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SKILL VERSUS CHANCE ACTIVITY PREFERENCE AND LOCUS OF CONTROL: ROLE OF MASCULINITY-FEMININITY AND ACTIVITY LEVEL

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1968

SKILL VERSUS CHANCE ACTIVITY PREFERENCE

AND LOCUS OF CONTROL:

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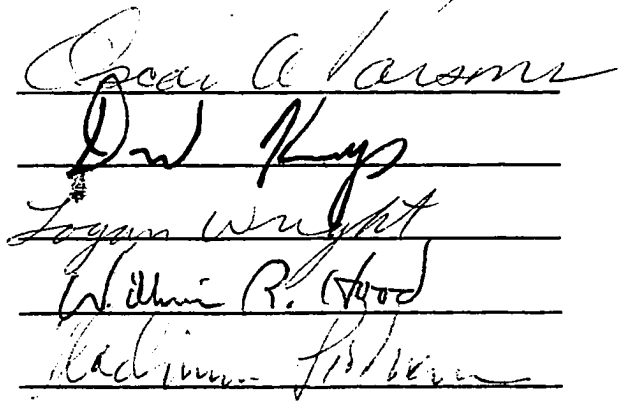

DISSERTATION COMMITTEE

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

The doctrine of free will, which attributes causal efficacy in behavior to the volition or decisions of the person, has been debated by philosophers for centuries. While this philosophical doctrine is not amenable to empirical test, certain psychological aspects of the question may be investigated, i.e., the behavior of individuals who perceive themselves as exercising personal control over their behavior and destiny (free will) may be compared to that of others who tend to see their behaviors as determined by forces outside their personal control. This concept, often referred to as "belief in personal control," and other similar constructs (e.g. mastery, alienation) have been widely discussed in the field of personality. Experimental investigations have been generated and instruments have been developed in recent years explicitly to examine this construct. The main purpose of this investigation is to add to the construct validation of the "locus of control" scale, which purports to measure "belief in personal control" by means of different item content than has been used, i.e. by means of skill versus chance prefer-

ences. In addition, potential sources of variance as masculinity-femininity and activity level will also be investigated.

In the following sections, the personality concepts related to "belief in personal control" will be reviewed. Subsequently, the empirical investigations of this construct, including the existing measuring instruments, will also be examined.

Personality Concepts Related to Belief in Personal Control

Active Mastery

Piaget (1930) developed the general concept of causality as a psychological dimension which can be shown in the playful and investigatory behaviors of children. He noted that children typically involve themselves in continuous chains of events, which include simulation, cognition, action, an effect on the environment, new stimulation, etc. Their persistence and selective emphasis is greatest in those aspects of the environment which provide changes and meaningful feedback in connection with the effort they expend. A "feeling of efficacy" characterizes these behaviors, which then leads the child to find out how the environment can be changed and what consequences flow from these changes.

Angyal (1941) noted the anthropological significance of the organism's attempts at active mastery of his environment. This tendency for the individual to impose his purpose on the environment lead him to suggest the motivational concept of "trends toward autonomy."

White (1959) suggested that theories of motivation based on primary drives are inadequate to explain exploratory behavior, manipulation and

attention in perception, language, thinking, and general activity. He proposed that these behaviors have a commonality across species. They all form a part of the process by which an individual organism learns to interact effectively with the environment. The concept of "competence," i. e., the ability to master aspects of the environment, was indicated by White to be the result of "effectance" motivation, where the consequences of behavior become motivating in their own right.

In each of the foregoing theories, the person or organism is suggested to be motivated by the belief that his behavior has a significant effect on his environment. The concept of active mastery implies a volitional decision-making process in which the individual controls his life events rather than being the object of outside forces. Possible results of the belief that external forces determine individual behaviors will be discussed next.

Alienation

Theorists have also dealt with cause and effect relationships in behavior from the point of view that the individual's behavior appears to him to be an insignificant factor in his successes or failures. Alienation, developed historically by Marx, Durheim and Weber (Schneidmann, 1967), has often been viewed as a condition in which the individual believes himself to be unable to control his own destiny. This loss or lack of a relationship, where such a relationship can be expected, is also reflected in Erikson's (1950) concept of "loss of identity," i. e., a failure to see a continuity or meaningfulness in

behavior, which he considers to be the current focus of societal ills.

These concepts, in contrast to those noted previously, place greater stress on the role that lack of belief in personal control has on the individual. There is an unwillingness on the part of the individual to accept personal responsibility for the consequences of his behavior. He is unable to see self-continuity or meaningfulness in his behavior. This leads him to become apathetic, withdrawn and ineffective. In short, the alienated person, or the person who experiences a "loss of identity," fails to see that his behavior plays any significant role in what happens to him.

Other Personality Concepts

Many other theorists have attempted to deal with the individual's perceptions of personal control over behavior. It is possible to see this variable in Freud's development of the ego and the ego-binding of cathexis, i.e. the degree to which in normal development the individual is able to gain control over his thoughts and feelings; Jung's concept of "self-actualization"; Adler's "striving for superiority"; Sullivan's "sense of powerlessness"; and Horney's concept of strategies and "feelings of insecurity". These concepts have been suggested by Cofer and Appley (1964) as reflecting, within an analytic framework, a non-drive source of neutral energy freely available to the ego for its everyday work as a result of past effectiveness or ineffectiveness in similar situations.

Other concepts, such as Reisman's (1950) "inner" and "other" directed man; the "field dependent" - "field independent" construct of Witkin (Witkin, Lewis, Hertzman, Machover, Massner and Wapner,

1954); as well as such familiar terms as "ego-strength"; "self-confidence"; "hopelessness"; "helplessness"; and the "hippie" term "dropping out" deal to some extent with how effective the person believes his behavior to be. The common theme of all these concepts is what Lefcourt (1966a) suggests to be the "degree to which man is able and believes himself capable of controlling the events in his life space" (p. 186), or his "belief in personal control." However, these concepts, with the exception of Witkin's work on psychological differentiation, have not directly generated attempts to empirically investigate the effects on behavior of this concept of "belief in personal control." Extensive research of the behavioral concomitants of this belief has stemmed primarily from Rotter's (1954) social learning theory and the construct of perceived "locus of control" which has since developed. The theoretical base of social learning theory and the empirical investigations of the "locus of control" construct will be discussed in the following section.

Locus of Control Construct

Theoretical basis - Social Learning Theory

Rotter's social learning theory is a non-reductionistic (i.e. the whole is greater then the sum of its parts), operational (i.e. all the meaning of any construct depends ultimately upon the facts of direct observation) and field-oriented (i.e. the individual and his surroundings form a unified interacting whole and can only arbitrarily be considered separately) theory of personality. It is partially derived from Tolman's learning paradigm, in which behavior is a function of the interaction between expectancies and value. In terms of the

"locus of control" construct, Rotter (1966) has stressed that the probability of a given behavioral occurence is a function of the value placed on certain reinforcements, and the expectancies that these reinforcements can be achieved in certain situations. There may be situations, such as an achievement test, where a person may be described as anticipating no contingency between effort on his part, such as studying for an exam, and the end results, passing or failing. This anticipated lack of contingency between behavior and outcome is a defining characteristic of the individual who believes himself to have an external locus of reinforcement. Thus, the "locus of control" construct implies that belief in one's abilities and skills is a key determinant of outcome for the individual who has an internalized locus of control of reinforcement, and that chance or fate becomes the more important causal factor for the individual who feels externally controlled. The degree to which the individual expects that there will be a causal relationship between his behavior and what happens to him in any given situation partially determines the extent to which he will believe he is "internally controlled" in a variety of situations.

This construct has been operationally defined by means of the Internal-External Locus of Control Scale (I-E), as well as by means of strategies of defining the locus of control in a given situation. Many investigations from this theoretical approach have found that effective and ineffective behaviors can be demonstrated to relate to this theoretical construct. The research findings will be reviewed in the following section.

Review of the Research on Locus of Control

There have been two main research approaches to the investigation of the belief in personal control. In one approach, the emphasis has been to examine specific, situation-bound expectancies which are characteristically determined by instructions for certain tasks or by the nature of the tasks themselves. The second approach emphasizes generalized expectancies which are characteristic of the subject and which contribute to predictable individual differences in behavior. The following will include a review of the research findings in these two areas.

Specific task defined expectancies. The basic hypothesis of this type of investigation is given by Rotter (1966):

> ...if a person perceives a reinforcement as contingent upon his own behavior, then the occurence of either a positive or negative reinforcement will strengthen or weaken potential for that behavior to recur in the same or similar situation. If he sees the reinforcement as being outside his own control, or not contingent, that is, depending upon chance, fate, powerful others, or unpredictable, then the preceding behavior is less likely to be strengthened or weakened. Not only will there be a difference of degree, but also a difference, in some instances, in the nature of the function as the result of a series of trials. It is evident that if this analysis is correct then different kinds of learning paradigms or situations are going to produce different kinds of learning functions. A learning situation such as that in which the experimenter arbitrarily determines the right response for whether or not food is given, regardless of the behavior of the subject, will produce different kinds of learning, than one where the subject believes his behavior determines whether or not the reinforcement will occur. In other words, learning under skill conditions is different from learning under chance conditions. (p. 5)

The studies which have evolved from this hypothesis have utilized one of two strategies. The first approach involves the use of an ambiguous task where success is then defined by the instructions as depending on the skill of the individual or on chance or luck. The actual reinforce-

ment conditions are controlled by the experimenter in such a manner as to be identical for both groups. A second approach is to take tasks, also under control of the experimenter, which have been defined by means of cultural experience as being chance or skill tasks (e. g. dice-throwing as a chance task; chess or problem-solving as skill tasks), and examine learning on these tasks under differing reinforcing conditions.

Extensive reviews of these studies are presented by Lefcourt (1966b) and Rotter (1966). In general, it has been found that increments and decrements in expectancies of success following success or failure experiences were significantly greater under skill instructions than chance instructions (Phares, 1957; Rotter, Liverant & Crowne, 1961); that reversal of the usual superiority of partial over 100% reinforcement in trials to extinction under skill instructions occured (James & Rotter, 1958; Rotter, Liverant & Crowne, 1961); and that there were greater perceptual threshold decrements for nonsense syllables for skill than chance instructions (Phares, 1962). Rotter and Mulry (1965) report that reaction time latencies were significantly greater when a task was defined as skill than when it was defined as chance determined. Davis and Phares (1967), however, failed to find a difference in amount of information sought in a social influence situation where success was indicated to be a function of either skill or chance factors.

By using tasks where success is typically considered to be either a function of skill or due to chance by the subject, Blackman (1962) found that when patterned, skill, or internal control facilitating sequences or events were given, fewer errors were made when a new

sequence was introduced. He concluded that when the subject perceives that he is able, through some amount of personal activity, to predict the events occurring in a given situation, he becomes more accurate in his perception of change in that situation. Rotter, Liverant and Crowne (1961) used two different tasks which were hypothesized as skill and chance tasks on a cultural basis, and found greater learning by means of experience under skill conditions. These studies, in general, indicated that performance on learning tasks can be radically altered by means of manipulating the expectancies of the individual, either by instructions or by the nature of the task itself. Under skill instructions or on a skill task, the individual becomes more deliberate in his behavior, more responsive to his previous experience with that task, and more resistant to extinction once a successful criterion has been reached.

However, there appear to be individual differences in the way that these specific tasks are handled, which may relate to a more pervasive or generalized expectancy that the individual brings with him to the task. The following section will review the research relating to more generalized expectancies for internal versus external control of reinforcement.

Generalized Expectancies. When an attempt is made to deal with the expectancies for success or failure that are not confined to a particular situational context or a specific task, it becomes more important to deal with the generalized expectancies of individuals for internal versus external control. These generalized expectancies of belief in personal control have been measured and utilized in research with various scales developed by Rotter and his co-workers.

The main research tool that has been used to develop the concept of belief in personal control has been the Internal-External Locus of Control scale (I-E). This scale has been shown to be a reliable instrument under a variety of conditions (Rotter, 1966; Hersch and Scheibe, 1967). In addition, the scale has been used to investigate behaviors assumed to be related to a person's locus of control. A review of these studies follows.

Attempts have been made to establish construct validation of "locus of control" by examining the I-E scores of individuals who by virtue of their present role or condition are generally accepted to be more or less capable of controlling what happens to them. It might be expected, for example, that individuals who have limited ability to attain middle class goals would tend to perceive themselves as more externally controlled than individuals with fewer restrictions placed on their attaining these goals. The results of various studies indicate that Negroes, American Indians and incarcerated white criminals score higher in the external direction than do white members of the middle class, and lower class individuals express greater externality than middle class persons (Battle & Rotter, 1963; Lefcourt & Ladwig, 1965; Lefcourt, 1966b). In addition, it has been shown that Negroes who took part in civil rights activities, i.e., those who apparently felt that their own efforts could have an effect on what happened to them, tended to believe themselves to be more internally controlled (Gore & Rotter, 1963; Strickland, 1965). Thus, it would appear that actual environmental conditions as well as the willingness of the individual to act in spite of adverse conditions are both related to his belief in personal control.

Evidence from clinical areas indicate that retardates and schizophrenics score more in the external direction than normals (Bialer, 1961; Cromwell, Rosenthal, Shakow & Kahn, 1961). Bialer also indicated that a more external locus of control was related to lower mental age and greater preference for immediate gratification among retardates. Butterfield (1964), however, failed to find significant differences on the WAIS in a group of college students, although the tendency was for "internals" to have higher scores. Other studies reported by Rotter (1966) also indicate that intelligence within fairly homogeneous groups is not substantially related to locus of control.

When the evidence from these areas is examined together, there does appear to be substantial indications that individuals who are generally perceived as being less effective tend to perceive themselves as externally controlled and less capable of determining their own fate.

The studies discussed previously in the section dealing with specific expectancies defined by instructions or task characteristics are not necessarily as conclusive as they might seem. Several studies have indicated that awareness of the reinforcement contingency does not in itself assure acquisition of the desired behavior and such additional factors as the value of the reinforcement, conformity and generalized expectancies also play an important role. Crowne and Liverant (1963), using an Asch-type social influence situation, found internally controlled Ss conformed less than externals, and also exhibited greater confidence in their judgments. In addition, when there are subtle attempts to influence Ss behavior, internals tend to react negatively and externals posi-

tively to such influences (Gore, 1963). Schneider and Deckert (1968) found that medical students who were classified as internals changed their ratings of the emotional state of a filmed patient less than did externals following an attempt to influence their judgments by senior clinical psychiatry staff members. Julian and Katz (1968) noted that internals prefer to rely on their own skill in a competitive game situation even when reliance on an opponent would have yielded more points. They concluded that a greater need to predict one's outcome by the internals was the basis for this preference.

Getter (1966) found that externally controlled Ss tended to condition faster, but that internals are more likely to be latent conditioners, while non-conditioners fall in between. Getter also suggests the possibility that internals are both less aware of and more resistant to external reinforcing conditions, but when these conditions <u>are</u> internalized, they form the basis for greater resistance to extinction of the behavior learned.

It has been suggested that internals are more likely to exhibit behaviors which are in accordance with attaining goals and setting aspirations for the future. Seeman (1963) found that reformatory inmates who perceived themselves as internally controlled tended to have a greater recall of facts which might affect their chances for success after release. Seeman and Evans (1962) report that among tubercular patients matched for education and occupational status, the internals tended to know more about their condition, questioned the staff more, and were less satisfied with the amount of feedback they received. Platt and

Eisemann (1968) noted that internals tend to have fuller and longer time perspectives than externals. Phares (1965) found that internal subject-experimenters were significantly more successful in changing attitudes toward maintaining fraternities than were externals who essentially precipitated no change. Davis and Phares (1967) have reported that subjects differentiating themselves on the I-E scale differed in the expected direction on the amount of knowledge of current events, when this was important to the task he needed to perform (i.e. persuading others).

In addition to these areas of research, there is evidence that individuals who tend to believe they are internally controlled also tend to have a higher level of aspiration, prefer higher levels of risk and score higher on measures of need achievement (Butterfield, 1964; Crandall, Katkovsky & Crandall, 1965; Lefcourt, 1966b). "Internals" also tend to exhibit a greater degree of insight into their own behaviors, and are more likely to rate themselves as repressors on the repressor-sensitizer scale and to indicate that they are low on manifest anxiety (Tolor & Reznikoff, 1967; Watson, 1967). Lefcourt (1966a) has also suggested that despite the fact that the I-E dimension is not currently being used in therapy research, perceived locus of control may be relevant to such psychotherapeutic goals as greater competence, courage, and approach tendencies. Lefcourt has further noted that the scale might be especially applicable in behavior therapy, where the emphasis is on mastering a singular, previously uncontrolled conflict area.

In summary, belief in personal control as measured by the I-E scale, has been demonstrated to be related to effective behaviors such

as learning, etc, in many situations, and more involvement in activities like information-seeking, when the activity is seen as important to future reinforcement for the individual. The internally controlled individual appears to place greater value on skill and self-determined reinforcements for achievement. He is more concerned with his ability, especially in relation to his failures. The "internal" also appears to be more resistant to subtle attempts to influence him. In general, he apparently views his own behavior as being more effective and a more important source of meaningful feedback than does the more externally controlled individual. The "external" is likely to see his environment as the more potent determinant of what happens to him, as well as the more important source of meaningful feedback about his behavior and consequently will respond to these external demands. However, if the environment appears malevolent and unpredictable to the "external," he is probably more likely to withdraw, become apathetic or otherwise minimize his need to interact with the environment.

There appears to be sufficient evidence at this point that the I-E scale is a useful tool in predicting behaviors assumed to be related to the individual's belief in personal control. It would be useful, therefore, to examine the actual item content of the scale and the interpretation advanced of what the items actually measure.

The I-E Scale: What Does It Measure?

Rotter (1966), in reviewing the research on the I-E scale, has stressed that the scale items are directed at belief in personal control:

> A careful reading of the items will make it clear that the items deal exclusively with the subjects' belief about the nature of the world. That is, they are concerned with the subjects' expectations about how reinforcement is controlled. Consequently the test is considered to be a measure of generalized expectancy. Such a generalized expectancy may correlate with the value the subject places on internal control, but none of the items is directly addressed to the preference for internal or external control. (p. 10)

Rotter considers that the scale measures the subject's awareness of previous reinforcement conditions, his receiving of data relevant to these reinforcements, as well as possibly different values for these reinforcing conditions. However, he explicitly states that none of the scale items deal with a preference for internal versus external control. However, the research previously reviewed in such areas as information seeking (Seeman, 1963; Seeman & Evans, 1962; Davis & Phares, 1967), reaction time (Rotter & Mulry, 1965), social action (Phares, 1965; Strickland, 1965; Battle & Rotter, 1963; Lefcourt & Ladwig, 1965), tends to suggest that generalized expectancies are possibly related to preferences for situations differing in the degree of internal control. Other theorists, using the expectancy-value model lend further support to the position that expectancies involve an active process and will now be reviewed.

Related Expectancy Theory Interpretations

In addition to the interpretations of the belief in personal control research offered by the social learning theory model of Rotter, two additional expectancy theory positions may be useful in interpreting the findings: Kagan's (1967) position on the need for a relativistic definition of stimuli based on the individual's expectancy and set,

Baron's (1966) development of the role of social reinforcement effects, and Kelly's (1955) psychology of personal constructs.

Kagan (1967) emphasized the importance of searching for the determinants of attention which need to be defined in terms of the individual psychological field:

> If a stimulus is to be regarded as an event to which a subject responds or is likely to respond, then it is impossible to describe a stimulus without describing simultaneously the expectancy and the preparation of the organism for that stimulus... Man reacts less to the objective quality of external stimuli than he does to categorizations of those stimuli. (pp. 131-132)

Kagan felt that the power previously ascribed to the "physical stimulus" must now be attributed primarily to cognitive interpretations in humans. These cognitive appraisals play a strategic role in determining the involvement of the individual with a particular stimulus situation.

Baron (1966) pointed out that in the verbal conditioning literature there have been unprofitable attempts to establish a relationship between a personality variable, such as anxiety or the need for social approval, and the conditioning of some verbal operant. Instead of dealing with those complex variables, Baron proposed the utilization of the individual's social reinforcement history (SRS):

> Lest the basic proposition at issue - the notion that an individual's past history of social reinforcement influences his present receptivity to social reinforcement - be obscured by such findings, it seems necessary to put less stress on the complex personality characteristics of the individual and more stress on the characteristics of the social reinforcement history itself (e. g. the frequency, intensity and variability of past social rewards). (pp. 527-528)

Baron suggested that the present receptivity of an individual to social reinforcement is based on the formation of an internal norm or frame of reference which importantly influences the nature of the interaction between the subject and the reinforcing agent, and is based on the impact of the individual's history of social reinforcement:

> The present notion of a social reinforcement standard (SRS)...posits that the kind of internal referent that is established on the basis of past social reinforcement schedules is more than a neutral summary of one's past social reinforcement experiences; it is rather a preferred region around which one seeks to secure future social reinforcement. (p. 527)

Such standards may be viewed as techniques or strategies for interpersonal uncertainty reduction. They allow us to smoothly coordinate our actions and interactions even with unknown others. It seems feasible to postulate that Baron's concept of social reinforcement standard is involved in both developmental and concurrent evolution of a person's generalized expectancy for an internal versus an external control of his social reinforcement. Baron has noted that his notion of SRS is at least partially based on Rotter's (1954) concept of "generalized expectancies." Rotter defined this concept as "the generalization of the expectancies for the same or similar reinforcements to occur in a present situation as occurred in past situations for the same, or functionally related behaviors." (p. 166) Baron, then, proposed to operationalize this concept for a given individual by examining his SRS for the same or similar stimulus situations.

Baron, (1966), drawing on Goffman's (1959) observations concerning an individual's "self-presentation," also stressed that the expectancies of an individual are not passive in nature, i.e., the individual

does not wait to see if the environment will live up to his expectations. By means of his "self-presentation," or his selective exhibition of certain behaviors, the individual attempts to influence the environment to his expectations. These expectations may relate to the rate, type or direction of the social reward anticipated. In essence, he is attempting to increase the probability that his already formulated expectancies will be met. In terms of social reinforcement history (SRS), the individual will engage in those behaviors most likely to maintain his current locus of reinforcement.

Kelly (1955) has stressed that the most important characteristic of man is that man construes his environment by giving meaning or interpretation to the social or physical events that surround him. It is therefore not as important to examine the pushes and pulls that operate on a particular individual. for Kelly as it is to know how and what he thinks about these forces. One of his psychological construct typifies this position: "A person's processes are psychologically channelized by the way he anticipates events." (p. 45) Anticipation, according to Kelly, is the way that man links his past with the future.

Reinterpretation of Expectancy Theory

The relevance of these positions to Rotter's social learning approach can be explained by considering the concepts presented. 1) Individual differences do exist in the way the same stimulus is perceived, depending on the way the stimulus was previously categorized by the individual (Kagan, 1967), the meaning given to a given event (Kelly, 1965) or the prior social reinforcement history of the individual

for similar stimuli (Baron, 1966). All three apparently agree that expectancy, set or anticipation plays a major role in whether the individual is likely to respond to the stimulus or to a particular social reinforcement. 2) Kagan and Baron have assumed that there is a preferred range of stimuli, or a preferred level of social reinforcement that is closest to his expectancies, his adaptation level or his base rate of responding. Empirical support for this contention can be seen in the work of Aronson and Carlsmith (1962), Aronson, Carlsmith and Darley (1963) and Rosekrans (1967), who found that persons expecting to fail, to experience unpleasantness or to suffer tend to engage in behaviors which resulted in failure, unpleasantness or suffering. The role of expectancy can be found in science itself, as is apparent in the literature on experimental bias (Rosenthal, 1963; 1964), that experimenters tend to obtain results that they expect to obtain even though these results are not predictable on the basis of fact or theory.

In terms of the research on the locus of control construct, evidence for the tendency to respond preferentially to stimuli closest to existing expectancies is suggested in the information-seeking behaviors of individuals who see reinforcements as due to their own efforts (internal control). This information-seeking is greater in situations where there is an opportunity to control the outcome. The more externally controlled individual, on the other hand, tends to show greater information-seeking when there is little opportunity for him to control the outcome (e.g. Seeman's (1963) study of reformatory inmates; Davis & Phares (1967) investigation of information-seeking under skill and

chance conditions).

It would appear that Rotter's (1954) social learning theory and the subsequent empirical investigations of the locus of control construct, Kagan's (1967) position concerning the role of expectancy and set in the perceived relevance of the stimulus, Kelly's (1955) concept of anticipation as a link between past and future, and Baron's (1966) concept of social reinforcement effects as a function of social reinforcement history lend themselves to the position that people tend to engage in "self-fulfilling prophecies" (Merton, 1948), i.e., they attempt to confirm their expectancies that the world is as they expect it to be. They become involved to differing degrees, attend more or less, suffer when they expect to suffer, respond to preferred rates of reinforcement, and attempt to maintain a consistency in their expectancies, based on the degree to which they anticipate their expectancies will be confirmed in a given situation.

This elaboration of expectancy theory may help to explain the findings (Rotter & Mulry, 1965) that "internals" and "externals" differ in the manner in which the same task is performed as a function of whether the task is perceived as depending on skill or chance factors for success. Internally controlled Ss take longer to decide on a matching task when the task is defined as dependent on skill than when it is defined as chance determined, with the reverse tendency found with externals. Thus, "internals" are apparently more careful and deliberate when the situation approximates their expectancies of internal control in the skill condition, while "externals" tend to show the same

deliberateness when the situation meets their expectancies of external control. In the previously mentioned experiment of Davis and Phares (1967), using tasks variously designated as skill controlled, chance controlled or defined ambiguously, it was found that Ss who believed themselves to be internally controlled sought significantly more information about the person they will later attempt to influence in the skill and ambiguous conditions, while externally controlled Ss showed a trend toward seeking more information when the condition was seen as chance controlled.

What these two studies appeared to indicate was that "internals" are more likely to seek out or actively engage in behaviors that will enhance the probability of success when the task is defined as involving some degree of skill, while the "external" tends to become more actively involved only when the situation is defined as chance controlled, or perhaps under the control of an arbitrary other. In essence, their "self-presentations" tend to increase the probability that their expectancies will be met. Julian and Katz (1968) suggested that there is a need to predict one's outcome, which is stronger for the internally controlled individual.

If an individual's self-perception is that of being internally controlled, he should prefer opportunities to control what happens to him. If he expects to be externally controlled, he should prefer situations which either prevent him from being able to control what happens to him and thereby avoiding potential misconfirmation of his external control expectancies, or which permit him to passively accept the role of the rein-

forcements given to him. If an individual is given a hypothetical choice of situations which differ in the degree to which their outcome can be determined by the individual, he should seek out the kind of activities which allow him to confirm his expectancies of being internally or externally controlled.

In summary, it appears that the manner in which a particular activity is construed by an individual may determine how involved with that activity he will become. Hence, the degree of success he achieves in that situation is at least partially determined by his expectancies concerning his ability to handle that situation. If the activity is one which he perceives as permitting him to achieve a desired level of success or desired reinforcing conditions, he will tend to become more involved with that activity than with some other where he perceives that there will be less of a chance of achieving these objectives. Given a choice, the individual will tend to seek out that type of activity that contains the behavioral potential to permit him to meet his preconceived expectancies for success or failure, or for an internal or external locus of reinforcement.

Activity Preferences as Related to Internal versus External Locus of Reinforcement

Although the items on the I-E scale are exclusively concerned with the person's belief in personal control, i. e. his generalized expectancies for an internal versus an external locus of reinforcement, it is hypothesized that these expectancies are related to preferences for situations which are seen as varying in the potential amount of external or internal control of the reinforcing conditions. An empirical demon-

stration of such a relationship would provide further construct validation of the I-E scale, as well as support the contention that people, by their preferences for certain activities, tend to create the potential for having their expectancies reinforced.

One test of the hypothesis advanced above is to demonstrate a relationship between the belief in personal control and the subjects preferences for activities characterized by indicating varying degrees of potential internal or external locus of control.

Following Campbell and Fiske's (1961) suggestions that construct validation can best be accomplished by a multi-trait, multi-method approach, the purpose of this investigation was to measure the locus of control by means of item content different from that which has been previously used. As noted previously, the existing measures of locus of control typically utilize statements of generalized expectancy or the extent of belief in personal control in various situations (e. g. "Becoming a success is a matter of hard work, luck has little or nothing to do with it"; "Most students don't realize the extent to which their grades are influenced by accidental happenings"; "War is inevitable," etc.) (Rotter, 1966). It was hypothesized that this belief in personal control, as measured by the I-E scale, is related to the individual's preference for the type of activity that allows this belief to be confirmed. Thus an internally controlled person should prefer activities which allow him to determine the significance of the reinforcement. The externally controlled person should prefer activities which permit him to confirm the accidental or haphazard nature of the reinforcement

he receives or to respond to an external criterion of success or failure.

It is suggested here that culturally defined skill and chance activities differ in the amount of control of reinforcement that an individual can potentially exert and therefore are potential stimulus situations for testing the hypothesized relationship between expectancies and preferences. Chance activities, such as throwing dice, afford little opportunity to control success or failure with that activity. Skill activities such as tennis or chess, tend to minimize the role of luck or fate. If sufficient numbers of varied activities of skill and chance are paired in a choice situation, then the role of past experience or situation specific expectancies with these activities would become less important, and the role of the generalized expectancies in regard to this broad range of skill or chance activities increased. Thus, selection of several different skill activities over several chance activities may reflect a preference for internal control of reinforcing conditions over external control, rather than simply the past experiences of the individual with that activity.

Pilot Investigation

The initial study was designed to investigate the hypothesis that the person's generalized expectancies in terms of the locus of control construct, measured by the forced-choice Internal-External control (I-E) scale (Rotter, 1966) are related to his preferences for participating in skill versus chance activities.

A forced-choice paired-comparison of skill type activities, which are not usually identified as vocational in nature (e. g. chess, hockey, archery, football) with chance activities (e. g. roulette, lottery sweep-

stakes, showdown) was used with 40 male and 43 female college students from an introductory psychology class. (See Appendix A for Method and Results). This activity preference scale was given to the students by the experimenter one month after the course instructor had given his class the I-E scale.

Subsequent analysis indicated the reliability of the activity preference test (split half and item-total score) appeared adequate to permit valid comparisons between this scale and Rotter's I-E scale (See Appendix A). Product-moment correlations were computed between the I-E score and the chance preference score on the skill chance test. This assumption that preference for skill activities should be associated with internal locus of control, and chance preferences to an external locus of control, was strongly supported for males ($r=.58$, $p < .001$), but not for females ($r=-.21$, NS). In fact, for the males there was as high a relationship between the forced-choice I-E scale and the S-C test as has been reported between different forms of the I-E scale (Rotter, 1966). The strength of the relationship indicated further support to the construct validation of locus of control of reinforcement and Rotter's (1954) more general conceptual framework of "generalized expectancy" for males.

However, the findings for females did not support this hypothesis. It seemed likely that the sex differences were due to the type of skill activities used for the preference ratings. These were activities which are primarily engaged in by males and are typically seen as being masculine. It may have been that females, in making a choice between a

skill and a chance activity, reacted more to the perceived masculinity of the skill alternative than to the opportunity it might afford for internal control. If skill activities were selected which were more feminine, it might be expected that a greater opportunity would exist for females to react to the choice of skill activities versus chance activities in relation to their locus of control. Further, it would be expected if the skill activities were relatively neutral on the dimension of masculinity-femininity, the potential relationship of I-E to skill versus chance preferences should be similar for both sexes.

However, the problem of sex differences as found in this pilot investigation may be related to more than just the apparent masculinity of the item content of the skill activities. Before examining this dimension, the literature on locus of control will be examined for indications that sex differences on the I-E scale itself and in related behaviors might be contributing factors.

Sex Differences in Locus of Control

Many theories of personality do not attempt to predice differential behaviors of males and females. It is often assumed that certain experimental manipulations will be equally as effective on males and females. The pilot investigation reported here (Schneider, 1968a) indicates that such an assumption can be fallacious. However, in some cases, it is difficult to determine what role sex differences play in personality research and what factors contribute to such differences. The potential existence of such differences on the locus of control scale needs to be examined, as well as the stimulus qualities of the skill chance activity

preferences.

In the area of social learning theory and more specifically the I-E scale, Rotter (1966) has mentioned briefly that one of the normative samples found females significantly more external than males, although this finding was not found in other samples. Point biserial correlations of items with total scores were reported in this article for both males and females. Males tended to obtain higher correlations than females on items which emphasized achievement and control over own behavior, while items where the relationship for females are higher than for males emphasized being liked and respected by others and awareness of understanding of their own behavior. However, the differences between males and females on any given item did not reach statistical significance.

Lefcourt (1966b) has noted that although the control construct allows some prediction concerning learning and achievement related variables, these predictions were found only in male samples. Only one study (Crandall, Katkovsky & Preston, 1962) included females, and no relationship was found between achievement behaviors and locus of control.

Seeman (1966) reported that an internalized locus of control was related to psychological integration as measured by the Duncan Reputation test for males, but not for females. Seeman suggested that in our society effective behavior on the part of women does not require the same kind of internalization process with respect to control as is true for men.

Most of the studies in the locus of control literature do not indicate sex differences on the dependent measure. Several of the reported studies, however, have used only one sex, or the sex of the subjects was not noted.

Although these findings indicating sex differences in learning and achievement related behaviors as they relate to locus of control, it may be indicated that the nature of the stimulus situation used needs to be more closely examined. Following Kagan's (1967) notion of the relativity of stimuli, it may be that the choice of learning situations, achievement variables and skill activities prevents the observation of the existence of given phenomenon or a particular relationship in the female subject. If the perceived masculinity of a given activity is such a potent source of variance as to dissipate the relationship between perceived control and activity preference for females, then the elimination or neutralization of masculinity as a source of variance should allow for a clearer test of the hypothesized relationship of skill preferences and belief in personal control. If a group of skill activities which are perceived by females as being relatively neutral in terms of their masculinity or femininity is used, a more adequate test of the hypothesis for females could be attempted.

Activity Level of Skill Preferences: an Alternate Hypothesis

It might also be argued that the degree of active participation required by a given activity may account for much of the relationship with the I-E scale. Rotter (1966) and Lefcourt (1966b) both make reference to the observations that individuals who are in externally controlled

situations, such as concentration camps, tend to be much more apathetic and withdrawn. If this is the case, then it might be that the skill activities chosen here, most of which require a great deal of physical energy commitment, are perceived by the external as requiring too great an amount of physical energy output and were not chosen on this basis, rather than on the opportunity provided for meeting a desired rate of social reinforcement. If an attempt is made to reduce the discrepancy in the amount of energy necessarily involved in the skill and chance activities, then a more decisive case can possibly be made for the role of skill and the role of chance in the relationship with locus of control.

Statement of the Problem

Belief in personal control has been considered by personality theorists to be an important variable in predicting effective and ineffective behaviors. This belief has received extensive empirical investigation by means of measuring instruments based on Rotter's (1966) "locus of control" construct. The defining characteristics of this construct involve the degree to which the individual perceives that reinforcement is contingent upon his own behaviors versus the degree to which he feels the reward is controlled by forces outside of himself and may be unrelated to any of his behaviors. An individual who characteristically views the rewards obtained as contingent on his own behavior is said to have a belief in internal control, while the individual who sees chance or fate as the more important causal factor in reward has a belief in external control.

The research findings using the Internal-External locus of control scale (I-E), tend to indicate that the internally controlled person is more responsive to his past experience and more deliberate under skill conditions. The externally controlled individual, on the other hand, is more responsive to external demands and reinforcement. Combining these findings with the positions suggested by other expectancy theorists that individuals engage in fulfilling their expectations by their "self-presentations," the following hypothesis was advanced:

The subject's locus of control, as measured by the Internal-External locus of control scale (I-E) is related to his preferences for situations involving greater potential for internal control versus situations involving greater potential for external control.

A preliminary investigation by Schneider (1968a) was an attempt to test this hypothesis by using games of skill as involving greater potential for internal control and games of chance as involving greater potential for external control. The results strongly supported the hypothesis that I-E was related to activity preferences for males ($r = .58$; $p < .001$), but not for females ($r = -.21$; NS). It appeared possible that the sex differences were due to the type of skill activities used for the preference ratings. These were activities which are primarily engaged in by males and are typically identified as being masculine activities. Therefore, it may have been that females, in making a choice between a skill and a chance activity, reacted more to the perceived masculinity of the skill alternative than to the opportunity it might afford for internal control.

A more clear cut test of the general hypothesis in females would be made if skill activities were selected which were more feminine, i.e., by using feminine skill activities. Further, it would be expected that if the skill activities were relatively neutral on the dimension of masculinity-femininity, the potential relationship of I-E to skill versus chance preferences should be similar for both sexes.

For males, it is expected that the use of clearly defined masculine-identity activities would result in a relationship similar to that found in the preliminary study, since the original items were mainly toward the masculine end of the continuum. A test of this expectation would serve as a partial cross-validation of the original findings. The use of skill activities which are relatively neutral on the dimension of masculinity-femininity might enhance the relationship by limiting the amount of variance due to the sex-identity of the skill activities. However, if feminine skill activities were substituted, a similar conflict might exist for males as was suggested to be in operation for females with the masculine skill activities.

It has also been suggested that discrepancies in levels of activity between skill and chance activities contributes to the relationship with I-E. It may be that internally controlled individuals have a preference for situations involving a greater amount of physical or cognitive activity than individuals who believe they are externally controlled. Since skill activities are typically seen as requiring greater involvement and activity on the part of the participant than do chance activities, possibly "internals" make their choice on the basis of the relative activity level

of the alternatives, rather than the skill versus chance dichotomy.

This investigation will be an attempt to cross-validate the author's pilot findings that the individual's locus of control is related to his preferences for skill versus chance activities for males, as well as establish whether this relationship exists for females. The role of sex differences in the relationship will be explored by means of varying the masculinity-femininity of the skill activities. In addition, a preliminary attempt will be made to define the contribution of the activity level discrepancy between the skill and the chance activities to the relationship with locus of control.

Summary and Statement of the Hypotheses

The main hypothesis of this study is that a person's generalized expectancies for an internal versus an external locus of control is related to his preferences for participating in skill versus chance activities. Specifically, it is expected that the more external items chosen on the I-E scale, the greater the tendency to choose chance activity alternatives from a skill versus chance activity comparison.

Sex differences are expected to exist in the relationship of locus of control to the activity preferences as the skill activities vary along the masculinity-femininity dimension. Incongruence of the sex of the subject with the masculinity-femininity of the skill activities should attenuate the relationship between I-E and chance preferences. The following predictions are made:

1) If the skill activities are typically masculine, then the relationship between locus of control (I-E) and skill versus chance activity

preferences will be greater for males than for females. Support for this prediction would constitute a cross-validation of the preliminary investigation.

2) If the skill activities are neutral with respect to the dimension of masculinity-femininity, then no sex differences are expected in the relationship between I-E and S-C preferences. Thus, it is expected that under this condition, the locus of control for both males and females will be related to their skill versus chance activity preferences.

3) If the skill activities are typically feminine, then the relationship between I-E and S-C preferences will be greater for females than for males.

The relative contribution of the discrepancy in activity level between the skill and chance activities to the relationship with I-E will also be explored. Specifically, it is predicted that:

4) Individuals who expect to be externally controlled will prefer passive activities to a greater degree than will internally controlled persons.

5) The greater the discrepancy of activity level between the skill and chance activities, the greater the relationship of I-E to S-C preferences. If activity level is a major variable in this relationship, its effect should be greatest when the differences between the high active skill and the low active chance games are the greatest.

CHAPTER II

METHOD

In this chapter, the following methodological considerations will be elaborated: 1) the development of the skill-chance activity preference tests and the selection of skill activities according to the masculinity-femininity dimension; 2) preliminary examination of the activity level of the skill and chance activities used and the development of high and low discrepancy skill-chance groups; 3) reliability measures of the skill-chance preferences; 4) definition of purpose of test by Ss; 5) subjects and procedure of the main investigation.

Development of the Skill-Chance Activity Preferences

The original item pool discussed in Appendix A was expanded by asking several females [1] (graduate student wives, secretaries, research assistants) to list skill and chance activities to add to the original pool. The general guidelines used for including a given activity were the following: 1) they were considered to involve mainly chance factors or mainly skill in success or failure; 2) they were not what would be considered a typical "vocational" choice; and 3) they varied in terms of the degree of masculine or feminine identification

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[1] The author wishes to thank Sarah and Michael Yourshaw, Sally Schneider, Julian Burn, Gay Bartley, Charles and Marilyn Gasswint, Arthur Vega, Hildra Tague and Jonathan King for their assistance and participation.

that might be associated with that activity. A total of 71 activities, the majority of which were skill activities (57) were obtained, and are listed in Appendix B.

The individual test development followed the same general procedure as is indicated in the Method section of Appendix A. The three forms that were developed consisted of paired comparisons of skill versus chance activities, with some skill versus skill and chance versus chance pairings in an attempt to disguise the purpose of the test. The specific development of these forms of skill versus chance activity preferences according to the masculinity-femininity of the skill activities will be considered next.

Development of Activity Preference Forms Varying in Masculinity-Femininity

All of the skill activities used were "individual" activities (e. g. chess, fencing, archery, golf) rather than group (e. g. football, volleyball) to minimize the possibility of introducing an additional dimension of "group cooperation" which is not characteristic of the chance activities. Five male and five female volunteer Ss[2] working for the Department of Psychiatry sorted each skill activity into one of three piles: masculine activities; feminine activities; or activities which are neither typically masculine or typically feminine. Activities were then chosen from these ratings for each of the three forms on the basis of which activities were most consistently rated by both males and females for

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[2] Ibid

a given category. (Table 1) Item selection for forms N (neutral) and F (feminine) was somewhat more difficult than selection for form M (masculine), due to the relative lack of activities that were clearly feminine in nature. Hence, the masculine form appears to be more definitively masculine than does the feminine form.

The three skill-chance tests, then, consisted of a forced-choice paired comparison of 140 (forms N, F) or 145 (form M) randomly ordered pairs of combinations of 10 skill and 10 chance activities counter-balanced for initial items of the pair being skill or chance (see Appendix C). Form M was composed of nine activities[3] which were most consistently rated as masculine on the card sort; form N contained the 10 skill activities most consistently rated as neutral; and form F contained 10 skill activities most consistently rated as feminine. The same 10 chance activities were used for all three forms. Each of the 10 skill activities (nine for Form M) was paired with all 10 of the chance activities so that all 20 activities on a given form could potentially be chosen 10 times each. One hundred pairs (90 for form M) required a choice between skill and chance activities, so that the highest possible score would be obtained by selecting the chance activity in all 100 or 90 pairs. The remaining 40 or 55 pairs were combinations of skill versus skill or chance versus chance pairings, which were randomly distributed throughout the

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[3] Due to an error in collating the activities archery was included on form M in place of boxing. This error was not noted until after the data had been collected. As a result only nine skill activities were scored on form M, except for normative group comparisons, where archery was also scored.

Table 1

Card Sort Frequencies of Skill Activities on Masculinity-Femininity[1]

S-C Form	Skill Activity	Females M-F Rating M	N	F	Males M-F Rating M	N	F
F							
	Cooking	0	2	3	0	0	5
	Bridge	0	4	1	0	4	1
	Painting (art)	0	4	1	1	3	1
	Badminton	0	5	0	1	3	1
	Horseback Riding	0	5	0	0	4	1
	Knitting	0	0	5	0	0	5
	Embroidery	0	0	5	0	0	5
	Interior Decorating	0	2	3	0	0	5
	Ballet	0	2	3	0	0	5
	Sewing	0	0	5	0	0	5
	Σ X	0	24	26	2	14	34
N							
	Golf	1	4	0	2	3	0
	Shuffleboard	2	3	0	2	3	0
	Bowling	0	5	0	1	4	0
	Water Skiing	0	5	0	0	5	0
	Tennis	0	5	0	1	4	0
	Swimming	0	5	0	0	5	0
	Snow Skiing	0	5	0	1	4	0
	Sculpture	2	3	0	2	3	0
	Archery	0	5	0	2	3	0
	Scrabble	1	3	1	0	5	0
	Σ X	6	43	1	11	39	0
M							
	Sky-Diving	5	0	0	4	1	0
	Chess	3	2	0	5	0	0
	Fencing	3	2	0	5	0	0
	Pool	3	2	0	5	0	0
	Handball	5	0	0	5	0	0
	Wrestling	4	1	0	5	0	0
	Pole Vaulting	5	0	0	5	0	0
	Auto Racing	5	0	0	4	1	0
	Track (long distance)	4	1	0	5	0	0
	Σ X	37	8	0	43	2	0

[1] N = 5 Males; 5 Females

test in an attempt to disguise the purpose of the test, and were not scored.

Activity-Passivity as a Dimension

In order to examine the role of activity level, the overall list of activities was rated by a group of male and female Ss from introductory psychology classes. Each activity, including the chance items, was rated on a modified 10-point semantic differential scale to determine its level of activity and passivity (10-active; 0-passive). Approximately 75 Ss from the University of Oklahoma (35 males, 40 females) were given the semantic differential, with four counter-balanced orders for all activities. Several other dimensions, such as skill-chance, like-dislike were given in addition to the activity-passivity dimension, but are not included here. In addition, I-E scores were obtained for these subjects a month later by their course instructor.

From this original sample of 75 Ss, 18 males and 18 females were chosen at random, and their ratings of activities on the activity-passivity dimension were examined. Mean ratings were obtained on the 29 skill activities and the 10 chance activities used in forms M, N and F (see Table 2).

Comparisons by means of t-tests were made between the activity level of the groups on forms F, N and M, and all were compared with the chance group. (see Table 3) Form M obtained a significantly higher activity level per activity than did form F for both sexes. Form N did not differ significantly from either M or F for either sex. This appears to indicate that if differences are found in the I-E versus S-C correlations on form F versus form N for males, and form M and form

Table 2

Activity-Passivity Ratings of Skill and Chance Activities[1]

S-C Form	Activity	Females $\bar{X}$	Females S. D.	Males $\bar{X}$	Males S. D.
M					
	Sky-Diving	6.78	3.40	7.22	2.51
	Chess	4.72	3.13	7.33	2.71
	Fencing	6.94	3.20	7.67	2.72
	Pool	5.22	2.58	7.72	1.96
	Handball	7.28	2.10	8.06	2.46
	Wrestling	8.67	2.11	9.05	1.77
	Pole Vaulting	8.67	2.27	8.11	2.27
	Track	8.67	2.42	9.11	1.64
	Auto Racing	6.83	2.85	8.00	1.75
	Average $\bar{x}$	7.09		8.03	
N					
	Archery	5.78	2.60	6.50	2.82
	Sculpture	5.06	2.67	6.78	2.90
	Bowling	7.06	2.20	7.67	2.14
	Snow Skiing	8.94	1.62	8.17	2.29
	Swimming	7.83	2.36	7.72	2.71
	Tennis	8.78	1.35	9.28	1.05
	Golf	6.61	2.43	8.56	1.51
	Scrabble	4.06	3.13	4.72	2.61
	Water Skiing	7.44	1.76	7.50	2.56
	Shuffleboard	5.06	2.31	5.44	2.13
	Average $\bar{x}$	6.66		7.23	

[1] 10 - highest rating of activity level possible; 1 - lowest possible rating of activity. N = 18 Females, 18 Males

Table 2 (Continued)

S-C Form	Activity	Females $\bar{X}$	Females S. D.	Males $\bar{X}$	Males S. D.
F					
	Bridge	3.61	2.30	5.83	2.75
	Painting (art)	4.83	2.33	6.39	2.85
	Badminton	7.17	2.33	6.55	2.27
	Sewing	5.11	1.94	4.83	2.45
	Ballet	8.11	2.32	8.33	2.87
	Horseback Riding	5.61	2.35	6.22	2.54
	Knitting	2.83	1.62	3.89	2.66
	Cooking	5.44	2.68	6.55	2.76
	Interior Decorating	4.22	2.89	4.78	2.65
	Embroidery	3.44	1.92	4.11	2.61
	Average $\bar{x}$	5.04		5.75	
Chance Items					
	Bingo	2.44	2.23	2.22	1.60
	Sports Pool	3.11	2.86	3.78	3.00
	Showdown	3.00	2.17	3.39	2.00
	Pinball Games	2.67	2.33	3.72	2.37
	Slot Machines	2.78	2.86	2.06	1.43
	Lottery Sweepstakes	1.94	2.15	2.06	1.89
	Raffles	1.78	2.18	2.61	2.20
	Dog Races	2.44	2.76	2.72	2.54
	Roulette	2.50	1.69	2.50	1.94
	Throwing Dice	1.78	0.88	3.50	2.40
	Average $\bar{x}$	2.44		2.86	

Table 3

Activity Level Comparison of Skill and Chance Activities on Forms M, N, F

Comparison	t - value[1]	
	Males	Females
Skill versus Skill		
M vs. N	1.19	0.45
M vs. F	3.50**	2.04*
N vs. F	1.70	1.55
Skill versus Chance		
M vs. Chance	11.78***	7.32***
N vs. Chance	6.66***	6.26***
F vs. Chance	4.50***	3.84***

* $p < .06$
** $p < .01$
*** $p < .001$
[1] df = 17 for each t-value

N for females, these differences cannot be entirely attributed to differences in the activity level of the skill alternatives.

The difference between the skill and the chance activities within each S-C form indicates that skill activities are rated as having significantly higher activity level than the games of chance. A test of the prediction (4) that individuals who expect to be externally controlled will prefer passive activities to a greater degree than will "internals" can be made on all three forms of S-C by means of the skill (active) versus chance (passive) preferences.

In order to examine the prediction (5) that the greater the discrepancy of activity level between the skill and the chance activities, the greater the relationship of I-E to S-C, two procedures were adopted. First, the degree of masculinity-femininity was controlled by using only activities with a given S-C form. A preliminary analysis indicated a significant rank-order correlation ($r=.58$; $z=2.06$; $p<.01$) between the rankings of the 29 skill activities used on masculinity-femininity (from Table 1) and the rankings of the activities on activity-passivity (from Table 2). Hence, activity level comparisons across forms of S-C would tend to be confounded by the masculinity-femininity dimension.

The second procedure involved the selection of skill and chance activities in order to manipulate the activity level discrepancy between the skill and chance games. The three most active skill games within a given form were paired with the three least active chance alternatives for the high discrepancy (HD) group. The three least active skill games within a given form were paired with the three most active chance activities for the low discrepancy (LD) group. The average activity level of the groups of three skill and three chance activities for each form and each sex are shown in Table 4. In the high discrepancy pairs, the t-value of the mean differences are highly significant (Table 5) in all groups of males and females, indicating that skill activities have the higher activity rating. In the low discrepancy groups, the t-values are much lower, but indicate significant differences between the skill and the chance item activity levels on form M for both males and females, and on form N for males, but not on the remaining three groups.

Table 4

Mean Activity Level of High Discrepancy (HD) and Low Discrepancy (LD) Skill-Chance Groups

S-C Form	Discrepancy Level	Mean Score[1]			
		Males		Females	
		Skill	Chance	Skill	Chance
M	HD	8.76	2.11	8.67	1.83
	LD	7.41	3.67	5.56	2.96
N	HD	8.67	2.11	8.52	1.83
	LD	5.55	3.67	4.72	2.96
F	HD	7.14	2.11	6.96	1.83
	LD	4.26	3.67	3.30	2.96

[1] N = 18 Males; 18 Females

Table 5

Comparison of Skill versus Chance Activity Level Within HD and LD Groups

S-C Form	Discrepancy Level	t-values	
		Males	Females
M	HD	11.32***	10.28***
	LD	4.28***	2.76*
N	HD	12.14***	11.45***
	LD	2.21*	1.98
F	HD	7.08***	7.58***
	LD	0.67	0.44

* $p < .05$
*** $p < .001$

It should be noted that although the discrepancy of skill versus chance activities is quite obviously greater in the HD than in the LD groups, in every case the average activity level rating of the skill group exceeds that of the chance group. On the basis of these preliminary analyses, the activity level hypothesis can be examined in two different ways: 1) all the correlations between I-E and S-C, regardless of form, would be expected to be in a positive direction; and 2) the correlations based on the HD group scores with I-E should be greater than those obtained with the LD scores.

Reliability of Skill versus Chance Activity Preferences

The item-total correlations obtained in the original study for the skill and chance activities (see Appendix A) appeared to indicate an adequate level of consistency for all items chosen as skill and as chance. There is little reason to suspect that the scales developed here (F, N, M) differ substantially in respect to reliability, since the chance items presently used are almost identical to those of the original study, and many of the same skill activities were also used. Split-half reliability coefficients were obtained for males and females separately on each form by means of the Spearman-Brown Prophecy formula (Walker & Lev, 1953) and are shown in Table 6. This measure of consistency appears to indicate adequate reliability to permit valid comparisons with I-E.

In addition, a limited test-retest reliability of the S-C preferences was performed, using some of the Ss from the main study who had taken form N on two separate occasions six weeks apart. A reliability

coefficient (Spearman-Brown) of .86 was obtained for 18 Ss, indicating substantial stability of response over the six week period. Apparently what was measured on the first occasion was essentially what was measured on the second, despite slightly altered instructions on the second testing (see Appendix D).

Table 6

Split Half Reliability Coefficients
Skill-Chance Preferences

S-C Form	Males	Females
M	.96	.95
N	.93	.91
F	.95	.93

Subject Perceptions of the Activity Preferences (S-C)

An attempt was made in one of the classes tested to ascertain what the Ss felt was the purpose of the test. Since some attempt had been made to disguise the purpose of the test by means of the use of skill-skill and chance-chance pairings, it was expected that the Ss would have some difficulty identifying skill versus chance as the primary dimension of the test. The results of this inquiry are shown in Appendix E, and they appear to indicate that the majority of individuals either did not know the purpose of the test or did not comment on the purpose of the test. Only a few indicated that skill versus chance was the apparent major factor. It should also be noted that several individuals commented

on the discrepancy between activity level of the activities. Hence, it might be expected that most Ss, even when instructed to go beyond the obvious choosing between a variety of activities, do not perceive the situation as directly testing for skill versus chance preferences or activity level preferences. It may well be that the Ss are reacting to the activities individually and do not attempt to categorize them as they take the test. In general, however, it appeared that the purpose of the test was not obvious to most Ss, and that while some individuals were reacting to dimensions that were not directly relevant in the scoring, no pronounced underlying dimension was revealed. A possible exception might be the gambling aspects of the chance activities. This possibility will be discussed later.

Subjects

Ss consisted of 267 college students, 138 males and 129 females, from introductory psychology classes at the University of Oklahoma. The age range of Ss was from 17 to 44, with a median age of 19.1. The largest proportion of Ss were freshmen and sophomores. All Ss were tested during either a single class period or during two class periods. Each S received one form of the S-C preference test and the I-E scale. ACT verbal and comprehension scores were also obtained from the Guidance Department files for 49 males (who had taken form M or N) and 42 females (who had taken form N or F).

Procedure

Two separate designs were used in an attempt to minimize some

of the potential experimenter bias. In one design (Condition I), the experimenter administered the I-E scale to the Ss and the course instructor administered the S-C preferences four weeks later. In the second design (Condition II), the experimenter administered the S-C preferences, and immediately afterwards (after E had left the class), the course instructor administered the I-E scale. In each of the five classes used, the course instructor indicated that the data he was collecting was for use in his own dissertation in an attempt to limit the degree to which the two tests were seen as being associated by the Ss.

Four forms of the activity preferences were distributed to the class (M, N, F, and a group activity form) in a fixed order, so that no two adjacent Ss had the same form. Ss were asked by their instructor to indicate on the back of the answer sheet what they thought the purpose of the test was in one of the classes (see Appendix E). In two other classes, Ss were asked if they desired feedback concerning the testing and their individual scores. This was requested for both the I-E scale and the S-C preferences.

CHAPTER III

RESULTS

The following data will be analyzed in this section: 1) potential sampling differences between groups on the I-E scale and mean differences between sexes and forms on the S-C preferences; 2) the test of the original hypothesized relationship between I-E and S-C preferences; 3) the role that the masculinity-femininity of the skill items plays in the sex differences in the relationship of I-E to S-C preferences; 4) the effect of the two different methods of collecting data as well as a test of the main hypotheses in independent groups; 5) the alternative explanations of the relationship: a) that activity level is an important determinant of the I-E activity preference relationship; and b) that intellectual factors play a role in the relationship.

Group Comparisons on I-E and S-C

In order to determine the potential role of group sampling differences, comparisons were made between each of the three male and female groups on I-E scores. None of the groups differed significantly in their I-E scores, indicating substantial homogeniety between groups (see Table 7).

Group differences were also examined to determine whether varying the masculinity-femininity altered the preferences for chance activities on the S-C tests independent of the relationship with I-E. If differences were to occur in the mean ratings, and the correlations for

each form were equivalent, then it could be noted that the masculinity-femininity dimension did have an effect on the choice of skill versus

Table 7

Means and Standard Deviations
I-E for Each S-C (F, N, M) Group for Males and Females[1]

S-C Form		I-E Score	
		Males	Females
M	N	45	46
	$\bar{X}$	9.38	8.88
	S.D.	4.30	3.71
N	N	44	41
	$\bar{X}$	8.27	8.83
	S.D.	4.39	3.23
F	N	49	40
	$\bar{X}$	9.63	9.37
	S.D.	3.43	3.44
Total	N	138	127
	$\bar{X}$	9.11	9.02
	S.D.	4.11	3.57

[1] Mean score indicates the average number of external alternatives chosen.

chance, but that it was fairly uniform across the range of I-E scores. If, however, the relationship of I-E with S-C differed significantly on the different forms, and the mean differences between scales also differed significantly, it would be possible to determine whether internals or externals were more affected by the changing levels of masculinity-femininity. Since only the skill activities varied on this dimension, it would be expected that internals would be more affected by the degree

masculinity-femininity.

Mean scores and standard deviations on the various forms of S-C are shown in Table 8. Males tended to select significantly more chance activities on form F than either form N ($t=7.93$; $df=91$; $p<.001$) or form M ($t=5.54$; $df=92$; $p<.001$). Females tended to choose more chance items on form M than on form N ($t=2.47$; $df=85$; $p<.02$), but not form F ($t=1.38$; $df=84$; NS). Indications from the group differences are that using feminine skill activities tended to increase the liklihood that males would choose chance activities, and the use of masculine skill activities

Table 8

Means and Standard Deviations
Skill-Chance Preferences (F, N, M) for Males and Females[1]

S-C Form		S-C Score	
		Males	Females
M	N	45	46
	$\bar{X}$	29.71	39.20
	S.D.	18.71	23.20
N	N	44	41
	$\bar{X}$	24.02	24.34
	S.D.	16.59	16.55
F	N	49	40
	$\bar{X}$	65.34	30.01
	S.D.	18.97	20.55

[1] Mean score indicates the average number of chance alternatives selected.

increased the tendency for females to choose chance activities.

Cross-Validation of Preliminary Experiment

Since the majority of the skill activities on the original form were toward the masculine end of the continuum, the relationship on form M in the present experiment should serve as a partial cross-validation of the preliminary findings. The product-moment correlations between I-E and S-C preferences for males and females on form M are .38 ($p < .01$) and -.08 (NS) respectively. As in the original study, the hypothesized relationship between the relative number of external items chosen and chance activity preferred was supported for males, but not for females. A z-transformation (Walker & Lev, 1953), to test the differences in the correlations, indicated that the relationship for the males differed significantly from the females ($z=2.20$; $df=88$; $p < .05$). This difference was slightly smaller than in the preliminary study ($z=3.77$, $p < .001$). Prediction 1 is confirmed and a satisfactory cross-validation for the original study is provided.

Role of the Masculinity-Femininity of the Skill Items

Product moment correlations between the three forms (M, N, F) of the skill versus chance activity preferences (S-C) and the I-E scale were obtained for males and females in order to determine the role of varying the level of masculinity-femininity of the skill activities on the relationship (see Table 9). The magnitude of the relationship reached statistical significance for males on forms M and N, but not F. Male subjects who scored as more external also tended to select chance activities on the masculine and neutral skill activities, but not with the feminine skill activities. For females there were significant positive correlations on

forms N and F, but not on form M.

Table 9

Product-Moment Correlations Between I-E and Skill-Chance Preferences

S-C Form	Males	Females
M	.38**	-.08
N	.43***	.29*
F	-.10	.35**

* $p < .05$
** $p < .01$
*** $p < .005$

By inspecting the correlations between I-E and S-C in Table 9, it appears that masculinity-femininity of the skill activities does produce sex differences in the relationship of skill versus chance activity preferences internal versus external locus of control appear to be confirmed. However, a more direct test of these differences can be obtained by means of z-transformations of the correlations and are shown in Table 10. Males differed significantly from females on forms F and M, but not on form N, with females indicating the stronger positive correlation on form F, and the males on form M. Thus, predictions 1, 2 and 3 are all confirmed.

Comparisons of the I-E versus S-C correlations were also made between the three forms for males and females separately (Table 11). For males, there was a significant difference between form M and F,

Table 10

Comparison of Sex Differences in I-E versus Skill-Chance Correlations

S-C Form	Correlations		z transformation	p
	Males	Females		
M	.38	-.08	2.20	<.05
N	.43	.29	0.71	NS
F	-.10	.35	-2.17	<.05

Table 11

Comparison of S-C Forms in the I-E versus Skill-Chance Correlations

S-C Forms Compared	Males		Females	
	z	p^1	z	p^1
M vs. N	-0.27	NS	-1.70	<.05
M vs. F	2.35	<.01	-2.03	<.05
N vs. F	2.60	<.01	0.31	NS

[1] one-tailed

and N and F in the relationship. Forms M and N did not differ significantly from each other in their I-E versus S-C relationship. The correlations for females differed significantly when forms F and M and N and M were compared, but not between forms N and F. Thus on form M for females, and form F for males, the I-E versus S-C relationship is attenuated.

Effect of Different Data Collection Methods

Two methods were used in collecting the data for the study. Under one condition (I), the experimenter administered his own test (S-C preferences) and the course instructor administered the I-E scale immediately afterwards. In the second condition (II), the I-E scale was given by the experimenter three weeks after the course instructor had given the S-C preferences to the class. In order to determine what role the method played in the results obtained, as well as test the main hypotheses in independent groups, product moment correlations were obtained for subjects in each experimental condition separately (see Table 12). In four of the six groups, the correlations were

Table 12

Correlations of I-E versus Skill-Chance for Different Experimental Conditions[1]

S-C Form	Males		Females	
	Experimental Condition			
	I	II	I	II
M	.28 (30)	.38 (15)	.11 (21)	-.08 (24)
N	.50** (28)	.35 (16)	.21 (20)	.46* (21)
F	-.07 (31)	-.13 (18)	.34 (20)	.34* (22)

[1] N for each correlation in parentheses.
* $p < .05$
** $p < .01$

greater in the hypothesized direction under the condition where the experimenter administered the I-E scale than under the condition where

the experimenter administered the S-C scale. However, none of the differences reached statistical significance. It is assumed that some degree of altering the conditions of administering the tests does not substantially affect the relationship of I-E with S-C.

In those groups where a positive correlation was expected, the direction and magnitude of the correlations for males and females are similar in each group and any existing differences can probably be attributed to random sampling differences around a true correlation.

An estimate of the true correlation can be obtained from the average z-value for males on forms M and N ($\bar{z}$=. 4006, $\bar{r}$=. 38) and for females on forms N and F ($\bar{z}$=.3301, $\bar{r}$=. 32). These correlations are comparable to the total group correlations for males [r=. 38 (M), r=. 43 (N)] and females [r=. 29 (N), r=. 35 (F)] .

Alternative Explanations of I-E versus S-C Relationship

Role of Activity Level

Prediction 4 that "internals" would tend to prefer more active games than "externals" received only partial support. For males, the highest correlation was with the form (M) with the clearest difference between active (skill) and passive (chance) activities, and the lowest on the form (F) where this difference was smallest. However, the negative correlation on form F for males does not support this prediction, since the skill activities are more active than the chance. For females, little support is indicated since their scores on form M which show the clearest difference on activity level correlated negatively with I-E.

Scores for an individual on both the high discrepancy (HD) and low discrepancy (LD) skill-chance preferences on each form (M, N, F) were obtained by subtracting the sum of the chance alternatives chosen on the three chance games from the sum of the skill alternatives chosen on the three skill games. Product-moment correlations with I-E of the resulting difference scores are shown in Table 13. These correlations are roughly equivalent to the findings using the total chance

Table 13

Correlations of I-E with High Activity Level Discrepancy (HD) and Low Discrepancy Skill-Chance Difference Scores

	Males		Females	
	Activity Discrepancy			
S-C Form	HD	LD	HD	LD
M	.25*	.38***	.06	-.05
N	.40***	.42***	.21	.52***
F	-.14	.01	.34*	.31*

* $p < .05$
** $p < .01$
*** $p < .005$

scores, which are shown in Table 9. None of the comparisons of HD and LD correlations with I-E by means of z-transformations of the HD versus the LD correlations reached significance. In only two of the six comparisons of HD and LD correlations was the HD correlation greater in the positive direction. Prediction 5, concerning the activity level discrepancy between skill and chance, is not supported.

Intellectual Factors as a Covariate in the I-E versus S-C Relationship

ACT verbal and comprehension scores were obtained from the student's records for 49 male Ss and 42 female Ss in order to determine the potential relationship of intelligence in the I-E versus S-C relationship. Product-moment correlations between the ACT score and S-C[1] and I-E are shown in Table 14. The magnitude of the relationship reached significance only for females in the ACT correlation with S-C, indicating that females who tended to score higher on the ACT subscales tended to select fewer chance alternatives.

Table 14

Correlations of ACT (Verbal and Comprehension) with I-E and S-C

Test	Males	Females
I-E	-.07	-.17
S-C	-.12	-.33*

* $p < .05$

Partial correlations between I-E and S-C[2] preferences for males and females, with ACT scores held constant, are shown in Table 15. These correlations are roughly comparable to the average correlation of I-E and S-C (forms M & N for males; forms N & F for females). It

[1] ACT scores were obtained only on Ss who had taken forms M or N for males, and N or F for females. Data for both forms were combined for the correlations with I-E.

[2] Ibid

appears that intellectual factors as measured by the ACT scores, play a relatively minor role in the I-E versus S-C relationship.

Table 15

Partial Correlations of I-E versus Skill-Chance with ACT Scores Held Constant

	Males	Females
Partial r $_{1.23}$	.38**	.28*

* $p < .05$
** $p < .01$

CHAPTER IV

DISCUSSION

In this chapter, the following will be discussed: 1) the main hypothesis of the investigation that skill-chance preferences are related to the subject's locus of control as a function of the masculinity-femininity of the skill activities; 2) the alternative explanations of the relationship that a) activity level differences between skill and chance activities account for the extent of the relationship to I-E, b) intellectual factors play a role in the I-E versus S-C relationship, and c) gambling preferences play a role in the selection of chance activities; 3) the theoretical implications of the findings.

Relationship of Skill-Chance Preferences to Locus of Control

The initial hypothesis that a person's belief in personal control, as measured by the I-E scale, is related to his preferences for participating in skill versus chance activities was supported in this study. The correlations reported here are slightly lower than those found for males in the preliminary investigation, but this may represent random variation around the true correlation. These findings, especially on form M for males, cross-validate the earlier findings.

The consistency of this correlational relationship is indicated by noting that the I-E versus skill-chance correlations were found on a total of four different forms containing different skill activities (including the original form used in the preliminary investigation); under

three somewhat different methods of data collection (both I-E and S-C during the same class period versus a month time span between tests; the experimenter administering the I-E scale and the course instructor the S-C preferences; the E giving the S-C preferences and the instructor the I-E scale), and in eight introductory psychology classes. This seems to indicate that the relationship is a fairly stable one, at least in the college population studied.

These data tend to add to the construct validation of the I-E scale. Although the I-E scale items are said to measure only the generalized expectancies for an internal versus an external locus of control of reinforcement (Rotter, 1966), this expectancy is related to preferences for situations that differ in the amount of internal or external control that potentially exists. "Internals" on the I-E scale tend to prefer the possibility of participating in skill activities to a greater extent than do "externals," who select more chance alternatives. Hence, individuals tend to prefer situations which are more likely to support their expectancies for internal versus external control.

Role of Masculinity-Femininity in the Relationship of Locus of Control to S-C Activity Preferences

The hypothesis that sex differences in the relationship of I-E to skill-chance preferences result as a function of the masculinity-femininity of the items was also supported. When there is congruence between the sex of the subject and the sexual identity associated with a given activity, "internals" tend to prefer skill alternatives over chance to a greater extent than do "externals." However, if there

is an incongruity between the sex of the subject and the masculinity-femininity associated with that situation or activity, this incongruity apparently becomes the more potent determinant of the manner in which the subject reacts to the choice between a skill and a chance activity. As a result, the relationship between I-E and skill-chance preferences is attenuated when masculine skill activities are used with females, and when feminine skill activities are used with males.

This finding re-emphasizes the position advanced in social psychology (e. g. Sherif & Sherif, 1956) that the social stimulus situation and role expectations are potent determiners of the behavior a given individual exhibits. It is possible that similar determinants may have contributed to the sex differences found in various studies, run and designed by individuals of one sex, who by virtue of their sex role "ethnocentrism" are thereby less able to predict how members of the opposite sex might construe a given perceptual, learning, or achievement task. It is suggested that the experimenter should have some way of knowing how a subject views an experimental situation or whether his role expectations are being violated or fulfilled, so that the independent variable is the main focus of the subject's attention and reaction. The specific problem of the sexual identity associated with a given task may be a highly potent variable when there is reason to assume (e. g. with high school students) that they are experiencing a sexual "identity crisis" (Erikson, 1950).

Alternative Explanations of the I-E versus S-C Relationship

It is possible that some variables other than skill versus chance

preferences account for the magnitude of relationship with locus of control. Three possible alternatives will be discussed: activity level discrepancy; intellectual factors; and gambling preferences.

Activity Level Discrepancies as a Determinant of Response Preferences of Internals and Externals

The role of differing activity levels of the games of chance and skill remains a potential source of variance, although the findings here fail to offer support for that contention. High discrepancy in the activity level between skill and chance games did not significantly affect their relationship with I-E in comparison to the low discrepancy groups. In fact, for females, the opposite tendency appeared to be more prevalent. However, since skill activities in this study are all seen as being more active than chance activities, this variable cannot be completely dismissed as a possible covariate in the relationship of S-C preferences to I-E. A more adequate test of the hypothesis that internally controlled Ss tend to prefer more active games than do the more externally controlled individuals would need to contain controls for the masculinity-femininity of the activities, as well as the skill-chance dimension (e. g. compare preferences for high active skill with low active skill, etc.). From the preliminary studies, it has been shown that masculinity-femininity of the activities is associated with the activity-passivity dimension. It has also been found that that highest activity rating for a chance activity is not significantly different from that of the lowest rated skill activity. It would be necessary therefore to design the experiment or series of experiments to test the relationship

of activity level discrepancy to locus of control in several ways: 1) within skill activities; 2) within chance activities; 3) within each of the masculine, feminine, and neutral groups. In short, activity-passivity as related to I-E needs to be investigated while holding skill-chance and masculinity-femininity constant.

There is also some data available from the preliminary investigations using the activity level rating that offers some support for the contention that activity level is a relevant dimension and that prediction 4, which received only partial support, may need further investigation. A correlation of .43 ($N=26$; $p < .05$) was obtained between the Ss' I-E scores and their rating of activity level of the games of chance. (Schneider, 1968b) The more external individuals tended to rate chance activities as having a higher activity level than did the "internals." "Externals" also indicated a slight tendency to rate skill activities as less passive than do the more internally controlled individuals, although the magnitude of this relationship did not differ significantly from zero. It may be that reflected in this correlation is the tendency of "externals" to become more involved in chance activities than do "internals." The indications previously noted that externally controlled Ss tend to become more active information seekers under chance conditions by Davis and Phares (1967) may be related to this finding.

Role of Intellectual Factors in the Relationship of Locus of Control to Skill-Chance Preferences

It would appear that if intellectual factors play a role in the I-E

versus S-C relationship, it is a relatively minor one. The consistent but low correlations tend to indicate that those prefering skill activities or who believe themselves to be internally controlled may be functioning at a slightly higher intellectual level. These findings are similar to those reported by Butterfield (1964) with college students on the WAIS. In a more heterogeneous sample than one made up of college students, it might be expected that intellectual factors, or some other measure of academic performance which is known and accepted within a group as a measure of intellectual prowess may reveal an even stronger relationship. In other words, there may be reasons to expect that intelligence can be construed as a measure of effectiveness of behavior and hence be related to the person's belief in personal control.

Gambling as a Variable in the Reactions to Chance Activities

A casual inspection of the activities used on the scales to reflect chance alternatives reveals that almost all are typically associated with gambling or betting money. It is possible, therefore, that the choice made by a subject could have been based on his expectancy of making a large amount of money fairly easily and quickly, rather than on his relative desire to avoid or approach an opportunity for external control of reinforcement. It may be that money, an external reinforcer, is preferred to a greater extent by externals than by internals. If so, a drastic reduction of the amount of money that could be anticipated to result from participating in these gambling activities could reduce the magnitude of the relationship with I-E. On the other hand, if preference for situations where money can be obtained is a basic

"need" for the subject (as it is for many college students working their way through college), then reduction of the potential winnings in gambling would make the chance alternatives less attractive to this individual. Since there is little reason to assume that poverty among college students plays favorites between "internals" and "externals," preferences based on potential for gaining money should affect both extremes in a similar manner, which would not substantially affect the potential relationship of I-E to S-C.

In order to determine the role played by the differing potential for winning money of the chance versus the skill activities, Ss who had previously been tested under condition I (experimenter - S-C; instructor - I-E; both during same class period) were again given the S-C preferences (form N only) six weeks later, with altered instructions. They were asked to take this form of the activity preferences and assume that they could win no more than $1.00 at any single activity. (See Appendix E for instructions and raw data) The product-moment correlation for 24 females and 32 males between their I-E score and the S-C preferences on form N was significant ($r = .31$, $p < .05$), indicating that the reducing of the potential amount of money to be won on the chance activities had relatively little effect on the relationship. This further supports the hypotheses that it is the skill and the chance aspects of the activities which are the more important determinant of the relationship with I-E.

Theoretical Implications

In the context of the social learning theory model, these findings

could be interpreted as indicating that generalized expectancies for internal or external control are related to the value that the person places on external or internal control. Examined in terms of the "expectancy x value" behavioral paradigm, these results appear to indicate that these two variables are not independent, but rather interdependent. If an individual expects an event in category X to occur, he will prefer that event rather than an event in category Y. The question of whether this relationship can be extended beyond expectancies and behavioral preferences to actual behavior may also need to be examined.

The theoretical positions advanced by Baron (1966), Kagan (1967) and Kelly (1955) appear to gain some support from these findings. The "self-presentation" of the individual who believes himself to be internally controlled is such that he tends to indicate preferences for activities which are consistent with one aspect of his "social reinforcement history" - in this case, his expectancy for an internalized locus of control. Skill activities tend to fall into an individual's preferred range of stimulus situations and apparently are categorized as reflecting opportunities for exercising internal control. Both "internals" and "externals" attempt to let others know, by their behavioral selections, what locus of control of reinforcing conditions they prefer.

Kelly's postulate that a person's processes are psychologically determined by the way he anticipates events appears to be particularly relevant to both the results, and the method used (paired comparison of dichotomous alternatives), especially in terms of the corollary to this postulate:

> A person chooses for himself the alternative in a dichotomized construct through which he anticipates the greater possibility for extension and definition of his system. (p. 54)

Thus, a person who had an expectancy of an internal locus of control, chose skill activities because it provided a greater possibility for defining his system in terms of internal control.

To go beyond the immediate findings, it may also be possible to infer that a person's generalized-expectancy is related to his attitudes on a variety of issues of major concern which have as a major component permitting or preventing individuals from being able to control what happens to them. For example, an internal should be more concerned about losses of individual responsibility (e. g. censorship of books and movies, being unable to "do his own thing," universities acting "in loco parentis" with students, invasion of privacy, a lottery draft system, etc.). The external, on the other hand, should be more concerned about losses of structure or indications that the government, school, etc. are not capable of controlling behaviors of individuals (e. g. greater concern about police being able to control and prosecute criminals than the rights of the individual, evils of pornography, legislative control of on-campus speakers, etc.). Further research efforts in the relationship of belief in personal control to learning and attitudes would be necessary to determine the adequacy of such a position.

A research approach that would relate to the demonstration of a relationship between belief in personal control and preferences for participation in skill versus chance activities is the observation of how individuals differing in their locus of control behave in actual situations

which vary in the degree that they can control the outcome. There is already some evidence to that effect, i.e. internals perform better than externals under autonomous conditions, with thereverse being indicated under high degree of structure and direction (Lefcourt, 1966b). It might also be important to determine if a person tends to perform better in situations he would choose on a hypothetical basis, as were used in this study, and his actual performance in either the task chosen or the one rejected.

The interpretation typically given to the concept of "internal versus external locus of control of reinforcement" may need some clarification. Gold (1965) attempted to relate preferences for skill versus chance to locus of control and failed to find support for this hypothesis. However, she had operationally defined skill in terms of preference for a success probability level of .5, and chance as a preference for a success probability of .1. What her study and other studies which have varied the rate of reinforcement apparently do not take into account is that the potential success or failure probability does not in itself define skill or chance, but may also need to include <u>who decides</u> the criterion for success or failure. If the experimenter is controlling the reinforcement, whether the reinforcing conditions are based on his actual performance or not, the realization by the subject that someone else is controlling the reinforcement and making the decision about when he is to be reinforced, makes the situation one of external control. Therefore, not only does the preference for different probabilities for reinforcement become important in studying belief in personal control,

but the subject's awareness of whether he is controlling these reinforcing conditions, is also a factor. It is conceivable that an internally controlled person would prefer to succeed on only one of 10 trials rather than on five of 10 if he could decide in which instance he be credited with a success. The externally controlled individual may well prefer a high probability of success if someone else sets the criteria for success. This may partially explain why "externals" tended to obtain higher grades (an external criterion) in the Butterfield (1964) study. The present study does not clarify this point, since skill activities permit both a potentially higher probability of success than do chance activities, as well as allowing greater opportunity to control the criterion for success. Further research is necessary to clarify the relative contribution of these variable to the individual's locus of control.

Summary

The main hypotheses of this study, that a person's generalized expectancies for an internal versus an external locus of control is related to his preferences for participating in skill versus chance activities, were supported. Individuals who tended to score toward the internal pole of the I-E scale tended to choose more skill activity alternatives than the more externally controlled individuals. This finding adds to the construct validation of the locus of control (I-E) scale.

Sex differences were found in the relationship of locus of control to the activity preferences as the skill activities varied along the dimension of masculinity-femininity. Incongruence of the sex of the subject with the masculinity-femininity of the skill activities (e. g.

males choosing feminine activities) attenuated the relationship between I-E and chance preferences.

The relative contribution of such variables as activity level discrepancies of the skill-chance preference, intellectual factors and gambling preferences appeared to be a minor one in this study. However, each of this variables need to be tested independently from skill versus chance preferences for their relationship with locus of control.

CHAPTER V

SUMMARY

Summary and Conclusions

Rotter's concept of locus of control is defined in terms of the degree to which a person believes himself capable of controlling his behavior and outcome. It stems from the expectancy-value model of behavior, and has been empirically defined by means of the Internal-External locus of control scale (I-E). Previous research has suggested that this scale is predictive of learning behaviors, social action and information-seeking and is considered to be a measure of generalized expectancy for an internal versus an external locus of reinforcement. The present investigation attempted to relate this measure of generalized expectancies to preferences for participation in skill versus chance activities which are assumed to reflect differential opportunities for an internal versus an external locus of control. It was hypothesized that individuals scoring toward the internal end of the I-E scale would be more likely to prefer skill activities over chance to a greater extent than would the more external scoring individuals.

In the preliminary investigation, in an introductory psychology class, subjects were given the I-E scale by their instructor and three weeks later a forced-choice test of skill versus chance activity preference. A strong positive relationship ($r = .58$, $N = 40$, $p < .001$) was found between I-E and the activity preferences for males, but not for females

(r=-.21, N=43, NS). It appeared that the masculinity of the skill activities posed as a disruptive source of variance for the females, and would need to be controlled in order to determine if the relationship existed at all for females.

Based on a card sort of skill activities, three forms consisting of 10 skill and 10 chance activities in all possible combinations were used to develop skill versus chance activity preferences which differed in the masculinity-femininity of the skill alternatives. The three forms consisted of masculine skill activities; a feminine skill group and a neutral activity group. These three forms were randomly assigned to 129 female and 138 male introductory psychology subjects in several classes under two different conditions. In one condition, the experimenter administered the activity preference tests (S-C) and the course instructor followed immediately with the I-E test. In the second condition, the course instructor administered the S-C tests, and three weeks later the experimenter gave the subjects the I-E scale. No consistent differences were found between the two conditions used.

Support was found for the hypotheses that sex differences in the relationship between I-E and skill versus chance preferences would occur as a function of the masculinity-femininity of the skill activities. When the form which contained masculine skill activities was analyzed, a similar relationship to I-E was found as in the preliminary study, with males showing a positive correlation (r=.38, N=45, $p < .01$) and females a non-significant negative correlation (r=-.08, N=45).

When the skill activities were feminine, the reverse sex difference occurred: correlation for males was low negative ($r=-.10$, $N=49$, NS) while the correlation for females was positive ($r=.35$, $N=42$, $p < .01$). On the form where the skill activities were relatively neutral in terms of their masculinity-femininity, both males and females indicated a positive correlation between I-E and S-C (males, $r=.43$, $N=44$, $p < .005$; females, $r=.29$, $N=43$, $p < .05$). Thus, when the sex of the Ss and the sex identification of the activity was congruent, the predicted relationship of I-E to S-C was supported. When the sex of the Ss was incongruent with the masculinity-femininity of the skill activities, the expected relationship of I-E to S-C was attentuated.

These findings appear to add to the construct validation of the I-E scale. Although the items on this scale are said to measure only generalized expectancies for internal versus external control, these expectancies have been shown to be related to preferences for internal versus external controlled activities. This relationship appears to support the position advanced by several theorists that people tend to engage in behaviors which are more likely to confirm their expectancies. By means of their "self-presentation," i.e. their selective display of behaviors, they engage in behaviors which are more likely to confirm their already existing expectancies for internal versus external control of reinforcement.

In addition, the importance of attempting to anticipate sex differences in how a particular activity or social stimulus situation is perceived is re-emphasized by these results. The dimension of masculinity-femininity has been demonstrated to be a potent determinant of how an activity

is responded to, and it is suggested that this dimension may interfere with their tasks as well, such as learning, etc., if incongruent with the sex of the subject. These results re-emphasize the importance of knowing how the person perceives a social stimulus situation in relation to his sex role identification.

Exploratory attempts were made to examine the role of activity level in the relationship of I-E to skill-chance activity preferences. Within each form, comparisons were made of the skill activities with the highest rated activity level with the lowest rated chance activities (high discrepancy) and the lowest rated skill with the highest chance (low discrepancy). Comparisons of the correlation of the high discrepancy skill versus chance difference scores and low discrepancy scores with each Ss I-E score indicated that none of the correlations differed significantly with the majority of the low discrepancy correlations with I-E higher than the high discrepancy relationships. The results tended to indicate that activity level discrepancies within a given form of the S-C preferences apparently did not discernibly affect the relationship to I-E. However, the design of the experiment was such that the activity level hypothesis, i.e. internals tend to prefer higher activity level than do externals was confounded by both the masculinity-femininity and the skill-chance aspects of the forms used. These variables would need to be controlled for a more adequate test of the hypotheses.

Intellectual factors were also examined by means of ACT scores, and were found to have relatively little relationship with I-E or the S-C preferences with the exception of S-C for females. Partialling out the

effects of the ACT scores did not substantially alter the I-E versus S-C relationship.

The alternative explanation that since the chance activities were also gambling and as a result present an opportunity for monetary gain (or loss), it may be that externals were more concerned with money (an external reinforcer) was also explored. Subjects previously tested on I-E and all three forms of the S-C preferences were given form N six weeks later, with a different instructional set that limited potential monetary gain on these activities. The correlation with I-E was .31 (N=32 M, 24 F; $p < .05$) and did not differ significantly from the correlation of I-E with S-C previously obtained on form N for males and females. Thus, the role of gambling, or money as a differential source of valuing a particular activity apparently does not appear to be a major factor in the I-E relationship with skill versus chance activity preferences.

The theoretical implications of this investigation, with special reference to Rotter's social learning theory and related expectancy theory formulations were discussed, and suggestions were made for future research with the locus of control construct.

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APPENDIX A

METHOD AND RESULTS OF PRELIMINARY STUDY

METHOD

Subjects. Subjects were 40 males and 43 females from two introductory psychology classes at the University of Oklahoma. They were tested during two class periods at three week intervals. All subjects were tested with the same instructions and the same tests.

Construction of Skill vs. Chance Activity Preference test (S-C). The skill-chance test consists of a forced-choice paired-comparison of 170 randomly ordered pairs of combinations of 10 skill and 10 chance activities counterbalanced for initial items of the pairs as skill or chance. The activities were selected from a larger pool on the basis of those which appeared to have the greatest face validity as depending on chance or skill. Within the skill group, five of the activities involve individual competition with other individuals (e. g. chess, archery), while the remaining five require group cooperation (e. g. football, hockey). Each of the 10 skill activities was paired with all 10 of the chance activities (e. g. throwing dice, roulette), so that all 20 activities could potentially be chosen 10 times each. One hundred pairs required a choice between skill and chance activities so that the highest possible score would be obtained by selecting the chance activity in all 100 pairs. The remaining 70 pairs were combinations of 35 skill-skill pairs and 35 chance-chance pairs, which were randomly distributed throughout the test in an attempt to disguise the purpose of the test, and were not scored.

Procedure. The forced-choice model of the Internal-External control scale (Rotter, 1966) was administered to the two introductory classes by their instructor (the same for both classes), who informed the subjects that the test was part of a normative sample collection for his own use. All subjects completed the scale during the class period.

Three weeks later, an experimenter was introduced by the instructor to the class. The subjects were told that experimenter was interested in the types of activities they might prefer to participate in, regardless of how much or how well they had performed these activities, and that this "activity preference scale" was a preliminary attempt to find out what types of activities college students preferred. After handing out the scale, the experimenter instructed them to choose the activity in which they would like to participate more than the other activity of each pair. It was pointed out that the subject may actually dislike both of the activities, or like both of the activities, but that he should try to decide on a relative basis which of the pair he disliked less or liked more. Subjects were instructed to indicate which activity they would rather participate in and not just watch, and that they should base their judgment not on how well they performed in that activity, but rather on their like or dislike for participation in the activity. They were asked to try to anticipate how much they would enjoy an activity if they had never actually participated in the activity.

RESULTS

Uncorrected split-half reliabilities for males, females and overall on the skill-chance preference task ranged from .85 to .89, and appeared to indicate an adequate level of internal consistency in the test. Item-total correlations were also obtained for males and females separately by taking each individual activity, summing the score for the activity (total possible score of ten) and deriving a product-moment correlation between the item score with the uncorrected total score for males and for females (Table 1). The reliabilities of the skill activities were lower than the chance activities, possibly indicating greater heterogeniety of content in the skill items. The

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Insert Table 1 about here
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individual skill activities appeared to have the lowest reliability coefficients, and the chance items have the highest. The reliability coefficients for females appear much more variable, and on the whole lower, with "pool" and "archery" apparently being the most inconsistently evaluated items. It should be noted that for both the males and females all of the items selected on an a priori basis as chance items were reacted to consistently as a group, while the skill activities were also consistently evaluated in the opposite direction from the chance activities.

Means and standard deviations were obtained for both the I-E and the S-C tests. A mean of 7.42 and standard deviation of 3.98 was obtained for the females on the I-E scale, while the respective values for the males were 7.60 and 4.07. These values are slightly lower than those reported by

Table 1

Reliability and Validity Coefficients for the Skill and Chance Activities

	Males (N=40)		Females (N=43)	
	S-C (reliability)	I-E (validity)	S-C (reliability)	I-E (validity)
Skill				
(Group)				
Hockey	-.80	-.44**	-.79	.28
Soccer	-.78	-.47***	-.85	.10
Football	-.64	-.21	-.64	.40**
Baseball	-.88	-.53***	-.74	.21
Volleyball	-.83	-.35*	-.55	-.23
(Individual)				
Chess	-.57	-.45***	-.67	-.15
Pool	-.52	-.68***	-.16	.03
Golf	-.80	-.47***	-.85	.10
Boxing	-.61	-.17	-.50	.08
Archery	-.60	-.55***	-.43	.03
Chance				
Throwing Dice	.92	.53***	.84	-.16
Sports Pool	.85	.53***	.65	-.23
War	.89	.47***	.67	-.06
Slot Machines	.92	.62***	.86	.10
Dog Races	.94	.56***	.67	-.21
Pinball Games	.81	.64***	.85	.00
Horse Betting	.82	.43**	.86	-.24
Showdown	.90	.61***	.81	-.16
Roulette	.68	.60***	.83	-.12
Lottery Sweepstakes	.92	.52***	.75	-.15

* $p < .05$
** $p < .01$
*** $p < .001$

Rotter (1966), but not significantly so. On the S-C test, the females preferred a greater number of chance activities (M=32.25, SD=19.27) than the males (M=25.37, SD=21.71), but the differences did not reach statistical significance.

Although the correlation between the I-E and the S-C preferences for the total group was rather low (+.19; p .10), a marked sex difference was noted, with a correlation of -.21 (NS) for females and a correlation of +.58 (p .001) for the males. This strong positive relationship for males tends to support the hypothesis that individuals who prefer chance activities over skill activities also tend to perceive themselves as externally controlled on the I-E scale.

Table 1 also indicates "Item-validity" scores which were obtained by correlating the summed scores for each individual activity with scores on the I-E scale for males and females. The correlations were highly variable, although the chance activities consistently showed the stronger relationships. The low and highly variable correlations for females are reflected in the overall lack of a significant relationship between the two scales. Among the skill activities for males, the individual skill items appear to have a slightly stronger relationship to I-E than do the group skill activities. For males, all of the chance activities were strongly related to the I-E scale (9 of 10 p's .001) in a positive direction, i.e. the more chance items preferred, the more external items selected. Eight of the 10 skill items showed a significant relationship with the I-E scale; all 10 were in the negative direction, indicating that the more skill activities preferred, the fewer external items chosen.

APPENDIX B

ORIGINAL POOL OF SKILL AND CHANCE ACTIVITIES

1. Surfing
2. Scrabble
3. Embroidery
4. Roulette
5. Horseback Riding
6. Horse Shoes (quoits)
7. Synchronized Swimming
8. Flower Arranging
9. Pole-Vaulting (track)
10. Fencing

11. Basketball
12. Lacrosse
13. Russian Roulette
14. Occupational Therapy
15. Monopoly
16. Water Skiing
17. Painting (art)
18. Knitting
19. Track (running--long distance)
20. Model-Building (trains, planes, etc.)

21. Boxing
22. Raffles
23. Sports Pool
24. Sculpture (art)
25. Bingo
26. Stamp-Collecting
27. Cooking
28. Auto Racing
29. Swimming
30. Bowling

31. Shuffleboard
32. Football
33. Drawing (art)
34. Bridge
35. Lottery Sweepstakes
36. Soccer
37. Wrestling
38. Hockey
39. Motorcycle Racing
40. Throwing Dice

41. Ballet
42. Track (running--short distance)
43. Pinball Games
44. Archery
45. Sports Car Rallies
46. Baseball
47. War (cards)
48. Supermarket Games
49. Showdown (cards)
50. Polo

51. Tennis
52. Field Hockey
53. Sky-Diving
54. Interior Decorating
55. Badminton
56. Wood Working
57. Volleyball
58. Canasta
59. Golf
60. Dog Races (betting)

61. Snow Skiing
62. Pool
63. Drag Racing
64. Checkers
65. Sewing
66. Slot Machines
67. Poker
68. Betting on Horses
69. Slot-Car Racing
70. Chess

71. Handball

APPENDIX C

SKILL-CHANCE ACTIVITY PREFERENCES (S-C)

FORMS M, N, F

ACTIVITY PREFERENCES

Form M

Listed below are 145 pairs of activities. You are to choose which activity of the pair you would prefer to participate in, not just watch. You may dislike participating in both activities, or like to do them both, but you need to decide on a comparative basis which one you dislike less or like more than the other. You should answer all pairs on the separate answer sheet.

You may not be familiar with all of the activities used here. If so, try to anticipate how much you would like to participate in that activity for each of its comparisons. A definition of some of the less familiar activities is in the back of the booklet. If there are others which are unfamiliar to you, please ask the test administrator for elaboration.

1. a) Sky-diving
   b) Chess

2. a) Fencing
   b) Bingo

3. a) Pool
   b) Handball

4. a) Handball
   b) Wrestling

5. a) Wrestling
   b) Sports Pool

6. a) Pole Vaulting (track)
   b) Sports Pool

7. a) Showndown (cards)
   b) Handball

8. a) Wrestling
   b) Archery

9. a) Archery
   b) Pinball Games

10. a) Sky-diving
    b) Archery

11. a) Sports Pool
    b) Sky-diving

12. a) Showdown (cards)
    b) Raffles

13. a) Lottery Sweepstakes
    b) Chess

14. a) Throwing Dice
    b) Pool

15. a) Slot Machines
    b) Wrestling

16. a) Pool
    b) Dog Races (betting)

17. a) Fencing
    b) Raffles

18. a) Auto Racing
    b) Chess

19. a) Sky-diving
    b) Dog Races (betting)

20. a) Bingo
    b) Pinball Games

21. a) Chess
    b) Wrestling

22. a) Pinball Games
    b) Fencing

23. a) Track (long distance running)
    b) Wrestling

24. a) Dog Races (betting)
    b) Archery

25. a) Track (long distance running)
    b) Showdown (cards)

26. a) Chess
    b) Pole Vaulting (track)

27. a) Roulette
    b) Auto Racing

28. a) Auto Racing
    b) Track (long distance running)

29. a) Pool
    b) Roulette

30. a) Archery
    b) Fencing

31. a) Pool
    b) Slot Machines

32. a) Wrestling
    b) Sky-diving

33. a) Sky-diving
    b) Lottery Sweepstakes

34. a) Lottery Sweepstakes
    b) Pole Vaulting (track)

35. a) Fencing
    b) Dog Races (betting)

36. a) Sky-diving
    b) Throwing Dice

37. a) Track (long distance running)
    b) Handball

38. a) Auto Racing
    b) Sports Pool

39. a) Dog Races (betting)
    b) Pole Vaulting (track)

40. a) Chess
    b) Roulette

41. a) Chess
b) Dog Races (betting)

42. a) Throwing Dice
b) Track (long distance running)

43. a) Raffles
b) Bingo

44. a) Bingo
b) Roulette

45. a) Sky-diving
b) Slot Machines

46. a) Fencing
b) Chess

47. a) Throwing Dice
b) Archery

48. a) Lottery Sweepstakes
b) Throwing Dice

49. a) Pinball Games
b) Sports Pool

50. a) Track (long distance running)
b) Pole Vaulting (track)

51. a) Raffles
b) Handball

52. a) Chess
b) Showdown (cards)

53. a) Handball
b) Bingo

54. a) Lottery Sweepstakes
b) Handball

55. a) Dog Races (betting)
b) Roulette

56. a) Handball
b) Chess

57. a) Throwing Dice
b) Slot Machines

58. a) Bingo
b) Pool

59. a) Throwing Dice
b) Wrestling

60. a) Sports Pool
b) Track (long distance running)

61. a) Auto Racing
b) Showdown (cards)

62. a) Throwing Dice
b) Chess

63. a) Chess
b) Pinball Games

64. a) Archery
b) Bingo

65. a) Pool
b) Track (long distance running)

66. a) Lottery Sweepstakes
b) Slot Machines

67. a) Archery
b) Chess

68. a) Fencing
b) Wrestling

69. a) Pole Vaulting (track)
b) Bingo

70. a) Bingo
b) Showdown (cards)

71. a) Pool
b) Pole Vaulting (track)

72. a) Track (long distance running)
b) Pinball Games

73. a) Showdown (cards)
b) Fencing

74. a) Track (long distance running)
b) Chess

75. a) Raffles
b) Auto Racing

76. a) Handball
b) Dog Races (betting)

77. a) Archery
b) Auto Racing

78. a) Bingo
b) Sky-diving

79. a) Handball
b) Sports Pool

80. a) Slot Machines
b) Track (long distance running)

81. a) Sky-diving
b) Pool

82. a) Wrestling
b) Showdown (cards)

83. a) Fencing
b) Sky-diving

84. a) Pool
b) Auto Racing

85. a) Roulette
b) Archery

86. a) Track (long distance running)
b) Raffles

87. a) Showdown (cards)
b) Pole Vaulting (track)

88. a) Roulette
b) Sports Pool

89. a) Slot Machines
b) Dog Races (betting)

90. a) Track (long distance running)
b) Roulette

91. a) Sports Pool
b) Fencing

92. a) Slot Machines
b) Pole Vaulting (track)

93. a) Auto Racing
b) Lottery Sweepstakes

94. a) Raffles
b) Pool

95. a) Pole Vaulting (track)
b) Pinball Games

96. a) Slot Machines
b) Archery

97. a) Fencing
b) Roulette

98. a) Auto Racing
b) Handball

99. a) Wrestling
b) Roulette

100. a) Auto Racing
b) Sky-diving

101. a) Bingo
b) Chess

102. a) Raffles
b) Sky-diving

103. a) Pole Vaulting (track)
b) Roulette

104. a) Fencing
b) Handball

105. a) Chess
b) Pool

106. a) Dog Races (betting)
b) Auto Racing

107. a) Auto Racing
b) Throwing Dice

108. a) Dog Races (betting)
b) Track (long distance running)

109. a) Auto Racing
b) Pinball Games

110. a) Slot Machines
b) Chess

111. a) Sports Pool
b) Chess

112. a) Pole Vaulting (track)
b) Fencing

113. a) Chess
b) Raffles

114. a) Sky-diving
b) Roulette

115. a) Throwing Dice
b) Pole Vaulting (track)

116. a) Fencing
b) Lottery Sweepstakes

117. a) Track (long distance running)
b) Lottery Sweepstakes

118. a) Lottery Sweepstakes
b) Archery

119. a) Sports Pool
b) Lottery Sweepstakes

120. a) Pole Vaulting (track)
b) Raffles

121. a) Throwing Dice
b) Handball

122. a) Archery
b) Sports Pool

123. a) Roulette
b) Handball

124. a) Sports Pool
b) Pool

125. a) Bingo
b) Auto Racing

126. a) Pinball Games
b) Show down (cards)

127. a) Pinball Games
b) Pool

128. a) Slot Machines
b) Auto Racing

129. a) Pinball Games
b) Wrestling

130. a) Pool
b) Lottery Sweepstakes

131. a) Slot Machines
b) Fencing

132. a) Handball
b) Slot Machines

133. a) Dog Races (betting)
b) Wrestling

134. a) Archery
b) Raffles

135. a) Archery
b) Showdown (cards)

136. a) Pool
b) Showdown (cards)

137. a) Bingo
b) Wrestling

138. a) Wrestling
b) Raffles

139. a) Pole Vaulting (track)
b) Handball

140. a) Throwing Dice
b) Fencing

141. a) Pinball Games
b) Sky-diving

142. a) Handball
b) Pinball Games

143. a) Bingo
b) Track (long distance running)

144. a) Showdown (cards)
b) Sky-diving

145. a) Wrestling
b) Lottery Sweepstakes

Definitions -

1) Showdown - type of poker where the first five cards dealt compose the hand. You cannot draw additional cards and discard to improve the hand.

2) Sports Pool - a form of betting on sporting events, such as football games, world series, etc.

3) Throwing Dice - often referred to more colloquially as "shooting craps."

4) Track (long distance running) - a competitive race of 1/4 mile or longer.

ACTIVITY PREFERENCES

Form N

Listed below are 140 pairs of activities. You are to choose which activity of the pair you would prefer to participate in, not just watch. You may dislike participating in both activities, or like to do them both, but you need to decide on a comparative basis which one you dislike less or like more than the other. You should answer all pairs on the separate answer sheet.

You may not be familiar with all of the activities used here. If so, try to anticipate how much you would like to participate in that activity for each of its comparisons. A definition of some of the less familiar activities is in the back of the booklet. If there are others which are unfamiliar to you, please ask the test administrator for elaboration.

1. a) Archery
b) Roulette

2. a) Raffles
b) Lottery Sweepstakes

3. a) Slot Machines
b) Sculpture (art)

4. a) Roulette
b) Sculpture (art)

5. a) Bowling
b) Raffles

6. a) Snow Skiing
b) Dog Races (betting)

7. a) Roulette
b) Sports Pool

8. a) Roulette
b) Showdown (cards)

9. a) Shuffleboard
b) Swimming

10. a) Tennis
b) Golf

11. a) Showdown (cards)
b) Scrabble

12. a) Bingo
b) Throwing Dice

13. a) Shuffleboard
b) Slot Machines

14. a) Archery
b) Pinball Games

15. a) Sculpture (art)
b) Throwing Dice

16. a) Bowling
b) Roulette

17. a) Shuffleboard
b) Scrabble

18. a) Showdown (cards)
b) Swimming

19. a) Golf
b) Archery

20. a) Sculpture (art)
b) Showdown (cards)

21. a) Snow Skiing
b) Roulette

22. a) Tennis
b) Bingo

23. a) Tennis
b) Lottery Sweepstakes

24. a) Scrabble
b) Roulette

25. a) Bowling
b) Pinball Games

26. a) Shuffleboard
b) Showdown (cards)

27. a) Raffles
b) Sculpture (art)

28. a) Sculpture (art)
b) Sports Pool

29. a) Sculpture (art)
b) Lottery Sweepstakes

30. a) Raffles
b) Water Skiing

31. a) Scrabble
b) Slot Machines

32. a) Tennis
b) Raffles

33. a) Pinball Games
b) Scrabble

34. a) Showdown (cards)
b) Throwing Dice

35. a) Tennis
b) Shuffleboard

36. a) Bingo
b) Shuffleboard

37. a) Tennis
b) Bowling

38. a) Bingo
b) Sculpture (art)

39. a) Tennis
b) Sports Pool

40. a) Throwing Dice
b) Bowling

41. a) Archery
b) Showdown (cards)

42. a) Sculpture (art)
b) Pinball Games

43. a) Lottery Sweepstakes
b) Water Skiing

44. a) Slot Machines
b) Water Skiing

45. a) Bingo
b) Golf

46. a) Bowling
b) Bingo

47. a) Throwing Dice
b) Sports Pool

48. a) Water Skiing
b) Swimming

49. a) Water Skiing
b) Sports Pool

50. a) Water Skiing
b) Throwing Dice

51. a) Roulette
b) Shuffleboard

52. a) Throwing Dice
b) Tennis

53. a) Scrabble
b) Water Skiing

54. a) Sculpture (art)
b) Tennis

55. a) Scrabble
b) Raffles

56. a) Scrabble
b) Lottery Sweepstakes

57. a) Swimming
b) Pinball Games

58. a) Snow Skiing
b) Sculpture (art)

59. a) Bowling
b) Showdown (cards)

60. a) Swimming
b) Bingo

61. a) Pinball Games
b) Shuffleboard

62. a) Lottery Sweepstakes
b) Bowling

63. a) Snow Skiing
b) Lottery Sweepstakes

64. a) Shuffleboard
b) Throwing Dice

65. a) Dog Races (betting)
b) Showdown (cards)

66. a) Throwing Dice
b) Snow Skiing

67. a) Sports Pool
b) Swimming

68. a) Snow Skiing
b) Sports Pool

69. a) Dog Races (betting)
b) Slot Machines

70. a) Slot Machines
b) Roulette

71. a) Golf
b) Throwing Dice

72. a) Golf
b) Slot Machines

73. a) Lottery Sweepstakes
b) Golf

74. a) Roulette
b) Swimming

75. a) Water Skiing
b) Bingo

76. a) Raffles
b) Swimming

77. a) Raffles
b) Shuffleboard

78. a) Throwing Dice
b) Slot Machines

79. a) Sports Pool
b) Archery

80. a) Lottery Sweepstakes
b) Roulette

81. a) Shuffleboard
b) Dog Races (betting)

82. a) Shuffleboard
b) Lottery Sweepstakes

83. a) Shuffleboard
b) Sports Pool

84. a) Dog Races (betting)
b) Bingo

85. a) Throwing Dice
b) Swimming

86. a) Bingo
b) Archery

87. a) Snow Skiing
b) Bowling

88. a) Bowling
b) Archery

89. a) Bowling
b) Scrabble

90. a) Raffles
b) Snow Skiing

91. a) Pinball Games
b) Tennis

92. a) Archery
b) Dog Races (betting)

93. a) Archery
b) Raffles

94. a) Snow Skiing
b) Shuffleboard

95. a) Bingo
b) Pinball Games

96. a) Raffles
b) Showdown (cards)

97. a) Golf
b) Snow Skiing

98. a) Slot Machines
b) Archery

99. a) Tennis
b) Slot Machines

100. a) Swimming
b) Slot Machines

101. a) Water Skiing
b) Pinball Games

102. a) Bingo
b) Raffles

103. a) Snow Skiing
b) Pinball Games

104. a) Slot Machines
b) Pinball Games

105. a) Sports Pool
b) Bowling

106. a) Showdown (cards)
b) Tennis

107. a) Dog Races (betting)
b) Bowling

108. a) Slot Machines
b) Bowling

109. a) Swimming
b) Dog Races (betting)

110. a) Swimming
b) Lottery Sweepstakes

111. a) Slot Machines
b) Snow Skiing

112. a) Golf
b) Raffles

113. a) Golf
b) Sports Pool

114. a) Slot Machines
b) Raffles

115. a) Pinball Games
b) Lottery Sweepstakes

116. a) Lottery Sweepstakes
b) Dog Races (betting)

117. a) Roulette
b) Water Skiing

118. a) Throwing Dice
b) Archery

119. a) Showdown (cards)
b) Snow Skiing

120. a) Lottery Sweepstakes
b) Archery

121. a) Scrabble
b) Dog Races (betting)

122. a) Dog Races (betting)
b) Tennis

123. a) Golf
b) Swimming

124. a) Archery
b) Sculpture (art)

125. a) Bingo
b) Snow Skiing

126. a) Sculpture (art)
b) Swimming

127. a) Roulette
b) Tennis

128. a) Dog Races (betting)
b) Water Skiing

129. a) Sports Pool
b) Scrabble

130. a) Throwing Dice
b) Scrabble

131. a) Sculpture (art)
b) Dog Races (betting)

132. a) Golf
b) Dog Races (betting)

133. a) Pinball Games
b) Golf

134. a) Archery
b) Water Skiing

135. a) Water Skiing
b) Snow Skiing

136. a) Roulette
b) Golf

137. a) Pinball Games
b) Sports Pool

138. a) Showdown (cards)
b) Golf

139. a) Bingo
b) Scrabble

140. a) Water Skiing
b) Showdown (cards)

Definitions -

1) Showdown - type of poker where the first five cards dealt compose the hand. You cannot draw additional cards and discard to improve the hand.

2) Sports Pool - a form of betting on sporting events, such as football games, world series, etc.

3) Throwing Dice - often referred to more colloquially as "shooting craps."

4) Track (long distance running) - a competitive race of 1/4 mile or longer.

ACTIVITY PREFERENCES

Form F

Listed below are 140 pairs of activities. You are to choose which activity of the pair you would prefer to participate in, not just watch. You may dislike participating in both activities, or like to do them both, but you need to decide on a comparative basis which one you dislike less or like more than the other. You should answer all pairs on the separate answer sheet.

You may not be familiar with all of the activities used here. If so, try to anticipate how much you would like to participate in that activity for each of its comparisons. A definition of some of the less familiar activities is in the back of the booklet. If there are others which are unfamiliar to you, please ask the test administrator for elaboration.

1. a) Lottery Sweepstakes
b) Bridge

2. a) Throwing Dice
b) Lottery Sweepstakes

3. a) Painting (art)
b) Showdown (cards)

4. a) Badminton
b) Sewing

5. a) Showdown (cards)
b) Sports Pool

6. a) Sports Pool
b) Ballet

7. a) Ballet
b) Painting (art)

8. a) Roulette
b) Horseback Riding

9. a) Throwing Dice
b) Slot Machines

10. a) Dog Races (betting)
b) Horseback Riding

11. a) Ballet
b) Bingo

12. a) Painting (art)
b) Knitting

13. a) Cooking
b) Raffles

14. a) Knitting
b) Horseback Riding

15. a) Painting (art)
b) Bingo

16. a) Slot Machines
b) Bridge

17. a) Cooking
b) Bingo

18. a) Bridge
b) Ballet

19. a) Knitting
b) Sports Pool

20. a) Knitting
b) Slot Machines

21. a) Interior Decorating
b) Badminton

22. a) Ballet
b) Lottery Sweepstakes

23. a) Sewing
b) Cooking

24. a) Throwing Dice
b) Bridge

25. a) Bingo
b) Slot Machines

26. a) Cooking
b) Knitting

27. a) Bridge
b) Embroidery

28. a) Throwing Dice
b) Dog Races (betting)

29. a) Raffles
b) Showdown (cards)

30. a) Bingo
b) Pinball Games

31. a) Slot Machines
b) Cooking

32. a) Knitting
b) Raffles

33. a) Dog Races (betting)
b) Knitting

34. a) Bridge
b) Knitting

35. a) Knitting
b) Pinball Games

36. a) Bingo
b) Dog Races (betting)

37. a) Interior Decorating
b) Painting (art)

38. a) Pinball Games
b) Roulette

39. a) Throwing Dice
b) Sewing

40. a) Dog Races (betting)
b) Sewing

41. a) Interior Decorating
b) Bridge

42. a) Cooking
b) Ballet

43. a) Interior Decorating
b) Cooking

44. a) Sports Pool
b) Horseback Riding

45. a) Painting (art)
b) Roulette

46. a) Painting (art)
b) Sports Pool

47. a) Throwing Dice
b) Painting (art)

48. a) Lottery Sweepstakes
b) Painting (art)

49. a) Showdown (cards)
b) Interior Decorating

50. a) Pinball Games
b) Interior Decorating

51. a) Interior Decorating
b) Roulette

52. a) Interior Decorating
b) Slot Machines

53. a) Throwing Dice
b) Cooking

54. a) Dog Races (betting)
b) Cooking

55. a) Raffles
b) Embroidery

56. a) Roulette
b) Sewing

57. a) Sewing
b) Painting (art)

58. a) Roulette
b) Lottery Sweepstakes

59. a) Sports Pool
b) Lottery Sweepstakes

60. a) Embroidery
b) Showdown (cards)

61. a) Interior Decorating
b) Lottery Sweepstakes

62. a) Interior Decorating
b) Dog Races (betting)

63. a) Embroidery
b) Dog Races (betting)

64. a) Interior Decorating
b) Bingo

65. a) Sewing
b) Showdown (cards)

66. a) Sewing
b) Bingo

67. a) Embroidery
b) Roulette

68. a) Lottery Sweepstakes
b) Horseback Riding

69. a) Slot Machines
b) Sewing

70. a) Sewing
b) Lottery Sweepstakes

71. a) Raffles
b) Bridge

72. a) Horseback Riding
b) Showdown (cards)

73. a) Raffles
b) Slot Machines

74. a) Ballet
b) Throwing Dice

75. a) Horseback Riding
b) Slot Machines

76. a) Roulette
b) Slot Machines

77. a) Dog Races (betting)
b) Painting (art)

78. a) Roulette
b) Badminton

79. a) Bridge
b) Roulette

80. a) Roulette
b) Showdown (cards)

81. a) Sewing
b) Pinball Games

82. a) Sewing
b) Raffles

83. a) Raffles
b) Pinball Games

84. a) Horseback Riding
b) Ballet

85. a) Throwing Dice
b) Showdown (cards)

86. a) Embroidery
b) Badminton

87. a) Bridge
b) Dog Races (betting)

88. a) Bridge
b) Bingo

89. a) Throwing Dice
b) Slot Machines

90. a) Badminton
b) Pinball Games

91. a) Sports Pool
b) Pinball Games

92. a) Pinball Games
b) Bridge

93. a) Roulette
b) Ballet

94. a) Bridge
b) Sports Pool

95. a) Sports Pool
b) Cooking

96. a) Pinball Games
b) Cooking

97. a) Slot Machines
b) Ballet

98. a) Bingo
b) Knitting

99. a) Horseback Riding
b) Raffles

100. a) Sports Pool
b) Badminton

101. a) Badminton
b) Throwing Dice

102. a) Dog Races (betting)
b) Badminton

103. a) Embroidery
b) Sports Pool

104. a) Sports Pool
b) Interior Decorating

105. a) Raffles
b) Interior Decorating

106. a) Embroidery
b) Lottery Sweepstakes

107. a) Dog Races (betting)
b) Ballet

108. a) Raffles
b) Badminton

109. a) Raffles
b) Dog Races (betting)

110. a) Badminton
b) Slot Machines

111. a) Cooking
b) Showdown (cards)

112. a) Cooking
b) Roulette

113. a) Dog Races (betting)
b) Sports Pool

114. a) Ballet
b) Raffles

115. a) Ballet
b) Showdown (cards)

116. a) Throwing Dice
b) Embroidery

117. a) Showdown (cards)
b) Badminton

118. a) Horseback Riding
b) Bingo

119. a) Badminton
b) Lottery Sweepstakes

120. a) Badminton
b) Bingo

121. a) Showdown (cards)
b) Knitting

122. a) Sewing
b) Sports Pool

123. a) Knitting
b) Lottery Sweepstakes

124. a) Throwing Dice
b) Interior Decorating

125. a) Roulette
b) Knitting

126. a) Throwing Dice
b) Knitting

127. a) Pinball Games
b) Painting (art)

128. a) Pinball Games
b) Ballet

129. a) Bingo
b) Embroidery

130. a) Pinball Games
b) Embroidery

131. a) Horseback Riding
b) Embroidery

132. a) Interior Decorating
b) Horseback Riding

133. a) Ballet
b) Badminton

134. a) Horseback Riding
b) Throwing Dice

135. a) Pinball Games
b) Horseback Riding

136. a) Bridge
b) Showdown (cards)

137. a) Slot Machines
b) Painting (art)

138. a) Painting (art)
b) Raffles

139. a) Slot Machines
b) Embroidery

140. a) Cooking
b) Lottery Sweepstakes

Definitions -

1) Showdown - type of poker where the first five cards dealt compose the hand. You cannot draw additional cards and discard to improve the hand.

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3) Throwing Dice - often referred to more colloquially as "shooting craps."

APPENDIX D

COMMENTS ON PURPOSE OF ACTIVITY PREFERENCE TEST

1. Chance versus skill

   4 - Chance versus physical activity
   3 - Chance versus conservative choice
   1 - Bet versus participate in sports
   1 - Chance versus self-reliance

2. Active-passive

   3 - Activity drives and motives
   2 - Active versus non-active preferences

3. 6 - Gambling comments

4. 10 - Measure of consistency

5. 1 - Confidence in oneself

6. 9 - Don't know

7. 24 - No comment

APPENDIX E

ROLE OF REDUCTION OF MONETARY VALUE ASSOCIATED WITH CHANCE ACTIVITIES

Gambling Control Instructions:

Questions have arisen from the first time I gave you this test of activity preferences concerning a few of the activities used. Some people apparently found that some of the activities could be looked at as potential money-making ventures and this was the way they evaluated those particular activities. This was not a planned part of the experiment. In fact, we want now to find out what role the opportunity to make money played on your choices. As a result, I would like you to re-take this test, or at least a similar form of the test to the one you took originally and make your choices of activities with this qualification in mind: on any activity that you feel you might wager money, make the assumption that you won't make any more than $1.00 at that activity. For example, if you chose something like poker, you would assume that at any given time you played the game, you would end up winning or losing no more than $1.00.

Raw Data

Males	1st Testing			2nd Testing	Females	1st Testing			2nd Testing
No.	I-E	S-C	Form	S-C (N)	No.	I-E	S-C	Form	S-C (N)
004	11	43	M	56	502	12	36	M	21
005	17	49	M	56	504	7	63	M	7
011	10	17	M	16	505	4	38	M	39
014	5	14	M	26	511	8	46	M	8
016	16	57	M	37	513	8	22	M	11
020	7	53	M	37	514	12	21	M	16
021	8	41	M	51	515	9	7	M	13
022	9	36	M	23	519	7	30	M	22
029	13	13	M	11	521	10	28	M	15
030	13	20	M	35	551	6	14	N	15
051	10	17	N	15	558	7	31	N	24
061	5	18	N	26	554	4	44	N	46
066	5	14	N	35	560	8	10	N	4
063	11	22	N	33	561	11	31	N	33
058	9	16	N	15	570	11	37	N	41
067	7	4	N	0	599	14	-	-	43
069	12	24	N	20	602	4	4	F	1
060	11	14	N	9	605	12	26	F	32
068	17	41	N	38	607	7	67	F	31
027	9	54	M	26	608	10	28	F	13
073	1	2	N	1	609	8	13	F	2
074	9	22	N	22	610	6	4	F	7
077	4	18	N	20	614	10	17	F	25
104	16	60	F	21	619	12	48	F	41
106	9	62	F	15					
108	12	33	F	1					
109	5	75	F	20					
112	8	16	F	10					
113	10	46	F	29					
125	8	65	F	34					
128	4	76	F	26					
131	7	8		4					

APPENDIX F

RAW DATA

Form F - Males

Ident.	Total I-E	Total S-C	Age	Desired Feedback[1] on I-E	Desired Feedback[1] on S-C	I-E Items[2] 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
101	2	53	18	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
102	2	75	18	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
103	13	73	18	1	1	0	1	1	1	0	0	1	0	0	0	1	0	0	0	1	1	1	1	0	1	1	1	1
104	16	60	19	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	0	0	1	1	1	0
105	7	76	18	1	1	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0
106	9	62	18	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0
107	5	90	18	1	1	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
108	12	3	18	1	1	0	1	1	1	1	1	0	1	1	1	0	0	0	1	0	1	1	1	0	0	0	0	0	0
109	5	75	19	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
110	12	84	19	0	0	0	1	1	1	1	0	0	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0
111	13	62	19	1	1	0	1	1	1	0	1	0	1	0	0	1	0	0	1	1	1	0	1	1	1	0	0	1
112	8	16	18	0	1	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	1	0	1	0	0	0	0
113	10	46	20	1	1	1	1	0	1	0	1	0	1	1	0	0	0	0	0	1	1	1	0	1	0	0	0	0
114	14	71	22	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	0	1	1	1	0	1	0	0	0	0
115	15	61	18	0	1	1	1	1	1	0	1	0	1	1	0	1	1	0	1	1	1	1	0	0	1	1	0	0
116	13	44	22	1	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	1	0	1	1	1	1	0	1
117	5	52	18	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
118	14	84	18	1	1	0	1	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0
120	10	89	18	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	0	1	0	1	0	0	1
121	11	17	19	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1
122	9	57	19	1	1	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	1	1	0	0	0	1	0	0
123	8	64	20	1	1	0	1	1	1	0	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0
124	17	66	18	1	1	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1
125	8	65	21	1	1	1	0	1	0	0	0	0	0	1	1	0	1	0	0	1	1	1	0	0	0	0	0	0
126	9	91	18	1	1	0	1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0

[1] 1 - Yes

[2] 1 - Chose external alternative

Form F - Males (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
127	13	73	19	0	0	0	1	1	1	0	1	0	1	0	1	0	1	1	1	1	0	0	1	0	1	1	0	0
128	4	76	20	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
129	8	49	19	1	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0
130	8	84	19	1	1	0	0	1	1	0	0	0	0	0	0	1	1	0	1	1	0	0	1	0	1	0	0	0
131	9	54	18	1	1	0	1	1	1	0	0	1	0	0	1	0	0	1	0	1	1	0	0	0	0	1	0	0
132	12	74	21	0	1	0	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	1	0	0
119	13	82	20		0	0	1	1	1	0	1	1	1	1	1	0	0	1	0	1	1	0	1	0	0	0	0	1
133	7	80	18		0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0
134	12	71	19		0	1	0	1	1	1	0	0	1	1	0	1	0	1	0	1	0	0	0	1	1	0	1	0
135	11	80	19		0	0	0	1	1	0	1	0	1	0	1	0	1	1	0	1	0	1	1	0	1	0	0	0
136	11	43	19		0	0	0	1	1	0	1	0	1	0	1	1	1	0	0	1	1	0	0	0	0	1	1	0
137	13	58	18		0	0	0	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	1	1	0	0	0	0
138	12	74	20		0	0	1	1	1	0	1	0	0	1	1	0	0	0	1	1	1	0	1	0	1	0	1	0
139	7	71	18		1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	0
140	8	74	18		1	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	1
141	5	46	23		1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0
142	4	64	19		1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0
143	8	92	18		1	0	1	1	0	0	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0
144	12	72	18		1	0	1	0	1	1	1	0	0	1	0	0	0	0	0	1	1	1	0	1	1	1	1	0
145	11	62	21		0	1	1	1	0	0	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	1	1	0
146	6	74	19		1	0	0	1	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0
147	8	85	18		1	1	1	0	0	0	1	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	0
148	9	81	18		1	0	0	0	1	0	1	0	0	0	1	1	1	0	0	1	1	0	1	0	0	1	0	0
149	14	47	20		1	0	1	1	0	1	1	0	1	0	1	1	0	0	1	1	0	1	0	1	1	1	1	0

Form N - Males

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items																					
						2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
051	10	17	18	1	1	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	1	1	1	1	1	0	0	0
052	6	16	19	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	0
053	9	17	18	1	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0
054	8	3	18	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0	0	0
055	6	11	19	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0
056	17	53	18	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	0	1	1	0	1	0
057	6	43	19	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0
058	9	16	18	1	1	1	1	0	0	0	0	1	0	1	0	0	1	0	0	1	1	0	0	0	1	1	0	0
059	6	16	19	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
060	11	14	20	1	1	0	1	1	0	1	1	1	0	1	1	0	0	0	1	0	1	1	0	0	0	1	0	0
061	5	18	20	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0
062	4	18	18	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
063	11	22	18	1	1	0	1	1	0	0	0	0	1	0	1	1	1	0	0	0	1	0	1	0	1	1	1	0
064	15	18	20	1	1	0	1	1	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0
065	7	20	20	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
066	5	14	26	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
067	7	4	18	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
068	17	41	18	0	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	0
069	12	24	18	1	1	0	1	1	0	1	0	0	1	0	1	0	0	0	1	1	1	1	1	0	1	0	1	0
070	14	41	19	1	1	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	0	1	0	0	0
071	1	11	19	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
072	4	10	20	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0
073	1	2	19	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
074	9	22	18	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0
075	7	22	18	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0

Form N - Males (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
076	7	32	19	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0
077	4	18	18	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
078	6	54	19	1	1	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0
079	6	30	17		0	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
080	9	34	18		0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	0	1
081	3	21	18		1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
082	8	23	20		0	1	1	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	1	0	0
083	4	17	23		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0
084	7	23	19		1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0
085	8	16	18		1	0	0	1	1	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	1	0	1	0
086	17	18	17		1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	0
087	2	30	18		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
088	19	68	17		1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0
089	15	9	20		1	1	1	1	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	0	0	0	1	1
090	11	86	18		1	1	1	1	0	0	1	0	0	0	1	0	0	0	1	1	1	0	1	0	1	0	0	1
091	5	9	19		0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0
092	9	26	18		0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0
093	9	28	19		1	0	1	1	1	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	1	0	0	0
094	8	22	18		0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	0	1	0	0	0

Form M - Males

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items																							
						2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
001	13	21	21	1	1	0	1	1	1	1	1	0	0	1	1	1	0	0	1	0	1	0	0	1	0	0	0	1
002	10	48	19	0	1	0	1	1	1	0	1	0	1	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0
003	17	71	18	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	1	1	1	1	0	0	1
004	11	43	18	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0
005	17	49	18	0	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
006	12	31	18	1	1	0	1	1	0	0	1	0	1	0	1	1	1	0	1	1	1	1	0	0	1	0	0	0
007	8	32	18	1	1	0	1	0	0	0	1	0	0	0	0	1	0	0	1	1	0	1	1	0	0	0	0	1
008	6	43	21	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0
009	10	31	21	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	1	1	1	0	0	1	0	0	0
010	17	25	19	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	0	1	0	0	1	0	1	1
011	10	17	18	1	1	1	1	1	0	0	1	0	1	0	0	0	0	0	1	1	0	1	0	1	1	0	0	0
012	6	5	18	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	1	0	1	0	0	0
013	4	1	18	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
014	5	14	19	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1
015	6	43	19	1	1	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0
016	16	57	19	1	1	1	1	1	1	0	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	0	0	1
017	11	19	19	0	0	1	1	0	0	0	1	0	0	0	1	1	0	0	0	1	1	1	1	0	1	0	1	0
018	12	26	19	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	1	1	0	0	1	1	1	0
019	12	22	18	1	1	0	1	1	0	0	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0
020	7	53	22	1	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0
021	8	41	18	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1
022	9	36	21	1	1	0	0	1	1	1	1	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	1	0
023	14	34	19	1	1	1	0	1	1	0	1	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	0	0
024	10	14	18	1	1	1	1	0	0	0	0	0	0	0	1	0	1	0	1	1	1	0	1	0	1	0	0	1
025	6	32	20	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1

Form M - Males (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
026	11	55	20	1	1	0	1	0	0	1	0	1	1	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0
027	7	8	18	1	1	0	1	0	0	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	0	0	0
028	17	13	20	0	1	0	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1
029	13	13	18	0	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	0	0	1	1	1	0
030	13	20	21	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	1	1	1	0	1	1	1	1	0
031	9	8	18		0	0	1	1	1	0	1	0	0	0	0	1	0	0	1	1	1	0	1	0	0	0	0	0
032	8	23	18		0	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	1
033	8	37	19		0	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0
034	11	50	19		0	0	0	0	1	0	1	0	1	1	1	1	0	1	1	1	0	0	0	0	1	1	0	0
035	1	9	26		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
036	10	51	18		0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	0	1	1	1	0
037	0	6	28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
038	2	5	18		1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
039	8	16	18		1	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0
040	14	51	19		0	1	1	1	0	1	0	0	0	0	1	1	1	0	1	1	1	1	1	0	1	1	0	0
041	1	61	18		1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
042	10	9	18		1	0	1	1	1	0	1	0	1	0	0	1	0	0	0	1	1	0	0	0	1	0	1	1
043	6	17	21		1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0
044	7	15	18		1	0	1	1	1	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
045	9	62	18		1	0	1	0	0	0	0	1	0	0	1	1	0	0	1	1	0	1	0	0	1	0	1	0

Form F - Females

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
601	16	78	19	1	1	0	1	1	1	1	0	0	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	0
602	4	4	22	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0
603	3	34	20	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0
604	6	43	18	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0
605	12	26	18	1	1	1	1	1	1	0	1	0	0	1	0	1	0	0	1	1	0	1	1	0	0	1	0	0
606	8	2	19	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	0	0	1	0	0
607	7	67	20	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0
608	10	28	18	1	1	1	0	0	1	1	0	1	1	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0
609	8	13	20	1	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	1	0	0	0	1
610	6	4	18	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
611	6	7	29	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	1	0	0
612	10	25	20	1	1	0	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	1	1	0	0
613	9	37	18	0	0	1	0	1	1	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	1	0	0	0
614	10	19	26	1	1	1	0	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	0	0	1	0	0	0
615	8	5	22	1	1	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1
616	8	18	18	1	1	0	0	0	1	0	0	1	0	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0
617	13	22	18	1	1	0	1	0	1	0	1	1	1	0	0	1	0	0	0	1	1	1	0	1	1	1	1	0
618	15	15	19	0	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	1	0	0	1	0	0	1
619	12	48	19	1	1	1	1	0	1	0	1	0	1	0	0	1	1	1	0	1	1	1	0	0	0	0	1	0
620	9	16	19	1	1	0	0	1	1	0	0	0	1	1	0	0	0	0	0	1	1	1	0	1	0	1	0	0
621	7	58	18		1	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0
622	15	24	19		0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0
623	8	36	20		0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
624	13	42	18		0	0	1	1	1	0	1	1	0	1	1	1	0	0	1	1	1	0	1	0	0	0	1	0
625	8	8	18		0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	1	0	0	0

Form F - Females (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
626	11	26	18		0	0	1	1	1	0	1	0	0	0	0	1	0	0	1	1	1	1	1	0	0	1	0	0
627	10	19	18		0	0	1	0	1	0	1	1	0	0	1	1	0	0	1	0	0	1	0	0	1	1	0	0
628	10	44	18		0	0	1	1	1	0	1	0	1	1	1	0	0	1	0	0	0	0	0	1	1	0	0	0
629	15	78	18		0	1	1	1	1	1	0	0	1	0	1	1	0	0	1	1	1	1	1	0	1	0	1	0
630	13	11	19		0	0	1	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0
631	4	18	18		0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0
632	11	21	19		0	0	1	1	1	0	1	0	1	0	1	0	0	0	1	1	1	1	0	0	1	0	0	0
633	13	31	18		0	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	1	1	0	1	0	0	1
634	7	33	18		0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	0
635	3	34	19		1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
636	6	30	18		1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0
637	14	52	18		1	0	1	1	1	0	1	1	1	1	0	1	0	0	1	1	1	0	1	1	0	0	1	0
638	5	9	18		1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0
639	10	29	18		1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	1	0	1	0
640	9	16	18		1	0	1	0	0	0	0	0	1	1	1	0	0	0	1	1	1	0	1	0	0	1	0	0
641	12	68	18		0	1	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	0	0	0	1
642	10	64	19		0	0	0	1	1	0	1	1	1	0	0	1	0	0	0	1	1	1	0	0	1	0	0	0

Form N - Females

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items																					
						2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
551	6	14	19	1	0	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
552	5	16	19	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0
553	8	3	19	1	1	1	1	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0
554	4	44	19	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
555	13	8	19	0	1	1	1	0	1	0	1	0	1	0	1	0	0	0	1	1	0	1	1	0	1	1	1	0
556	15	5	21	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	1	1	0	1	1	0	1	0	1	0
557	7	13	19	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
558	7	31	19	1	1	0	1	0	0	0	1	0	1	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0
559	9	6	21	1	1	0	1	0	0	0	1	0	1	0	1	0	0	1	0	1	0	1	1	0	1	0	0	0
560	8	10	18	1	1	0	0	1	1	0	1	0	0	0	0	0	1	0	1	1	0	1	0	0	1	0	0	0
561	11	31	18	1	1	1	0	1	1	1	1	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0
562	13	21	19	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0	0	1	1	1	1	0	1	1	0	0
563	12	24	19	1	1	0	1	1	1	1	1	0	1	0	0	1	0	0	0	1	0	1	0	1	1	0	0	1
564	9	40	18	1	0	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0
565	10	15	18	1	1	1	1	1	1	0	1	0	1	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0
566	8	28	19	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0
567	6	7	18	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0
568	4	50	21	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
569	8	9	18	1	1	0	0	0	1	0	1	0	1	0	1	1	0	0	0	1	1	0	1	0	0	0	0	0
570	11	37	18	1	1	0	1	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	1	0	1	1
571	12	20	18		0	0	1	1	0	1	1	0	0	0	1	0	0	0	1	1	1	1	0	0	1	1	1	0
572	10	69	18		1	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
573	12	28	18		0	0	1	1	1	1	1	1	0	1	0	0	1	0	1	1	0	1	0	0	1	0	0	0
574	11	42	18		1	0	1	0	1	1	1	1	0	1	1	0	0	0	0	1	0	1	1	0	1	0	0	0
575	7	14	19		0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0

Form N - Females (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items																					
						2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
576	3	5	36		0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
577	11	42	18		0	1	1	1	0	0	1	1	1	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0
578	16	26	21		0	1	0	1	0	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	0
579	5	2	18		0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
580	11	5	18		0	0	1	1	1	0	1	0	1	0	0	1	0	0	0	1	1	1	0	1	0	1	0	0
581	8	24	20		0	0	1	1	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	0
582	8	22	18		0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0
583	11	17	19		0	0	1	1	0	1	0	0	1	0	0	0	1	0	0	1	1	1	1	0	0	1	0	1
584	6	43	18		0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0
585	6	15	18		0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0
586	8	22	18		0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0
587	13	59	18		0	0	1	1	0	1	1	1	0	1	0	1	1	0	1	1	0	1	1	0	0	1	0	0
588	11	35	18		1	0	1	0	1	0	0	0	1	1	0	1	1	0	0	1	1	1	0	0	1	0	1	0
589	2	13	18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
590	10	30	19		0	0	0	1	1	0	1	0	1	0	0	1	1	0	0	1	1	1	0	0	0	0	1	0
591	7	9	18		1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0

Form M - Females

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items 2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
501	6	19	20	1	1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
502	12	36	21	0	1	1	1	0	1	0	0	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	0	0
503	8	15	19	1	1	0	1	1	1	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0
504	7	63	32	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	0	1	1	0	0
505	4	36	19	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1
506	6	30	19	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
507	15	58	18	1	1	0	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	1	1	0	1	0	1	0
508	11	70	19	1	1	0	0	1	1	0	1	0	1	0	1	1	0	0	1	0	1	0	1	0	0	1	1	0
509	6	63	18	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1
510	8	36	18	1	1	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0
511	8	46	18	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0
512	15	58	18	1	1	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	1	1	1	0	1	1	1	1
513	8	22	19	1	1	0	1	0	1	0	0	0	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0
514	12	21	19	1	0	0	1	1	1	0	1	0	1	0	1	1	0	0	1	0	1	0	1	0	0	1	0	1
515	9	7	20	1	1	0	0	1	1	0	1	0	0	1	0	0	1	0	0	1	1	0	0	0	0	1	1	0
516	15	33	19	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	1	1	1	1	1	0	0	0	1	1
517	16	39	18	1	1	0	1	0	1	1	1	1	1	0	0	0	1	0	1	1	1	1	1	0	1	1	1	0	1
518	12	41	18	0	0	0	0	1	1	0	1	0	1	0	0	1	1	0	0	1	1	0	0	0	1	0	1	1
519	7	30	21	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0
520	13	5	18	1	1	0	1	0	1	0	1	0	1	0	1	1	1	1	1	0	0	0	0	0	1	1	0	1
521	10	28	20	1	1	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	1	1	1	0	1	0	0	0
522	4	55	18		0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
523	7	86	19		0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	0
524	6	42	18		0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0
525	9	41	18		0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1

Form M - Females (Continued)

Ident.	Total I-E	Total S-C	Age	Desired Feedback on I-E	Desired Feedback on S-C	I-E Items																					
						2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	20	21	22	23	25	26	28	29
526	11	5	18		0	0	1	1	0	0	1	0	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	1
527	8	24	18		0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	1	0	0
528	6	80	19		0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0
529	10	64	18		0	0	0	1	1	0	1	1	0	0	0	1	1	0	0	0	0	1	1	0	1	1	0	0
530	16	18	21		0	1	1	1	1	0	1	0	0	0	1	1	1	0	1	1	1	1	1	0	1	1	0	1
531	8	41	18		0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0
532	8	25	20		0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0
533	0	12	18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
535	6	70	20		0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0
536	12	66	18		0	0	1	0	1	0	1	1	1	1	0	0	1	1	1	1	0	0	1	0	0	1	0	0
537	4	50	18		0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
538	11	40	21		1	0	1	1	1	0	1	0	0	0	0	0	1	0	1	1	1	1	0	0	1	0	1	0
539	7	15	18		0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0
540	3	9	18		1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
541	9	12	18		0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1
542	8	57	18		1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	1	0	1	0
543	8	35	17		0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
544	14	32	18		0	1	1	1	0	1	0	1	1	0	1	0	0	0	1	1	1	1	0	1	1	1	0
545	6	20	18		0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	1	0	0
534	11	5	20		1	0	1	1	1	0	1	0	1	0	1	0	0	0	1	1	1	0	0	1	0	0	0	1

Form M - Males

		Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
001		1	9	1	8	10	10	2	2	6	1	3	1
002	45	2	3	0	2	8	7	5	5	6	5	9	10
003	35	0	0	1	3	4	0	9	3	10	5	9	10
004	43	1	3	6	8	8	3	10	6	6	4	2	7
005	39	0	2	0	4	10	9	8	7	7	3	2	7
006	39	0	0	10	10	10	0	3	3	3	3	3	3
007		4	0	4	10	10	10	5	6	1	6	3	6
008		1	9	1	9	9	0	5	5	5	3	5	4
009		3	8	9	9	8	0	3	1	2	3	2	3
010	41	10	10	9	5	10	4	4	6	0	0	2	0
011	51	10	10	10	7	2	8	2	3	0	0	1	1
012	56	10	10	10	6	10	10	1	0	1	0	0	1
013	21	10	10	10	9	10	10	1	0	0	0	0	0
014		10	10	8	4	9	9	2	2	2	1	0	1
015		2	0	6	9	9	2	4	3	4	1	3	6
016		1	0	1	1	6	1	9	5	5	3	4	9
017	41	9	8	9	3	9	7	4	3	2	3	3	4
018	42	1	3	8	10	10	9	5	5	3	3	1	3
019	47	7	10	8	9	9	8	2	2	5	0	1	1
020		0	0	0	6	3	10	5	4	8	3	8	7
021		4	5	8	2	10	6	8	5	6	1	1	8
022		0	0	10	10	10	5	6	3	4	4	4	3
023		5	5	4	2	9	10	6	9	5	2	1	6
024		10	10	10	10	10	1	2	1	1	1	1	1
025		10	3	3	0	6	10	2	6	3	5	2	3
026	42	1	2	1	1	9	9	6	7	4	0	8	7
027		9	10	10	10	9	6	2	2	0	1	1	0
028		10	10	10	8	9	0	3	1	1	1	2	1
029		8	8	10	10	10	8	2	3	1	0	0	1
030	44	4	6	10	8	2	10	3	0	1	1	4	4

[1] 1=Handball; 2=Sky Diving; 3=Track; 4=Auto Racing; 5=Pole Vaulting; 6=Pool

[2] 7=Pinball Games; 8=Sports Pool; 9=Throwing Dice; 10=Bingo; 11=Dog Races; 12=Slot Machines

Form M - Males (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
031	37	10	9	8	7	10	9	2	1	1	0	0	1
032		6	1	8	4	10	8	5	1	3	2	1	3
033	53	3	3	0	6	10	8	7	2	6	6	2	6
034	35	2	8	6	0	5	4	1	9	8	1	7	8
035		9	10	9	10	10	7	0	2	0	1	0	4
036	41	1	3	4	0	7	8	6	8	5	3	5	8
037	44	10	10	10	10	5	8	0	1	1	2	0	0
038		10	10	10	10	7	9	2	0	0	0	0	0
039	37	8	3	9	9	8	8	1	5	1	2	1	1
040	35	6	1	0	7	9	0	5	4	7	4	4	7
041	42	2	0	2	1	5	5	1	8	9	6	6	9
042	51	9	9	10	9	10	5	0	1	0	1	1	1
043		6	6	10	6	8	9	3	1	0	0	1	0
044	46	5	10	5	8	9	9	4	0	2	0	0	2
045		1	0	1	0	2	9	8	5	8	5	7	8

Form N - Males

		Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
051		10	10	10	10	5	8	3	2	2	1	2	1
052	55	10	10	10	10	9	6	0	2	2	2	1	1
053		10	10	9	10	6	8	1	8	1	4	0	0
054	44	10	10	10	10	10	9	0	0	0	2	0	0
055	40	10	10	10	10	2	7	1	1	1	1	0	2
056		1	5	6	8	6	5	10	3	1	5	5	10
057	49	5	9	5	2	10	4	4	6	1	6	5	1
058		10	10	10	7	10	7	1	3	1	2	1	2
059		10	10	10	7	9	8	2	1	2	1	2	1
060	34	8	10	9	10	5	9	2	7	2	0	0	1
061		9	9	10	6	1	9	1	1	2	1	1	0
062		10	10	10	10	4	6	3	4	1	2	1	0
063		9	10	10	6	8	5	3	1	1	3	2	3
064		8	9	9	8	8	3	9	1	1	1	0	3
065		10	10	6	10	0	8	1	3	3	1	1	5
066		7	9	10	10	10	9	3	1	2	2	1	2
067	55	10	10	10	10	6	10	1	0	0	0	0	1
068	46	4	10	5	6	1	2	5	5	6	0	4	6
069	20	9	8	9	9	4	9	0	4	1	3	1	0
070		9	9	7	7	0	1	3	7	3	2	3	3
071	52	10	10	10	10	7	10	1	2	0	2	2	1
072		10	10	10	10	9	10	3	7	3	1	1	2
073	27	9	10	10	10	9	10	1	0	0	1	0	0
074	50	10	10	10	9	0	8	5	3	2	2	1	2
075		6	10	9	10	6	3	2	5	1	3	2	1
076	38	9	3	9	9	3	9	3	10	3	1	3	4
077	44	10	10	8	10	5	5	4	4	2	3	0	0
078	29	10	1	2	5	1	3	7	8	4	6	4	7
079	44	5	10	9	5	1	3	4	1	4	1	2	3
080	43	8	7	6	6	7	5	8	1	4	2	1	1

[1] 1=Golf; 2=Snow Skiing; 3=Tennis; 4=Archery; 5=Scrabble; 6=Shuffleboard

[2] 7=Pinball Games; 8=Sports Pool; 9=Throwing Dice; 10=Bingo; 11=Dog Races; 12=Slot Machines

Form N - Males (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
081		7	9	10	5	8	5	3	1	0	1	0	8
082		9	10	9	8	0	8	6	7	1	1	1	1
083		10	10	8	5	5	10	0	0	4	0	0	3
084	53	7	6	8	8	8	7	7	1	1	5	0	0
085	35	10	10	8	8	6	8	0	6	0	0	5	0
086	57	7	10	9	7	10	4	0	1	0	5	2	1
087		10	10	9	2	9	8	2	3	3	4	4	1
088	37	10	0	10	1	1	0	7	7	7	7	5	7
089		10	9	10	7	8	9	0	5	1	2	0	0
090	46	0	1	1	2	0	1	10	10	10	5	7	10
091		10	10	10	10	5	9	2	1	0	2	0	1
092	46	10	10	10	10	0	4	3	2	3	2	2	2
093	51	10	10	10	8	1	2	4	3	2	3	0	3
094	43	8	8	8	8	7	8	0	10	0	0	0	0

Form F - Males

		Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
101		9	4	2	7	0	1	4	9	3	4	6	4
102		4	1	3	1	0	0	7	5	4	8	9	10
103		10	3	1	1	1	0	7	7	8	7	7	8
104		9	1	5	10	0	0	8	7	6	7	3	7
105		3	0	5	3	0	0	6	10	8	5	8	8
106		10	0	9	0	0	0	7	6	6	6	6	6
107		2	0	0	0	0	0	9	9	8	8	9	10
108		10	10	10	9	10	10	0	0	1	1	1	0
109		1	0	0	9	0	0	8	8	7	7	6	9
110		1	1	0	1	0	0	7	9	9	7	8	9
111		9	1	7	8	0	0	8	6	6	6	4	5
112		10	8	9	7	5	9	4	0	4	0	1	0
113		5	3	4	7	2	3	2	7	6	0	4	6
114		2	0	6	6	0	0	6	10	6	6	9	6
115		8	0	8	0	0	0	6	10	5	5	5	5
116		9	0	6	10	0	0	5	4	4	5	4	3
117		8	0	6	9	0	0	7	4	4	4	4	5
118		3	0	0	1	0	0	8	9	9	8	7	9
119		2	2	1	0	0	2	9	9	9	7	8	9
120		1	0	1	1	0	0	10	10	10	4	9	10
121		9	9	10	10	8	4	0	6	1	2	1	1
122		4	3	6	8	0	0	5	8	5	5	3	
123		7	5	4	6	0	0	5	9	5	4	6	
124		2	0	4	8	0	0	7	7	6	5	6	
125		6	0	10	1	0	0	7	8	9	5	6	
126		1	0	1	1	1	1	10	10	10	10	10	1
127		9	0	3	1	0	0	8	9	8	6	4	
128		1	0	0	9	0	1	6	8	9	7	8	
129		4	5	8	1	0	0	5	7	6	4	4	
130		9	0	0	1	0	0	9	9	9	7	8	

[1] 1=Badminton; 2=Ballet; 3=Cooking; 4=Bridge; 5=Embroidery; 6=Knitting

[2] 7=Pinball Games; 8=Sports Pool; 9=Throwing Dice; 10=Bingo; 11=Dog Races; 12=Slot Machines

Form F - Males (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Activ		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
131		9	0	8	10	0	0	8	4	5	5	5	5
132		9	0	4	0	1	1	9	8	8	7	7	6
133		9	1	3	3	0	2	10	8	9	7	8	9
134		10	0	0	3	0	2	8	6	7	8	8	6
135		7	1	0	1	1	2	8	8	8	8	8	8
136		10	4	8	5	1	2	3	5	5	5	4	2
137		10	1	9	4	0	2	7	7	5	6	5	8
138		0	0	6	10	2	2	8	7	7	7	9	8
139		10	0	5	1	0	2	7	6	6	8	6	8
140		9	0	1	8	0	1	7	10	7	7	7	7
141		10	0	9	10	0	2	5	5	3	7	6	4
142		9	0	0	10	0	2	8	6	6	6	6	7
143		0	0	0	0	0	3	9	8	10	9	9	9
144		6	0	4	3	0	3	8	9	9	5	8	7
145		8	1	3	2	0	2	6	5	7	6	5	6
146		2	1	1	9	0	2	8	9	8	7	6	9
147		8	0	0	0	0	2	9	8	8	9	9	8
148		4	0	0	2	0	2	8	7	9	8	9	8
149		9	0	9	7	1	2	3	10	3	5	4	4

Form M - Females

Ident.	ACT	Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
		1	2	3	4	5	6	7	8	9	10	11	12
501		8	8	9	2	10	10	5	4	1	1	0	3
502		10	3	5	8	9	3	7	6	3	0	0	6
503		9	10	8	1	7	10	1	4	2	1	1	1
504		4	1	3	5	8	0	8	4	8	6	8	5
505		9	3	7	1	2	10	5	8	2	1	2	4
506		6	3	10	0	3	10	4	4	1	3	4	6
507		0	0	3	6	7	9	9	6	3	4	6	7
508		2	0	1	1	8	0	9	10	8	9	5	3
509		8	0	0	8	8	0	7	7	9	7	6	6
510		4	1	1	9	10	10	4	4	0	4	4	3
511		4	8	2	1	8	1	6	7	4	0	6	4
512		3	2	1	0	6	10	7	9	8	5	6	7
513		9	9	1	9	10	10	4	2	1	2	2	2
514		5	9	5	8	7	10	1	3	1	3	0	1
515		7	10	9	8	9	10	0	1	1	1	1	0
516		2	10	0	6	10	3	5	3	2	3	2	5
517		0	7	0	6	9	10	7	5	3	3	3	5
518		5	5	3	0	9	4	8	8	1	4	2	4
519		8	9	10	10	10	1	4	2	0	2	2	3
520		10	10	10	10	10	10	2	1	0	0	0	1
521		6	4	3	10	10	9	5	4	3	3	2	4
522		2	0	2	7	9	2	8	5	7	4	3	9
523		0	0	0	0	1	3	10	10	10	8	8	10
524		8	3	0	9	9	10	5	3	8	4	4	4
525		4	2	10	0	10	7	5	5	3	3	3	4
526		10	10	7	10	10	8	1	0	0	1	0	1
527		10	9	0	0	5	9	3	2	2	2	2	2
528		1	0	0	4	4	2	9	9	10	10	10	7
529		1	3	0	2	2	9	8	9	8	9	8	3
530		8	9	2	8	9	7	1	1	7	1	0	1

[1] 1=Fencing; 2=Sky Diving; 3=Track; 4=Auto Racing; 5=Pole Vaulting; 6=Pool

[2] 7=Showdown; 8=Slot Machines; 9=Sports Pool; 10=Lottery Sweepstakes; 11=Raffles; 12=Throwing Dice

Form M - Females (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
531		7	0	0	7	10	6	5	6	5	3	3	5
532		3	7	6	7	10	9	7	2	2	3	1	3
533		8	10	10	6	9	7	4	0	0	1	0	0
534		10	10	8	10	10	7	1	2	2	0	0	0
535		0	5	3	0	10	3	7	7	7	6	6	8
536		1	0	1	1	5	5	6	9	8	8	7	9
537		2	6	0	3	7	3	4	8	6	5	2	4
538		4	6	3	0	7	7	5	6	1	3	2	3
539		6	7	7	10	9	9	1	2	3	2	1	5
540		9	6	10	9	10	9	4	0	1	0	0	1
541		9	8	10	9	10	9	2	2	1	3	0	1
542		1	2	1	10	10	3	6	7	6	7	7	6
543		8	3	10	8	10	2	4	2	2	4	1	4
544		9	1	7	1	9	8	5	3	5	2	2	3
545		8	6	8	6	10	6	8	2	0	2	1	0

Form N - Females

		Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
551	45	8	10	10	8	2	9	4	1	1	1	1	1
552		10	10	10	3	10	2	2	2	3	2	1	0
553	56	10	10	10	9	9	9	0	0	1	0	1	0
554		10	10	10	5	0	0	4	5	4	4	5	3
555	45	10	10	9	9	9	8	0	0	0	0	0	0
556		6	7	3	3	4	0	7	9	6	1	1	7
557		10	10	10	9	10	9	1	2	1	1	1	1
558		10	8	2	5	4	7	4	7	2	1	3	2
559		9	9	8	10	10	10	0	0	3	0	0	0
560		8	10	10	10	9	7	2	0	1	0	0	3
661	58	10	9	9	6	2	4	4	4	1	1	0	0
562		10	8	7	6	7	3	0	6	1	5	0	0
563		10	10	10	3	0	5	2	5	1	1	2	3
564	41	8	4	3	3	5	4	5	10	1	1	2	9
565	50	10	9	10	5	1	10	0	1	3	1	1	2
566		10	9	7	9	0	9	2	4	2	2	2	2
567		10	9	7	9	0	9	2	4	2	2	2	2
568		9	9	1	4	4	9	5	5	5	6	6	4
569	39	10	10	10	1	10	10	1	1	1	1	1	1
570		10	9	7	6	1	7	2	2	2	2	1	3
571	58	10	10	10	2	9	9	1	3	2	4	0	2
572	37	7	7	0	1	0	1	9	10	7	7	6	10
573	48	10	10	9	1	9	1	3	5	2	2	2	2
574	46	10	8	10	4	4	2	3	5	1	3	3	5
575	48	10	10	10	9	10	9	1	1	1	4	1	1
576		10	10	10	9	7	10	0	1	0	0	0	0
577	43	8	8	7	1	0	2	4	4	9	2	1	3
578		9	6	9	7	2	9	1	10	5	0	3	3
579		10	10	10	10	9	10	0	0	1	0	0	0
580	53	10	9	9	10	9	9	2	0	0	0	1	0

[1] 1=Snow Skiing; 2=Swimming; 3= Tennis; 4=Scrabble; 5=Sculpture; 6=Shuffleboard

[2] 7=Showdown; 8=Slot Machines; 9=Sports Pool; 10=Lottery Sweepstakes; 11=Raffles; 12=Throwing Dice

Form N - Females (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
581		9	10	10	4	7	6	4	2	1	2	0	3
582	34	10	10	10	1	10	0	1	2	2	4	2	2
583		10	10	7	7	8	9	1	1	3	1	1	2
584	47	9	9	10	0	1	0	4	5	4	4	4	4
585	48	10	10	10	9	10	4	1	5	0	0	0	3
586	31	10	9	9	8	5	7	2	3	5	0	2	1
587	39	8	2	5	1	4	4	4	9	6	5	2	9
588	39	9	9	7	2	2	2	2	5	5	0	2	2
589	46	10	10	10	6	10	4	2	1	2	0	0	3
590		10	9	7	3	5	6	2	3	7	2	0	4
591	37	10	10	10	4	7	10	1	0	0	2	2	0

Form F - Females

		Skill[1]						Chance[2]					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
601	37	0	0	8	10	0	1	8	7	8	8	7	8
602		9	10	10	10	7	10	1	0	0	0	0	1
603		9	9	10	6	4	4	5	8	0	0	0	5
604	54	7	0	10	9	4	7	9	5	2	7	3	2
605		3	10	10	10	2	10	4	4	0	4	1	1
606		10	10	10	10	10	10	0	0	1	0	1	0
607		5	1	9	9	1	0	8	7	7	5	6	6
608		7	10	9	2	4	1	4	3	2	1	2	3
609		10	0	10	10	8	9	2	1	1	1	1	1
610	56	10	10	10	8	9	10	3	0	1	0	0	0
611		10	10	10	10	8	8	0	1	0	0	0	0
612		9	5	10	5	4	3	2	4	5	4	1	1
613	36	8	8	10	8	3	2	3	6	1	1	3	3
614	28	8	7	10	10	5	8	3	3	0	0	1	3
615		9	9	10	8	10	10	1	0	0	2	0	0
616	33	10	10	9	9	4	4	3	2	1	0	2	2
617	52	10	9	10	10	8	7	1	1	2	2	1	1
618		10	9	10	10	0	10	1	1	1	2	1	2
619	40	2	9	9	5	3	0	6	6	2	1	5	6
620		9	10	10	10	0	7	2	1	1	3	1	1
621		4	0	8	5	0	2	4	8	8	5	4	5
622		7	9	9	8	7	9	1	8	1	1	2	1
623		9	1	10	6	5	4	2	6	2	4	2	4
624		6	6	9	9	2	4	8	6	0	0	3	2
625	48	10	10	9	6	10	7	1	1	0	1	1	1
626	35	9	4	10	10	6	6	4	0	4	0	6	1
627		7	8	10	6	8	8	0	1	5	1	0	0
628	35	1	5	9	0	5	5	2	10	4	7	2	1
629	32	0	1	2	8	0	2	8	8	8	8	8	8
630		8	8	9	9	10	8	4	0	0	3	0	1

[1] 1=Badminton; 2=Ballet; 3=Horseback Riding; 4=Bridge; 5=Embroidery; 6=Knitting

[2] 7=Showdown; 8=Slot Machines; 9=Sports Pool; 10=Lottery Sweepstakes; 11=Raffles; 12=Throwing Dice

Form F - Females (Continued)

		Skill						Chance					
		High Active			Low Active			High Active			Low Active		
Ident.	ACT	1	2	3	4	5	6	7	8	9	10	11	12
631	50	10	10	10	10	4	8	1	2	4	0	1	1
632		10	10	10	10	5	5	0	3	4	0	1	1
633		10	4	9	4	2	7	2	7	3	4	1	3
634	44	8	3	10	10	0	7	7	2	2	2	1	3
635		5	2	5	10	4	9	5	6	1	0	1	6
636		5	4	9	10	2	5	2	7	1	4	2	3
637	34	8	0	10	3	4	6	1	7	2	3	8	7
638	37	8	10	10	7	10	7	1	3	0	1	0	2
639	49	7	9	7	6	5	4	1	7	2	0	1	7
640	50	8	7	10	10	10	7	4	1	2	1	1	2
641	41	10	0	9	0	0	2	7	7	6	7	4	6
642		7	0	9	7	0	2	6	6	7	6	7	6