward or even ratification from others, and this satisfaction he termed a "feeling of efficacy." A history of feelings of efficacy, of successful interactions with the environment, leads to the development of a sense of competence, the belief that one's abilities will be

adequate to meet the demands of situations or tasks as they arise.

Specifically in regard to self-esteem, then, White (1971) wrote

The concept of competence makes it possible to form an idea of self-esteem that includes output as well as input. Level of self-esteem depends upon one's confidence, based on experience, that one can make desired things happen, together with the appreciative recognition of this competence by others. A vital ingredient of the input is respect. It is nice to have other people love you, but even more pertinent to self-esteem is to have them respect your capacities. (p. 273)

It is implied in this description that the two processes are not unrelated. One can receive social rewards for the same behaviors that create feelings of efficacy, and it seems reasonable that respect for one's abilities enhances one's sense of competence. However, it is also possible to feel competent even in the face of negative social sanctions or to feel incompetent in spite of recognition and approval.

A more detailed formulation was presented by Brissett (1972). Brissett also suggested that self-esteem involves two basic processes, which he labeled self-evaluation and self-worth. These two processes, respectively, parallel White's concepts of input and output.

The term "self-evaluation" refers to "the process of making a conscious judgment regarding the social importance or significance of one's self" (p. 255). Brissett distinguished three processes of self-evaluation, or social self-esteem, based on the type of reference point against which the self is judged. The first such reference is an idealized image of self, which can be a highly detailed image of the kind of person one would like to be or simply a set of behavioral goals that one would like to achieve. The values, goals and aspirations on

which this idealized image is based are acquired during the individual's socialization training. The second reference point is the objective social value of one's identity or identities. In this process the individual identifies himself as belonging to a particular category of people, and his self-esteem derives from the value that attaches to that category. The third reference is what Brissett termed the "objective" evaluation of one's performance in an identity. In this case, the individual evaluates himself highly when he succeeds in fulfilling the obligations that his identity entails. Thus, at this point in time the role of politician may not have a very high value from which the individual can derive self-esteem (the second process), but it is still better to be a successful politician than an unsuccessful one.

In contrast to these processes, Brissett's concept of "self-worth" is similar to White's notion of the sense of competence. Self-worth, according to Brissett, involves the feeling that one has executive control over his own behavior, that he is able to bring about desired effects and to accept responsibility when the effects are not what he desired. This sense of mastery and control is based originally on the experience of directing one's own activity to satisfy the expectations of others and later, when the self-concept is more fully developed, on the experience of behaving in ways that are consistent with one's assumptions about oneself.

Brissett, like White, also noted that the processes of self-worth and self-evaluation are intertwined but not inseparable--that is, there are many situations from which the individual derives both self-worth

and a high self-evaluation, but there are also situations in which one is only gained at the expense of the other. (For example, when a person's conscience agrees with social convention, his behavior will be in consonance with his sense of self-worth and will also be approved by his community. In the Asch conformity paradigm, on the other hand, it must appear to the subject that he must either give up the good opinion of the other "subjects" or go against his own judgment and perhaps lose some of his sense of self-worth. However, Brissett went further to suggest that our society places a premium on self-evaluation. In his view, although some young people have been able to reject society's pressure in this direction in favor of "self-actualizing" experiences, many adults have learned to use self-evaluation to compensate for a lack of self-worth.

Another similarity between the theories of Brissett and White is that they both viewed the output/self-worth process as more intrinsic to the individual than the input/self-evaluation process. As we noted before, White observed that feelings of efficacy result from successful dealings with the physical environment as well as from successful social interactions; in fact, it was the former aspect that he emphasized in discussing the development of competence without the necessity of ratification by other people. Brissett, on the other hand, concentrated on the individual within his social environment, but he too stressed the idea that self-worth arises from "the sheer exercise of directing one's own activity" (p. 259) without reference to culturally determined goals, standards or values. In contrast, both authors described the more extrinsic portion of the self-esteem as

deriving, directly, from recognition and approval from others and, indirectly, from the individual's appraisal of himself in terms of the standards and values of his culture.

In summary, the central hypotheses that we draw from these formulations is that there are two distinguishable processes contributing to the self-esteem: an input process, dependent on the person's immediate social environment and surrounding culture; and an output process, centered in the individual himself. The second hypothesis is that these two processes are capable of operating independently of each other. They may run parallel in many situations but do not always do so; that is, one may often obtain both kinds of self-esteem from the same behaviors, but there are also situations in which one must sacrifice one kind of self-esteem in order to retain the other. Finally, because the difference between the two kinds of self-esteem is specifically a difference in their sources, the input process is described as extrinsic to the individual and the output process as intrinsic.

This framework explains at least one phenomenon that the social theories cannot: how it is possible for people to act in ways that are contrary to the ideals of their culture or the demands of their environment without suffering the variety of ills that clinicians have catalogued as accompaniments of low self-esteem. There remains, however, one major flaw in this work. Both White and Brissett gave well-developed, logical arguments in delineating their views on self-esteem and cited various kinds of empirical evidence, as well as other theoretical work, in support of their perspectives. But neither of them, on the other

hand, reported an attempt to test their hypotheses directly. Thus, although the theoretical framework is well constructed, there remains the task of lending it empirical support.

The present study has been designed to pursue this object. As a first effort in this area, the study has two general aims. The first aim is to demonstrate that the two kinds of self-esteem can be measured reliably and independently by an instrument constructed for this purpose. The second aim is to demonstrate the conceptual validity of the measure by showing that its scores predict patterns of scores on tests of other personality characteristics that have previously been found to be related to high global self-esteem (i.e., self-esteem as measured by instruments that do not differentiate between input and output). Such characteristics include an internal locus of control, as measured by Rotter's (1966) Internal-External Locus of Control (I-E) scale, and independence, as measured by Barron's (1968) Independence of Judgment scale.

Before continuing, it should be noted that White and Brissett refer to both the output process and the input process as self-esteem. Up to this point we have accepted this terminology. However, the use of the same term to apply to both processes can be unnecessarily confusing, and we prefer to reserve the term "self-esteem" to refer only to the output, or self-worth, process. Specifically, we have labeled the output process as internal-external self-esteem and the input process as support.

To recapitulate in these clearer terms, the internal-external dimension describes the individual's degree of dependence on the

environment. The internal person has a sense of worth that rests within himself. He believes that he is "acceptable," that his abilities will be sufficient to deal with whatever comes along, and that he can take responsibility for events when his plans go awry. The external person does not have this sense of his own worth and is dependent on the environment to provide the recognition, support, approval and affection that he needs to reassure him that he is valued. The support-nonsupport dimension describes the amount of support that the individual perceives himself as receiving from the environment at the present time, regardless of whether or not he needs such support to reassure him. This support may be direct, as in the case of approval and recognition from family and associates, or it may be indirect, as with the prestige that accompanies a particular occupation. The high support person has an environment that affords him a good measure of support and encouragement; the environment of the low support person, although it may not be actively negative, at least fails to provide him with such support.

If these two processes are independent, as our theory suggests, it should be possible to identify four types of people: internal-support, internal-nonsupport, external-support and external-nonsupport. The internal-support person should be well adjusted, both emotionally and socially. He likes himself and feels that he is liked and respected by those around him. The internal-nonsupport individual is not quite as well off. He believes himself to be an acceptable person and values his own talents and abilities, but he perceives his environment as giving him little or no encouragement. The

external-support person, unlike the previous two, has a low opinion of himself and his abilities and is dependent on his environment to convince him of his own merit. He is able to "get by," because he receives the affection and approval from others that he lacks within himself; however, he is highly vulnerable to any changes in the environment. The external-nonsupport individual represents the classic picture of low self-esteem. He does not think much of himself and does not receive enough support from the environment to function adequately; thus he is the most likely of the four to exhibit the symptoms associated with chronic low self-esteem.

Before we can make specific predictions about the relationships among internal-external self-esteem and support-nonsupport scores and scores on the other personality characteristics that we intend to test, it is necessary to review the previous work bearing on these characteristics.

Research on Characteristics Associated
with Self-Esteem and Support

Self-Esteem and Internal vs. External Locus of Control

The concept of locus of control was developed from Rotter's (1954) social learning theory, which suggested that an individual's behavior is influenced, not only by the reinforcements available to him, but also by the degree to which he believes he can control those reinforcements. Those people who believe that they are in control of reinforcing events are described as having an internal locus of control, while those who believe that luck, fate, chance or powerful

others play a major role are said to have an external locus of control.

Since Rotter (1966) published his Internal-External (I-E) scale, which was designed to measure this dimension, there has been a substantial amount of research linking locus of control with various personality characteristics, including self-esteem. By far the majority of studies in this area have shown that internal subjects tend to have higher self-esteem than externals (Reynolds, 1976). For example, both Fish and Karabenick (1971) and Ryckman and Sherman (1973) demonstrated such a correlation using the Rotter I-E scale and the Janis and Field Feelings of Inadequacy scale, and this result was supported by Ryckman and Cannon (1975) with the Janis and Field instrument and Levenson's multidimensional I-E scale. A similar relationship between internality and self-esteem was found by Beebe (1971) among elementary and high school students and by Aloia (1974) among aged subjects. Heaton and Duerfeldt (1973) found a significant relation among scores on the James IE scale, scores on Gough's Adjective Check List and one of two sets of scores derived from the Index of Adjustment and Values (IAV). The correlation with the second set of scores on the IAV was also in the predicted direction, although it was nonsignificant. A study by Lombardo, Fantasia and Solheim (1975), using the Rotter scale and a self-ideal discrepancy measure, reported that externals exhibit less self-acceptance than internals. They also found, interestingly, that when their external subjects completed the Rotter scale under ideal-self instructions, the answers were significantly more internal than under the standard instructions. In other words, the externals wished to be more internal than they

perceived themselves to be. The authors concluded that the relationship between externality and maladjustment, which is widely supported in the locus of control literature, may be caused by the externals' desire to change and to have more control over their lives combined with a negative expectancy of success. These findings were replicated in a second study by Lombardo and Berzonsky (1975). Lefcourt (1966), in a review of the I-E literature to that date, stated that the external individual could be described as lacking in self-confidence, and it is apparent that this statement has generally been upheld in the more recent research. He also drew a parallel between internality and White's (1959) sense of competence, which we discussed above as an integral aspect of internal self-esteem.

Of special relevance to the present study is the suggestion by several authors (Bellack, 1972; Bellack & Tillman, 1974; Pines, 1973) that externals are highly dependent on external input and that their performance suffers when such input is not available. Bellack (1975) continued this line of investigation in a study of the relationships among locus of control, self-evaluation and self-reinforcement. The results indicated that the external subjects, in a situation that provided minimal feedback about their performance, administered significantly less positive self-reinforcement and more negative self-reinforcement than the internal subjects. The externals also gave themselves consistently lower self-evaluations. Bellack (1975) concluded that

The externals present a more negative SR
[self-reinforcement] picture because they have a
lower SE [self-evaluation]. This finding contributes

to an emerging picture of the external individual as one who does not trust his own efforts or judgments. He believes that his behavior is not effective in securing reinforcement and is dependent upon external input for evaluation of his behavior (especially positive evaluation). He does not risk making strong judgments in the absence of such input and consequently does not utilize self-reinforcement to maintain or alter his behavior. (p. 165)

When all of the above findings are taken together, it is not a large step from the Bellack (1975) study to suggest that the external individual reacts in a characteristic way to feedback on all of his behavior. In other words, he does not trust his judgments about his personality any more than his judgments about his performance on an experimental task. He has low self-esteem, and the evaluations he does make of himself are generally negative; thus he is particularly dependent on his environment to provide positive feedback. This sketch of the individual with an external locus of control, then, bears a strong resemblance to our earlier description of a person with external self-esteem.

This similarity is enhanced when we consider the results of a number of studies not directly concerned with the measurement of self-esteem. A more detailed comparison of internals and externals than those described above was provided by Scott and Severance (1975) and Hersch and Scheibe (1967). Scott and Severance correlated scores on Rotter's I-E scale with those on the California Psychological Inventory (CPI) and the Minnesota Multiphasic Personality Inventory (MMPI). The internal subjects were found to score significantly higher on the CPI scales for dominance, capacity for status, sociability, well-being, responsibility, self-control, tolerance, good

impression, achievement via conformance and intellectual efficiency and the MMPI K (ego-strength) scale. In contrast, externals scored significantly higher on 7 of the remaining 13 MMPI scales, including depression, social introversion, the F scale and the Taylor Manifest Anxiety scale. As a composite, then, internals tended to describe themselves as high in ego strength, responsible, outgoing and persistent, while externals were characterized as low in ego strength, dissatisfied, inhibited, insecure, easily disorganized and defensive.

This study replicated the earlier results of Hersch and Scheibe (1967), who found the same CPI scales to be significantly related to internality on Rotter's scale. Hersch and Scheibe also used the Adjective Check List in their investigation and found that internals rated highly on the dominance, endurance and achievement scales, while externals tended to score highly on the succorance and abasement scales. In particular, there were 23 self-descriptive adjectives that were checked by internals significantly more often than by externals: clever, efficient, egotistical, enthusiastic, independent, self-confident, ambitious, assertive, boastful, conceited, conscientious, deliberate, persevering, clear-thinking, dependable, determined, hardheaded, industrious, ingenious, insightful, organized, reasonable and stubborn. The only adjective checked significantly more often by externals than by internals was self-pitying.

Related to these two studies is a group of others less comprehensive in scope. Himle and Barcy (1975), using an anxiety scale and selected items from Rotter's measure, found that subjects reporting high feelings of insecurity scored significantly higher on the external

items and lower on the internal items than subjects reporting low feelings of insecurity. Several authors (Abramovitz, 1969; Emmelkamp & Cohen-Kettenis, 1975; Naditch, Gargan & Michael, 1975) have obtained a significant correlation between externality and self-reported depression. This result is interesting in the present context because of the substantial amount of theoretical and empirical work pointing to a deficient sense of self-worth as the primary antecedent of chronic depression (Newton & Karjala, 1974). Finally, Donovan, Smyth, Paige and O'Leary (1975) found that external subjects scored significantly higher than internal subjects on the Taylor Manifest Anxiety scale (MAS), although there was no relation between Rotter's scale and the Activity Preference Questionnaire, which was employed as a nonobtrusive measure of anxiety. From the pattern of their results, as well as from those of earlier studies, the authors suggested that the MAS may be more a measure of neuroticism or negativism toward self than of anxiety. According to them, subjects who score highly on the MAS "tend to have a low overall self-concept, to be relatively dissatisfied with themselves, to have a low sense of self-worth, to feel inadequate in social interactions, and to be lacking in defenses necessary to maintain a minimal level of self-esteem" (p.684).

The research discussed so far, then, supports the contention of a positive correlation between internality and self-esteem. However, to complete our overview of this body of research we must also consider the dissenting voices. No investigation has actually obtained a significant negative correlation between internality and self-esteem, but a small number of studies have failed to find the expected relation.

One apparently adverse result was obtained by Platt, Eisenman and Darbes (1970), who attempted to relate Rotter's I-E scale to the Ziller et al. (1969) measure of self-esteem. All correlations were nonsignificant. However, as we noted earlier, Ziller's instrument was designed as a measure of social self-esteem--in Brissett's (1972) terms, a test of self-evaluation rather than self-worth. Thus it is not entirely surprising that it did not vary with locus of control. Platt et al. concluded that their study failed to support the construct validity of Ziller's measure but did not suggest that it reflected on the bulk of the literature.

Another contrary finding was reported in the Donovan et al. (1975) study described above. In addition to the other tests, the experimenters also administered the Tennessee Self Concept scale (TSCS) to their subjects. No correlation was found between the TSCS and Rotter's measure, and it is possible that this result is an indication that the relationship between locus of control and self-esteem is more complicated than was suggested by the rest of the research. On the other hand, it is also possible that the problem lies in the particular measure that was employed--i.e., the TSCS--and not with the theoretical underpinning. This hypothesis is supported by Wylie (1974), who reported that the data concerning convergent construct validity between the TSCS and other measures of self-regard were not encouraging.

Finally, a similar result was obtained by Kawash and Scherf (1975) in a study of locus of control and self-esteem in married couples. In this case there are two possible explanations that do

not involve a contradiction of the basic relationship supported by the majority of the research. One alternative concerns the age of the subjects. Whereas most of the research has been conducted with college students, this study recruited the parents of college students; thus all of them must have been of middle age or older. Kawash and Scherf suggested that internals tend to take responsibility for their failures as well as their successes. If these experiences occur in roughly equal numbers over time--and the authors implied that this is more likely to be the case in older than in younger people--the self-esteem of internal subjects will tend to move toward the same level as that of the external subjects. It must be admitted that this explanation is not entirely satisfactory. It does not account for the consistent relation between internality and self-esteem among college students, since it is probable that at least some of these younger subjects had had equal experience with success and failure, nor does it account for Aloia's (1974) finding of a positive correlation in elderly subjects.

The second explanation once again involves the particular self-esteem measure that was used, which in this case was the Coopersmith Self Esteem Inventory (SEI), modified for adults. Because the measure was rewritten, none of the reliability and validity data on the original SEI can be said to apply, and no new data were reported for the modified form. Kawash and Scherf apparently constructed this measure from their own judgment; at least, no pilot work was mentioned in the article, and the authors did not refer to any earlier work using the modified SEI. Given this lack of

information, it is impossible to make a judgment about the practical significance of Kawash and Scherf's results.

In summary, the finding of a positive correlation between internality and self-esteem would seem to be upheld when we consider the strength of the support for this contention and the general weakness of the evidence against it. More specifically, it would appear that internal locus of control should be related to internal self-esteem and external locus of control to external self-esteem. Individuals with an internal locus of control have been consistently portrayed as self-confident, independent, assertive, persistent and sociable, while those with an external locus of control have been found to be insecure, inhibited, low in ego strength, prone to depression, distrustful of their own judgments and dependent on feedback from the environment. These composites seem to echo our previous descriptions of persons high and low, respectively, in internal self-esteem.

For the purposes of the present study, the Rotter I-E scale will be used to determine locus of control. The Rotter scale is the most widely used and the best documented of all of the measures of locus of control (Reynolds, 1976). The test-retest reliability coefficients reported by Rotter (1966) with a variety of samples ranged from .49 to .83 over 1- to 2-month time periods. Coefficients of .48 to .84 were also reported by Hersch and Scheibe (1967) over a 2-month interval. These figures compare favorably with the test-retest measures obtained for other locus of control scales (Reynolds, 1976). An internal consistency analysis performed by Rotter yielded reliability estimates between .65 and .79. In addition, there has been a substantial amount

of research over the last 10 years relating the I-E scale to other personality measures, and the bulk of these studies has supported its construct validity in a variety of experimental and field situations (Mirels, 1970). The data on its discriminant validity are more mixed, but Reynolds' (1976) recent review of the locus of control literature concluded that the I-E scale was unrelated to age, sex and intelligence and related only weakly to independent measures of social desirability.

This is not to suggest that there are no difficulties with the I-E scale. One of the major criticisms of the measure has been that it is actually multidimensional, not unidimensional as Rotter's original work suggested. Mirels (1970), for example, identified two factors, one dealing with control over one's personal fate and the other with control over political and world affairs, while Klockars and Varnum (1975) found six factors using a revised version of the scale. However, the research is not all one-sided; Wolk and Hardy (1975) failed to find any support for the multidimensionality concept. Rotter (1975) replied to this criticism by pointing out that the I-E scale was designed as a broad gauge instrument to sample over a wide range of behaviors or situations. For this reason it could not be expected to have an internal consistency as high as that of a power scale developed to sample over a much narrower range. He also observed that the factor analyses that have been conducted "do not reveal 'the true structure of the construct'; they only reveal the kinds of similarities perceived by a particular group of subjects for a particular selection of items" (p. 63). He drew support for this view from the fact that the factor structure of the scale has been found to vary from population to

population and between the sexes. Finally, Rotter suggested that the use of subscales is justified and may be informative (a) if it can be demonstrated that reliable predictions can be made from the subscale to specific behaviors, and (b) if application of the subscale score results in a significantly greater relation than that of the test as a whole.

This last point is of particular interest in view of the findings of Lombardo et al. (1975). In this study each subject's I-E questionnaire was scored for Mirels' (1970) two factors of personal control and social control as well as for the total I-E rating. In addition, as we mentioned earlier, each subject completed the questionnaire twice, once under the standard instructions and once under self-ideal instructions. On the personal control factor, there was a nonsignificant difference between the internals' scores under the different instructions but a significant difference between the two sets of scores obtained from the externals. On the other hand, the difference between internals and externals on the social factor was nonsignificant. This pattern of results suggests strongly that the primary characteristic that distinguishes internals from externals is the belief that they are in control of their own destinies and not the belief that they are capable of having an impact on politics or world affairs. The findings also indicate that it may be advisable to take Mirels' factor structure into account in future research; it may indeed be found that self-esteem--and, in particular, our dimension of internal-external self-esteem--is more clearly related to this aspect of internality than to the total I-E score.

We may conclude this section by stating that the Rotter I-E scale, in spite of its possible problems, appears to be the best available measure of locus of control in the present context and that we should expect to find a positive correlation between internality on the I-E scale and internal self-esteem on our own measure.

Locus of control is not, of course, the only personality characteristic that has been found to be related to self-esteem. Another such characteristic, and of at least equal importance in the total personality, is that of autonomy, or independence. In general, research has indicated that autonomy and independent thinking are related to high self-esteem, while dependency and conformity are related to low self-esteem. We will examine this research in the next section.

Self-Esteem and Autonomy vs. Dependency

Dependency is a pervasive characteristic of personality and one that has been frequently studied in the child development literature. It can be defined as "the wish to be nurtured, aided, comforted, and protected by others or to be emotionally close to or accepted by other people" (Mussen, Conger & Kagan, 1974, p. 379). The manifestation of dependency in adults that is most familiar to laymen is the tendency to rely on others, or perhaps on one other person, for emotional support and security, reassurance and decision-making.

The relationship between dependency and low self-esteem is an obvious one to suggest. In fact, it seems by this time to have reached the status of an assumption, or even a tautology, especially in the clinical literature. Nikelly (1971), for example, presented a clinical

picture of the dependent adolescent with suggestions for therapy. He did not specifically discuss self-esteem, but it is clear from the article that he assumed a connection between dependency and low self-esteem. Ross (1974), in a theoretical paper, also made the assumption that autonomy is related to a "solid sense of self and identity" (p. 219) and, more important in the present context, to a "sense of well-being that does not depend on external supports" (p. 217).

It must be pointed out that our own definition of internal self-esteem is based on a similar hypothesis, and in fact it is difficult to describe self-esteem without referring to dependency. We have assumed, not without some justification, that having little self-esteem is a very unpleasant condition and that a person who is lacking a conviction of his own worth will be highly motivated to seek evidence of his worth from his environment. The level of a person's internal self-esteem, then, can be specifically conceptualized as the degree of his dependence on the environment for reassurance of his value.

This hypothesis has received empirical support from Coopersmith's (1967) finding that high self-esteem boys are more independent than low self-esteem boys. Indirect evidence was also provided by a study by Katkin and Weisskopf-Joelson (1971). Their data indicated that maladjusted subjects preferred the dependent value of Relationship, while well-adjusted subjects preferred the individualistic values of Self-interpretation and Achievement. Their independent variable was measured by Kleinmuntz's College Maladjustment scale, which describes

a person who is ineffectual, pessimistic, procrastinating and anxious and who tends to somatize; from this depiction it seems reasonable to suggest that these results also have a bearing on our present consideration of dependency and self-esteem.

On the other end of the dependency dimension, Kurtines (1974) provided a profile of the autonomous individual. Based on the author's definition of an autonomous person as one "who seems to make decisions and judgments independent of immediate social pressure and considerations of external influences" (p. 244), a 76-item Q sort was performed by five psychologists, five psychology graduate students and 10 nonpsychologists. The data indicated a fair amount of agreement among the various raters. The following are the five items found to be most characteristic of the autonomous individual: (a) is self-reliant, independent in judgment and able to think for himself; (b) is efficient, capable and able to mobilize resources easily and effectively and is not bothered by work inhibitions; (c) is persistent in his goal-directed behavior; (d) derives personal reward and pleasure from his work and values productive achievement; (e) tends to take a stand on moral grounds and issues. The following five items were considered least characteristic of the autonomous individual: (a) is suggestible and overly responsive to other people's evaluations rather than his own; (b) is conforming and tends to do the things that are prescribed; (c) with respect to authority, is submissive, compliant and overly accepting; (d) is concerned with making a good impression; (e) is unable to make decisions without vacillation, hesitation or delay.

Although autonomy, from this analysis, appears to be a complex

characteristic--and, interestingly, more complex than its opposite--one important element is the ability to resist external pressures and to rely on one's own judgment. Dependency, on the other hand, is closely associated with conformity and compliance. This is a logical continuation of our earlier delineation of the dynamics of dependency and self-esteem; if an individual is dependent on external sources to reassure him that he has merit, it is understandable that he would try to make himself agreeable to those sources to forestall the possibility of losing their support.

This aspect of dependency has received a considerable amount of attention in the literature. In particular, many investigators (Berkowitz & Lundy, 1957; Blake & Moulton, 1961; Costanzo, 1970; Farkash, 1967; Janis, 1954; League & Jackson, 1964; Lesser & Abelson, 1959; Stotland & Hillmer, 1962; Stotland, Thorley, Thomas, Cohen & Zander, 1957) have reported that individuals with low self-esteem are more conforming and more easily influenced than those with high self-esteem.

More recently, Singh and Prasad (1973) examined the relationships among self-esteem, social self-esteem and conformity. Conformity was measured by Bernberg's Human Relations Inventory; the two types of self-esteem were assessed by means of Singh's Self-Concept Inventory. The authors found that the nonconformists had significantly higher self-esteem than the conformists. On the other hand, there was no difference between the two groups on social self-esteem. These findings fit well with our conception of the negative relationship between dependency and internal self-esteem.

Once again, relevant information can also be drawn from studies that have not measured self-esteem directly. Kurtines (1974), as a follow-up to his Q sort technique, gave the CPI to 30 members of a fraternity and asked 11 of the members to rate each of the others on Kurtines' definition of autonomy. It was found that the autonomy ratings correlated positively and significantly with the CPI scales for dominance, capacity for status, social presence, self-acceptance, good impression and intellectual efficiency. In a subsequent regression analysis, it was also found that the scales for dominance, capacity for status and self-control received positive weights, while the scales for sociability and femininity received negative weights. If these results do not directly support the relation between autonomy and high self-esteem, at least they demonstrate that autonomy and self-esteem are each correlated with the same characteristics as measured by the CPI. In addition, the negative weight for sociability indicated that the more autonomous subjects were uninterested in group activities and socializing for its own sake, which supports our more specific contention in regard to autonomy and internal self-esteem.

Finally, a study of college women who were deviant or nondeviant in dress was performed by White and Kernaleguen (1971). The particular criterion employed was skirt length, the campus norm for which was determined over a 3-month period. Using the Witkin Rod-and Frame test and Maslow's Psychological Security-Insecurity Inventory, the experimenters found that the deviant subjects were more field-independent and more secure than the conforming subjects. White and Kernaleguen also assumed from the reports of earlier studies that

the greater security of the deviants was indicative of feelings of self-confidence and self-acceptance.

In summary, we can conclude from this literature that autonomy is associated with high self-esteem and that dependency, measured as conformity, is associated with low self-esteem. More specifically, we should expect that the autonomy-conformity dimension will correlate positively with internal self-esteem but will not be strongly related to the support dimension.

In the present study the autonomy dimension will be assessed by means of Barron's (1968) Independence of Judgment scale. The Barron scale was specifically designed to predict performance in an Asch conformity situation. In the Asch paradigm, there are from 8 to 16 "subjects," all but one of whom are actually confederates of the experimenter. The task in each trial is to choose the one line out of a set of three lines of varying lengths that matches the length of the criterion line. Answers are announced publicly, one at a time, and the situation is arranged in such a way that the naive subject is always among the last to respond. On the critical trials of the experiment, all of the confederates give a prearranged incorrect response, and the subject's conformity score is the number of times he yields to the pressure of the majority opinion. It should be noted that to yield in this paradigm one must go against the evidence of his senses.

In the experiment conducted by Barron (1968), there were 12 critical trials, so that the maximum conformity score was 12. At one end of the range of scores, approximately 25% of the subjects showed independence by getting a score of zero; at the other end, 25% of the

subjects yielded 8 to 12 times. These two groups were then given the a priori Independence scale, which consisted of 84 items.

Validity for the concept was demonstrated by the fact that the test as a whole discriminated the groups in a statistically significant manner. An item analysis was also carried out to identify the items that discriminated the groups most effectively. Of the 22 items that showed differences at the .05 point or better, 20 were in the expected direction, which also supported the construct validity of the scale. These 22 items now comprise the Independence of Judgment scale.

It is unfortunate for the present study that Barron's scale does not seem to have been used very much since its first publication. However, we were able to locate one study in which the scale was employed. Dempewolf (1974) investigated various correlates of support for feminism. It was found that the Barron scale was able to discriminate between supporters and opposers of feminism among both males and females and that the difference between the two ideological groups was highly significant. From our point of view, we can suggest that these results constitute further evidence in favor of the scale's validity.

One problem that has been uncovered in the research in this area is the possibility of a curvilinear relationship between conformity and self-esteem (e.g., Eagly, 1969). It has been suggested (Stewart, 1968) that very high persuasibility represents dependent conformity, that very low persuasibility represents rigid bigotry and low tolerance of ambiguity, and that both of these are associated with low self-esteem. On the other hand, according to this view, moderate

persuasibility represents a realistic ability to be influenced by the facts and is associated with high self-esteem. In any study that involves the measurement of conformity, then, it is important to consider whether such a relation is likely to manifest itself.

This is actually a methodological problem rather than a conceptual one (hence our discussion of it at this point rather than earlier). The above interpretation does not contradict our notion of the behavior of a person with internal self-esteem, and the question is whether we should expect a curvilinear relation using the particular conformity measure that we have chosen.

There are two reasons **why** use of the Barron scale would not appear to involve this difficulty. First, the curvilinear relation usually appears only in situations in which the persuasive information is prima facie believable (Nisbett & Gordon, 1967), in which case it is reasonable and congruent with one's self-esteem to be influenced by the information. This is not true of the standard Asch paradigm, on which the Barron scale is based. Most, if not all, of the critical trials are unambiguous, and the subject must sacrifice his own judgment in order to conform. Thus it seems much more likely that the independents identified by the scale are truly autonomous and not simply closed-minded. Second, and somewhat obvious, the Barron scale does not involve any attempts at persuasion. It does not include norms for the answers that have supposedly been obtained from previous studies or any other indication of what the "right" answers might be. The responses may be influenced by the perceived social desirability of the items, and that is a factor that should be considered, but as a

potential problem it is hardly unique to the Barron scale. We can assume, then, that the scale will accurately discriminate autonomous and dependent individuals in the present study and anticipate that it will show a monotonic relation with self-esteem.

To recapitulate our discussion to this point, we can expect that both internal locus of control and autonomy will be correlated with internal self-esteem. In contrast, we expect that neither the Rotter scores nor the Barron scores will vary with our support dimension.

Such results would themselves be of practical significance by helping us to refine our conceptualization of the nature of self-esteem. In particular, they would contradict the social theories of self-esteem and support our original hypothesis that there are indeed two distinguishable processes. On the other hand, our predictions indicate that the Rotter and Barron scales should differentiate our subjects on only one of our dimensions, not on both. For information on the differential effects of support and nonsupport, we must turn to a third measure.

Possible Correlates of Support vs. Nonsupport

Unfortunately, and perhaps inevitably, the choice of a third measure was not as clear-cut as it was for the other two. The primary reason for our development of a new self-esteem instrument is that none of the earlier instruments is designed to differentiate the two dimensions. In consequence, none of them taps the support dimension per se (S. Epstein, personal communication, 1976). The very fact that our effort is a pioneering venture, then, means that there is no single body of research specifically relating the support dimension to other

aspects of personality and that we must look for less direct means of validating our conception of this dimension.

One possibility for a third instrument was a measure of social maladjustment. The concept of adjustment describes the relationship between a person and his environment; if this relationship is inadequate, there is a basic tension between them (Baughman & Welsh, 1962). In the case of social maladjustment, the inadequacy rests in the environment or, more simply, in a lack of congruence between the abilities and needs of the individual and the demands and supplies of the environment (Buss, 1966). It seems clear, then, that subjects low on the support dimension should test out as more socially maladjusted than subjects high on this dimension. As a corollary to this discussion, it also seems reasonable to assume that nonsupport subjects should be more depressed, lonely and nervous than their high support counterparts. The former by definition see themselves as lacking many of the things--such as work satisfaction, close friends and shared activities--that tend to make life smoother and more pleasant.

In our search for a third test we considered a variety of instruments that are designed to measure social maladjustment, its concomitant emotional variables, or both. Perhaps the best-known maladjustment measure is the Kleinmuntz (1960) Mt scale, which was derived from the MMPI. The scale is actually primarily designed to test for emotional maladjustment (and we have already mentioned it in connection with our discussion of self-esteem and autonomy), but there is some evidence that it includes items relating to social maladjustment as well. According to Koutrelakos (1970), for example,

students who reported that their parents trusted their judgment and encouraged them to live independently got significantly lower maladjustment scores than students who were lacking this kind of support.

The Kleinmuntz scale also includes clusters of items that express nervousness and the attitude that life is a strain much of the time. In the same vein, the Twelve Problems scale (cited in Houston, 1971) deals with the frequency with which subjects experience such problems as loneliness and nervousness and the extent to which these feelings interfere with their studies or other activities. The Washburne Social Adjustment Inventory (cited in Houston, 1971) is designed to give measures on various traits thought to be related to adjustment, including happiness, social alienation and purpose. Finally, depressive affect can be measured by means of the Zung Self-Rating Depression scale or the MMPI depression scale.

Unfortunately, none of these scales is exactly suited to our purposes. It is true that, to the extent that a particular instrument measures social maladjustment, its scores should vary inversely with scores on the support dimension (i.e., high maladjustment should correlate with low support). However, there is a major problem with the use of these scales in that many, if not all, of them also include elements of emotional maladjustment. To that extent the scores would also vary inversely with scores on the internal-external self-esteem dimension. If we wish to demonstrate the independence of our two dimensions, we need a measure that we can a priori assume will not be related to internal self-esteem.

A second area in which to look for an instrument related to the support dimension was the literature on community psychology, since community psychologists are often interested in the assessment of an individual's environment (Trickett, 1975) or of the fit between the individual and his community (Adelson, 1970). We would expect that scores indicating a good environment would correlate positively with scores on the support dimension but would not vary with internal-external self-esteem. However, Golann (personal communication, January 17, 1977) noted that this kind of assessment is usually done by means of clinical interviews or behavioral indices, and thus the chances of finding such a measure did not appear to be very good.

Because of these difficulties, it was finally decided to test our measure of the support dimension by constructing a kind of "activity index." This index provides relatively objective data about the individual's environment to compare with his answers on the support scale. A variety of data can be obtained by this method. For example, our questionnaire asks the subject to list the people with whom he usually has face-to-face contact during the course of a week; to categorize each person as a friend, relative, professor, etc.; to indicate the number of hours per week, on the average, that he spends with each person; and to indicate, on 5-point scales, how much value he places on each relationship and how close he feels to each person. Additional questions ask for the subject's grade point average, the number of hours per week spent in solitary activities (such as studying), and so forth. Because these numerical data are more specific and less ambiguous than the subject's answers on the support scale,

they should provide a check on the answers to such items as "I have a close, warm relationship with someone who understands me" and "I seem to spend much of my leisure time alone." A potential problem with the use of an activity index is that not all of the items on the support dimension can be adequately paralleled in the index, and thus the index may not tap all of the different kinds of support, but we still expect that the composite scores on the index will correlate positively with scores on our support dimension. On the other hand, they should not be related to scores on the self-esteem dimension.

Response Sets and Social Desirability

This final section deals with a topic that is concerned, not with the conceptual background of our research, but with the practical matter of personality testing. It has long been known that a subject's answers to items on personality tests may be affected by factors other than the content of the items, so that his answers are not accurate reflections of his actual behavior and attitudes. Murray (1938), for example, noted that the subject may have any number of "secondary conflicting motives" in addition to (or in place of) the motive to answer every item honestly: he may wish to create a good impression of himself, to give what he thinks is the normal response, to appear to be different, to please the experimenter, to amuse himself, and so forth.

In the more recent literature, such conflicting motives have generally been called "response sets." A response set, then, is a consistent tendency to respond to items on some basis other than their content (Janis, Mahl, Kagan & Holt, 1969). The significance of this

concept in personality testing is obvious: to the extent that a subject's score is influenced by a response set, it is not a true picture of what the experimenter is trying to measure. Thus it is important in any testing, but particularly in the construction of a new scale such as ours, to be aware of the existence of response sets and their possible effects.

The sets that have figured most prominently in the literature, and that have generally been regarded as the most troublesome, are acquiescence and social desirability (Janis et al., 1969). Acquiescence, which was first identified as a response set by Cronbach (1946, 1950), is the tendency of a subject to answer "true" or otherwise to indicate agreement with an item regardless of its meaning. This set has been found to be a major response determinant in a variety of personality measures (Crowne & Marlowe, 1964). Fortunately for our purposes, however, it is not difficult to control for acquiescence in the construction of a new scale. If half of the items are keyed in one direction and half in the opposite direction, any tendency toward acquiescence will balance out of the total score.

The concept of social desirability has been investigated extensively by Crowne and Marlowe (1964). It refers, simply, to the desirability or undesirability of a given characteristic or behavior according to the prevailing values of society. This quality may affect personality testing in either of two ways. First, a subject may possess a social desirability response set, which will lead him to present himself in a socially acceptable light. Second, it has been suggested (Edwards, 1957) that each item on a personality test can be

rated in terms of its social desirability. Items that are obviously desirable or undesirable may elicit responses in the favorable direction even from subjects who do not exhibit a response set.

It is not as simple a matter to control for social desirability as for acquiescence. However, it is possible to check for the presence of such an effect by including a measure of social desirability in one's research design, and we have taken the precaution of doing so. The measure to be used in this study is the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1964). The reliability of the scale is good--the test-retest correlation at a one-month interval and the internal consistency coefficient were both .88--and its validity was well established in a series of studies by its authors.

The finding of a social desirability effect would, of course, have negative implications for the validity of our new self-esteem scale. We would hope, therefore, that social desirability will not be found to be related to either the internal-external or support dimension.

In closing, the summary of our predictions is as follows:

- 1) Locus of control should be related to the internal-external dimension but not to the support dimension.

- 2) Independence of judgment should also be related to internal self-esteem but not to support.

- 3) The activity scores should be related to support but not to internal self-esteem.

- 4) Social desirability should not affect either of the two dimensions.

CHAPTER II

METHOD

Subjects

A total of 174 subjects participated in the various phases of this experiment, 60 males and 114 females. Of the 135 subjects who participated in the main part of the study, one female was dropped because she gave multiple answers to items on more than one questionnaire, and three males and two females were excluded because they failed to answer all or part of Question 5 on the activity index. The remaining 129 subjects included 41 males and 88 females. In addition, when the statistical analyses were performed, the program excluded any incomplete scores on the Internal-External Self-Esteem scale. Two males and three females had incomplete nonsupport scores, and one of these females also had an incomplete support score. Thus, analysis of the internal-external dimension of the scale was performed for 129 cases, whereas analysis of the support-nonsupport dimension was based on 124 cases.

All subjects were drawn from undergraduate psychology courses at the University of Massachusetts at Amherst. The subjects in the main study included 31 freshmen, 32 sophomores, 43 juniors, 20 seniors, 2 graduate students and 1 student from continuing education. Their fields of study spanned most of the majors available at the University: there were 21 subjects from psychology, 27 from education, 16 from the social sciences (other than psychology), 12 from the humanities, 11 from the natural sciences, 10 from public health and related areas,

5 from business and 2 from agriculture. The remaining 25 subjects either failed to list their majors or had not yet declared them.

Measuring Instruments

Self-Esteem

Self-esteem was assessed by the measure constructed for use in this study, the Internal-External Self-Esteem (IESE) scale. The scale contains a total of 52 items, 20 on each of the internal-external and support dimensions and 12 filler items.

Following the collection of the data for the main study, the scoring on the internal items was reversed, so that an answer of strong agreement to one of these items received a 6 instead of a 1, the same number given to an answer of strong disagreement to an external item. Thus, a high score on either type of item represented an answer in the internal direction. The same operation was performed on the support items, so that a high score on a support or nonsupport item indicated an answer in the support direction. A subject's internal (I) score was derived by adding up his answers to all 10 of the I items and his external (E) score by adding up the E items. The recoding then made it possible to create an overall score on the internal-external (IE) dimension simply by adding the I and E scores, instead of having to subtract one from the other with the possibility of obtaining negative scores. In the same fashion it was possible to derive a subject's support (S) score, nonsupport (N) score and overall support-nonsupport (SN) score. It should be noted that, with the I and S items recoded, we would expect the I and E scores, as well as the S and N scores, to

be positively related.

Activities

Each subject's activities were measured by means of an activity questionnaire that was also constructed for use in this study. This index and its answer sheet are reproduced in Appendix B.

There is a wide variety of scores that can be derived from this questionnaire, including the following:

- 1) P1--the number of people seen at least once a week during the current semester (from Table 1)
- 2) H1--the sum of the ratings of the amount of time spent with each person (Table 1)
- 3) H1/P1--the average rating of the amount of time spent with each person listed in Table 1
- 4) V--the sum of the ratings of how much each person's opinion is valued (from Table 1)
- 5) V/P1--the average value rating (from Table 1)
- 6) C--the sum of the ratings of the closeness of each relationship (from Table 1)
- 7) C/P1--the average closeness rating (from Table 1)
- 8) H1.V.C--the sum of the total ratings of each relationship in Table 1 (the summation of hours rating times value rating times closeness rating)
- 9) H1.V.C/P1--the average total rating from Table 1
- 10) P2--the number of people who are seen less frequently than once a week but with whom the subject maintains a close personal relationship (from Table 2)
- 11) H2--the sum of the ratings of the amount of time spent in contact with each person listed in Table 2
- 12) A3--the number of activities engaged in at least once a week with other people (from Table 3)
- 13) H3--the sum of the ratings of the amount of time spent in activities with other people (from Table 3)

- 14) A4--the number of activities engaged in at least once a week alone (from Table 4)
- 15) H4--the sum of the ratings of the amount of time spent in solitary activities (from Table 4)
- 16) A5--the rating of the number of hours spent studying alone (from Question 5a)
- 17) B5--the rating of the number of hours spent studying with other people (from Question 5b)
- 18) C5--the cumulative grade point average (from Question 5c)
- 19) D5--the current grade point average (from Question 5d)

All of these variables, plus the subjects' university status (U) taken from the demographic data sheets, were used in the initial analysis to get a broad view of the relationship between the subjects' activities and their scores on the various personality measures. However, such a large number of variables was unwieldy, and for this reason we selected a smaller number to use in further analyses. The list was first reduced by selecting the ones that seemed to be most important conceptually; then, within this group, we chose the variables that seemed best to preserve the range of information available from the activity index. The six variables that were selected were P1, V/P1, H2, A3, A4 and C5.

Locus of Control

Locus of control was assessed by means of the Rotter (1966) I-E scale, which consists of 23 pairs of items and 6 fillers in a forced-choice format. It is usually scored in the external direction, and the scores thus range from 0 (completely internal) to 23 (completely external). The Rotter scale is reprinted in Appendix C.

Autonomy

Level of independence, or autonomy, was determined by Barron's (1968) Independence of Judgment scale. This scale is comprised of 22 true-false items with no fillers. It is scored for independence with a range of 0 (completely conforming) to 22 (completely independent). The Barron scale is reprinted in Appendix D.

Social Desirability

In order to check for a possible response set in our subjects, they also completed the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1964). The scale is made up of 33 true-false items and is scored for social desirability; the range is thus 0 (no expressed need for approval) to 33 (high expressed need for approval). It is reproduced in Appendix E.

Procedures

Pilot Work

Before the final study was conducted, the IESE scale was tested in a series of pilot stages. The first phase of the pilot work was conducted with five female and two male graduate students as judges. Each judge read the following descriptions of the two dimensions and then performed a Q-sort with the 52 items:

The internal-external dimension describes the individual's degree of dependence on the environment for his self-esteem. The internal person has a sense of worth that rests within himself. He believes that he is "acceptable," that his abilities will be sufficient to deal with whatever comes along, and that he can take responsibility for events when his plans go awry. The external person does not have this sense of his own worth and is dependent on the environment

to provide the recognition, support, approval and affection that he needs to maintain his self-esteem.

The support-nonsupport dimension describes the amount of support that the individual is actually receiving from the environment at the present time, regardless of whether or not he needs such support to maintain his self-esteem. This support may be direct, as in the case of approval and recognition from family and associates, or it may be indirect, as with the prestige that accompanies a particular occupation. The high support person has an environment that affords him a good measure of support and encouragement; the environment of the low support person, although it may not be actively negative, at least fails to provide him with such support.

The judges sorted the items into two piles corresponding to these descriptions, with a third pile for items thought to be fillers. (The judges were told that some of the items were fillers but were not told how many there were.) After the sorting had been completed, each judge was asked to go through the items and rate each one on a 3-point scale (good, average, poor) according to how well the item fit the dimension with which it had been classified.

If an item was misclassified or rated as "poor" by three or more of the seven judges, it was rewritten or replaced. A total of 11 items were affected: 2 internal (I) items, 3 external (E) items, 2 support (S) items and 4 nonsupport (N) items. The new or rewritten items were then submitted to two of the judges (both female), and each one had to pass both judges before it was accepted.

Since the scale was originally written specifically for use with female subjects, it was important to note at this time that there were no apparent sex differences in the judging of the 52 items. It was therefore decided that it would be acceptable to include males as subjects in the rest of the study.

The second phase of pilot work was run with 11 undergraduates, 4 males and 7 females, tested individually. Each subject filled out both the self-esteem measure and the activity questionnaire. After the questionnaires had been completed, the subject was asked to go back through them item by item and to report the items that were ambiguous or difficult to answer. In each case the experimenter took notes on the nature of the difficulty. As a result, 19 items were reworded with the help of one of the judges. The instructions for the activity questionnaire were also modified to make them clearer.

The third phase was also conducted with four males and seven females tested individually. In this phase, however, each subject filled out all five of the questionnaires.

The major problem that surfaced at this stage was that all of the subjects fell into the internal-support group. To locate the problem we recorded the answers to each item. It turned out that all of the subjects had agreed with 5 of the 10 I items, so that there was very little variability in the scores.

Two changes were made as a consequence of this finding. Four of the five items were replaced by ones that were less obvious (the new items were again approved by a judge), and the scale was changed from five points to seven points to permit a wider range of answers. In addition, it appeared that the problem might be partly due to the subject population: all of the subjects had been drawn from the adolescent psychology course, which is comprised mostly of advanced students and which stresses the importance of independence and self-reliance in its content. Before the final stage, then, an effort

was made to recruit subjects from elementary psychology courses.

The changes instituted at the end of the third stage made it necessary to carry out a fourth phase that had not been foreseen. The 17 subjects who participated in this phase included 8 males and 9 females. Eleven of them were from the adolescence course and six from an introductory course. They were again tested individually and completed all five questionnaires.

The distribution of answers was improved on all but one of the new I items. That item was worse than one of the items that had been removed, so another switch was made and the older item replaced the newer one. The introductory psychology students also helped to increase the variability of the answers.

Finally, it had become evident at this point that the same kind of problem--lack of variability--was also affecting some of the support (S) and nonsupport (N) items. None of the items was replaced, but three S and two N items were reworded slightly. The S items were stated more strongly (e.g., by changing "sometimes" to "often") and the N items made less extreme (e.g., by changing "none" to "not very many").

There was also a facet of the variability problem that affected only the S items. It appeared that when subjects wanted to express nonagreement with some of the S items they tended to see "doesn't apply" as a more appropriate answer than "disagree strongly." (For example, if you "disagree strongly" with the suggestion that you belong to a group that gives you a sense of companionship, do you mean that you do not belong to such a group, or that you belong to

a group that treats you with hostility?) This tendency was reflected in the fact that there were twice as many "doesn't apply" responses to the S items than to any of the other three categories. The last change, then, was to eliminate the "doesn't apply" alternative to make a 6-point scale and to reword one item (the one about belonging to a group) so that "disagree strongly" made sense as a possible answer.

Main Study

The testing in the main part of the study was conducted in small groups. Each subject received one packet containing the questionnaires and a second containing the consent form, demographic information form and the answer sheets. (The questionnaires and answer sheets were always presented in the same order: first the IESE measure, then the Rotter, the Barron and the Marlowe-Crowne scales, and finally the activity index.) The subjects were first instructed to read and sign the consent form and to complete the demographic information sheet. After these forms had been completed, the procedures for filling out the questionnaires were explained. Finally, the subjects were given the following instructions, which echoed the consent form:

Please remember that this is not a test, and there are no right or wrong answers. So answer as honestly as you can, not the way you think you ought to be or the way you ought to think, but the way you really are and the way you really think. Take your time.

They were also shown where to locate the experimenter if they had any questions about the instructions or any of the items during the testing. The experimenter then went into an adjacent room to give the subjects a greater degree of privacy.

Following the data collection, we planned to begin our statistical

analysis by generating a correlation matrix, to be succeeded by various multivariate procedures. Our expectations regarding the initial results of this study, then, were as follows:

1) Because of the recoding, the internal (I) scores and external (E) scores should be positively correlated. Similarly, there should be a positive relationship between the support (S) and nonsupport (N) scores, although this correlation will probably be smaller than the first one. (We would expect the SN dimension to display lower internal consistency because it taps several different sources of support--such as family, friends and work--rather than one unified concept.)

2) There should be no correlation between the IE and SN scores.

3) There should be a negative correlation between IE scores and locus of control (LC) scores but no correlation between SN scores and LC scores.

4) There should be a positive correlation between IE scores and independence of judgment (IJ) scores but no correlation between SN scores and IJ scores.

5) The social desirability scores should not correlate with either of the dimensions of the self-esteem scale.

6) All of the activity scores should correlate positively with the SN scores but should not correlate with the IE scores.

7) University status (U) should be positively correlated with IE, but no correlation is expected between U and SN.

CHAPTER III

RESULTS AND DISCUSSION

In the first phase of the analysis, three correlation matrices were generated, one for males, one for females and a third for the total sample. The matrices included the internal (I), external (E), support (S), nonsupport (N), internal-external (IE) and support-nonsupport (SN) scores, locus of control (LC) scores, independence of judgment (IJ) scores, social desirability (SD) scores, university status (U) and all 19 of the activity scores listed in the previous chapter. As we discussed earlier, however, the number of activity variables was reduced to six to make the subsequent analyses less cumbersome. The variables that were chosen included P1, the number of people seen at least once a week (from Table 1); V/P1, the average value rating given to the people listed in Table 1; H2, the sum of the ratings of hours spent in contact with people with whom the subject maintains a close relationship (from Table 2); A3, the number of activities engaged in at least once a week with other people (from Table 3); A4, the number of solitary activities engaged in at least once a week (from Table 4); and C5, the cumulative grade point average (from Question 5c). The correlations of these 15 scores are presented in Tables 1 and 2; the full matrices are reprinted in Appendix F.

The major trends in the data are evident even in this relatively simple analysis. First of all, as Table 1 indicates, there was a strong correlation between I and E scores (.6239, $p = .001$), which appeared to support the validity of the IE dimension. (The reader

Table 1

Correlations between Internal, External, Support and Nonsupport Scores

| Total | | | |
|----------|-------------------------------|------------------|------------------|
| | E scores | S scores | N scores |
| I scores | .6239** (129) ^a | .4159** (128) | .3500** (124) |
| E scores | | .1693* (128) | .3990** (124) |
| S scores | | | .4672** (124) |
| Males | | | |
| | E scores | S scores | N scores |
| I scores | .7560** (41) | .4589** (41) | .3312* (39) |
| E scores | | .3148* (41) | .2819* (39) |
| S scores | | | .4828** (39) |
| Females | | | |
| | E scores | S scores | N scores |
| I scores | .5463** (88) | .4809** (87) | .3940** (85) |
| E scores | | .1147 (87) | .4686** (85) |
| S scores | | | .4606** (85) |

^aNumbers in parentheses indicate the number of cases on which the correlations are based.

* $p \leq .05$

** $p \leq .001$

Table 2

Correlation Matrix of Fifteen Major Variables

| | Total | | | | | | | | | | | | | | |
|-----------------|-----------------|-----------|----------|----------|--------|----------|---------|----------|----------|--------|--|--|--|--|--|
| | SN ^a | IC | IJ | SD | P1 | V/P1 | H2 | A3 | A4 | C5 | | | | | |
| IE | .4348*** | -.3102*** | -.0975 | .3224*** | .1500* | .0746 | -.0166 | .0030 | -.0590 | -.0527 | | | | | |
| SN ^a | | -.0652 | -.2187** | .2132** | .0921 | .3120*** | .1280 | .1616* | -.0286 | .1546* | | | | | |
| IC | | | .1099 | -.1276 | -.1148 | .1020 | .0793 | .0317 | .1287 | .0044 | | | | | |
| IJ | | | | -.2287** | -.0064 | -.1161 | -.1902* | -.0760 | -.0626 | .0670 | | | | | |
| SD | | | | | .0035 | .0399 | -.0165 | -.0496 | -.1037 | -.0073 | | | | | |
| P1 | | | | | | -.1635* | .1891* | .4118*** | .2721*** | -.0947 | | | | | |
| V/P1 | | | | | | | -.0494 | -.1126 | -.1423 | .1523* | | | | | |
| H2 | | | | | | | | .3741*** | .3113*** | -.0021 | | | | | |
| A3 | | | | | | | | | .6526*** | .0615 | | | | | |
| A4 | | | | | | | | | | -.0286 | | | | | |

^aFor correlations in this row and column, N = 124. For all others, N = 129.

*p ≤ .05

**p ≤ .01

***p ≤ .001

Table 2 (cont.)

| | | Males | | | | | | | | | |
|-----------------|-----------------|--------|--------|--------|---------|--------|--------|----------|----------|--------|--|
| | SN ^a | LC | IJ | SD | P1 | V/P1 | H2 | A3 | A4 | C5 | |
| IE | .4487** | -.0310 | -.0446 | .2304 | .0940 | .3157* | -.1397 | -.0832 | -.1627 | -.0825 | |
| SN ^a | | -.0371 | -.1622 | .3160* | .1890 | .3460* | -.0025 | -.1197 | -.3804** | .2808* | |
| LC | | | .1938 | .0478 | -.1583 | .0051 | .0864 | .0962 | .0788 | -.0346 | |
| IJ | | | | -.1938 | .1123 | .0099 | -.1453 | -.0449 | -.0404 | .0277 | |
| SD | | | | | -.2722* | .2600* | -.0589 | -.4159** | -.1742 | -.0120 | |
| P1 | | | | | | -.0909 | -.1465 | .4959*** | .2458 | -.1722 | |
| V/P1 | | | | | | | .0666 | -.1788 | -.2628* | .1855 | |
| H2 | | | | | | | | .0244 | .0253 | .0733 | |
| A3 | | | | | | | | | .6392*** | -.0204 | |
| A4 | | | | | | | | | | -.1578 | |

^aFor correlations in this row and column, N = 39. For all others, N = 41.

*p ≤ .05

**p ≤ .01

***p ≤ .001

Table 2 (cont.)

Females

| | SN ^a | LC | IJ | SD | P1 | V/P1 | H2 | A3 | A4 | C5 |
|-----------------|-----------------|-----------|---------|----------|--------|---------|----------|----------|----------|--------|
| IE | .4644*** | -.4003*** | -.1021 | .3519*** | .1578 | -.0315 | .0357 | .0516 | .0026 | -.0651 |
| SN ^a | | -.0975 | -.2464* | .1835* | .0564 | .2908** | .1778 | .2887* | .1178 | .1023 |
| LC | | | .0585 | -.1661 | -.0757 | .1180 | .0827 | .0046 | .1476 | .0502 |
| IJ | | | | -.2331* | -.0443 | -.1934* | -.2064* | -.0910 | -.0759 | .0987 |
| SD | | | | | .0964 | -.0412 | -.0037 | .1025 | -.0736 | -.1200 |
| P1 | | | | | | -.1888* | .3230*** | .3742*** | .2896** | -.0695 |
| V/P1 | | | | | | | -.1022 | -.0764 | -.0814 | .1515 |
| H2 | | | | | | | | .5304*** | .4359*** | -.0387 |
| A3 | | | | | | | | | .6599*** | .1081 |
| A4 | | | | | | | | | | .0451 |

^aFor correlations in this row and column, N = 85. For all others, N = 88.

*p ≤ .05

**p ≤ .01

***p ≤ .001

should remember that, with the I and S items recoded, I scores should correlate positively with E scores and S scores should correlate positively with N scores.) The correlation between the S and N scores was not quite as large (.4672, $p = .001$), but it was still highly significant. This finding confirmed our expectation that the S and N scores would be correlated but that the SN dimension would have lower internal consistency than the IE dimension because it measures a variety of sources of support.

Unfortunately, the I and E scores were also positively and significantly correlated with the S and N scores; the correlation between the overall IE and SN scores, listed in Table 2, was .4348 ($p = .001$). This finding was the first indication that the two processes did not operate independently, at least within the given subject population, and contradicted our hypothesis that the two dimensions would be unrelated. (Possible explanations and implications of this finding in terms of our theory will be discussed later.)

The correlations between LC and the IE and SN dimensions were also generally as expected. There was a negative relationship between LC and IE (negative because the Rotter scale is scored for externality). The magnitude of the correlation appeared to have been due to the relationship between these variables among the female subjects, although the sex difference may have been a consequence of the comparatively small number of males. This finding concurred with the substantial body of research, discussed earlier, that showed a similar correlation between LC and self-esteem. In addition, the correlation between LC and SN were nonsignificant, confirming this hypothesis for

both males and females. This lack of correlation between LC and SN echoed the results of Platt et al. (1970), who found no correlation between LC and the Ziller et al. (1969) measure of self-esteem. As we noted earlier, the social self-esteem measured by Ziller's instrument is actually, in our terms, a form of indirect support. Thus, the LC scale has consistently been able to distinguish between the two processes, which seems to support the validity of the IESE dimensions.

On the other hand, the correlations with IJ did not turn out as predicted. In place of the expected positive correlation with IE, there was a nonsignificant--even slightly negative--relationship ($-.0975$, $p = .136$). In contrast, there was a significant negative correlation between IJ and SN ($-.2187$, $p = .007$). Again, this result appeared to be primarily due to the strength of the correlation among the females ($-.2464$, $p = .012$). These findings were an indication either that the Barron scale was inadequate or that independence, perhaps especially for females, is related to a perceived lack of support.

The negative correlation between IJ and SN for the female subjects was certainly unexpected but not beyond explanation. It is possible that achievement of independence requires a turning away from the more traditional sources of support that are tapped by the SN dimension (e.g., family and church), especially for young women in today's society. Gallatin (1976) noted that little is known as yet about the impact of the women's liberation movement on female adolescents. However, Stein (1976) pointed out that, according to the traditional

sex roles, dependence, deep religious conviction and an orientation toward the home are all part of the stereotypic female role, whereas independence is part of the male role. It could be argued, then, that in order for a woman to become independent, she must give up the traditional female role and at least some of the sources of support that go along with it.

Unfortunately, if we are to accept the IJ results, the nonsignificant but negative correlation with IE would seem to indicate that there is something wrong in the IE dimension or in our notion of internal self-esteem, since we stated that the dimension could be conceptualized as the individual's degree of dependence on the environment. However, before we modify our concepts in the light of these findings, we should consider the possibility that the problem rests with the Barron scale and not with the IESE scale or with its underlying concepts. It may well be that the Barron scale is outdated and is no longer an adequate measure of independence. Although the scale was published in Barron's 1968 book, the work on it was actually done in 1951, which makes it over 25 years old. In the intervening period, the Viet Nam war, the Watergate affair, the growing consciousness of women and minorities have all had an impact on social and political values. In our opinion, at least 10 of the 22 items may have been affected by these changing attitudes, specifically items such as "What the youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country," "What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can

put their faith," and "Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down." Perhaps the scale is now measuring something like political liberalism versus conservatism, which would account for its failure to correlate with IE as we predicted.

The results with regard to the activity scores were equivocal. On the one hand, out of the eight variables that differentiated significantly between IE and SN, seven correlated with SN (V, V/P1, H2, A3, H3, C5 and D5) and only one with IE (P1), which lent some support to our hypothesis that the activity scores would be related to SN but not to IE. On the other hand, the remaining 11 variables failed to distinguish between the two dimensions. H1, H1/P1, C, C/P1, H1.V.C and H1.V.C/P1 all correlated significantly with both dimensions; P2, A4, H4, A5 and B5 correlated with neither. It may be that our interpretations of the activity variables were incorrect and that we were mistaken in assuming that they would all be related to SN, but we cannot say that these results, taken together, strongly support the validity of the SN dimension.

There was no correlation between U and either IE or SN, although we had predicted that self-esteem would increase with relative age. However, Nesselroade and Baltes (1974) found that both personality and ability scores of adolescents depended less upon a subject's chronological age than upon the historical time to which he had been exposed. For example, it was found that a 13-year-old tested in 1970 was much more similar to a 14-year-old tested in 1970 than to a 13-year-old tested in 1971. It may be, then, that any effects of age

were overshadowed in this study by this kind of historical effect.

Finally, the correlations with the SD scale were also unexpected. Both dimensions correlated positively and significantly with SD, the IE dimension .3224 ($p = .001$) and the SN dimension .2132 ($p = .009$). These results indicated a potentially serious problem in the study in that they reflected at least a certain amount of contamination of the IESE scale by a social desirability effect. If much of the scale was contaminated, it would mean that the scale was not measuring the characteristics that it was designed to measure and would thus call into question the meaning of the correlations between the IESE dimensions and the other personality scores.

To summarize the major findings to this point, then, the correlations with LC were much as predicted, and the correlations with IJ, although unexpected, could be explained as previously discussed. On the other hand, the finding of a significant correlation between the IE and SN dimensions raised questions about our hypothesis that the two would be independent. In addition, the correlations with SD posed a serious problem and necessitated further investigation in this area. In particular, it became clear that we needed further information about the dimensions of the IESE scale and their relation to our initial conceptions of internal self-esteem and support.

To answer this purpose, a factor analysis was performed on the 40 items contained in the IE and SN dimensions. For this analysis, we combined our male and female groups (while keeping in mind the possibility of sex differences) because of the relatively small number of male subjects. Three factors had an eigenvalue greater than 2.0.

These three factors accounted for 61.6% of the variance and are presented in Table 3; the full matrix of loadings is available in Appendix G.

Table 3

Factor Structure of Internal-External and Support-Nonsupport Items

| Item Number | Loading | Factor 1 | |
|-------------|---------|----------|---|
| | | | Item |
| 17 | .70438 | | I wish I could have more respect for myself. |
| 19 | .70430 | | In general, I feel good about myself, who I am and what I'm like. |
| 23 | .60635 | | I often wish that I were someone else. |
| 12 | .59948 | | I often feel incompetent or inadequate. |
| 48 | .55201 | | I would say that I have myself pretty much together. |
| 32 | .52273 | | I'm frequently lonely. |
| 40 | .51790 | | I often doubt that anyone I really admire could care for me the way I am. |
| 29 | .46121 | | It doesn't bother me if some people dislike me. |
| 6 | .41899 | | It upsets me quite a bit when other people think badly of me as a person. |
| 34 | .37467 | | I have a tendency to sidestep my problems. |
| 14 | .18697 | | People around me have often expressed their disapproval of the fact that I am not a very neat person. |
| | | Factor 2 | |
| 16 | .62490 | | My friends often look to me for leadership. |
| 42 | .57927 | | Other people often listen to my suggestions and follow them. |

Table 3 (cont.)

Factor 2 (cont.)

| Item Number | Loading | Item |
|-------------|---------|---|
| 31 | .55743 | I am not easily dominated by others. |
| 36 | .50618 | I would say that I expect to succeed in most things that I do. |
| 11 | .48813 | Other people have often told me that I'm attractive and good-looking. |
| 38 | .48441 | I am often quite nervous about expressing my opinion when talking with people I don't know very well. |
| 7 | .48427 | I can usually handle important problems that I am faced with. |
| 35 | .45592 | People around me have often expressed admiration for things that I can do. |
| 27 | .45303 | Once I have made up my mind, I generally feel that I can have confidence in my decisions. |
| 15 | .30248 | It doesn't particularly bother me to admit that I don't know something. |
| 2 | .29088 | It doesn't make me nervous to meet a lot of new people. |
| 45 | .26212 | My opinions and ideas aren't often shared by other people. |
| Factor 3 | | |
| 13 | .63328 | These days my parents really help out; they don't let me down. |
| 43 | .57263 | My family is not very close. |
| 46 | .51248 | My parents are usually considerate of my feelings when making decisions that will affect me. |
| 52 | .50687 | I don't have very many really close friends. |
| 51 | .45221 | I get a lot of comfort from my church or temple. |

Table 3 (contd.)

Factor 3 (cont.)

| Item Number | Loading | |
|-------------|---------|--|
| 1 | .37953 | I seem to spend much of my leisure time alone. |
| 49 | -.37590 | It is very important to me to have enough friends and social life. |
| 24 | .37299 | I have a close, warm relationship with someone who understands me. |

Looking first at the content of Factor 2, it is a mixture of internal and support items but seems to have a consistent theme of ego strength and self-confidence ratified by the environment. It seems especially to emphasize the qualities of leadership and interpersonal competence. (To avoid confusion, the reader is again reminded that a high score on an external or nonsupport item indicates disagreement with that item.) This combination of items fits well with our conception of a person with internal self-esteem. However, if we consider this factor as representing the internal-external dimension, it is clear that our subjects did not differentiate between internal self-esteem and support; hence the positive correlation between the two dimensions.

This finding requires particular consideration, because it has a direct bearing on the dual process theory of self-esteem that we drew from the work of White (1971) and Brissett (1972). Both the correlation between IE and SN and the content of Factor 2 contradicted our hypothesis that our two dimensions would be independent. However, before discarding our dual process theory altogether, we should note

that there are potential explanations of these results that do not require substantial modification of the theory. First of all, it is possible that the processes are capable of operating independently even though at other times they interact. In particular, it may be that support enhances internal self-esteem but that nonsupport does not detract from it. This would explain why individuals like Freud and Einstein are capable of maintaining their ego strength in the face of massive opposition. Conversely, it may be that nonsupport serves to confirm the low opinion that the external person has of himself while support does little to improve it. From our personal experience such cases are not uncommon in clinical settings. Second, it is not unreasonable to suggest that persons who manifest self-respect tend to elicit respect and admiration from others, whereas individuals who consistently denigrate themselves are not well received. If this is the case, it does not preclude the existence of persons in the internal-nonsupport or external-support categories, but it does suggest that they would be relatively rare and therefore difficult to find. Thirdly, it may be that the lack of independence is a consequence of the subject population that was employed. It is a cliché that the most important part of a college education is gained outside of the classroom in one's interpersonal interactions, and we may speculate that, for college students, interpersonal competence is a crucial component of self-esteem. The implication is that we might be able to find other populations in which the two processes are not as closely intertwined. Finally, we noted in our background discussion that the two processes often run parallel, that is, that people with

high self-esteem are also admired by those around them. It may be, then (although it does not seem as likely), that the processes are indeed independent and that the correlation between the two simply reflects the fact that they are much more often parallel than orthogonal. The conclusion that we can draw from this line of reasoning is that it is still possible that there are two distinguishable processes of internal self-esteem and support, even though the data do not presently support our hypothesis. The processes may interact under certain conditions and with certain populations, but they are also capable of operating independently. Thus the finding of a correlation between self-esteem and support does not as yet seriously jeopardize the status of our dual process theory but may, in fact, add to our understanding of its mechanisms.

To return to our analysis, Factor 3 is clearly a support factor and in particular a support-from-family factor. The items, taken together, seem to have in common a theme of emotional support and friendship. It is interesting to contrast this theme with the qualities of respect and admiration that seem to characterize the support items in Factor 2; although respect from others may have enhanced the self-esteem of our college student subjects, it appears that friendship and family ties alone were not seen as related to self-confidence.

In contrast to Factors 2 and 3, Factor 1 was difficult to interpret. It seemed to be a strongly internal factor, since the top items have to do mostly with self-respect, but it was not clear why these items were seen as separate from those in Factor 2. One possible

interpretation was that the two factors represented separate subprocesses within the process that we had conceived of as internal self-esteem. However, a different sort of interpretation suggested itself when it was noted that the top five items in the factor are among the most obvious on the IE dimension and thus perhaps the easiest to "fake good" on if the subjects wished to do so. Certainly they would be the most likely to be influenced by social desirability if this effect was operating unconsciously.

In order to test the hypothesis that Factor 1 was particularly affected by social desirability, each of the 40 items on the IESE was correlated with SD, and the correlations were examined factor by factor. The results are presented in Table 4; the full list of correlations is presented in Appendix H.

Table 4

Correlations of Factor Items with Social Desirability

| Factor 1 | | | Factor 2 | | | Factor 3 | | |
|----------|-------|------|----------|-------|------|----------|--------|------|
| Item | SD r | p | Item | SD r | p | Item | SD r | p |
| 17 | .2545 | .002 | 16 | .1359 | .062 | 13 | .1252 | .079 |
| 19 | .2226 | .006 | 42 | .0561 | .264 | 43 | .1307 | .070 |
| 23 | .1289 | .073 | 31 | .0041 | .482 | 46 | .1332 | .066 |
| 12 | .2819 | .001 | 36 | .1783 | .022 | 52 | .1732 | .027 |
| 48 | .1070 | .114 | 11 | .1176 | .092 | 51 | .1267 | .077 |
| 32 | .0843 | .171 | 38 | .1410 | .056 | 1 | -.0334 | .353 |
| 40 | .1912 | .015 | 7 | .1033 | .122 | 49 | .0799 | .184 |
| 29 | .0653 | .231 | 35 | .1925 | .014 | 24 | .1797 | .021 |

Table 4 (cont.)

| Factor 1 (cont.) | | | Factor 2 (cont.) | | |
|------------------|-------|------|------------------|--------|------|
| Item | SD r | p | Item | SD r | p |
| 6 | .1535 | .041 | 27 | .1794 | .021 |
| 34 | .0822 | .177 | 15 | .2520 | .002 |
| 14 | .1963 | .013 | 2 | .1999 | .021 |
| | | | 45 | -.0014 | .494 |

It should be clear from looking at the SD correlations that Factor 1 could almost be described as a social desirability factor. In all, there were six items that correlated $p \leq .01$ with SD, and three of these items were included in the top four items on Factor 1. (The other three did not appear in any of the three factors.) In contrast, the correlations with the items on Factors 2 and 3 were relatively small, and only one of the first four items on each of these factors was significantly correlated with SD.

Because the heaviest contamination was confined to only six items, those items were eliminated, and the factor analysis was run again to see if the factor structure would be significantly changed. In this second analysis, only two factors had an eigenvalue greater than 2.0. These factors accounted for 61.8% of the variance and are presented in Table 5; the full matrix is reproduced in Appendix I.

Table 5

Factor Structure of Internal-External and Support-Nonsupport Items
with High Social Desirability Items Removed

| Factor 1 | | |
|-------------|---------|---|
| Item Number | Loading | Item |
| 16 | .61632 | My friends often look to me for leadership |
| 31 | .60121 | I am not easily dominated by others. |
| 42 | .56997 | Other people often listen to my suggestions and follow them. |
| 36 | .52928 | I would say that I expect to succeed in most things that I do. |
| 38 | .51466 | I am often quite nervous about expressing my opinion when talking with people I don't know very well. |
| 7 | .51234 | I can usually handle important problems that I am faced with. |
| 27 | .47267 | Once I have made up my mind, I generally feel that I can have confidence in my decisions. |
| 11 | .45739 | Other people have often told me that I'm attractive and good-looking. |
| 35 | .43714 | People around me have often expressed admiration for things that I can do. |
| Factor 2 | | |
| 46 | .76456 | My parents are usually considerate of my feelings when making decisions that will affect me. |
| 13 | .68647 | These days my parents really help out; they don't let me down. |
| 43 | .56837 | My family is not very close. |
| 40 | .44678 | I often doubt that anyone I really admire could care for me the way I am. |

Table 5 (cont.)

Factor 2 (cont.)

| Item Number | Loading | Item |
|-------------|---------|---|
| 2 | .36919 | It doesn't make me nervous to meet a lot of new people. |
| 52 | .36041 | I don't have very many really close friends. |
| 1 | .32533 | I seem to spend much of my leisure time alone. |
| 24 | .25453 | I have a close, warm relationship with someone who understands me. |
| 14 | .15140 | People around me have often expressed their disapproval of the fact that I am not a very neat person. |

It is notable that the nine items on Factor 1 in this analysis were identical to the first nine items on Factor 2 in the preceding one, although their order was slightly changed. The foremost factor in the second analysis, then, can be considered the internal factor, at least with regard to this population. The top three items on Factor 2 were also identical to those on the previous Factor 3, and thus this factor can be regarded as representing the support dimension.

To summarize, the first factor analysis showed a social desirability factor followed by two factors that could be said to represent, respectively, the internal-external and support dimensions. When the six items that correlated most strongly with SD were removed, the only factors to emerge above the cutoff eigenvalue of 2.0 were those two factors representing the IESE dimensions.

Because our aim in this study was primarily to investigate the processes of internal self-esteem and support and only secondarily to

design a way of measuring these processes, the statistical analysis was continued using the information obtained from the factor analyses, and the IE and SN scores were discarded. Instead, each subject received Factor 1 and Factor 2 scores. These scores were derived in the same fashion as the IE and SN scores had been--that is, by simply adding the answers to create an unweighted sum. Only items with a loading above .35 were included; thus Factor 1 contained nine items and Factor 2 six items.

The next step was to perform two regression analyses using each factor in turn as the dependent variable and all of our other variables (LC, IJ, SD and the six activity scores) as the predictors. Our purpose in this analysis was to see how each of the variables would relate to the new factors. In particular, we wished to see if our previous results would be upheld or would be markedly changed by using the factors instead of the IE and SN scores to represent our two dimensions. The correlation matrix is presented in Table 6 and the summaries of the regression procedures in Table 7.

From Table 6, we can see that the two factors were significantly related, although the correlation was not as high as that between the original IE and SN dimensions. Given the content of the factors--in particular, interpersonal competence and support from family--the relationship between the two is intriguing. It would appear that leadership qualities and interpersonal competence are fostered by a warm and democratic family environment. This result is consistent with the literature in the area, which has indicated that parents who are warm, accepting and considerate of their children's point of view

Table 6

Correlations of Factor 1 and Factor 2 Scores with Other Major Variables

| | F2 ^a | LC | IJ | SD | P1 | V/P1 | H2 | A3 | A4 | C5 |
|-----------------|-----------------|-----------|----------|--------|----------|---------|---------|----------|----------|--------|
| F1 ^b | .2678*** | -.3287*** | .0408 | .1199 | .1801* | .0467 | .0463 | .0638 | .0022 | .1336 |
| F2 | -.0078 | -.3436*** | .2141* | .0640 | .3050*** | .1259 | .1259 | .1061 | -.0941 | .1381 |
| LC | | .1210 | -.0503 | -.0847 | .1039 | .0991 | .0991 | .0214 | .1408 | -.0336 |
| IJ | | | -.2465** | -.0030 | -.1201 | -.1817* | -.1817* | -.0678 | -.0504 | .0729 |
| SD | | | | -.0398 | .0415 | -.0374 | -.0374 | -.0376 | -.1053 | -.0343 |
| P1 | | | | | -.1622 | .1790* | .1790* | .4134*** | .2685** | -.0858 |
| V/P1 | | | | | | -.0498 | -.0498 | -.1062 | -.1333 | .1643 |
| H2 | | | | | | | | .3785*** | .3165*** | .0990 |
| A3 | | | | | | | | | .6462*** | .0404 |
| A4 | | | | | | | | | | -.0578 |

Note. For all correlations, N = 125.

^aFactor 2

^bFactor 1

*p ≤ .05

**p ≤ .01

***p ≤ .001

Table 7

Regression on Factor 1 and Factor 2 Scores by Other Major Variables

| Variable | F to Enter | Factor 1 | | | | | | |
|----------|------------|----------|------------|----------------|-----------------------|----------|-----------|------|
| | | p | Multiple R | R ² | R ² Change | Simple r | Overall F | p |
| 1) LC | 14.896 | .000 | .3287 | .1080 | .1080 | -.3287 | 14.896 | .000 |
| 2) P1 | 3.280 | .073 | .3625 | .1314 | .0234 | .1801 | 9.226 | .000 |
| 3) C5 | 2.669 | .105 | .3875 | .1501 | .0187 | .1338 | 7.125 | .000 |
| 4) SD | 1.930 | .167 | .4044 | .1636 | .0135 | .1199 | 5.867 | .000 |
| 5) IJ | 1.447 | .231 | .4167 | .1736 | .0100 | .0408 | 5.001 | .000 |
| 6) V/P1 | 1.318 | .253 | .4275 | .1828 | .0092 | .0467 | 4.398 | .000 |
| 7) H2 | .930 | .337 | .4350 | .1892 | .0064 | .0463 | 3.900 | .001 |
| 8) A4 | .076 | .784 | .4356 | .1897 | .0005 | .0022 | 3.395 | .002 |
| 9) A3 | .126 | .723 | .4366 | .1906 | .0009 | .0636 | 3.009 | .003 |

Note. In this analysis, N = 125.

Table 7 (cont.)

Factor 2

| Variable | F to Enter | p | Multiple R | R ² | R ² Change | Simple r | Overall F | p |
|----------|------------|------|------------|----------------|-----------------------|----------|-----------|------|
| 1) IJ | 16.461 | .000 | .3436 | .1180 | .1180 | -.3436 | 16.461 | .000 |
| 2) V/P1 | 10.615 | .001 | .4343 | .1886 | .0706 | .3050 | 14.181 | .000 |
| 3) SD | 2.585 | .111 | .4534 | .2056 | .0170 | .2141 | 10.439 | .000 |
| 4) A3 | 2.285 | .133 | .4695 | .2204 | .0148 | .1061 | 8.483 | .000 |
| 5) A4 | 5.074 | .026 | .5023 | .2523 | .0319 | -.0941 | 8.032 | .000 |
| 6) C5 | 1.493 | .224 | .5115 | .2617 | .0094 | .1381 | 6.970 | .000 |
| 7) P1 | .969 | .327 | .5174 | .2677 | .0060 | .0640 | 6.111 | .000 |
| 8) H2 | .728 | .395 | .5218 | .2723 | .0046 | .1259 | 5.426 | .000 |
| 9) IC | .228 | .634 | .5232 | .2737 | .0014 | -.0078 | 4.816 | .000 |

Note. In this analysis, N = 125.

are more likely to have children who are friendly and socially assertive (Kagan & Moss, 1962) and who have high self-esteem (Coopersmith, 1967) than are parents with the opposite characteristics.

The results with regard to LC and IJ were essentially the same as the earlier ones. There was a strong negative correlation between LC and Factor 1 and no correlation between LC and Factor 2. As expected, then, an internal locus of control was related to internal self-esteem but did not vary with respect to perceived support. On the other hand, there was no correlation between IJ and Factor 1 and a significant negative correlation between IJ and Factor 2. As before, independence--at least as it is measured by the Barron scale--was not related to internal self-esteem but was associated with a perceived lack of support, especially support from family.

The findings with regard to SD were mixed. There was no correlation between SD and Factor 1, which was a substantial improvement over the earlier results, but there was still a significant relationship between SD and Factor 2. It would seem that, for a person with a high need for approval, it is not particularly important to be recognized as a leader, perhaps because it is more rewarding for him to be a good follower. However, it would appear to be more material to such a person to maintain a close, warm relationship with his family, or at least to give the impression that he does.

There were only two activity variables that differentiated between Factor 1 and Factor 2. P1, the number of people seen at least once a week, was significantly correlated with Factor 1 but not Factor 2. On the other hand, V/P1, the average value rating given to each of these

relationships, correlated significantly with Factor 2 but not Factor 1. These results seem to indicate that the number of people one sees is related to his ease in dealing with people but that the degree of support derived from these relationships depends much more on how highly they are valued. The results with regard to the other activity variables were in the expected direction--that is, all of them correlated more strongly with Factor 2 than with Factor 1--but none of these correlations was significant.

The regression analysis echoed these results. As Table 7 indicates, LC was the most important predictor of Factor 1 and by itself explained 11% of the variance. P1 was the second most important predictor, accounting for 2% of the variance. The most important predictors of Factor 2 were IJ and V/P1, which together explained 19% of the variance. Interestingly, A4, the rating of the amount of time spent in solitary activities, accounted for 3%, although the simple correlation was not significant.

Altogether, the predictor variables explained only 19% of the variance of Factor 1 and 27% of the variance of Factor 2. However, such a finding should not be surprising, as there are undoubtedly many other variables related to internal self-esteem and to support that were not within the scope or purpose of this investigation.

In conclusion, let us review our results in relation to our original predictions:

- 1) The hypothesis that the I and E scores would be positively correlated was confirmed, which lent some support to the validity of the IE dimension. The hypothesis that the S and N items would be

positively correlated was also confirmed, although the relationship was smaller, reflecting the lower internal consistency of the SN dimension.

2) The prediction that there would be no correlation between the IE and SN scores was not supported. There was a significant positive correlation between these scores, as well as between Factors 1 and 2 in the second factor analysis.

3) Our expectations with regard to LC were generally confirmed. There was a negative relationship between LC and IE, although the magnitude of the correlation appeared to be due primarily to the strength of the relationship among the female subjects. There was also a significant negative correlation between LC and Factor 1. In contrast, LC was not related to SN for males or females, nor was it related to Factor 2.

4) The hypothesis that there would be a positive correlation between IJ and IE and no correlation between IJ and SN was not supported. Instead, there was no correlation between IJ and IE, nor between IJ and Factor 1, and a strong negative relationship between IJ and SN, as well as between IJ and Factor 2. It was noted that, once again, the strength of the relationship between IJ and SN was drawn primarily from the data obtained from the female subjects.

5) The prediction that SD would not correlate with either of the IESE dimension was not supported. There were significant positive correlations between SD and IE and between SD and SN. The situation was improved by the removal of the six items that were most highly correlated with SD, in that Factor 1 was not found to be related to SD.

The problem was not entirely solved, however, since there was still a positive correlation between SD and Factor 2.

6) The results with regard to the activity variables were mixed. In the initial correlation matrices there were seven variables that were able to differentiate successfully--i.e., in the expected direction--between IE and SN. Of the ones that were selected for further analysis, however, only P1 and V/P1 correlated differentially with IE and SN. In addition, although V/P1 correlated more strongly with Factor 2 than with Factor 1, as expected, the opposite was true of P1.

7) Finally, we expected that U would not be correlated with SN, but it also failed to correlate with IE as we had predicted.

CHAPTER IV

SUMMARY, CONCLUSIONS AND IMPLICATIONS

The original purpose of this research was twofold. Our primary aim, on a basic level, was to demonstrate the existence of the two processes which were described by White (1971) and Brissett (1972) and which we have labeled internal self-esteem and support. However, since neither theorist devised a means of testing his concepts, we had to do this for ourselves, and thus our secondary aim was to develop a scale that would measure the two processes as we had conceptualized them.

The results with regard to locus of control were the most supportive of our aims. As we predicted, internal locus of control correlated significantly with internal self-esteem but was not related to degree of perceived support. These results suggested that our conceptualizations were sound and that the IESE scale had at least some predictive validity in measuring these processes.

The independence of judgment scores, on the other hand, were unexpected. It is possible that internal self-esteem, as it is measured by the IESE scale, is in fact unrelated to independence and that independent subjects received lower SN scores because they have turned away from some of the more traditional sources of support tapped by the SN dimension. However, we should also keep in mind the possibility that the problem lies with the Barron scale and not with the IESE dimensions or their underlying concepts, especially since the independence results conflict with the evidence provided by the locus

of control data. The usefulness of the Rotter scale has been well established, whereas we found no reliability or validity data on the Barron scale and only one other study that had made use of it. Given these circumstances, it seems reasonable to give more weight to the locus of control results than to the independence results. The difficulty, as we mentioned, may simply be that the Barron scale has become outdated and that its meaning has changed in relation to the attitudes of college students today. In terms of future research, it would be interesting to test the IESE scale against a different measure of independence, such as the Asch paradigm itself, and check the consistency of our results. It might also be useful to run this study again with older subjects, for whom the ideas presented in the Barron scale might retain more of their original flavor, to see if the IE and IJ scores would be correlated for them.

A second problem that surfaced in the course of our research was the finding that the IE and SW dimensions were not independent as we had hypothesized. In particular, the factor analyses demonstrated that several of the internal and support items clustered to form a factor characterized by a theme of ego strength and interpersonal competence. However, we suggested that there were a number of credible ways of explaining these findings without discarding the dual process theory altogether. First, the correlations may have been due to the fact that our subjects were college students, for whom self-esteem and interpersonal competence may be highly interrelated. Second, it may be that the processes are capable of operating independently even though at other times--perhaps most times--they interact. Third, it is

possible that self-esteem tends to elicit respect while self-derogation elicits discomfort and hostility. In this case, internal persons without support and external persons with support would be relatively rare. Finally, it may be that the processes are indeed independent and that the correlations simply reflected the fact that they are much more often parallel than orthogonal.

The first explanation could be tested by using different age groups as subjects, by using young people who are not in school, or perhaps even by using students from fields other than psychology. In experiments such as this, one generally assumes that the subjects are naive, but that is not necessarily true when psychology students are employed, since many students take psychology courses specifically to learn more about themselves and their relationships. Testing other kinds of subjects would allow us to see whether our subjects were more than usually concerned with--or at least aware of--the status of their self-concepts and the quality of their interpersonal interactions.

The other three suggestions all have in common the idea that internal-nonsupport and external-support persons may be relatively scarce. They imply, therefore, that we may not be able to demonstrate that internal self-esteem and support are capable of operating independently unless we look specifically for subject populations in which these processes are more likely to be orthogonal. One such population might be found among the outpatients of a mental health clinic, who might be expected to suffer a greater incidence of low self-esteem, lack of support, or both. There is also a special advantage in using such a group: if the therapists classified their

clients into our four categories according to the descriptions of our two dimensions, it would supply us with a more direct means than we have had so far of testing the validity of the IESE scale and its underlying concepts. One drawback to this method is that it would not necessarily provide us with a way of testing the three hypotheses against each other. However, before we plan to investigate the nature of the two processes, the conditions under which they interact, and so on, we must first be concerned with the question of whether or not they actually exist and can be distinguished from one another, which is the *raison d'etre* of our theory.

The most serious problem that arose in the analysis of our results was the contamination of the IESE scale by a social desirability effect. The removal of the six items that were most highly correlated with SD did improve the situation, but it still left 10 items correlated at $p < .05$ with SD.

There appear to be two ways of dealing with this difficulty. One method would be to redesign the entire IESE scale, beginning with a larger pool of items, using less obvious ones and eliminating any of them that were significantly correlated with SD. As the items are made more subtle, however, their relation to the concepts they are supposed to measure also becomes less certain. It would thus be wise to use this method only if we also had a clearer way of testing the conceptual validity of the new scale, for example by employing therapists and clients as we suggested earlier. The second method would be to use our present IESE scale but to eliminate the subjects who had high SD scores. This technique would not improve the scale, but it would

afford us a look at the relationships among the other variables when social desirability is not a factor. An advantage of this method is that it would allow us to use the data we have already collected. One disadvantage is that this is not a permanent solution, because the scale would still be contaminated; another is that we have not been able to find a precedent for this method in the literature, and thus the cutoff point would have to be chosen in a rather arbitrary fashion.

If the problems with the IESE scale can be dealt with successfully--and we are assuming for the present that the problems are centered in the scale and not in its underlying conceptions--this area of research has a number of intriguing and potentially useful applications. One would be to return to the starting point of our thinking about this entire project and use the IESE scale to investigate the development of internal self-esteem. It has been suggested, for example, that true self-esteem cannot develop until the stage of formal operations is reached in the individual's cognitive development, because it is not until then that he is able to view self as object and, in particular, himself as a malleable object. This hypothesis could be tested by comparing different age groups--e.g., late childhood, early adolescence, late adolescence and beyond--as long as there was sufficient pilot work to ensure that the items could be understood by the youngest group of subjects. A second part of the developmental question concerns the antecedents of internal self-esteem. We found some indication that the development of internal self-esteem was fostered by a supportive family environment, so that it might be worthwhile to attempt to relate the IE dimension to parental

child-rearing practices. If high school students were used as subjects, it would be possible to give their parents a questionnaire on various aspects of their child-rearing techniques and attitudes. If college students were employed, their IE scores could be correlated with reports of remembered interactions with parents. Retrospective work has its drawbacks, of course, but it has validity in that what is remembered is the psychological reality for the subject, even though it might not be the objective truth for an outside observer. Within such a study, it would also be interesting to compare subjects from various socioeconomic, ethnic or racial groups to see if the relationship between IE and SN differs over different populations.

Another large area of research involves possible correlates of internal self-esteem other than the ones we have investigated here. It seems that creativity, for example, may be closely associated with freedom from fear of error (Wallach & Kogan, 1965). If this is true, we would expect to find that it is positively correlated with internal self-esteem. Other characteristics that might be correlated (positively or negatively) with IE include dogmatism, sex-role identification and attitudes toward sex roles, dominance, attitudes toward aggression and level of moral development.

Finally, the correlations between IE and SN and the various activity variables raised several questions. Again, the fact that not all of these variables correlated with SN, as we expected, may have indicated a fault in the IESE scale or in its underlying conceptions. On the other hand, the pattern of results, especially with regard to P₁ and V/P₁, seemed to suggest that we were mistaken in placing all of

these scores in one category. If the validity of the SN dimension can be established by other means, it would be interesting to go back to the activity index to see what these correlations can add to our understanding of the nature and effects of our two processes.

In summary, the results of this study neither confirmed our conceptions nor unquestionably refuted them. The locus of control data were supportive of our thesis, but the other findings were not and, in general, raised more questions than they answered. The ordering of our priorities, as well as practical considerations, dictated that we construct the IESE scale on the basis of face validity, rather than by a more empirical method. Because of this approach, however, we have not yet been able to tell whether the fault lies in the IESE scale or in the theory behind it. In the case of each problem we encountered, we have suggested ways in which these hypotheses could be tested and, in doing so, have delineated a rich field for future research.

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- 85
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Appendix A: The Internal-External Self-Esteem Scale*

- 1 - Agree strongly
- 2 - Agree moderately
- 3 - Agree somewhat
- 4 - Disagree somewhat
- 5 - Disagree moderately
- 6 - Disagree strongly

1. I seem to spend much of my leisure time alone. (N)
2. It doesn't make me nervous to meet a lot of new people. (I)
3. I have often thought seriously about ethical and moral issues. (F)
4. I don't get to visit with my friends around school as often as I'd like. (N)
5. I'm generally willing to admit it when I make a mistake. (I)
6. It upsets me quite a bit when other people think badly of me as a person. (E)
7. I can usually handle important problems that I am faced with. (I)
8. I often start things I never finish. (F)
9. Other people's evaluation of my work is not as high as I would like. (N)
10. I fall in and out of love rather easily. (F)
11. Other people have often told me that I'm attractive and good-looking. (S)
12. I often feel incompetent or inadequate. (E)
13. These days my parents really help out; they don't let me down. (S)
14. People around me have often expressed their disapproval of the fact that I am not a very neat person. (N)
15. It doesn't particularly bother me to admit that I don't know something. (I)
16. My friends often look to me for leadership. (S)

* The letters in parentheses indicate the type of item: I for internal, E for external, S for support, N for nonsupport and F for filler.

17. I wish I could have more respect for myself. (E)
18. In social situations, I sometimes pretend to know more than I really do. (F)
19. In general, I feel good about myself, who I am and what I'm like. (I)
20. Before I do something I try to consider how the people around me will react to it. (E)
21. My friends really appreciate my sense of humor. (S)
22. I have strong political opinions. (F)
23. I often wish that I were someone else. (E)
24. I have a close, warm relationship with someone who understands me. (S)
25. I tend to be impulsive and often act on the spur of the moment without stopping to think. (F)
26. I don't feel that I am getting much support or encouragement from my professors. (N)
27. Once I have made up my mind, I generally feel that I can have confidence in my decisions. (I)
28. Criticism or scolding makes me very uncomfortable. (E)
29. It doesn't bother me if some people dislike me. (I)
30. I would dislike being a member of a leaderless group. (F)
31. I am not easily dominated by others. (I)
32. I'm frequently lonely. (N)
33. I like to plan a study schedule even if I don't always follow it. (F)
34. I have a tendency to sidestep my problems. (E)
35. People around me have often expressed admiration for things that I can do. (I)
36. I would say that I expect to succeed in most things that I do. (I)
37. I don't get much satisfaction from the work that I'm doing. (N)

38. I am often quite nervous about expressing my opinion when talking with people I don't know very well. (E)
39. I must admit that I enjoy playing practical jokes on people. (F)
40. I often doubt that anyone I really admire could care for me the way I am. (E)
41. I find it difficult to work under strict rules and regulations. (F)
42. Other people often listen to my suggestions and follow them. (S)
43. My family is not very close. (N)
44. I belong to one or more clubs or other organized groups that give me a sense of comradeship or companionship. (S)
45. My opinions and ideas aren't often shared by other people. (N)
46. My parents are usually considerate of my feelings when making decisions that will affect me. (S)
47. I dislike being interrupted when I'm studying. (F)
48. I would say that I have myself pretty much together. (I)
49. It is very important to me to have enough friends and social life. (E)
50. I have a strong desire to be a success in the world. (F)
51. I get a lot of comfort from my church or temple. (S)
52. I don't have very many really close friends. (N)

Appendix B: Student Activities Index

Table 1

- Column 1: Please list the initials of all of the people you have seen at least once a week during the current semester in face-to-face interaction that is meaningful (i.e., not trivial). If there are more than ten of them, list the ten that you think are the most important in terms of your academic and social activities, but don't worry about getting them in order. Note that you don't have to list as many as ten if there are fewer than ten people who fit this description. Then complete the table by filling in the appropriate numbers in each column.
- Column 2: Indicate the sex of each person
 1 - Male
 2 - Female
- Column 3: Indicate each person's relationship to you
 1 - Professor or instructor
 2 - Relative
 3 - Friend, lover
 4 - Husband, wife
 5 - Other
- Column 4: Indicate the number of times per week, on the average, that you see each person
 1 - Once or twice a week
 2 - Three or four times a week
 3 - Five to ten times a week
 4 - More than ten times a week
- Column 5: Indicate the total number of hours per week, on the average, that you spend with each person in face-to-face interaction
 1 - One or two hours
 2 - Three or four hours
 3 - Five to ten hours
 4 - More than ten hours
- Column 6: Indicate the degree to which you value each person's opinion of you
 1 - Not at all
 2 - A little
 3 - About average
 4 - More than average
 5 - Very much

Table 1 (cont.)

- Column 7: Indicate the degree of closeness of each relationship
- 1 - Cold and hostile
 - 2 - Somewhat cold
 - 3 - Neutral
 - 4 - Somewhat warm
 - 5 - Warm and personal

Table 2

- Column 1: Please list the initials of those people you have seen less frequently than once a week in actual face-to-face interaction during the current semester but with whom you maintain a warm and personal relationship.
- Column 2: Indicate the sex of each person
- 1 - Male
 - 2 - Female
- Column 3: Indicate each person's relationship to you
- 1 - Professor or instructor
 - 2 - Relative
 - 3 - Friend, lover
 - 4 - Husband, wife
 - 5 - Other
- Column 4: Indicate the most frequent type of contact with each person
- 1 - Face-to-face interaction
 - 2 - Telephone conversation
 - 3 - Correspondence
- Column 5: Indicate the number of times per month, on the average, that you are in contact with each person
- 1 - Once or twice a month
 - 2 - Three or four times a month
 - 3 - Five to ten times a month
 - 4 - More than ten times a month
- Column 6: Indicate the total number of hours per month, on the average, that you spend in conversation or on your correspondence with each person
- 1 - One or two hours
 - 2 - Three or four hours
 - 3 - Five to ten hours
 - 4 - More than ten hours

Table 3

- Column 1: Please list the social activities (e.g., sports, hobbies, parties) that you normally engage in with other people at least once a month during the school year. If there are more than eight such activities, list the eight that you think are the most important but, again, don't worry about putting them in order. Don't include studying or the interactions that you listed in the first two tables.
- Column 2: Indicate the number of times a month, on the average, that you participate in each activity
- 1 - Once or twice a month
 - 2 - Three or four times a month
 - 3 - Five to ten times a month
 - 4 - More than ten times a month
- Column 3: Indicate the total number of hours per month, on the average, that you engage in each activity
- 1 - One or two hours
 - 2 - Three or four hours
 - 3 - Five to ten hours
 - 4 - More than ten hours
- Column 4: Indicate the number of people besides yourself, on the average, who participate in each activity with you each time
- 1 - One or two people
 - 2 - Three or four people
 - 3 - Five to ten people
 - 4 - More than ten people

Table 4

- Column 1: Please list the activities (e.g., hobbies, exercise, reading) that you normally engage in at least once a month by yourself during the school year. If there are more than eight, list the eight most important, as before. Do not include studying.
- Column 2: Indicate the number of times per month, on the average, that you participate in each activity
- 1 - Once or twice a month
 - 2 - Three or four times a month
 - 3 - Five to ten times a month
 - 4 - More than ten times a month

Table 4 (cont.)

Column 3: Indicate the total number of hours per month, on the average, that you participate in each activity

- 1 - One or two hours
- 2 - Three or four hours
- 3 - Five to ten hours
- 4 - More than ten hours

Question 5

- (a) How many hours a week do you usually spend studying by yourself?
- 1 - Zero to two hours
 - 2 - Three to four hours
 - 3 - Five to ten hours
 - 4 - Eleven to twenty hours
 - 5 - More than twenty hours
- (b) How many hours a week do you usually spend studying with other people?
- 1 - Zero to two hours
 - 2 - Three to four hours
 - 3 - Five to ten hours
 - 4 - Eleven to twenty hours
 - 5 - More than twenty hours
- (c) What is your cumulative grade point average?
- 1 - Below 1.5
 - 2 - 1.5 to 2.4
 - 3 - 2.5 to 3.4
 - 4 - 3.5 or above
- (d) What was your grade point average for last semester?
- 1 - Below 1.5
 - 2 - 1.5 to 2.4
 - 3 - 2.5 to 3.4
 - 4 - 3.5 or above

Table 3

| (1) Activity | (2) Frequency per month | (3) Hours per month | (4) Number of people |
|-----------------|-------------------------------|---------------------------|----------------------------|
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Table 4

| (1) Activity | (2) Frequency per month | (3) Hours per month |
|-----------------|-------------------------------|---------------------------|
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- Question 5.
- (a) 1 2 3 4 5
- (b) 1 2 3 4 5
- (c) 1 2 3 4
- (d) 1 2 3 4

Appendix C: The Rotter Internal-External Locus of Control Scale*

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.

* The scale is scored for externality; unmarked items are fillers.

11. 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.
12. 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.
13. 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.
14. a. There are certain people who are just no good.
b. There is some good in everybody.
15. 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.
16. 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.
17. 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.
18. 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."
19. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
20. 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.
21. 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.
22. 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.

23. 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.
24. 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.
25. 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.
26. 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.
27. a. There is too much emphasis on athletics in high school.
b. Team sports are an excellent way to build character.
28. 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.
29. 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.

Appendix D: The Barron Independence of Judgment Scale*

1. What the youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country. (False)
2. Some of my friends think that my ideas are impractical, if not a bit wild. (True)
3. Kindness and generosity are the most important qualities for a wife to have. (False)
4. I have seen some things so sad that I almost felt like crying. (True)
5. I don't understand how men in some European countries can be so demonstrative to one another. (False)
6. I must admit that I would find it hard to have for a close friend a person whose manners or appearance made him somewhat repulsive, no matter how brilliant or kind he might be. (False)
7. A person should not probe too deeply into his own and other people's feelings, but take things as they are. (False)
8. I prefer team games to games in which one individual competes against another. (False)
9. I could cut my moorings--quit my home, my family, and my friends--without suffering great regrets. (True)
10. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their trust. (False)
11. I acquired a strong interest in intellectual and aesthetic matters from my mother. (True)
12. Human nature being what it is, there will always be war and conflict. (True)
13. I believe you should ignore other people's faults and make an effort to get along with almost everyone.
14. The best theory is the one that has the best practical applications. (False)

*The scale is scored for independence.

15. I like to fool around with new ideas, even if they turn out later to be a total waste of time. (True)
16. The unfinished and the imperfect often have greater appeal for me than the completed and polished. (True)
17. I would rather have a few intense friendships than a great many friendly but casual relationships. (True)
18. Perfect balance is the essence of all good composition. (False)
19. Science should have as much to say about moral values as religion does. (True)
20. The happy person tends always to be poised, courteous, outgoing, and emotionally controlled. (False)
21. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down. (False)
22. It is easy for me to take orders and do what I am told. (False)

Appendix E: The Marlowe-Crowne Social Desirability Scale*

1. Before voting I thoroughly investigate the qualifications of all the candidates. (True)
2. I never hesitate to go out of my way to help someone in trouble. (True)
3. It is sometimes hard for me to go on with my work if I am not encouraged. (False)
4. I have never intensely disliked anyone. (True)
5. On occasion I have had doubts about my ability to succeed in life. (False)
6. I sometimes feel resentful when I don't get my way. (False)
7. I am always careful about my manner of dress. (True)
8. My table manners at home are as good as when I eat out in a restaurant. (True)
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it. (False)
10. On a few occasions, I have given up doing something because I thought too little of my ability. (False)
11. I like to gossip at times. (False)
12. There have been times when I felt like rebelling against people in authority even though I knew they were right. (False)
13. No matter who I'm talking to, I'm always a good listener. (True)
14. I can remember "playing sick" to get out of something. (False)
15. There have been occasions when I took advantage of someone. (False)
16. I'm always willing to admit it when I make a mistake. (True)
17. I always try to practice what I preach. (True)
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people. (True)

*The scale is scored for social desirability.

19. I sometimes try to get even, rather than forgive and forget. (False)
20. When I don't know something I don't at all mind admitting it. (True)
21. I am always courteous, even to people who are disagreeable. (True)
22. At times I have really insisted on having things my own way. (False)
23. There have been occasions when I felt like smashing things. (False)
24. I would never think of letting someone else be punished for my wrongdoings. (True)
25. I never resent being asked to return a favor. (True)
26. I have never been irked when people expressed ideas very different from my own. (True)
27. I never make a long trip without checking the safety of my car. (True)
28. There have been times when I was quite jealous of the good fortune of others. (False)
29. I have almost never felt the urge to tell someone off. (True)
30. I am sometimes irritated by people who ask favors of me. (False)
31. I have never felt that I was punished without cause. (True)
32. I sometimes think when people have a misfortune they only got what they deserved. (False)
33. I have never deliberately said something that hurt someone's feelings. (True)

Appendix F: Matrix of Correlation Coefficients

| | Total Sample | | | | | | |
|----|--------------|-----------|-----------|-----------|-----------|---------------------|------------|
| | E | S | N | IE | SN | LC | IJ |
| I | .6239*** | .4159***a | .3500***b | .8924*** | .4504***b | -.3204*** | -.0905 |
| S | | .1693*a | .3990***b | .9094*** | .3382***b | -.2419** | -.0799 |
| N | | | .4672***b | .3169***a | .8499***b | .0065a | -.2200***a |
| IE | | | | .4176***b | .8630***b | -.1099b | -.1658*b |
| SN | | | | | .4348***b | -.3102*** | -.0975 |
| LC | | | | | | -.0652 ^b | -.2107***b |
| | | | | | | | .1099 |

Note. For all correlations, N = 129 unless otherwise specified.

^aN = 128

^bN = 124

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | SD | P1 | H1 | H1/P1 | V | V/P1 | C |
|-------|----------|--------|----------|----------|----------|------------|----------|
| I | .2872*** | .1949* | .2313** | .1711* | .2039** | .1022 | .2815*** |
| E | .2936*** | .0801 | .1419 | .1543* | .0598 | .0350 | .1460* |
| S | .1962**a | .0525a | .1109a | .1011a | .2016**a | .3137****a | .1267a |
| N | .1636**b | .1104b | .2319**b | .1927**b | .1978**b | .2240**b | .1915**b |
| IE | .3224*** | .1500* | .2050** | .1801* | .1431 | .0746 | .2341** |
| SN | .2132**b | .0921b | .1959**b | .1698**b | .2295**b | .3120**b | .1838**b |
| LC | -.1276 | -.1148 | -.1071 | -.0352 | -.0484 | .1020 | -.1347 |
| IJ | -.2287** | -.0064 | -.1343 | -.2475** | -.0448 | -.1161 | -.0011 |
| SD | | .0035 | .0269 | .0570 | .0005 | .0399 | .0074 |
| P1 | | | .7814*** | -.1596** | .8721*** | -.1635* | .9372*** |
| H1 | | | | .4604*** | .7946*** | .0831 | .8043*** |
| H1/P1 | | | | | .0149 | .3314*** | -.0402 |
| V | | | | | | .3216*** | .6984*** |
| V/P1 | | | | | | | .0153 |

Note. Unless otherwise specified, N = 129.

a_N = 128

b_N = 124

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | C/P1 | H1·V·C | H1·V·C/P1 | P2 | H2 | A3 | H3 |
|-----------|-----------|-----------|-----------|----------|----------|----------|----------|
| I | .3104*** | .2646*** | .2191** | .1278 | .0719 | .0706 | .1103 |
| E | .2807*** | .1416 | .1641* | -.0763 | -.0951 | -.0654 | -.0272 |
| S | .2468***a | .2576***a | .2561***a | .0590a | .1493**a | .1501**a | .1031**a |
| N | .2242***b | .2772***b | .2311***b | -.0081b | .0782b | .1273b | .1222b |
| IE | .3272*** | .2226*** | .2113** | .0240 | -.0166 | .0030 | .0462 |
| SN | .2762***b | .3086***b | .2830***b | .0248b | .1280b | .1610*b | .1647*b |
| LC | -.0851 | -.0386 | .0109 | -.0001 | .0793 | .0317 | .0106 |
| IJ | -.093b | -.1453* | -.2341** | -.0822 | -.1902** | -.0760 | -.0260 |
| SD | .1006 | .0503 | .1150 | .0166 | -.0165 | -.049b | -.0231 |
| P1 | -.1758* | .5976*** | -.2285** | .4553*** | .1891* | .4118*** | .4249*** |
| H1 | .0517 | .8697*** | .2826*** | .3861*** | .2016* | .3108*** | .3346*** |
| H1/P1 | .3653*** | .5118*** | .8066*** | .0008 | .0833 | -.0486 | -.0414 |
| V | .0147 | .8153*** | .1228 | .4308*** | .1731* | .3320*** | .3522*** |
| V/P1 | .4016*** | .4783*** | .7258*** | -.0220 | -.0494 | -.1126 | -.1092 |
| C | .1084 | .7408*** | -.0011 | .4501*** | .1760* | .3648*** | .4002*** |
| C/P1 | | .3054*** | .5878*** | .0294 | -.0045 | -.1094 | -.0585 |
| H1·V·C | | | .6025*** | .3161*** | .1692* | .2195** | .2699*** |
| H1·V·C/P1 | | | | -.0240 | .0264 | -.0961 | -.0666 |
| P2 | | | | | .7074*** | .4667*** | .4205*** |
| H2 | | | | | | .3741*** | .4022*** |
| A3 | | | | | | | .8957*** |

Note. Unless otherwise specified, N = 129.

*p ≤ .05

aN = 128

**p ≤ .01

bN = 124

***p ≤ .001

Appendix F (cont.)

| | A4 | H4 | A5 | B5 | C5 | D5 | U |
|-----------|----------|----------|--------|----------|----------|----------|----------|
| I | -.0001 | .0629 | .0857 | .0038 | -.0339 | -.0185 | -.0110 |
| E | -.1022 | -.0973 | -.0194 | -.0318 | -.0601 | -.0156 | -.0395 |
| S | -.0153a | .0434a | .1042a | .0564a | .2149**a | .1772*a | .0010a |
| N | -.0223b | -.0435b | .0921b | .0968b | -.0556b | .1560*b | -.1262b |
| IE | -.0590 | -.0227 | .0344 | -.0163 | -.0527 | -.0188 | -.0287 |
| SN | -.0286b | -.0077b | .1105b | .0988b | .1546*b | .1918*b | -.0689b |
| LC | .1287 | .1012 | .0800 | -.0428 | .0044 | .0145 | .0233 |
| IJ | -.0626 | -.0105 | .0107 | .0157 | .0670 | .0539 | .2694*** |
| SD | -.1037 | -.1341 | .1030 | -.0861 | -.0773 | -.1237 | .034c |
| P1 | .2721*** | .2328** | -.0082 | .1048 | -.0947 | -.1497* | -.0789 |
| H1 | .1942* | .1754* | .0903 | .2663*** | -.0459 | -.0954 | -.1320 |
| H1/P1 | -.0584 | -.0499 | .1440 | .2631*** | .0546 | .0615 | -.1405 |
| V | .1888* | .1942* | .0775 | .1562* | -.0172 | -.1197 | -.0837 |
| V/P1 | -.1423 | -.0631 | .1935* | .1111 | .1523* | .0660 | -.0333 |
| C | .2400** | .2129** | -.0170 | .1301 | -.0495 | -.0891 | -.0218 |
| C/P1 | -.1191 | -.0991 | .0682 | .0308 | .1511* | .2056** | .0430 |
| H1.V.C | .1077 | .1290 | .1241 | .2726*** | .0186 | -.0508 | -.0790 |
| H1.V.C/P1 | -.1117 | -.0638 | .1601* | .2159** | .0979 | .0862 | -.0769 |
| P2 | .3602*** | .2587** | -.0205 | .0740 | .0743 | .1484* | -.135c |
| H2 | .3113*** | .1915* | -.0755 | .0495 | -.0021 | .1081* | -.1923* |
| A3 | .6526*** | .5480*** | -.0702 | .0990 | .0615 | .0453 | -.1598* |
| H3 | .6105*** | .5674*** | -.0669 | .0957 | .0553 | .0354 | -.1233 |
| A4 | | .8868*** | -.0232 | .0597 | -.0286 | .0165 | .0191 |
| H4 | | | .0678 | -.0210 | -.0003 | .0047 | .0525 |
| A4 | | | | -.1185 | .2835*** | .1560* | .0757 |
| B5 | | | | | -.0005 | .1119 | -.0200 |
| C5 | | | | | | .6543*** | .2256** |
| D5 | | | | | | | .2616*** |

*p ≤ .05

**p ≤ .01

***p ≤ .001

Note. Unless otherwise specified, N = 129.

a_N = 128b_N = 124

Appendix F (cont.)

Males

| | E | S | N | IE | SN | LC | IJ |
|----|----------|----------|-----------|----------|-----------|---------------------|---------------------|
| I | .7560*** | .4589*** | .3312**a | .9432*** | .4765***a | -.0173 | -.0909 |
| E | | .3148* | .2819**a | .9306*** | .3578***a | -.0420 | .0122 |
| S | | | .4828***a | .4166** | .8708***a | .2883* | -.2074 |
| N | | | | .3286**a | .8509***a | -.3561**a | -.0941 ^a |
| IE | | | | | .4487***a | -.0310 | -.0446 |
| SN | | | | | | -.0371 ^a | -.1622 ^a |
| LC | | | | | | | .1938 |

Note. Unless otherwise specified, N = 41.

aN = 39

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | SD | P1 | H1 | H1/P1 | V | V/P1 | C |
|-------|----------|----------|-----------|----------|-----------|----------|-----------|
| I | .1370 | .0928 | .1007 | .0643 | .2379 | .3162* | .1679 |
| E | .3030* | .0829 | .0642 | .0425 | .1966 | .2734* | .1344 |
| S | .3657** | .0585 | .3150* | .3275* | .2738* | .4103** | .1196 |
| N | .1538a | .3044**a | .4726***a | .2373a | .3701***a | .1834a | .3739***a |
| IE | .2304 | .0940 | .0889 | .0576 | .2329 | .3157* | .1621 |
| SN | .3160**a | .1890a | .4363***a | .3230**a | .3559**a | .3460**a | .2637a |
| LC | .0478 | -.1553 | -.2215 | -.0496 | -.1201 | .0051 | -.1699 |
| IJ | -.1938 | .1123 | .0278 | -.1278 | .1183 | .0099 | .1287 |
| SD | | -.2722* | -.1901 | .0539 | -.1160 | .2600* | -.2216 |
| P1 | | | .6775*** | -.3132* | .8506*** | -.0909 | .9293*** |
| H1 | | | | .4622*** | .7840*** | .3067* | .7248*** |
| H1/P1 | | | | | -.0131 | .5019*** | -.1702 |
| V | | | | | | .4309** | .6964*** |
| V/P1 | | | | | | | .1386 |

Note. Unless otherwise specified, N = 41.

^aN = 39

*p \leq .05

**p \leq .01

***p \leq .001

Appendix F (cont.)

| | C/P1 | H1.V.C | H1.V.C/P1 | P2 | H2 | A3 | H3 |
|-----------|---------|-----------|-----------|---------|----------|----------|----------|
| I | .1845 | .2330 | .2071 | -.0137 | -.0656 | .0013 | .0482 |
| E | .2515 | .1852 | .1927 | -.1867 | -.2029 | -.1653 | -.1088 |
| S | .2368 | .4216** | .3775** | -.1511 | -.0062 | -.0537 | -.0575 |
| N | .0970a | .4579***a | .2115a | -.0589a | .0299a | -.1416a | -.0990a |
| IE | .2309 | .2244 | .2137 | -.1024 | -.1397 | -.0832 | -.0283 |
| SN | .1989a | .4968***a | .3409**a | -.1563a | -.0025a | -.1197a | -.0971a |
| LC | .1059 | -.1522 | -.0378 | -.0219 | .0864 | .0962 | .0426 |
| IJ | -.0476 | .0002 | -.1346 | -.0787 | -.1453 | -.0449 | -.0265 |
| SD | .1786 | .0045 | .2340 | -.3280* | -.0589 | -.4159** | -.4509** |
| P1 | -.3320* | .4970*** | -.3150* | .0701 | -.1465 | .4959*** | .5087*** |
| H1 | -.0103 | .8833*** | .3295* | .0648 | -.0471 | .3397* | .3664** |
| H1/P1 | .3997** | .5320*** | .8378*** | .0438 | .1592 | -.0762 | -.0727 |
| V | -.1246 | .7953*** | .1129 | .1313 | -.0646 | .3354* | .3304* |
| V/P1 | .3594* | .6560*** | .8035*** | .1203 | .0666 | -.1788 | -.2154 |
| C | -.0958 | .6668*** | -.0624 | .1669 | -.1070 | .5076*** | .5243*** |
| C/P1 | | .1797 | .4986*** | .1807 | .1008 | -.0731 | -.0787 |
| H1.V.C | | | .6271*** | .1018 | .0032 | .1971 | .2103 |
| H1.V.C/P1 | | | | .0838 | .1132 | -.1450 | -.1613 |
| P2 | | | | | .6698*** | .3471* | .3266* |
| H2 | | | | | | .0244 | .0579 |
| A3 | | | | | | | .9392*** |

Note. Unless otherwise specified, $n = 41$.

$a_N = 39$

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Appendix F (cont.)

| | A4 | H4 | A5 | B5 | C5 | D5 | U |
|-----------|-----------|-----------|----------|---------|----------|----------|---------|
| I | -.1251 | .0645 | .1430 | -.0140 | -.0257 | -.1935 | -.0382 |
| E | -.1826 | -.0892 | .0713 | .0947 | -.1342 | -.2315 | -.0374 |
| S | -.2583 | -.1661 | .3310* | -.0608 | .2988* | .0542 | -.0401 |
| N | -.3344*a | -.3482**a | .2890**a | .0811 a | .1829 a | .0747 a | .2061 a |
| IE | -.1627 | -.0092 | .1162 | .0403 | -.0825 | -.2258 | -.0403 |
| SN | -.3804**a | -.3321**a | .3556**a | .0218 a | .2808**a | .0704 a | .1142 a |
| LC | .0788 | .0421 | .0362 | -.1646 | -.0346 | -.1011 | -.0960 |
| IJ | -.0404 | -.0900 | .1462 | .2054 | .0277 | .0552 | .3935** |
| SD | -.1742 | -.2098 | .1585 | -.1865 | -.0120 | .0395 | .1703 |
| P1 | .2458 | .1916 | -.0601 | .1234 | -.1722 | -.2536 | .0698 |
| H1 | .1415 | .1395 | .0844 | .2279 | -.0028 | -.2006 | -.0414 |
| H1/P1 | -.0877 | -.0329 | .1805 | .1391 | .1764 | .0494 | -.1983 |
| V | .0790 | .0531 | .0339 | .1793 | -.0519 | -.1823 | .0271 |
| V/P1 | -.2628* | -.2236 | .1735 | .1139 | .1855 | .0956 | -.0744 |
| C | .2296 | .1849 | -.0152 | .1149 | -.0354 | -.1594 | .1555 |
| C/P1 | -.2006 | -.1815 | .2987* | -.1083 | .4548*** | .3795** | .0732 |
| H1.V.C | -.0035 | .0260 | .1288 | .2170 | .0675 | -.1065 | -.0160 |
| H1.V.C/P1 | -.1861 | -.1144 | .2130 | .1054 | .2029 | .1233 | -.1258 |
| P2 | .2345 | .2319 | -.0555 | -.0552 | .1120 | .3582* | -.0727 |
| H2 | .0253 | .0030 | -.0659 | -.0841 | .0733 | .2816* | -.2891* |
| A3 | .6392*** | .5599*** | -.1007 | -.0092 | -.0204 | -.0240 | -.0954 |
| H3 | .6087*** | .5839*** | -.1731 | .0131 | -.1150 | -.0860 | -.0832 |
| A4 | | .9198*** | -.0999 | -.1276 | -.1578 | -.2127 | .0250 |
| H4 | | | -.0520 | -.1036 | -.1890 | -.2161 | .0480 |
| A5 | | | | -.0083 | .2753* | .3522* | .2286 |
| B5 | | | | | -.1581 | .0066 | .0505 |
| C5 | | | | | | .6796*** | .1201 |
| D5 | | | | | | | .2616* |

Note. Unless otherwise specified, N = 41.

aN = 39

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

Females

| | E | S | N | IE | SN | LC | IJ |
|----|----------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|----------------------|
| I | .5463*** | .4089*** ^a | .3940*** ^b | .8562*** | .4725*** ^b | -.4392*** | -.0813 |
| E | | .1147a | .4686*** ^b | .9005*** | .3556*** ^b | -.2793** | -.0971 |
| S | | | .4646*** ^b | .2779***a | .8408*** ^b | -.1207a | -.2300*a |
| N | | | | .4964*** ^b | .8678*** ^b | -.0404 ^b | -.1966* ^b |
| IE | | | | | .4644*** ^b | -.4003*** | -.1021 |
| SN | | | | | | -.0975 ^b | -.2464* ^b |
| LC | | | | | | | .0585 |

Note. Unless otherwise specified, N = 88.

^aN = 87

^bN = 85

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | SD | P1 | H1 | H1/P1 | V | V/P1 | C |
|-------|----------------------|--------------------|--------------------|---------------------|--------------------|----------------------|--------------------|
| I | .3490*** | .2342* | .3076** | .2675** | .1796* | -.0003 | .3393*** |
| E | .2767** | .0587 | .1753 | .2366* | -.0092 | -.0508 | .1427 |
| S | .1303 ^a | .0530 ^a | .0138 ^a | -.0338 ^a | .1669 ^a | .2611** ^a | .1316 ^a |
| N | .1756 ^b | .0396 ^b | .1378 ^b | .1698 ^b | .1285 ^b | .2380** ^b | .1235 ^b |
| IE | .3519*** | .1578 | .2678** | .2849** | .0876 | -.0315 | .2642** |
| SN | .1835** ^b | .0564 ^b | .0934 ^b | .0839 ^b | .1743 ^b | .2908** ^b | .1525 ^b |
| LC | -.1661 | -.0757 | -.0621 | -.0497 | -.0088 | .1160 | -.1122 |
| IJ | -.2331* | -.0443 | -.2013* | -.3243*** | -.1116 | -.1934* | -.0475 |
| SD | | .0964 | .1087 | .0691 | .0422 | -.0412 | .0858 |
| P1 | | | .8311*** | -.0681 | .8836*** | -.1888* | .9416*** |
| H1 | | | | .4661*** | .6003*** | -.0301 | .8395*** |
| H1/P1 | | | | | .0356 | .2138* | .0341 |
| V | | | | | | .2726** | .9002*** |
| V/P1 | | | | | | | -.0383 |

Note. Unless otherwise specified, N = 86.

^aN = 87

^bN = 85

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | C/P1 | H1·V·C | H1·V·C/P1 | P2 | H2 | A3 | A4 |
|-----------|----------|----------|-----------|----------|----------|----------|----------|
| I | .4140*** | .3010** | .2632** | .1924* | .1394 | .1241 | .1396 |
| E | .3129*** | .1353 | .1837* | -.0455 | -.0595 | -.0208 | -.0106 |
| S | .2559*** | .1724a | .1845*a | .1456a | .2156*a | .2542*** | .2721*** |
| N | .2989*** | .1992*b | .2391*b | .0094b | .0949b | .2395*b | .2167*b |
| IE | .4080*** | .2397* | .2500** | .0718 | .0357 | .0516 | .0659 |
| SN | .3268*** | .2195*b | .2489*b | .0914b | .1778b | .2887*** | .2850*** |
| IC | -.1948* | -.0026 | .0043 | .0162 | .0827 | .0046 | .0169 |
| IJ | -.1230 | -.2170* | -.3063** | -.0803 | -.2064* | -.0910 | -.0172 |
| SD | .0667 | .0749 | .0762 | .1259 | -.0037 | .1025 | .1349 |
| P1 | -.0850 | .6563*** | -.1714 | .6030*** | .3230*** | .3742*** | .3813*** |
| H1 | .0897 | .8655*** | .2626** | .5113*** | .3021** | .3060** | .3203*** |
| H1/P1 | .3400*** | .5000*** | .7834*** | -.0169 | .0451 | -.0321 | -.0167 |
| V | .1029 | .8297*** | .1368 | .5539*** | .2739** | .3308*** | .3604*** |
| V/P1 | .4344*** | .3775*** | .6712*** | -.0807 | -.1022 | -.0704 | -.0421 |
| C | .2288* | .7816*** | .0394 | .5551*** | .2854** | .2989** | .3514*** |
| C/P1 | | .3986*** | .6583*** | -.0465 | -.0607 | -.1339 | -.0456 |
| H1·V·C | | | .5895*** | .4103*** | .2435* | .2315* | .3052** |
| H1·V·C/P1 | | | | -.0722 | -.0148 | -.0673 | -.0016 |
| P2 | | | | | .7207*** | .5216*** | .4581*** |
| H2 | | | | | | .5304*** | .5455*** |
| A3 | | | | | | | .6780*** |

Note. Unless otherwise specified, N = 88.

aN = 87

bN = 85

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix F (cont.)

| | A4 | H4 | A5 | B5 | C5 | D5 | U |
|-----------|----------|----------|--------|----------|---------|----------|----------|
| I | .0795 | .0593 | .0148 | .0647 | -.0654 | .0811 | .0135 |
| E | -.0627 | -.1073 | -.0997 | -.0355 | -.0505 | .0782 | -.0304 |
| S | .1044a | .1455a | .0038a | .1032a | .1755a | .2463*a | .0167a |
| N | .0968b | .0732b | .0251b | .0921b | .0061b | .1977*b | -.2446*b |
| IE | .0026 | -.0354 | -.0538 | .0117 | -.0651 | .0904 | -.0118 |
| SN | .1178b | .1276b | .0162b | .1193b | .1023b | .2563**b | -.1408b |
| LC | .1476 | .1339 | .1489 | -.0557 | .0502 | .0798 | .0544 |
| IJ | -.0759 | .0258 | -.0267 | -.0828 | .0987 | .0590 | .2192* |
| SD | -.0736 | -.1079 | .0638 | -.0278 | -.1200 | -.2030* | -.0065 |
| P1 | .2896** | .2511** | -.0061 | .1262 | -.0695 | -.1037 | -.1337 |
| H1 | .2199* | .1920* | .0924 | .2932** | -.0699 | -.0422 | -.1694 |
| H1/P1 | -.0437 | -.0587 | .1437 | .3222*** | -.0135 | .0737 | -.1187 |
| V | .2456* | .2625** | .0909 | .1619 | -.0041 | -.0886 | -.1290 |
| V/P1 | -.0814 | .0253 | .2377* | .0816 | .1515 | .0561 | -.0220 |
| C | .2473** | .2248* | -.0290 | .1532 | -.0636 | -.0577 | -.0883 |
| C/P1 | -.0690 | -.0491 | -.0671 | .1078 | -.0526 | .0886 | .0272 |
| H1.V.C | .1640 | .1821* | .1337 | .2958** | -.0031 | -.0175 | -.1096 |
| H1.V.C/P1 | -.0723 | -.0324 | .1613 | .2553** | .0471 | .0697 | -.0610 |
| P2 | .4157*** | .2702** | -.0144 | .1324 | .0547 | .0558 | -.1559 |
| H2 | .4359*** | .2706** | -.0842 | .1059 | -.0387 | .1137 | -.1565 |
| A3 | .6599*** | .5424*** | -.0561 | .1525 | .1081 | .0845 | -.1895* |
| H3 | .6167*** | .5601*** | -.0355 | .1557 | .1356 | .0955 | -.1363 |
| A4 | | .8717*** | .0194 | .1400 | .0451 | .1466 | .0152 |
| H4 | | | .1223 | .0198 | .0979 | .1217 | .0556 |
| A5 | | | | -.1261 | .2732** | .0465 | .0240 |
| B5 | | | | | .1040 | .1794* | -.0601 |
| C5 | | | | | | .6388*** | .2844** |
| D5 | | | | | | | .2673** |

Note. Unless otherwise specified, N = 88.

aN = 87

bN = 85

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix G: Results of First Factor Analysis

Following Varimax Rotation

| Item Number | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
|-------------|----------|----------|----------|----------|----------|
| 1 | .15185 | -.03421 | .37953 | .08751 | -.06393 |
| 2 | .21928 | .29088 | .28377 | -.00952 | -.03214 |
| 4 | .10065 | -.08372 | .08488 | .32261 | .11881 |
| 5 | .14100 | .05245 | .06080 | -.31658 | .16612 |
| 6 | .41899 | -.00540 | -.16048 | -.20842 | .03999 |
| 7 | .28853 | .48427 | -.19067 | -.09295 | .00258 |
| 9 | .17775 | .15932 | -.04444 | -.22538 | .48417 |
| 11 | -.10546 | .48813 | .18837 | .17151 | .13005 |
| 12 | .59948 | .25694 | .13745 | .05798 | -.00142 |
| 13 | .18003 | -.14594 | .63328 | -.01396 | .13060 |
| 14 | .18697 | .08021 | .13311 | -.04360 | .10974 |
| 15 | .09524 | .30248 | .15058 | -.23533 | .04843 |
| 16 | .05703 | .62490 | .05975 | -.05076 | .10126 |
| 17 | .70438 | .07222 | .12699 | .05658 | .08557 |
| 19 | .70430 | .25538 | .29357 | -.05127 | .01639 |
| 20 | .23377 | .08034 | -.21579 | .38022 | -.03559 |
| 21 | .03389 | .33843 | .48484 | -.50797 | -.05512 |
| 23 | .60635 | .04473 | .01070 | .03496 | .12505 |
| 24 | .01424 | .17719 | .37299 | -.04833 | .01004 |
| 26 | .05222 | .14018 | -.02413 | -.01102 | .58294 |
| 27 | .26226 | .45303 | .08084 | .11252 | -.34638 |
| 28 | .08290 | .11202 | -.04119 | .06340 | .23902 |
| 29 | .46121 | .04310 | -.12257 | -.26964 | .02923 |
| 31 | .31299 | .55743 | -.07780 | .03611 | -.10531 |
| 32 | .52273 | -.01413 | .05768 | .03718 | .11027 |
| 34 | .37467 | .10502 | .10297 | .14168 | .04005 |
| 35 | .00680 | .45592 | .02509 | -.05451 | .14748 |
| 36 | .18520 | .50618 | .05076 | -.03203 | .07837 |
| 37 | .26730 | .00644 | .19654 | .11796 | .35862 |
| 38 | .16155 | .48441 | -.01148 | .09575 | .14775 |
| 40 | .51790 | .12440 | .35718 | -.06982 | .06763 |
| 42 | -.01263 | .57927 | .11032 | -.15994 | .07998 |
| 43 | .13366 | .05427 | .57263 | .06361 | -.11772 |
| 44 | .00739 | .13167 | .19063 | .26666 | -.04475 |
| 45 | -.14523 | .26212 | .20091 | -.13197 | .20518 |
| 46 | .25579 | -.07862 | .51248 | -.07961 | .05103 |
| 48 | .55201 | .39656 | .22315 | .06826 | -.00675 |
| 49 | .27362 | -.22562 | -.37590 | .06710 | .16243 |
| 51 | -.18589 | -.06310 | .45221 | .41412 | .09103 |
| 52 | -.01808 | .25956 | .50687 | .04915 | .09007 |
| Eigenvalue | 5.72 | 2.44 | 2.21 | 1.26 | 1.07 |

Appendix H: Correlations between IESE Items
and Social Desirability

| Item Number | SD r | Item Number | SD r | Item Number | SD r |
|-------------|---------------------|-------------|---------|-------------|---------------------|
| 1 | -.0334 | 19 | .2226** | 37 | .1461* |
| 2 | .1999* | 20 | .0125 | 38 | .1410 |
| 4 | .0467 | 21 | .2354** | 40 | .1912* |
| 5 | .2608*** | 23 | .1289 | 42 | .0561 |
| 6 | .1535* | 24 | .1797* | 43 | .1307 |
| 7 | .1033 | 26 | .0942 | 44 | -.0126 |
| 9 | .1427 | 27 | .1794* | 45 | -.0014 |
| 11 | .1176 | 28 | .1118 | 46 | .1332 |
| 12 | .2819*** | 29 | .0653 | 48 | .1070 |
| 13 | .1252 | 31 | .0041 | 49 | .0799 |
| 14 | .1963* ^a | 32 | .0843 | 51 | .1261 ^a |
| 15 | .2520** | 34 | .0822 | 52 | .1732* ^b |
| 16 | .1359 | 35 | .1925* | | |
| 17 | .2545** | 36 | .1783* | | |

Note. Unless otherwise specified, N = 129.

^aN = 128

^bN = 125

*p ≤ .05

**p ≤ .01

***p ≤ .001

Appendix I: Results of Second Factor Analysis

Following Varimax Rotation

| Item Number | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
|-------------|----------|----------|----------|----------|----------|
| 1 | -.03959 | .32533 | .22454 | -.21258 | -.04573 |
| 2 | .34649 | .36919 | -.02549 | .06321 | -.03298 |
| 4 | -.12038 | .03214 | .35033 | -.24292 | .09258 |
| 6 | .04950 | .08683 | .13330 | .51950 | .08670 |
| 7 | .51234 | -.11255 | .23396 | .19230 | .05820 |
| 9 | .15667 | -.00185 | .03161 | .12552 | .57313 |
| 11 | .45739 | .06168 | -.06476 | -.30835 | .10910 |
| 13 | -.11356 | .68647 | .06803 | -.11514 | .11625 |
| 14 | .09185 | .15140 | .14749 | .00376 | .12019 |
| 16 | .61632 | .01365 | .04519 | -.07440 | .15921 |
| 20 | .06827 | -.14440 | .44375 | .00468 | -.04911 |
| 23 | .12282 | .24534 | .42692 | .30871 | .14342 |
| 24 | .18316 | .25453 | -.01322 | -.23162 | .03844 |
| 26 | .11822 | -.01287 | -.00432 | -.01225 | .59676 |
| 27 | .47267 | .08436 | .28816 | -.03019 | -.29227 |
| 28 | .08598 | .00278 | .07961 | .04103 | .20734 |
| 29 | .13009 | .13639 | .15301 | .53406 | .07313 |
| 31 | .60121 | .02205 | .23712 | .16099 | -.06970 |
| 32 | .02011 | .15619 | .45761 | .11524 | .18060 |
| 34 | .15161 | .20563 | .32385 | .06353 | .05330 |
| 35 | .43714 | -.02488 | -.04446 | -.06176 | .17583 |
| 36 | .52928 | .09888 | .07336 | .04699 | .10409 |
| 37 | .01919 | .26595 | .21555 | -.02474 | .34796 |
| 38 | .51466 | .10481 | -.01356 | .11289 | .13251 |
| 40 | .20113 | .44678 | .27693 | .08566 | .15038 |
| 42 | .56997 | .06144 | -.07117 | -.04743 | .10153 |
| 43 | .08799 | .56837 | .02563 | -.15559 | -.11005 |
| 44 | .09957 | .10496 | .13993 | -.27471 | -.04083 |
| 45 | .24596 | .15445 | -.27709 | -.08947 | .20631 |
| 46 | -.01336 | .76456 | -.06213 | .17135 | .02095 |
| 48 | .43775 | .30128 | .46498 | .04435 | .07798 |
| 49 | -.22326 | -.23424 | .31050 | .27779 | .17113 |
| 51 | -.10437 | .27808 | -.00227 | -.52295 | -.01370 |
| 52 | .23590 | .36041 | -.00314 | -.34636 | .08696 |
| Eigenvalue | 4.19 | 2.27 | 1.88 | 1.12 | .99 |

