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LOCUS OF CONTROL AMONG SELECTED STUDENTS ATTENDING
VARIOUS TYPES OF SECONDARY SCHOOLS IN WEST BERLIN

The University of Arizona

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LOCUS OF CONTROL AMONG SELECTED STUDENTS
ATTENDING VARIOUS TYPES OF SECONDARY
SCHOOLS IN WEST BERLIN

by

Ingrid Ute Vera Miller

A Dissertation Submitted to the Faculty of the
DEPARTMENT OF EDUCATIONAL FOUNDATIONS
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DOCTOR OF PHILOSOPHY
In the Graduate College
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THE UNIVERSITY OF ARIZONA
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entitled LOCUS OF CONTROL AMONG SELECTED STUDENTS ATTENDING
VARIOUS TYPES OF SECONDARY SCHOOLS IN WEST BERLIN

and recommend that it be accepted as fulfilling the dissertation requirement
for the Degree of Doctor of Philosophy.

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ABSTRACT

It was the purpose of this study to determine and compare the locus of control of selected seventh and tenth grade students attending the comprehensive high school (*Gesamtschule*) with those attending two of the traditional high schools (*Hauptschule* and *Gymnasium*) in West Berlin, Germany.

Eight hundred twenty-nine students from three *Hauptschulen*, two *Gymnasien* and two *Gesamtschulen* participated in the study (males = 486, females = 343). A translated version of Rotter's Internal-External Scale of Locus of Control and a demographic questionnaire were administered to the students in the spring of 1981. The data were analyzed in reference to seven variables: school affiliation; grade level; sex; ordinal position; family size; socioeconomic status; and religious affiliation. Data analysis was performed by comparisons of means using one and two factor analyses of variance with the .05 level of significance held critical.

Results revealed significant differences among secondary school students. Students at the *Hauptschule*, on the whole, were significantly more internal than students at the *Gesamtschule* or the *Gymnasium*. Taking grade level into consideration, seventh grade students were more internal than tenth grade students.

Analyses of the results on the influence of sex, ordinal position and family size on locus of control did not produce significant

differences. Although high socioeconomic status students in all schools had lower, more internal, locus of control scores, the difference was not significant. Analysis of variance of locus of control as a function of school attendance and religious affiliation produced significant differences across school types and significant interaction, but failed to produce significant differences between Protestant and Roman Catholic students as a whole.

This study succeeded in providing a prototype for cross-cultural research of locus of control. It demonstrated the usefulness of a translated American assessment scale and established locus of control norms for a specific German population.

CHAPTER 1

INTRODUCTION

Since the Industrial Revolution schools in all technologically advanced countries have undergone significant changes. In most countries educational development often lagged behind social changes. Education in the United States, as an example, experienced a period of transformation in the 1950's and 60's after the Russian-launched space satellite challenged American technological superiority. As a result, the United States reexamined its resources and focused its efforts on curriculum reform by developing more innovative instructional programs, especially in the sciences and mathematics.

Trends developing in the American school system are usually carefully examined by the educational community abroad. West Germany was no exception. After World War II, West Germany demonstrated to the rest of the world an economic miracle or *Wirtschaftswunder*. Most West Germans were especially proud of the school system's ability to supply the necessary educational base on which such a successful economy could be rebuilt.

The traditional German educational system is based on a pattern developed in the 19th century. Its function at that time was to reinforce a stratified society. The average citizen was provided with minimal competencies in reading, writing and arithmetic. For the

intellectual and social elite, instruction was provided to prepare them for positions in the military, the civil service and professional occupations (Blättner, 1960; Engelmann, 1945; Hearnden, 1976; Wilhelm, 1936). The present West German educational system is still predominantly based on a tracking pattern reflecting this stratification.

Each West German *Land* (state) is responsible for the education of its youth. There are 11 *Länder* (states), each with its own Minister of Education. However, throughout West Germany, the educational structure of each state is very similar. Some differences do occur in timing the transfer of students from elementary school to the secondary school and slight differences can be found in curriculum and instruction patterns.

The West Berlin school system will be used as a model of a West German state-supported educational structure for this research. West Berlin is a city state and one of the 11 states in West Germany.

In West Berlin, compulsory education begins for all students at six years of age. Although preschool programs do exist (see Figure 1), attendance at the *Vorklassen* (preschool) is voluntary and not all schools provide these classes. For six years students attend a common *Grundschule* (elementary school), after which they may attend one of the three separate secondary schools. The choice of school depends upon the academic ability of the student, family preference and recommendations by the school personnel.

The three secondary schools are:

1. The *Hauptschule* (secondary modern) composed of grades seven through ten and designed for lower academic ability students.

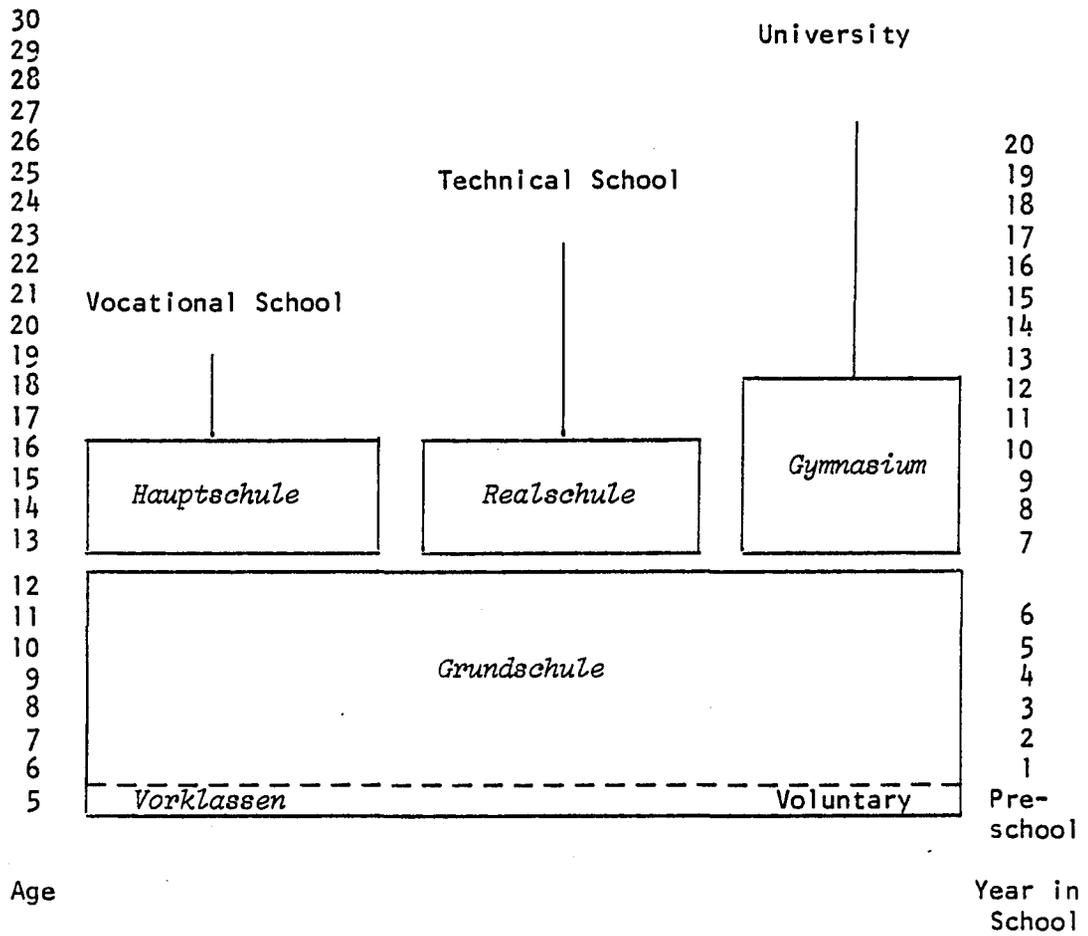


Figure 1. The traditional school system in West Berlin

2. The *Realschule* (intermediary school) comprised of grades seven through ten and designed for students with average to above average academic ability. These students will obtain higher levels of semi-technical skills, such as typing, shorthand, and business math.
3. The *Gymnasium* (college preparatory school) composed of grades seven through thirteen and designed for students of high academic ability. Its function is to provide students with university entry-level competencies (Schultze and Führ, 1967).

Of the total number of students enrolled in West Berlin during the 1971/72 school year, 35.7% were attending the *Hauptschule*, 29.9% the *Realschule*, and 31.0% the *Gymnasium* (Senator für Schulwesen, 1973). By 1980/81 a shift had occurred and 19.2% were attending the *Hauptschule*, 22.8% the *Realschule*, and 32.7% the *Gymnasium* (Senator für Schulwesen, 1981a). The remaining students in each sample were attending other types of schools. A considerable number of students, between 40 and 50 percent, attending the *Gymnasium*, however, drop out before acquiring university entry-level competencies (Senator für Schulwesen, 1973). During the latter part of the 20th century, the demands made on this stratified educational system have changed due to the shifts that occurred in the political and technological, economical and social structure in the West German society.

In 1964, Georg Picht, a notable educational sociologist, called the German school system a *Bildungskatastrophe*, an educational catastrophe. He identified various problems inherent in a socially and

intellectually stratified educational system (Picht, 1964). Picht made his accusations, even after several reform movements in education had taken place, such as the *Rahmenplan* (1959) and the *Bremer Plan* (1960-1964). Neither of these reforms had questioned the separation of students into three different tracks within the school system (Jölleneck, 1972; Rolff, 1970). The criticism by educational sociologists leveled against the German school system focused on the following practices and their consequences:

1. At the end of the six grades, students in Berlin and Bremen are recommended by their teacher for specific secondary school placement. In all other states, this selection process is initiated after the fourth grade. This early selection is based on the premise that intelligence can be measured, which, in turn, enables educators to track students according to tested intellectual abilities. However, in all states final school placement approval is the responsibility of the parents (Hentig, 1968; Husen, 1969; Rolff, 1967).
2. At about the age of 12 in Berlin and Bremen (10 in all other states), students are placed into an "appropriate" secondary school. Educators assume that most abilities and aptitudes are fully developed by that time. Because of only limited transfer possibilities from one school type to another, students become not only locked into a school system, but also into a pattern of career opportunities which tends to reinforce the socio-economic stratification within the German society (Hentig, 1968; Hitpass, 1964; Rolff, 1967).

3. In West Germany, approximately 50% (Statistisches Bundesamt, 1979) of the adult population was classified in the lower socioeconomic stratum. However, only eight percent of the children of lower class parents are found in the graduating classes of the college preparatory schools. Educators have maintained that schools orient themselves on middle class values which suggest that children from lower socioeconomic levels were not as bright mentally and not equipped socially to succeed in college preparatory schools (Hess, Latscha, and Schneider, 1966; Peisert, 1967; Picht, 1964).

The methods of selection for secondary school placement and the persistent under-representation of certain segments of the West German population have served to perpetuate a stratified society.

Many German educators are in agreement with Arthur Jensen, an American psychologist, that intelligence increases as socioeconomic status increases. Jensen (1973, pp. 151-152) states:

In any society which provides more or less equal educational opportunities and a high degree of social mobility, and in which social stratification is based largely on education, occupation and income, the abler members of the society will tend to move upwards and the less able gravitate downward in the SES hierarchy.

This particular view has served to reflect the rationale for the maintenance of a stratified school system in West Germany.

Some educators, however, feel that intelligence tends to be normally distributed among all members of a population. This should lead to an equal proportion of students from all socioeconomic strata

in the three secondary schools. Therefore, only discriminatory practices, such as the selection for secondary school placement at an early age and the attrition rate of students initially attending the *Gymnasium*, have eliminated a large percentage of the West German population from fully realizing their educational and, consequently, their social potential. This represents a great loss for the country as a whole. Today's industrialized society has a great need for a highly trained technological work force and it is up to the educational system to mobilize all latent human resources in satisfying this demand.

According to Servan-Schreiber (1968), a journalist and political advisor to the French government, the ultimate survival of a country is based on the success by which it utilizes its human resources, and no country can afford to waste any. Rolff (1967, 1970), Popitz (1965), Dahrendorf (1965), and Picht (1964, 1965) maintain that the shortcomings in the German educational system cannot be attributed to the differences in the distribution of intelligence, but to the structure of the system itself, a structure that provides unequal educational opportunities.

During the 1960's, social and educational critics of the German educational system realized more and more that changes within the traditional system could not accomplish the task of democratizing the schools and that only a radical renovation of the traditional system would result, in time, in better education for all citizens.

Dahrendorf (1965, p. 23) in *Bildung Ist Bürgerrecht* (education is the right of every citizen) suggested the direction the educational reconstruction should take in stating that:

1. Each person has the right to an intensive basic education which enables him to utilize effectively his rights and responsibilities as a citizen.
2. Each person has the right to a continuing education in accordance with his abilities.
3. It is the responsibility of the governmental agencies to insure that these rights can be exercised.¹

Rolff (1980) restated Dahrendorf's objectives as follows:

1. An educational system must consider education to be the right of every citizen and not the privilege of a chosen few.
2. The selection of students must occur meritocratically by ability and achievement and not be discrimination or favoritism due to socioeconomic level, ethnicity, sex or religion.
3. Only a new school structure will guarantee this equality.

This reconstructionistic reform movement was not only committed to eliminate the extreme selectivity of the traditional school system, but also, at the same time, to increase the number of students seeking a college education.

Central to the realization of Dahrendorf's objectives has been the initiation of a new educational institution, the *Gesamtschule* (comprehensive school), as suggested in 1964 by Carl Evers, then Minister of Education for West Berlin (Jöllenbeck, 1972). After the establishment of the first *Gesamtschule* in West Berlin in 1968, other West German states followed suit (Evers, 1971). By 1978, 227 *Gesamtschulen*

¹This and all other quotes from German sources have been translated by the author.

were in operation in West Germany. There were 24 in West Berlin (Senator für Schulwesen, 1977a). They were established as model schools within the already existing educational system.

Presently, two kinds of models of the *Gesamtschule* exist in West Germany: (1) the additive *Gesamtschule* and (2) the integrative *Gesamtschule*. The additive *Gesamtschule* reflects the traditional secondary school system of *Hauptschule*, *Realschule*, and *Gymnasium*, but under one roof. This spatial closeness was created to enhance cooperation between the separate schools. The integrative *Gesamtschule* is a true comprehensive secondary school and replaces the traditional structure. The function of the integrative *Gesamtschule* was to influence the social character of all students and especially affect the socialization of students from lower socioeconomic levels. According to Frommberger the integrative *Gesamtschule* combined the programs of the *Hauptschule*, *Realschule*, and the *Gymnasium*, thus eliminating the vertical separation of students. It also offered a differentiated curriculum intent on developing the specific abilities within each individual student (Frommberger and Rolff, 1968; Evers, 1969).

No specific selection process for college preparatory education was built in to the *Gesamtschule*. Instead, the type and level of courses chosen and a point system, based on academic performance rather than grades, determined the eligibility to continue one's education after grade ten. These changes were designed to help more students from the lower socioeconomic levels pass the examinations which enabled them to enter higher education.

Advocates of the *Gesamtschule* realized that socialization in the industrialized western culture has produced children with widely differing attitudes and characteristics depending on their social class membership. In West Germany, as in the United States, middle class children are characterized by self-motivation, self-confidence, responsibility and ability to defer immediate gratification for the realization of long term goals. Children from lower socioeconomic levels show on the whole opposite characteristics saturated with a pervasive feeling of resignation and defeatism (Dahrendorf, 1965; Rolff, 1970; Sander, Rolff, and Winkler, 1971).

One of the goals of the *Gesamtschule* is that: "Either the social character of the children from lower socioeconomic levels or the social character of children from the middle class culture or both must be influenced in such a way as to achieve a greater amount of congruence between them" (Rolff, 1970, p. 64). Rolff emphasized that such a school could in time reconstruct the present social stratification within the West German society and guide it to become a truly open society. Industry would find a large reservoir of better trained, more cooperative and self-motivated adults capable of accepting change and mobility as normal facets of a modern industrialized society.

Hitpass, a leading German educator, strongly opposed these reforms. He believed that the development of the *Gesamtschule* was not necessary (Hitpass, Laurien, and Mock, 1970). He pointed out, that the traditional system had instituted changes which have increased the number of lower class children entering college preparatory schools. One

such change has been the elimination of the selection process of students for secondary school placement after grade four (with the exception of Berlin and Bremen as previously mentioned). This selection has been replaced by an observation phase during grades five and six, after which the students are selected for placement into the secondary schools. Another change has been the liberalization of opportunities for transfer between the school types. Hitpass also stated that too many *Gesamtschulen* are not structured according to the integrative model suggested by Evers, but have maintained the vertical separation of schools. All that occurred has been the spatial integration of schools by locating the *Hauptschule*, the *Realschule*, and the *Gymnasium* in one building complex as an additive *Gesamtschule*.

Investigators (Frommberger and Rolff, 1968; Jöllenbeck, 1972), in comparing the *Gesamtschule* with the traditional educational system in West Germany, have based their findings on data that indicated an increasing number of successful graduates from the *Gesamtschule* eligible to enter college. They have also explored the quantitative differences between various educational institutions by comparing the achievement scores of students on all levels. Little research has been done concerning the effect of the school on the socialization of the students. The family and peer groups, and often the churches and schools, have a marked effect on the development of a person. Becoming a human being implies the interaction with other human beings (Ornstein, 1978). Through interaction the individual slowly evolves into a unique personality, often internalizing the norms of the group. This process of

socialization forms the social character or personality of an individual. The social character of a person is reflected in his behavior, the beliefs and attitudes he holds and how he sees himself in relation to others (Ornstein, 1978). Social character and personality are parts of the same construct. While personality looks at a person as an individual, social character defines the person as he relates to others in his environment.

Some of the principles which account for the complexity of human behavior have been incorporated by Rotter, Chance, and Phares (1972) into a social learning theory (SLT) of personality. Social learning theory is concerned with the interaction of an individual's personality with his environment and assumes that both have a reciprocal effect on one another.

One of the concepts SLT is concerned with is the reinforcement of behavior and, more specifically, the control expectancy of the occurrence of a specific reinforcement of a given behavior. In Social Learning Theory, two control modalities are distinguished, external and internal reinforcements, which Rotter et al. (1972, p. 17) defined as:

An internal reinforcement is the person's experience or perception, that an event occurred which has some value for him. This value may be either positive or negative. Positiveness or negativeness of value is determined by resultant effects upon the frequency of observable behavior. External reinforcement refers to occurrences of events or outcomes known to have predictable reinforcement value for a group or culture to which the person belongs.

In recent years many investigators have been concerned with locus of control of reinforcement as a predictor variable of a variety of behaviors. Rotter (1972, p. 261) defines locus of control as:

"The degree to which the individual perceives that the reward follows from, or is contingent upon, his own behavior or attributes versus the degree to which he feels the reward is controlled by forces outside himself and may occur independent of his own actions." Locus of control is found in all individuals and exists separate from such traits as social desirability and from the IQ construct. Rotter (1972, p. 277) stated, "In any case, the correlations with intelligence are low."

An individual tends to possess either internal or external control expectancies about certain aspects of his life depending on the situation and his interest in achievement of a specific goal. It is implied that the perception of control is a process and not a static characteristic within an individual. Internal and external control are considered by Lefcourt (1976) as tendencies within an individual which express the expectation of a reinforcement as being contingent or non-contingent upon the individual's own action.

Earlier investigators considered that locus of control had simple and direct relationships to a variety of factors concerning academic success. Lefcourt (1976, p. 71), however, stated: "The relationships between various measures of locus of control and achievement behavior are often riddled with inconsistent . . . results." In general, even though the data were not conclusive, a sense of personal internal control relates positively to amount of time spent on doing homework and persistence in solving logical problems. Lefcourt reported that measures of locus of control could be used as predictors of academic success regardless of socioeconomic class and intelligence quotient.

There has been considerable research concerning the assessment of locus of control within different populations. Lefcourt and Rotter have reported evidence from several studies that expectations of reinforcement vary with membership in different social classes (Lefcourt and Ladwig, 1972; Lefcourt, Lewis, and Silverman, 1968; Rotter, 1972). The data indicate that members of the lower social classes exhibit more external tendencies. They consider their actions to be more controlled by chance, luck or powerful others than by themselves. Members of the middle or higher classes tend to expect reinforcement for their behavior to be under their own control. They are more internally directed.

In West Germany, as reported by Dahrendorf (1965), similar differences in social class related behavior patterns have been observed. This seems to indicate that locus of control tends to reflect the stratification of society in the United States, as well as in West Germany. However, a variety of other variables tends to have some influence on locus of control, among them sex, religion, size of family and sibling placement (Lefcourt, 1976; Rotter et al., 1972).

Over the past ten years, investigators (i.e., Rolff et al., 1980) of achievement behavior in West German students have been concerned with school success as it is influenced by the type of school the youngster attends. Rolff et al. (1980) have recently published a summary of this research. Results have shown that increasing numbers of graduates from the *Gesamtschule* have fulfilled college entrance requirements. Comparisons of achievement scores of students at the *Gesamtschule* with those at the traditional schools revealed that

students at the *Gesamtschule* did equally well and in some instances even better than students in the traditional system. Lately, specific variables have been analyzed which tend to influence the academic success of students in the West German school system. The research identified the following variables: test anxiety, school climate, size of school and competitiveness. However, locus of control as an indicator and a predictor variable of academic achievement has not yet been explored in West German educational research studies.

Statement of the Problem

The purpose of this study is to determine and compare the locus of control of selected seventh and tenth grade students attending the *Gesamtschule* with those attending the *Hauptschule* and the *Gymnasium* in West Berlin.

Significance of the Problem

In the past, the traditional German educational system served as an effective reinforcement agent of social stratification (Sander, Rolff, and Winkler, 1971; Schelsky, 1965). This was accomplished by an early and generally permanent school selection and placement process that combined examinations, teacher evaluations and parent wishes as predictors for future scholastic success of students.

The *Gesamtschule* movement, in contrast, is attempting to eliminate this forced reinforcement process in favor of a natural sorting process by ability and academic achievement. According to Rolff (in Sander et al., 1971), this natural sorting is the basis for a

meritocratic, open society. In order to create an open society, this school is prepared to actively intervene in the socialization process of its youth through development of special courses and methods. The *Gesamtschule* movement is designed to give all students equal access to educational opportunities. Lower social class students should especially benefit in the *Gesamtschule* as compared to the traditional school system.

The intervention by the school in the socialization process of its students should produce measurable differences in the students' perception of self-worth and control over the outcome of their lives. Lefcourt (1976, p. 17) reported that: "When an individual is deprived of his sense of self-determination he is less able to learn about himself from his own experiences; he is less able to develop a definite measure of his own worth." The *Gesamtschule*, with its provision for equal access to educational opportunities, tends to positively influence a student's perception of himself. According to Lefcourt (1976, p. 21), American studies have indicated that: "Perceived control is positively associated with access to opportunity. Those who are able, through position and group membership, to attain more readily the valued outcome that allows a person to feel personal satisfaction are more likely to hold internal control expectancies."

In addition to other psychometric techniques, i.e., social desirability, the measurement of locus of control does assist in the assessment of an individual's perception of self-worth, self-actualization and self-control over the course of his own life. It

may also be possible to assess the influence of the respective school type in the West German educational system by the students' locus of control perception.

The Internal-External (I-E) Locus of Control Scale designed by Rotter, Chance, and Phares (1972) has been used in the assessment of locus of control with English speaking subjects in the United States and Great Britain under a variety of experimental conditions. The instrument consists of 29 forced choice items. Each of the items has two possible options, one reflecting an internal and the other an external alternative (see Appendix A). Of the 29 items, 23 are scored on what has been determined as external by the Rotter scale. Six items have been included as fillers to disguise the intentions of the test. A low score indicates an internal locus of control while a high score indicates an external locus of control.

The research data presented by Rotter et al. (1972) exhibits a high degree of consistency. Rotter et al. (1972, p. 293) suggested that:

People in American culture have a developed generalized expectancy in learning situations in regard to whether or not reinforcement, reward or success in these situations is dependent upon their own behavior or is controlled by external forces, particularly luck, chance or experimenter control, which are fairly consistent from individual to individual.

Rotter made reference to the fact that Seeman used a translated version of the I-E Scale in studying Swedish workers in 1964 (Rotter et al., 1972). This research represents the only study using a translated version of the I-E Scale in German (see Appendix B). Rotter reported that the results were reliable, consistent and comparable to the

American population. It will be significant to know whether this study, using German students and a translated version of the I-E Scale in German will yield data that will be a reliable measure of the hypothesized expectancy of reinforcement. Cross-cultural studies have often been hampered by the absence of measuring instruments that are equivalent and prove reliable and valid in most cultural situations (Edwards et al., 1973; Moehlman, 1963).

Hypotheses to be Tested

In comparing achievement scores for students attending the *Gesamtschule* with scores from students in the traditional system, the overall data indicated that students at the *Gesamtschule* performed at least equally well and in most instances better than the students in the traditional system (Rolff et al., 1980).

In a study on test anxiety, as reported by Rolff et al. (1980), students attending the *Gesamtschule* became less fearful and anxious as time of attendance at the *Gesamtschule* increased, while students attending the *Gymnasium* became significantly more stressed. The level of test anxiety of students at the *Realschule* was not significantly reduced over time. Students at the *Hauptschule* showed a significant reduction in their test anxiety, but not to the extent as students at the *Gesamtschule*.

On the basis of his research, Lefcourt (1976, p. 86) concluded that:

Most investigators report a positive relationship between I-E measures and tests of anxiety--persons holding external control expectancies admit to more experience of anxiety than do those who perceive themselves as internals.

The relationships reported between locus of control and anxiety are rarely very large in magnitude. However, the direction of these relationships is consistent and statistically significant.

In three separate studies concerned with academic achievement pressure, discipline, restrictive control and self-determination, students at the *Gesamtschule* seemed to endure less pressure than students in the other school types. The results indicated no significant differences between students at the *Gymnasium* and students at the *Realschule* (Rolff et al., 1980). The findings of the research tend to support the fact that the students in the *Gymnasium* and the *Realschule* are not significantly different from one another. The researcher of this study, therefore, decided not to include the *Realschule* in this study. The literature further tends to indicate significant differences among students attending the *Gesamtschule*, *Hauptschule*, or *Gymnasium*. This research, therefore, will be concerned with these diverse types of schools.

It is hypothesized that:

1. The total mean score of students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of students attending the *Hauptschule* or *Gymnasium*.
2. a. The mean score of seventh grade students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of seventh grade students attending the *Hauptschule* or the *Gymnasium*.

- b. The mean score of the tenth grade students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of tenth grade students attending the *Hauptschule* or the *Gymnasium*.
- c. The mean score of the tenth grade students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of seventh grade students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.
3. a. The mean score of female students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of female students attending the *Hauptschule* or the *Gymnasium*.
- b. The mean score of male students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of male students attending the *Hauptschule* or the *Gymnasium*.
- c. The mean score of female students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of male students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.
4. a. The mean score of first born children attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of first born children attending the *Hauptschule* or the *Gymnasium*.

- b. The mean score of later born children attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of later born children attending the *Hauptschule* or the *Gymnasium*.
- c. The mean score of first born children attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of later born children attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.
5. a. The mean score of students from small families attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of students from small families attending the *Hauptschule* or the *Gymnasium*.
- b. The mean score of students from large families attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of students from large families attending the *Hauptschule* or the *Gymnasium*.
- c. The mean score of students from small families attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of students from large families attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.
6. a. The mean score of lower socioeconomic status (SES) students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score

of lower socioeconomic status (SES) students attending the *Hauptschule* or the *Gymnasium*.

b. The mean score of higher SES students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of higher SES students attending the *Hauptschule* or the *Gymnasium*.

c. The mean score of lower SES students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of higher SES students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

7. a. The mean score of Protestant students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of Protestant students attending the *Hauptschule* or the *Gymnasium*.
- b. The mean score of Roman Catholic students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of Roman Catholic students attending the *Hauptschule* or the *Gymnasium*.
- c. The mean score of Protestant students attending the *Gesamtschule* will be significantly lower (more internal) when measured on the I-E Scale than the mean score of the Roman Catholic students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Assumptions Underlying the Problem

West Germany, like other industrialized countries, has been undergoing a series of changes resulting in greater affluence and social mobility. For more than ten years, the *Gesamtschule* has been in existence. It was created in part as an answer to changing needs in the German society and with the expressed goal of effectively guiding the development of a stratified society to a more open social order (Rolff, 1970). For the purpose of this study, it is assumed that:

1. Stratification still exists within the German society based on social and occupational membership and not on meritocratic ideals.
2. The traditional educational system still has the greater influence on the German culture than the comprehensive integrative system.
3. The generalized expectancy of reinforcement in formal learning situations is found in the German population in the same dimensions as in the American population.
4. The translated version of Rotter's I-E Scale is a valid and reliable instrument for the assessment of locus of control of German subjects.
5. The student population at the *Gesamtschule* is voluntary and reflects a desire either by the parents or students for upward social mobility.

Limitations of the Study

The major limitations of this research are:

1. The inability to control such variables as teacher social background. His professional education, attitudes and values have a strong influence on the socialization of children by the school.
2. The assessment of socioeconomic status of the family is determined by the occupation of the head of household. Variables such as a single parent home, both parents working, parents' education, job mobility and travel experience of the family will not be considered.
3. The assessment of students' IQ, GPA, health and nutritional status, as well as their occupational aspirations, will not be considered in this study.
4. This research is restricted to the integrated *Gesamtschulen* in West Berlin. Only *Gesamtschulen* comprised of grades seven through thirteen will be used.
5. Only German nationals will be included in this study eliminating children of guest workers, the diplomatic corps and foreign military personnel.
6. Of the traditional educational institutions in West Berlin, only the *Hauptschule* and the *Gymnasium* will be included in the study. They represent the two extremes on the traditional school system continuum.

7. No selection process of students in the *Gymnasium* relating to school curriculum will be used in this research.
8. The data from a study conducted in West Berlin, while providing a prototype for other studies, cannot be extrapolated into generalizations about the West German population.

Definition of Terms

External Locus of Control--"When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control" (Rotter, 1972, p. 261).

Family Size--For the purpose of this research, families with one or two children are classified as small families, while three or more children earned the rank of a large family.

Gesamtschule--A recently (1968) designed comprehensive secondary school. As part of the West German educational reform, a variety of *Gesamtschule* models have been developed. A *Gesamtschule* is an additive model when the *Hauptschule*, *Realschule* and *Gymnasium* are all housed on one school site. Each school maintains its separate administrative staff and student body with limited cooperation among the school types. The integrated *Gesamtschule* is a comprehensive secondary school with integrated curricula for all students grades seven through ten and

eliminated all other school designations. Some models have *Gesamtschulen* that include the *Grundschule* (preschool through grade six) and others incorporate vocational, technical and college preparatory training for grades eleven through thirteen. Assignment of students to the core classes in some of the integrated *Gesamtschulen* is accomplished by streaming, which tends to track students and maintain social class differences. For the purpose of this research, the integrated *Gesamtschule* model will be used.

Gymnasium--Traditional secondary general school, college preparatory secondary school. It encompasses grades seven through thirteen and leads to a Certificate of Maturity which gives students access to any university in West Germany. The *Gymnasium* is divided into different curricula. The classical *Gymnasium* stresses Latin and Greek; the modern language *Gymnasium* stresses English, French and Latin; the natural science *Gymnasium* stresses biology, chemistry, physics, mathematics and, sometimes, Latin. In West Berlin, many *Gymnasien* offer more than one of these programs.

Hauptschule--Secondary modern school. This school represents the level of secondary education in Germany which is concerned with basic more "practical" education. It comprises grades seven through ten, with the tenth grade still being optional in West Berlin and many other German states. Students leaving this school either enter the world of work or attend a vocational school. In the literature prior to 1960, this school is referred to as the *Volkschule* (people's school) (Senator für Schulwesen, 1973).

Internal Locus of Control--If an individual believes that the reinforcement is controlled by his own actions, attributes or characteristics, such a person holds a belief in internal control (Rotter et al., 1972).

Locus of Control--Locus of control is related to the perception a person has about reward and punishment and the amount of control or influence he has over his environment.

Ordinal Position--Ordinal position refers to the sequence of birth order of children in a given family. In this study first born children will be compared with later born children without regard to length of time between births. The position of the middle child will not be included in this study.

Realschule--Secondary general, short course or intermediary school. This school provides students with skills necessary for middle management positions. It is comprised of grades seven through ten and attended by students whose parents, for one reason or another, did not want their children to be placed in the *Gymnasium*.

Socioeconomic Status--For the purpose of this research, occupational level of head of household has been selected as the categorizing criterion. Parents with the occupational levels of self-employed, civil servants and salaried employees fall into the category of higher SES, while hourly wage earners (laborers) fall into the lower SES category. The upper class can be eliminated from this classification pattern, because Rolff (1980, p. 31) stated: "The upper class, the power and money elite, makes up only a small fraction of the total population

and sends their children to private schools with little influence on the public school system."

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

This chapter is divided into two sections. The first is concerned with events leading to the development of the *Gesamtschule* and the controversial position this educational institution occupies in present day West Germany. The second section is devoted to an overview of social psychological theory with a focus on locus of control of reinforcement.

The *Gesamtschule*

Systems of education have generally served as instruments of a nation's policy and have reflected the society for which they were designed. During the German Empire, prior to 1914, education was viewed as the function of the state to mold obedient subjects for the state.

The state thinks for the individual, it relieves him from the responsibility of making decisions and the bureaucracy decides with the knowledge of the state needs what is for his own good. Citizenship thus becomes a piece of mechanism and every citizen in the state has a definitely assigned position (stand) (Sandiford, 1918, pp. 110-111).

Two types of subjects existed as members of the German society: those who thought and those who labored. The *Volksschule* was designed for 90% of the population, the laboring class. The *Gymnasium* was created for the other 10% of the German population. This division of the educational system reflected the German interpretation of divine

law which created, on the one hand, people capable of acquiring knowledge for the sake of knowledge, and on the other hand, people capable only of living a simple life (Fiedler, 1972).

With changes in the distribution of wealth, due to scientific and technological advances, a third class rose rapidly in importance and political power, that of the merchants and factory owners. The power and influence of the nobility was declining and many landowners did not have more than their titles left to their name. Some of the members of the new middle class could afford to send their sons to the *Gymnasium*, and recognizing that fact, the state made provisions for their education. As a result the state could rely on a large reservoir of educated people to fill positions in the military, the civil service and secondary school teaching (Blättner, 1960).

After World War I, the *Kaiser* abdicated and Germany became known as the Weimar Republic, duly constituted by the National Assembly in the town of Weimar. Reforms in the educational system reflected social and political changes. "The organization of the new school system is based on the social and cultural realities. It distinguishes according to these socio-cultural facts and the educability of the resulting three classes, three types of schools--*Volksschule*, *Realschule* and *Gymnasium*" (Roessler, 1961, p. 290). In theory all students were to attend (for the first four years) a common *Volksschule* and then be tracked into different levels and functions of secondary education. Grades five through eight of the *Volksschule* were to prepare students for vocational training which usually followed this eight year basic educational

program. The *Realschule* was designed for the new middle class and the traditional *Gymnasium* for the new social elite.

From its inception, the traditional *Gymnasium* developed differently from the other educational institutions. In reality most of the students who attended the *Gymnasium* seldom attended the *Volksschule*; they attended separate private preparatory schools for grades one through four. This academic segregation continued during the Weimar Republic (1919-1932), widening the educational and social gap between the upper and the lower classes (Blättner, 1960).

Members of the political forces within the Weimar Republic, especially the Social Democrats, were greatly concerned about the educational barriers that existed between the social classes (Blättner, 1960). They suggested a democratizing of the educational system. Their design stipulated that all students, regardless of the family's social position, attend a common school for the first six years. This school was named the *Einheitsschule* (Unity School), giving all children the same fundamental skills and knowledge. Afterwards students would continue their education at widely differing secondary schools according to their ability. As mentioned in Sandiford, Kandel observed: "So much attention has been given to this project (Unity School) in the German educational periodicals since the early days of the war (World War I) that a reform in this direction may well be looked for" (Sandiford, 1918, p. 148). Social class distinctions were so deeply rooted in the German society that the Unity School reform movement never came to fruition. "During the National Socialist period

(1933-1945) the traditional education structure instituted under the Weimar Republic continued to function; however, the *Einheitsschule* movement was suspended. After World War II, the Allied Forces resurrected the idea of the *Einheitsschule* in an attempt to democratize and equalize educational opportunities for all German children. The school law of Gross-Berlin in 1948 stated:

All children and adolescents will attend one school, the *Einheitsschule* (Unity School). There will be no parallel school types as an expression of different social classes. Teachers and parents are united in giving educational help and guidance to the youth. Student government, parent councils and coeducation of both sexes are the characteristics of the new educational community (Hauptschulamt von Gross-Berlin, 1948, p. 1).

In actuality the structural goal of the *Einheitsschule* proponents was never realized because class distinctions and elitist thinking was still too much a part of the German thought pattern. What was achieved, at least in West Berlin, was the abolition of separate names for each track. All traditional secondary schools were called *Oberschule* (high school). The traditional secondary schools, however, continued to exist as completely separate tracks from one another. Finally, even the state had to acknowledge the failure of the reform movement and by 1951 reference to the *Einheitsschule* was eliminated from the West Berlin school law (Tiburtius, 1951).

Ernst Mathewes, an American educator, in a report about the West German school system, made the following observations:

Despite remarkable pedagogical success, such school reform failed to win public support. The public was afraid that the more gifted children would suffer if general education of all children should continue too long. The consensus was that

after four years of basic schooling, children should be sent to the appropriate type of school. Such schools should be kept strictly separate from each other (Matthewes, 1961, p. 38).

James B. Conant, Commissioner of Education of the Allied Forces in Germany and former president of Harvard University, in comparing the European and American systems of education contended that, "the differences in political and social ideals" (Conant, 1967, p. 4), "and the absence of geographic mobility have restricted social mobility in European societies" (Conant, 1956, p. 26). Conant saw these factors as the underlying reasons for the development of the traditional West German educational system.

During the 1950's and 60's, changes in the West German economy necessitated a reexamination of the existing educational structure. Significant shifts in the labor market required that the schools supply industry with people equipped to handle highly technological and impersonal production methods.

Machines had started to replace the people's hands and computers were starting to replace their brains as well. What was needed were highly flexible, mobile and adaptive technicians for the operation of machines and computers. The schools with their rigid tracks and curricula could not keep up with the demands made by industry (Servan-Schreiber, 1968). In addition, the stratified school system became more and more expensive to maintain. Many educators in West Germany supported the overall structure of the traditional school system, but suggested internal reforms short of reshaping the total educational enterprise.

During the 1960's, educational leaders such as Dahrendorf (1965), Hitpass (1964) and Peisert (1967) identified several areas as being in need of reform within the traditional West German school system. These areas included:

1. The small number of students transferring from the elementary schools to the various secondary institutions.
2. The discrepancy of ability and social class on obtaining a school leaving certificate to attend college.

One of the criteria for whether or not an educational system operates successfully is based on the number of students actually reaching levels of education that qualify them for college entrance. Hitpass (1964), a German educator, in his analysis of the education system in West Germany, projected that about 24% of the total population have the ability to reach the Certificate of Maturity (*Abitur*, *Reifezeugnis*) which enables the bearer to go to college. However, the actual number of students during the early years of 1960 achieving this level was only 6% (Hitpass, 1964). In investigating the number of students transferring to the *Gymnasium*, Hitpass observed that the number of successful students varied greatly among the 13 West German states and averaged about 15%.

Based on this investigation, Hitpass identified some factors that tended to contribute to the low number of students entering and graduating from the *Gymnasium*. Of the total number of students attending the *Gymnasium* in the 1960's, only 15% progressed through the school without failing a whole grade at least once, but many of those needed

special outside tutorial services. In 1964 Hitpass reported the results of two studies conducted in 1956 and 1963, respectively, in Nordrhein Westphalen, where 70% of the highest ability group never reached the *Abitur*, and a very large number identified as being academically able to reach the *Abitur* never attempted the transfer to the *Gymnasium*.

Hitpass (1964) cited the following reasons for the low transfer rate: parental attitude, improper information given to parents and students, and lack of money to finance tutors. He also analyzed the reasons for failure of those students that had enrolled in the *Gymnasium* but did not reach the *Abitur*. Eighty percent were unable to perform satisfactorily both in their native and foreign languages.

The traditional German educational system has been criticized for discriminating against the lower socioeconomic status student, but Hitpass (1970) pointed out that once the student entered the *Gymnasium*, the success rate of all students was the same regardless of socioeconomic level. In order to improve education in West Germany, Hitpass suggested a variety of measures, such as extensive information campaigns for parents, introduction of an observation phase as a replacement of a selection process handled by the school staff, and increased opportunities for later transfer into the *Gymnasium*.

In an empirical study of school success and social class, Roeder, Pasdzierny, and Wolf (1965) reported that the traditional West German school system in Hessen discriminated against students from rural areas, girls and Roman Catholics. Only 8% of the students enrolled in the classical *Gymnasium* came from the lower social class

while 60% came from the upper class. Roeder's data showed a significant negative correlation between economic level and the number of capable students that remain in the *Hauptschule* instead of transferring to the *Gymnasium*. Roeder's findings in Hessen corresponded with those from Hitpass (1964) from Nordrhein Westphalen.

Eighty percent of the students failed in the *Gymnasium* because of low achievement in the mother tongue and foreign languages. Roeder (1965) suggested the incorporation of compensatory programs into the existing system and changes in language teaching to make students active participants. He called this methodology "social therapy."

Most of the criticism of the traditional system centered around the unequal opportunities for certain segments of the population which manifested itself by the fact that 49.8% of the total population (the lower socioeconomic class) contributed only 5.2% toward the total number of students attending higher education. The professionals (1 to 2% of the population), however, contributed 35.5% and the civil servants (6.7% of the population) 33.7% to the number of students enrolled in a college or university (Dahrendorf, 1965; see Figure 2).

Statistical material (Rolff et al., 1980) from 1965, 1974 and 1978 still indicated that only 12% of the college students belong to the lower socioeconomic class. Most of the college students stated that their parents were civil servants, salaried or professionals. Social class still remains a strong determiner of the type of education a youngster can expect; one out of ten children from the working class, as compared with eight out of ten from the professional class, will be able to go to college.

People

Students

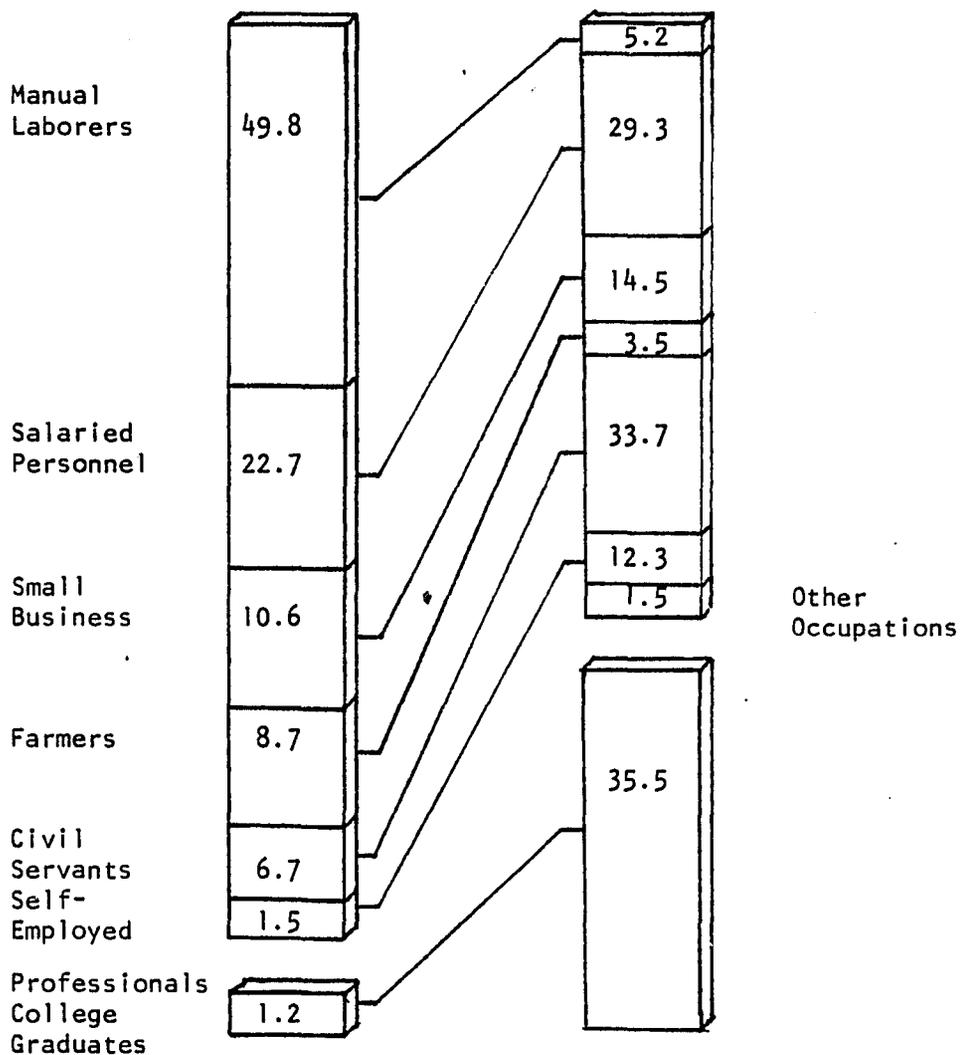


Figure 2. Socio stratification of the German people and socio-economic class of college students in the Federal Republic of Germany in 1962 (Dahrendorf, 1965, p. 51)

An extensive study by Peisert (1967), a German educational sociologist, based on data from all the states indicated a variety of variables which contributed to the small enrollment of lower socioeconomic status students at the *Gymnasium*. Peisert confirmed Hitpass' study that demographic factors, economic factors, school structure, level of information in students and parents and lifestyle were major variables preventing school success.

When the German sociologist Dahrendorf (1965) declared education the right of every citizen, he was especially concerned with the attitudes of parents toward education as the major barrier that needed to be removed. He came to the same conclusion as Hitpass (1964) and others, that intensive orientation programs must be instituted as part of the curriculum in the elementary schools. Most traditionalists, however, have maintained that the apparent underrepresentation of students from the lower socioeconomic levels at the *Gymnasium* was not due to discrimination, but due to their lack of ability, interest and willingness to work hard (Hansen, 1976).

When similar arguments were made in the United States, studies on school success by Battle and Rotter (1963) have shown that lack of interest cannot be made an a priori assumption for low achievement of members of the lower socioeconomic class. In their analysis of school success, they reported that persistent failure can lead to the use of disinterest as a defense mechanism to preserve some self-respect.

Popitz (1965), a Swiss educator, analyzed the selection procedures for entry into the *Gymnasium* which he divided into three phases:

school achievement; parental decision making; and selection of students by the staff of the *Gymnasium*. School achievement was supposed to be based on objective performance criteria, but Popitz' research revealed that teachers evaluated their students according to:

1. financial status of their parents,
2. level of education of their parents,
3. lifestyle (folkways and mores), and
4. student-teacher relationships.

His results also indicated that the decision of the parents about the future of their children tended to be modified by their *Weltanschauung* (world view) and their own levels of aspiration.

Popitz (1965) further pointed out that the method and content of the *Gymnasium* were at variance with the world view of a large segment of the German population and forced about half of all students to leave this traditional school without finishing their education. Popitz and other school reformers were not merely interested in raising the number of students eligible to go to college for the sake of just increasing their numbers, but felt that a quantitative change within the system would be indicative of a qualitative change, portraying a continuity between the school and cultural values held by a majority of the German people.

Regardless of the biological limits, the data supported the fact of an early elimination of the lower socioeconomic child from the opportunity for reaching the university. The educational system sanctioned social discrimination as a means to stabilize and perpetuate the

traditional power structure in the West German society (Rolff, 1967; Rolff et al., 1980).

Husen (1962, p. 30), a Swedish educational sociologist, suggested the direction that educational changes must occur:

A reform work which is intended to bridge the old gaps between social classes must see to it that the school system appears to all groups in society as a unitary construction, within which there are available and open ways for all young people and where each growing individual, independent of his social starting point in life, will have the opportunity to learn how he can best utilize his potentialities for his future tasks. Such a goal cannot be compatible with an overt or disguised parallel school system. A differentiation into separate schools should according to my conviction not take place until it is necessary with regard to the vocational choice.

Countries such as England and Sweden had already moved toward the comprehensivisation of their secondary school systems. Marklund (1974, p. 90) reported about the Swedish comprehensive reform movement:

The incorporation of formerly separate schools and study routines in one and the same school organization has on the whole proceeded without difficulties. As the result of the introduction of the comprehensive school system, the national school structure has become identical in all important aspects, in town and country, north and south, and in regions of varying geographical and economic structure.

Amid the criticism of the traditional educational system, mounting economic pressures and an apparently positive experience in other countries, German educators (Evers, Rolff and Frommberger) suggested the formation of integrated comprehensive schools as the only school capable of fulfilling the demands of an open, highly industrialized and technological society. Evers (1969, 1971), Frommberger and Rolff (1968), Hentig (1968), Jöllenbeck (1972), Rolff (1967, 1970), and Sander et al. (1971) presented arguments, plans and actual case studies of the

Gesamtschule to the West German public. Not so much democratic ideals, but economic pressures--the *Gesamtschule* represented a more efficient use of buildings, materials and teacher time (Frommberger and Rolff, 1968)--led to the development of this school pattern in West Germany. Rolff saw in this school a place for individual achievement (*Demokratische Leistungsschule*) (Sander et al., 1971). Hentig (1968) called it a place for self-determination (*Selbstbestimmung*).

Frommberger and Rolff (1968) viewed the *Gesamtschule* as a place that offers equal educational opportunities for all children through the modification of social barriers. The *Gesamtschule* was to have the function of giving all students a broad, general education based on a scientific view of the world. An extensive and differentiated curriculum was designed to foster cooperation among students as well as to enhance the decision making powers of the individual. Through the built-in possibilities of choosing and changing course work, the students were liberated from course selection constraints imposed by their age and were made familiar with the notion of social mobility as an aspect of modern society.

In the *Gesamtschule* design, rigid tracks were replaced by a system of differentiated courses. These were divided into four areas: the core courses (*Kern-Kurse*); subject area courses; electives; and interest groups. The core is composed of social studies, art, music and sports with the function of social integration by utilizing team teaching and large group instruction. The subject area courses are offered in German, English, mathematics, physics, chemistry, biology, history and earth science.

Within each subject area, in the West Berlin school system, diverse course levels are offered which are distinguished by group size, learning pace and individual student needs. This course sequence has been named the FEGA model, an acronym based on the four levels of course work offered (Frommberger and Rolff, 1968):

1. F course = *Fortgeschrittener Kurs* (advanced)
2. E course = *Erweiterter Kurs* (extended)
3. G course = *Gundkurs* (basic or fundamental)
4. A course = *Ausbau Kurs* (remedial)

Movement between the levels was to be unrestricted and based only on the students' achievement in special test procedures. A rather intricate point system was developed, with F-levels receiving the highest and A-levels receiving the lowest number of points as shown in Figure 3. At the end of each semester, the points for each student were averaged in order to determine whether the student continues at the specific course level or moves up or down. This course level change would only affect one subject area without affecting the placement in the others.

Electives are offered in the area of modern and classical languages and polytechnical-vocational education. Special interest groups are formed in sports and drama. This complex curriculum was planned for grades seven through ten, after which the students receive a differentiated school leaving certificate based on the total number of points accrued during the four years of attendance at the *Gesamtschule*. The students then continue on widely separate paths toward vocational

		<u>Course Types</u>				
		<u>F</u>	<u>E</u>	<u>G</u>	<u>A</u>	<u>Points</u>
<u>Grades</u>	1					10
	2		1			9
	3		2			8
	4		3	1		7
	5		4	2	1	6
	6		5	3	2	5
			6	4	3	4
			5	4	3	3
			6	5	2	2
				6	1	1

Figure 3. Point system of the FEGA model (Frommberger and Rolff, 1968, p. 52)

training, technical training or the continuation of secondary school education for the Certificate of Maturity.

Experience in Great Britain has shown that streaming, assigning students to A, B, and C level courses, tends to reinforce social class differences (Holly, 1965). Proponents of the FEGA system consider their model characterized by a greater degree of mobility between the levels than streaming would allow (Frommberger and Rolff, 1968). In the FEGA system students could be in an F-level course in German and in an A-level course in mathematics, while in the streaming pattern, the student's total instructional time would be spent in either all A-level or F-level courses.

Cube (1972), Hoffman (1972), Kassner (1974), and Prior (1975) contended, however, that the FEGA system reproduced the same social class differences as the traditional system, because there seems to be a direct correlation between socioeconomic status and assignment to the course level. Students from higher socioeconomic classes tended to select more F-level courses in a variety of subject areas than students from lower socioeconomic levels. Moreover, the course levels seemed to provide opportunities for student socialization which were not counter-balanced by the core courses (Kassner, 1974). The core courses were intended to foster student socialization across social class barriers. Kassner (1974) and Prior (1975) noted, however, that the strongest friendship bonds developed in the subject areas within each of the course levels (A through F), reinforcing social segregation.

In the traditional system, students not able to achieve would just leave the school and therefore avoid the ridicule of their peers.

In the *Gesamtschule* students cannot escape and must face their peers in the heterogeneously grouped core classes. Kassner (1974) noted that these students were possibly confronted with greater discrimination in the new democratic school system than in the traditional system.

Cube (1972), on the other hand, saw the FEGA system discriminating against the abler student. Additional high powered (F-level) courses provided the student with enrichment work but did not enable the student to go on to the next topic within a specific subject area.

Hoffman (1972) insisted that the *Gesamtschule* discriminated because its values and norms were dictated by the mores of the middle class and judgement of achievement was based on the patterns and processes developed in the traditional system. It tended to be the consensus of the critics that educating all social classes together does not necessarily lead to social integration (Kassner, 1974).

The *Gesamtschule*, just as the traditional system, places heavy emphasis on language facility (Cube, 1972). Studies in America dealing with language facility have shown that language is learned in the home and reflects the social class of the family by the degree of articulation and type of vocabulary used (Bernstein, 1959; Davis, 1948). Recent research in Germany has also shown that the degree of language facility of the students was responsible for their success or failure in school (Fiedler, 1972; Prior, 1975; Sander et al., 1971).

In the traditional *Gymnasium*, as pointed out before, 80% of the students drop out or repeat classes due to the inability to pass language oriented courses. In a correlation between school success and social

class, Fiedler (1972) could show that 84% of the upper middle class, as compared to 21% of the lower class students, earned the Certificate of Maturity (See Figure 4). The results indicated a positive relationship between social class and school success. Higher social class membership is directly proportionate to greater success in the *Gymnasium*. The average success line at 42% passes through the middle of the Civil Servant classification indicating that those occupational classifications that lie hierarchically above the Civil Servant group are providing proportionally more students with the Certificate of Maturity than those which are lying below this average. Fiedler interpreted the results as a direct expression of the difference in linguistic patterns within the social classes.

An American study cited in Passow (1963) dealt with factors affecting educational success in depressed areas. Goldberg, an American educator, noted that social distance is created by differences in style of expression: "In general, the expressive style of the lower-class child can be described as more often motoric, concrete, 'thing-oriented,' and non-verbal. The middle-class child, on the other hand, is more often conceptual, abstract-symbolic, 'idea-oriented,' and verbal in style of expression" (Passow, 1963, pp. 79-80).

In addressing the same problem, Sander et al. (1971), in a study in Germany, judged the evaluation system of the *Gesamtschule* to be fair to the lower socioeconomic child, because grades were based on objective and teacher-made tests and not on subjective impressions by the teachers of the students as is practiced in the traditional system.

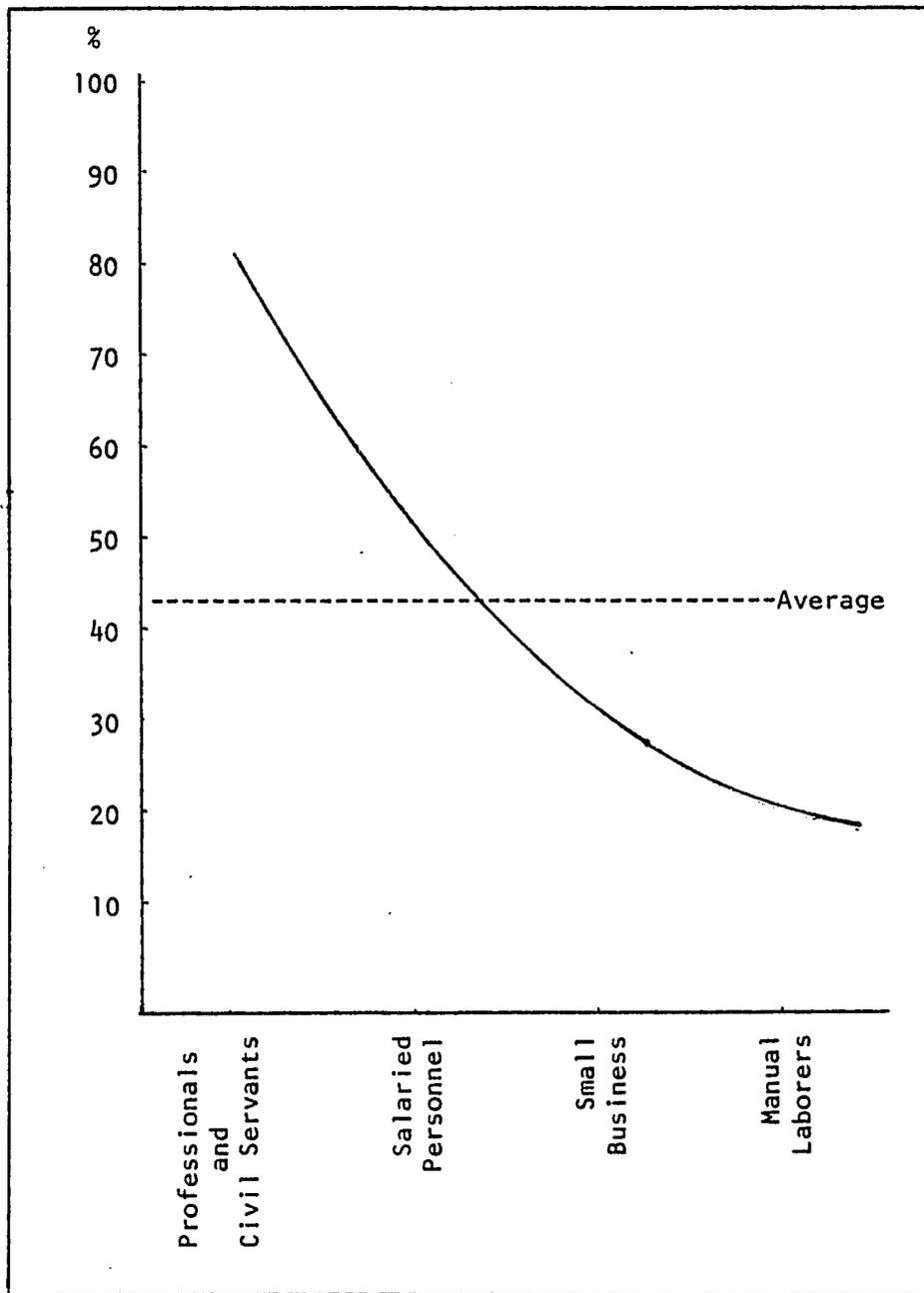


Figure 4. Proportion of students reaching the *Abitur* and their socioeconomic status (Fiedler, 1972)

But as Davis (1948, p. 83), an American educator, pointed out, underprivileged children in America exposed to similar situations as German students will still perform below their actual achievement levels because all tests reflect "one's facility with and training in middle class linguistic culture." To counteract these effects, the designers of the *Gesamtschule* have developed a variety of strategies to sharpen the linguistic skills of the students and offer many compensatory programs (Prior, 1975).

Many critics of the *Gesamtschule*, however, consider this school to be unable to deal with its inherent inconsistencies. Kuhnen (1976, p. 10), a German educator, identified three areas of controversy:

1. The contradiction between the promise of equal educational opportunities and the need for selection.
2. The contradiction between the call for cooperation and the still dominant principle of competition.
3. The contradiction between the internal and external processes of socialization.

The *Gesamtschule* advocates have refuted all the arguments of their critics. Von Auer (1975) reported that upward mobility from the lower course levels to the higher course levels was twice as frequent as in the other direction. Students were not discriminated against if they had to move to a lower course level, because students viewed their placement as temporary. In an empirical study in Constance, the data involving 1,447 ninth grade male and female students supported the notion that students from the lower socioeconomic levels performed better in the *Gesamtschule* than in the traditional school types. In 1973 28.8% of the students in the *Gesamtschule* performed at about the

same level as 50% of the students that attended the *Hauptschule* in the traditional system. The proportion of students in the highest achievement group with 35.2% was considerably higher than the 25% of students enrolled in the traditional *Gymnasium* (von Auer, 1975).

The *Gesamtschule* eliminated the differences in opportunity for higher education between rural and urban areas. According to Hitpass et al. (1970), females have also entered this school type in significantly larger numbers. Especially significant have been the results of the success of the lower socioeconomic student in the *Gesamtschule*. Research in *Gesamtschulen* that follow the English model of streaming students in A, B, and C level courses have shown that while 10.4% of the lower socioeconomic group was found in the *Gymnasium*, 33.1% were in the comparable A-level of the *Gesamtschule*. While 67.7% of the lower socioeconomic group was found in the *Hauptschule*, only 18.8% were attending the comparable C-level in the *Gesamtschule* (von Auer, 1975).

Students' and parents' expectations of a higher school leaving certificate were significantly greater for pupils attending the *Gesamtschule* as compared to students attending schools in the traditional system. The states of Berlin and Hessen do not have enough comprehensive schools to satisfy the demands of the parents; the educational authorities must continue to place students in the traditional system (Evers, 1971). Even though the evidence seems to point favorably to the achievements of the *Gesamtschule*, all states in West Germany have comprehensive schools alongside the traditional system. Some states, however, have only one or two comprehensive schools.

While Berlin, Saarland and Nordrhein-Westphalen do not have any additive *Gesamtschulen*, only Hessen, Bremen and Niedersachsen developed the additive *Gesamtschule* as an alternate option to the integrative *Gesamtschule* and the traditional school system. However, the total number of students in Germany affected by the additive *Gesamtschule* is not large. Most studies do not make a distinction between the two types of *Gesamtschulen* (Rolff et al., 1980).

Publications by the *Deutsche Philologenverband* representing the teachers' organization at the *Gymnasium* level continue to strongly criticize the *Gesamtschule* (*Zeitschrift des Deutschen Philologenverbandes*, *Zeitschrift des Philologenverbandes Nordrhein-Westphalen*). Most *Gymnasium* level teachers, as products of an elitist system, continue to defend the traditional West German school system. For them the *Gymnasium* is the only place to educate college bound students. Many *Gymnasium* level teachers regard the *Gesamtschule* as a place in which the educational norms have been lowered and the prestige of teachers has been weakened. As a result, *Gesamtschulen* seem to have been developed as an alternative to and not as a replacement of the traditional educational structure.

The decision by the German Federal Government to finance 50% of the educational experiments persuaded many *Länder* (states) to develop *Gesamtschulen* (Rolff et al., 1980). In the early 1970's the number of secondary students was still increasing and the *Gesamtschulen* picked up the overflow of students. During the latest visit by the author to the Federal Republic of Germany in 1981, a different picture presented

itself. By changing the status of the *Gesamtschule* to the same level as that of the schools in the traditional system, a considerable amount of money was lost from the states educational budget and had to be raised from local sources. This change made the building of new schools prohibitive for most local school districts. In addition, the number of secondary students steadily declined, making it necessary to convert schools from one type to another. Even after more than ten years in existence the *Gesamtschule* has not been accepted. The teachers are dissatisfied with this school and parents still prefer to send their children to the *Gymnasium* first. Should the child fail, then he can still go to any of the other schools including the *Gesamtschule*. The *Gymnasium* still remains the most prestigious secondary school. While in Berlin in the summer of 1981, talk of closure of two *Gesamtschulen* indicated to this researcher a reversal in recent trends in secondary school planning. Rolff et al. (1980) indicated that the school system might end up with the *Gymnasium* and the *Gesamtschule*, as well as a combined *Realschule-Hauptschule* complex, reducing the traditional three track school system into a two track system.

Locus of Control

The theoretical background for the locus of control of reinforcement construct was developed out of a social learning theory of personality.

In social learning theory, a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future. Once an expectancy for such a behavior-reinforcement sequence is built up the failure of the reinforcement to occur will reduce or extinguish the expectancy (Rotter, 1972, p. 261).

Persons considered to have an external locus of control have: "A generalized expectancy that reinforcements are not under their control across varying situations. In layman's language, these persons may be described as lacking self-confidence, or in Adler's terminology, suffering from inferiority feelings (Lefcourt, 1966, p. 207).

An early study, using 60 white and 60 black male inmates from two correctional institutions, has shown that blacks score higher (more external) on the Internal-External Scale (Lefcourt and Ladwig, 1972). The Internal-External (I-E) Scale is scored on the external choices. A high score indicates an external, a low score an internal locus of control of reinforcement. Franklin (1963) analyzed the locus of control of a nationally representative sample of 1,000 male and female American high school students grades ten through twelve with the aid of a 53-item questionnaire. His data revealed that internal scores were significantly related to belonging to a higher socioeconomic group.

Frierson (1975) investigated the relationships between conceptual tempo, socioeconomic status, achievement, IQ, and locus of control. Conceptual tempo refers to the notion of response time and accuracy in the performance of a specific task. This study included 180 fourth grade students from high and low socioeconomic backgrounds. The study included approximately equal numbers of males and females and was conducted in a small midwestern city. The Matching Familiar Figure (MFF) test was used in determining conceptual tempo of the subjects. Locus of control was assessed with the Intellectual Achievement Responsibility Questionnaire (IAR). A sense of control was measured with a Likert-type

multiple choice scale. Teacher ratings and a variety of achievement tests in reading and mathematics were used as indices for school success. Frierson (1975) did not find any interaction between socioeconomic status and conceptual tempo. However, high SES subjects scored significantly higher on all variables related to achievement and school success. High socioeconomic status subjects scored more internal and displayed greater control over their environment. For children from low socioeconomic status groups, only those that were fast and accurate did teacher rating, locus of control and achievement scores show significant interactions.

Several investigators turned their attention to using locus of control as a predictor variable for school success in achievement situations. Crandall, Katkovsky, and Preston (1962) indicated that free play activities and achievement test scores correlated significantly with locus of control with boys but not with girls. Other variables produced insignificant absolute sex differences in achievement in 20 boys and 20 girls grades one through three in Ohio.

Crandall, Katkovsky, and Crandall (1965) devised their own locus of control instrument, the Intellectual Achievement Responsibility Questionnaire (IAR). The IAR was specifically developed for children and introduces external forces familiar to most youngsters. The IAR scale is a 34-item forced choice questionnaire. Each item describes a positive or negative achievement experience from everyday life. In addition to a total score, positive achievements for which the child claims responsibility, as well as failures under the child's own

control, can be subsumed separately, yielding an I+ and I- score, respectively. When investigating locus of control of reinforcement in intellectual-academic achievement situations, their instrument indicated that white girls above the sixth grade gave significantly more internal responses than white boys. The sample included 923 elementary and high school students normally distributed over the socioeconomic range from diverse communities in Ohio. In contrast to other studies, Crandall et al. (1965) could not find significant influences of socioeconomic class on locus of control. Their Intellectual Achievement Responsibility Questionnaire (IAR) produced significant relationships of ordinal family position and family size to locus of control. Older children, first born children and children from small families scored significantly more internal.

Nowicki and Roundtree (1971) investigated the relationships of achievement, popularity, involvement in extracurricular activities, family ordinal position and IQ to locus of control. Eighty-seven twelfth grade students from a suburban high school outside a large southwestern city took the Nowicki-Strickland Locus of Control Scale during the winter of 1970. This instrument consists of 40 questions answered yes or no, covering a wide variety of personal interaction situations. Relationships between locus of control and IQ were not significant. The results did suggest that internal females were more involved in extracurricular activities while internal males scored higher on achievement tests. Family ordinal position showed differential results for boys and girls. The further boys placed in ordinal

position the more external they became, but girls, on the other hand, became more internal.

Battle and Rotter (1963) investigated the relationships of social class and ethnic group to locus of control. The study involved 80 sixth and eighth grade children selected according to sex, social class and ethnic group affiliation (Negro and white) from schools in Columbus and Dayton, Ohio. As a locus of control measure, Battle and Rotter used the Bialer Locus of Control Questionnaire consisting of 23 yes-no items. A low score on this scale identifies an externally oriented subject. The total score on the California Mental Maturity Test served as a measure of intelligence. Significant interactions resulted between social class and ethnic groups to locus of control. Lower class Negro children were more external than middle class Negro or white children. Battle and Rotter suggested that perhaps middle class Negroes are raised with the acceptance of white middle class beliefs in personal responsibility and opportunity. When Battle and Rotter analyzed the data taking IQ into consideration, lower class Negroes with high IQ scored more external than middle class whites with a lower IQ. These findings indicated that bright lower class Negroes perceive limited opportunities for their success in a predominantly white middle class society and therefore use external attitudes as a defense mechanism to justify their position. Sex and age did not significantly interact with internal-external locus of control.

A large body of research concentrated on the relationship between locus of control and achievement and other school related

variables. Educators have been particularly interested in finding variables which can be used as predictors for academic success. In a recent study by Blanchard (1978), 168 black male and female students, grades six and four, in segregated and desegregated schools located in two cities, one in the northeast and one in the south, were selected for an examination of locus of control as it relates to learner efficiency. The Crandall locus of control IAR instrument was used to assess internal-external locus of control of reinforcement. The scale is composed of 34 items of positive and negative achievement experiences common to most children. The IAR yields a total score and two subscores where subjects assume responsibility for success or failure, respectively. Blanchard's results suggested that a significant relationship exists between locus of control and school environment. Students in segregated schools on the whole are more internal than students in desegregated schools. Blanchard assumed that the segregated environment provided more stability and continuity and a better self-image. She further stated that the score of students from desegregated schools might reflect the stressful situation and an ambiguous environment.

The process of seeking information as it relates to locus of control was the subject of a study by Davis and Phares (1967). On the basis of the Rotter I-E Scale, 42 external and 42 internal males enrolled in general psychology at Kansas State University were selected and randomly assigned to skill, chance and ambiguous experimental conditions. These subjects were made to understand that they were to influence other person's attitudes and that their success depended on

skill or chance, respectively. In the case of the ambiguous experimental group, the situation was not qualified. The results of this study indicated that internal subjects sought significantly more information in skill as well as in ambiguous situations than externals. Davis and Phares (1967, p. 560) stated:

Thus, it appears that internals have more knowledge which is important for later outcomes, remember more of this information, and, on the basis of the present study, actively seek information that will be useful in the future One of the important findings of this study is that differences between internals and externals in information-seeking behavior are conditioned at least partly by situational variables.

In a follow-up study, Phares (1968) was interested in demonstrating that internals are more effective in utilizing information and therefore more competent in handling problem situations. From a total of 214 male students in a general psychology class at Kansas State University, 24 internals and 28 externals were selected and assigned to internal and external control and experimental groups. All subjects had to learn several bits of information which later had to be utilized by the two control groups in order to arrive at a specific solution for a given problem. The control groups did not undergo a utilization test. The results of this study indicated that internals utilize information significantly better than externals, leading Phares (1968, pp. 660-661) to conclude: "That an internal orientation results in behaviors which better enable the individual to cope with the demands of reality . . . the evidence clearly paints a picture of the internal's greater potential for effectiveness in his environment."

As in the Davis and Phares (1967) study, Lefcourt et al. (1968) investigated task-expectancy as it relates to internal versus external control of reinforcement. They selected 25 females and 55 males to whom they administered the Rotter I-E Scale. On the basis of these scores, four groups were formed: Internals-skill condition, Internals-chance condition, External-skill condition, and External-chance condition. All subjects had the task of operating the Level of Aspiration Board (LOAB), with the directions for the task being modified to either state that the earning of points is a matter of skill or a matter of chance, respectively. The results indicated that the outcomes differed depending on the perception of the task by the subject and not so much on the definition of the task given by the experimenter. Internal subjects were more likely than externals to view the task skill related. Only when the subjects' perception of a specific task is taken into consideration will "internal subjects appear biased toward accepting skill directions and rejecting chance ones" (Lefcourt et al., 1968, p. 681).

Sherman and Hofmann (1978) analyzed locus of control as it relates to socioeconomic status, sex and achievement. Their sample included 174 eighth grade subjects from a midwestern suburban district. The sample contained a ratio of one black student to every three white students and approximately an equal number of males and females. To assess achievement two measures were used: one, grade point average (GPA) which was computed from five academic subject areas; the other, Stanford Achievement Test (SAT) scores. For their locus of control instrument, Sherman and Hofmann used the Nowicki-Strickland Scale, a

40-item, yes-no response, questionnaire. The questionnaire and achievement tests were administered by the classroom teachers. While the results showed no significant interrelationship between SES, sex and locus of control, each of these variables, however, correlated significantly with GPA and to a lesser degree with the SAT scores. When sex was not considered, SAT scores and GPA were equally well predictable from the other variables. Sherman and Hofmann pointed out that locus of control was very useful in aiding the prediction of school achievement.

Most of the research dealing with internal-external locus of control focused on the differential performances of internals versus externals based on their perception of a task as being skill or chance related. In academic achievement situations, internality was seen to be highly correlated with a sense of control and resultant school success. A further research aspect was presented in the relationship of locus of control to moral judgement. Adams-Weber (1969) recruited 103 Ohio State University students, 42 males and 61 females, between the ages of 17 and 25. Each subject was required to answer the Rotter I-E Scale and write an ending to two stories depicting a form of immoral behavior. Adams-Weber's results indicated a significant relationship between locus of control scores and story-completion ratings but did not produce significant differences according to sex. Internal subjects clearly anticipated punishment for immoral transgressions. Adams-Weber considered this type of story completion test preferable to the I-E Scale when "assessing the role of specific patterns of parental discipline in the development of generalized expectancies concerning the locus of control of rewards and punishment during childhood" (Adams-Weber, 1969, p. 343).

Bruner (1971) reported that a number of studies have shown that children with authoritarian mothers will tend to become externally controlled. He further explained that the locus of control of the mother tends to have a significant effect on the intelligence and the achievement of the children in later school years. A mother holding the belief in fate, luck and powerful others would have influenced the child by his fourth year of life. Bruner (1967) stated that the child would be more likely to have a lower IQ and lower achievement scores when he entered school than a child whose mother would be internally controlled. Bruner recommended that variables such as locus of control should be taken into consideration when developing new strategies in education. Vasquez (1974, p. 12) made some suggestions for fostering internality in students: "We suggest three things are needed to help the external child become more internal: he must understand cause-effect relationships, he must have success experiences, and he must be offered situations whose outcome demand internal attribution."

Lefcourt (1966) and Joe (1971) have summarized the variety of personality traits and behaviors associated with one control locus but not the other. Lefcourt stated that highly external subjects have lower success expectancies, have less interest in effecting social change, have less knowledge of their own condition and have a greater need to conform in social situations. In addition, most studies involving ethnicity have supported the hypothesis that according to Lefcourt (1966, p. 212), "Groups whose social position is one of minimal power either by class or race tend to score higher in the external-control direction."

Joe (1971, p. 623) described the external: "as being relatively anxious, aggressive, dogmatic, and less trustful and more suspicious of others, lacking in self-confidence and insight, having low needs for social approval, and having a greater tendency to use sensitizing modes of defenses."

An internally controlled person, on the other hand, is more concerned with achievement, better able to overcome frustrations, less anxious and exhibits greater verbal fluency. Joe (1971, p. 627) stated: "that internals, in contrast to externals, would show a greater tendency to seek information and adopt behavior patterns which facilitate personal control over their environment."

In recent years research in Germany has been concerned with personality variables that bear a relationship to locus of control. Even though no reference to locus of control has been made in the German educational literature, two studies relate to the topic.

Hansen (1976) investigated subjects with upward mobility aspirations. He compared lower socioeconomic status adolescents of both sexes at the *Gymnasium* with those in vocational training schools. He characterized all students as coming from highly controlled and authoritarian homes. The parents of these students from lower socioeconomic levels were found to be disillusioned about their children's possible success in college preparatory schools and they considered themselves as second class citizens. The adolescent at the *Gymnasium* had difficulty in abstract verbal communication and did not relate well to the teachers in that school. Lower socioeconomic status students in vocational

training schools were significantly different from lower socioeconomic students at the *Gymnasium* in measures of depression and neurotic tendencies as assessed by the FPI (*Freiburger Persönlichkeits Inventar*), an instrument designed to measure a variety of personality variables. Hansen could not find any significant differences between lower socioeconomic status students and higher socioeconomic status students in the *Gymnasium*.

Rolff et al. (1980) published the accumulated results of studies on school climate and school type in relation to a variety of achievement and personality variables. When comparing schools of the same size, significant differences between students at the *Gesamtschule* and the *Gymnasium* occurred in such variables as competitiveness, test anxiety and student directed communication. Of these variables test anxiety seems to bear a relationship to locus of control.

In a study conducted by Schwarzer and Royl in 1976, as reported by Rolff et al. (1980), a total of 7,828 male and female students in traditional schools, as well as two types of the *Gesamtschule* in Schleswig-Holstein, were questioned about their levels of test anxiety. A questionnaire was used by these investigators. Three grade levels were utilized, fifth graders (N = 2,211), sixth graders (N = 3,868) and eighth graders (N = 1,748). Significant differences were obtained when fifth grade and eighth grade means were compared. Fifth grade students in the integrated *Gesamtschule* had a mean of 6.86, in the additive *Gesamtschule* 7.21, in the *Gymnasium* 6.00, in the *Realschule* 7.58, and in the *Hauptschule* 8.36. Eighth grade students in the

integrated *Gesamtschule* had a mean of 3.69, in the additive *Gesamtschule* 4.96, in the *Gymnasium* 6.71, the *Realschule* 7.18, and in the *Hauptschule* 6.34.

The initial high anxiety level of students in the *Hauptschule* has been explained as a reaction to the fourth grade selection procedures common in the elementary schools in most of the West German states (Rolff et al., 1980). The students at the *Hauptschule* represent that segment of the student population that was not selected for the *Realschule* or the *Gymnasium*. After three years of attending an integrated *Gesamtschule*, the anxiety level of its students had been significantly decreased. This tended to support the hypothesis that the *Gesamtschule* has a positive effect on the personality of its students and has produced effective procedures that significantly influence their character.

German educational research for the past ten years was mainly concerned with an analysis of the efficiency of the traditional education as well as the *Gesamtschule* system. Research data served to either legitimize or discredit the *Gesamtschule*. Measurement of students' educational achievement was based on traditional concepts without regard to the differences among the school types. Little emphasis was placed on research in the area of curriculum development and patterns of socialization.

The present study is intended to extract information as to the different effects of the school types on the personality of the students as measured by their locus of control. To the knowledge of this writer, this is the first study of this kind ever conducted in Germany and

represents a radical departure from conventional German educational research.

Summary

The first section of this chapter traced the development of the present day German school system; the second dealt with locus of control of reinforcement.

The school system of West Germany currently consists of two parallel sections: a tracked system made up of *Hauptschule*, *Realschule* and *Gymnasium* and a comprehensive one represented by the *Gesamtschule*. The tracked system, in its present form, has been in existence since the Weimar Republic (1919). Minor modifications have been made to keep the tracked system atuned to the changes in the West German society. The comprehensive school was added to the system in 1968 to equalize educational opportunities for all children and to foster patterns of socialization in keeping with an open technological society.

While a considerable amount of research (Frommberger and Rolff, 1968; Hentig, 1968; Rolff, 1967, 1970) indicated that the *Gesamtschule* enhanced the school success of the lower socioeconomic child and provided more students with the Certificate of Maturity, many educators and especially *Gymnasium* level teachers (Cube, 1972; Hoffman, 1972; Kuhnen, 1976) have criticized this new school type. Consequently, Germany, unlike Sweden, did not fully comprehensivize its school system. West German students have the option of attending a comprehensive secondary school or one of the traditional tracks.

The second section of this chapter concentrated on the theory of locus of control of reinforcement. This construct was developed in the 1960's by Rotter and others and has become of great interest to educators as a predictor variable for school success. On the locus of control continuum, people can either be classified as internals or externals. Internals believe that reinforcements are contingent upon their own actions, while externals are inclined to believe reinforcements are due to external forces beyond their control, such as luck, fate or powerful others.

Research has shown that students from lower socioeconomic levels and minorities tend to have a more external locus of control than others (Battle and Rotter, 1963; Franklin, 1963; Lefcourt, 1966). In academic achievement situations, all studies point to the internal person as having the greater advantage (Crandall et al., 1965; Davis and Phares, 1967; Phares, 1968). The following chapter will focus on the research methodology employed in studying the locus of control among selected students in the *Gesamtschule*, *Hauptschule* and *Gymnasium* of West Berlin.

CHAPTER 3

RESEARCH METHODOLOGY

It is the purpose of this study to determine and compare the locus of control of selected students attending various types of secondary schools in West Berlin, Germany. Decisions pertaining to the scope and sequence of this investigation were guided by the knowledge of the German school system and the willingness of the school officials to permit the collection of data.

Throughout the German literature it has been implied that the *Gesamtschule* has the function of influencing the socialization patterns of its students in the direction of minimizing the effects of lower socioeconomic group membership on educational achievement. The effectiveness of this school type was measured either by the increase in the number of students graduating with the Certificate of Maturity or by the number of students enrolled in college preparatory courses. However, if the *Gesamtschule* has a profound effect on its students, then changes in their attitudes should also become apparent. One of the personality variables affected by the *Gesamtschule* should be locus of control of reinforcement. As Vasquez (1974) suggested, students exposed to situations demanding internal behaviors should, over time, become more internal.

As a graduate from the traditional West Berlin school system, this investigator directed many unofficial inquiries to former

teachers, professors and administrators to ascertain the receptivity for this kind of a research project. Numerous contacts were made with German educational research groups to receive current materials not available in the United States. It became apparent that research on locus of control, as such, was nonexistent and that very few comparative studies dealing with the comprehensive versus the tracked system had been conducted. Based on the foregoing information, the school system of West Berlin was formally contacted during October 1980 to request official permission to conduct this research during May and June of 1981. Official permission to conduct this research as outlined in my proposal and submitted to the educational authorities in West Berlin was received at the end of April 1981.

For the purpose of this study, a variety of locus of control instruments were studied prior to the selection of the Rotter I-E Scale. A discussion of these instruments is included in this chapter. The selection of the schools, the student population, the selection of the instruments and their administration are described in this chapter.

Student Population Selection

The public school system of West Berlin currently consists of 467 schools distributed over 12 districts. Of these 48 are *Hauptschulen*, 63 *Gymnasien* and 29 *Gesamtschulen*. The total enrollment during the 1980-81 school year in these secondary schools was 95,606 students, 15% of which were foreign students (Senator für Schulwesen, 1981a). The Ministry of Education (Senator für Schulwesen) of West Berlin suggested certain districts as being representative of the entire city for

research purposes. However, the permission of the principal of each school was required for data collection privileges.

The Ministry of Education provided authenticated copies of its permission to conduct the research. Each principal of the schools selected was contacted for a preliminary interview and conference. The principal received a letter of introduction, a short synopsis of the research project and a copy of each instrument to be used. Either during this or in a follow-up conference specific dates were agreed upon for the administration of the instruments. Three *Hauptschulen*, two *Gymnasien* and two *Gesamtschulen* were selected as representing the broad spectrum of social classes and religious affiliations of West Berlin.

For the purpose of this ex-post facto study, only seventh and tenth grade students were selected. Of the total 829 students included, 304 attended the *Hauptschule*, 290 the *Gesamtschule* and 235 the *Gymnasium*. This represents from 1-3% of the total seventh and tenth grade student population in these secondary schools. This research was limited to students holding German citizenship. Only 700 students of the total sample were included for final data analysis; the remaining 129 students are mostly of Turkish citizenships.

The composition of the German student population is outlined in Table 1. In general, German students do not receive matriculation numbers and the usage of their names was prohibited. Each student, therefore, was assigned an identification number for this research project. From this list randomized subsamples were drawn with the aid

Table 1. Composition of the German student population

Category	Total*
<i>Hauptschule</i>	226
Grade 7 = 129	
Grade 10 = 97	
<i>Gesamtschule</i>	265
Grade 7 = 161	
Grade 10 = 104	
<i>Gymnasium</i>	209
Grade 7 = 113	
Grade 10 = 96	
Male students	414
Female students	284
Students of lower SES	197
Students of higher SES	500
Protestant students	632
Roman Catholic students	68
Students from small families	558
Students from large families	237
First born students	336
Last born students	371

*Due to the fact that some students did not mark all spaces on the personal inventory questionnaire, the total number of various categories differs from the overall total number of students.

of the random number table. For each set of hypotheses a new subsample was drawn to equalize the cell proportions.

Instrumentation

Research in the area of locus of control has been conducted since 1957 by Rotter and others and a variety of instruments have been developed. Several criteria were considered in the selection of an appropriate locus of control scale for this study:

1. The appropriateness of the instrument in relation to the age of the sample;
2. The relative difficulty in administration and scoring of the instrument;
3. The translatability of the instrument and application to a foreign culture.

Crandall et al. (1965) developed a locus of control scale for children applicable specifically to academic achievement situations. The scale is composed of 34 forced-choice items. Each item describes either a positive or negative achievement situation with which children are quite familiar. Positive as well as negative items for which the child claims responsibility are subsumed into separate I+ and I- scores. The total internal score is the sum of the I+ and I- subscores. This scale was administered to students in grades 3, 4, 5, 6, 8, 10 and 12. Crandall et al. reported low interscale correlations that led them to believe that assuming responsibility for one's successes and assuming responsibility for one's failures may represent two different academic

achievement situations. Crandall et al. (1965, p. 101) also stated: "In addition, the low correlations between the two subscales raises some doubt about the use of the total I score alone. Since this score combines self-responsibility for success and failure, it may mask important differences between the two in the individual child." Since the total I score was of interest in this study and since not only intellectual academic achievement situations were looked at, this scale was not considered for usage in this research project.

Another locus of control scale was developed by Nowicki and Strickland (1973). They had analyzed all the existing scales and found that: "There is a clear need for a reliable instrument for researchers to use to study the effects of a generalized locus of control orientation of a child's behavior" (Nowicki and Strickland, 1973, p. 149). The Nowicki Strickland Locus of Control Scale is a 40-item yes-no questionnaire dealing with a variety of interpersonal and achievement areas. This scale was administered to students grades three to twelve. The results reported by Nowicki and Strickland pointed to significant correlations between locus of control and SES and to achievement in males but not in females. This instrument seemed to be a better predictor for behavior in males across a wide range of situations. The length of this questionnaire and the continual differential correlation between sex and locus of control ruled out this scale for use in this project.

One of the most widely used locus of control scale has been developed by Rotter (1972). For the English version, see Appendix A. The Rotter I-E Scale evolved from a 60-item forced choice scale

originally designed by Phares and James. Rotter reported that the James-Phares Scale was item and factor analyzed resulting in a reduction and purification of the scale to the existing 29 forced choice instrument. Included are six fillers for the distraction of the test subjects.

Validity and reliability data have been reported by Rotter (1972) on a population of 200 male and 200 female subjects in a beginning psychology class at The Ohio State University.

Internal consistency analysis (Kuder-Richardson) for the same Ohio State sample yielded an $r = .70$ for males and females. The Kuder-Richardson represents an internal consistency measure of reliability equal to an average of all split-half correlations. Rotter, however, considered this coefficient to be slightly underestimated.

Two subsamples were drawn from the previously mentioned Ohio State sample for the assessment of test-retest reliability coefficients. Rotter reported that after one month the coefficient for males was $r = .60$ ($N = 30$), for females $r = .83$ ($N = 30$), and the combined coefficient $r = .72$ ($N = 60$). After two months the coefficient for males was $r = .49$ ($N = 63$), for females $r = .61$ ($N = 54$), and the combined coefficient was $r = .55$ ($N = 117$). Rotter accounted for the decrease in the test-retest reliability coefficient between the two administrations by pointing out that the first test was administered under group conditions, while the second was administered individually to the subjects (Rotter, 1972).

In the assessment of the construct validity, the I-E Scale was compared to the Marlow-Crown Social Desirability Scale and various

measures of intelligence. All analyses yielded low coefficients indicating that the I-E Scale has very little in common with these other measures. Several factor analyses supported the fact that the I-E Scale is measuring one factor only (Rotter, 1972).

Various studies have disputed Rotter's findings of the one factor representation of his scale. Schneider and Parsons (1970) reported that they could divide the Rotter scale into five categories with the potential of discriminating cultural groups from one another in the area of locus of control. They stated: "Hence, recent evidence, including this study, suggests that the utility of this scale can be further enhanced by developing and refining specific categories, rather than treating the scale as measuring a unitary general factor" (Schneider and Parsons, 1970, p. 137). The wealth of data available on this instrument, the fact that it had been used with other cultural groups, its relative brevity and ease in scoring influenced this researcher to utilize Rotter's Locus of Control Scale for this study.

In order to use this scale in Germany, it was necessary to translate it into German. This was done by the author. Several steps were included in the translation process. After the first draft had been prepared, several (three) educators who were native speakers of German and also familiar with the English version of the test instrument revised the translation. The authenticated instrument was then reviewed by West German educators and noneducators who were on tour of the U.S. during 1980 and 1981.

Special care was taken to preserve the concept of each test question while using German idioms familiar to German high school

students. The final draft was administered to German high school students visiting Tucson, Arizona during the spring of 1981. The language of the instrument did not present any problem to these students.

For final approval, the German version of the instrument was submitted to the education authorities in West Berlin. The Senator für Schulwesen suggested minor changes which did not significantly alter the instrument. (For the German version, see Appendix B).

Since a translated version of Rotter's I-E Scale was used in this research, internal consistency and reliability data were collected by this researcher using the data from the 18 students from Cologne. All students were from the *Gymnasium* and responded to the instrument once upon arrival and for a second time three weeks later, just before their departure. However, only seven test scores were complete and could be used for the test-retest statistic. A search of the literature did not yield any reliability data for the Swedish study (Rotter et al., 1972) or the Danish study (Schneider and Parsons, 1970).

Seeman (cited in Rotter, 1972) studied Swedish workers to ascertain the relationship between locus of control and union membership. He used a translated version of the I-E scale. Sample size, reliability and internal consistency data were not given.

Schneider and Parsons (1970) reported about a study involving 124 males and 148 female psychology students at Copenhagen University and 116 male and 108 female psychology students at the University of Oklahoma. The American sample used the original 29-item Rotter I-E Scale while the Danish sample used a translated version. The

translation was prepared by two faculty members at Copenhagen University. Reliability and internal consistency data were not furnished. The test-retest reliability was $r = .35$ ($N = 7$) which was considerably lower than expected, but could be due to the small sample size in this study.

Internal consistency was assessed with two statistics, the Kuder-Richardson coefficient and the corrected Spearman-Brown split-half reliability coefficient (Glass and Stanley, 1970). The German *Gymnasium* sample yielded a Kuder-Richardson of $KR_{20} = .58$ ($N = 18$), and a Spearman Brown coefficient of $r = .48$ ($N = 18$). The relatively low coefficients may be accounted for by the unusual circumstances that these youngsters were exposed to. They were thoroughly exhausted upon their arrival from West Germany when the test was given to them for the first time. Furthermore, the impressions gathered on their trip to the U.S. may have had a profound influence upon their attitudes. In addition, none of these students had ever been exposed to a multiple choice test and comments on the answer sheets attested to that fact. Most students wanted to write essays instead of selecting a forced choice.

Administration of the Instruments

In the schools in West Berlin used in this study, the principal selected the seventh and tenth grade classes to be used. The author administered all of the instruments to all the classes designated in each school. The first group was tested on May 11, 1981 and testing was completed by June 15, 1981.

Each student received the German version of the test booklet, consisting of an instruction sheet and the I-E Scale. A combination

demographic questionnaire and test answer sheet was loosely inserted into the test booklet. Each test booklet had a number and each student was requested to copy the number onto the answer sheet.

The author read each demographic item aloud to the students. Most students could understand the meaning of each item. The items that presented the most problems were occupation of head of household, religion and ordinal position.

The students were asked to follow the test administrator in reading the instructions for the I-E Scale and for marking the answer sheet. German students were not familiar with multiple choice answer sheets and it took some time, especially in the lower grades, to get the idea across. For the seventh grade it was suggested by their classroom teacher that the items in the instrument be read to the class. This was done with all the seventh grade classes involved in this study. Special care was taken to read each of the choices with the same tonal quality so as not to influence any of the students' responses. The tenth grade students read the instrument on their own and answered the items according to their personal speed.

A demographic questionnaire was prepared to assess the six moderator variables used in this research.

1. Socioeconomic status with two levels, high and low;
2. Males and females;
3. Grade in school with two levels, seventh and tenth;
4. Religion with two levels, Protestant and Roman Catholic;
5. Family size with two levels, small and large;
6. Ordinal position with two levels, first born and later born.

In most classrooms where the teacher approved, the students were told that if they worked diligently they would be able to see film slides about Arizona and they could ask questions about the U.S. Most principals and teachers would make it a point to look in on the slide show during their planning time. This contributed to the pleasant atmosphere encountered in all of the schools. Most teachers did not feel imposed upon and were rather pleased with the enthusiasm that their students exhibited in participating in this research. A total of one classroom period was spent with each class.

Hypotheses

The following hypotheses, stated in the null, were examined in the study. This study was concerned with the independent variable school type, represented by the *Hauptschule*, *Gesamtschule* and the *Gymnasium*. The study was further undertaken to ascertain the correlation of locus of control to the six moderator variables: grade in school; sex; socioeconomic status; religious affiliation; family size; and ordinal position. The dependent variable was assessed with a German translated version of the Rotter I-E Scale. The moderator variables were analyzed from student generated data on a demographic questionnaire constructed by the author.

Hypothesis 1

There will be no significant difference between the total mean scores of students attending the *Gesamtschule* when measured on the I-E Scale and students attending the *Hauptschule* or the *Gymnasium*.

Hypothesis 2

a) There will be no significant difference between the mean scores of students attending grade seven in the *Gesamtschule* and students attending grade seven in the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of students attending the tenth grade of the *Gesamtschule* and students attending the tenth grade in the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of tenth grade students attending the *Gesamtschule* and seventh grade students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Hypothesis 3

a) There will be no significant difference between the mean scores of female students attending the *Gesamtschule* and female students attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of male students attending the *Gesamtschule* and male students attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of female students attending the *Gesamtschule* and male students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Hypothesis 4

a) There will be no significant difference between the mean scores of first born children attending the *Gesamtschule* and first born children attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of later born children attending the *Gesamtschule* and later born children attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant differences between the mean scores of first born children attending the *Gesamtschule* and later born children attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Hypothesis 5

a) There will be no significant difference between the mean scores of students from small families attending the *Gesamtschule* and students from small families attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of students from large families attending the *Gesamtschule* and students from large families attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of students from small families attending the *Gesamtschule* and students from large families attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Hypothesis 6

a) There will be no significant difference between the mean scores of students from the lower socioeconomic status (SES) attending the *Gesamtschule* and students from the lower socioeconomic status (SES) attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of higher SES students attending the *Gesamtschule* and higher SES students attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of lower SES students attending the *Gesamtschule* and higher SES students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Hypothesis 7

a) There will be no significant difference between the mean scores of Protestant students attending the *Gesamtschule* and Protestant students attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of Roman Catholic students attending the *Gesamtschule* and Roman Catholic students attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of Protestant students attending the *Gesamtschule* and Roman Catholic students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Statistical Treatment of the Data

The data were collected from intact groups of students during May and June of 1981. These data included the locus of control score for each student as assessed with the German translated version of the Rotter I-E Scale and demographic data for each student including school type, grade, sex, occupation of head of household, religious affiliation, citizenship, family size and ordinal position.

The data were analyzed by analysis of variance using a 3 X 1 ANOVA for hypothesis 1 and 3 X 2 ANOVAs for hypotheses 2 through 7. From the statistical treatment of this data, inferences were drawn to

determine the statistical significance between locus of control and school type and the moderating variables mentioned above.

The .05 level of significance was considered critical for all statistical procedures in this research.

Summary

It was the purpose of this chapter to delineate the research methodology employed in the study to determine the locus of control of selected secondary students in West Berlin, Germany. During May and June of 1981, a total of 829 students in grades seven and ten in *Gesamtschulen*, *Hauptschulen* and *Gymnasien* in West Berlin were included in this project. Locus of control scores were assessed with a German version of the Rotter I-E Scale and data on variables were collected with a demographic questionnaire. Both instruments were translated by the author. Reliability and internal consistency data for the German version of the I-E scale were collected on a sample of German high school students visiting the United States in the spring of 1981.

In the next chapter, the results from this study are reported. Seven hypotheses were tested by analyses of variance with the .05 level of significance held critical.

CHAPTER 4

RESULTS

The results from the study of locus of control of German high school students in West Berlin are reported in this chapter. The data were collected during May and June of 1981. Data analysis was performed by comparisons of means using one and two factor analyses of variance with the .05 level of significance held critical.

In Table 2 the research model and number of subjects in each cell are presented. A questionnaire was administered to obtain data on the seven variables that were included in this study: (1) school type with three levels, *Gesamtschule* (G), *Hauptschule* (H) and *Gymnasium* (Gy); (2) grade in school with two levels, seventh (7) and tenth (10); (3) sex, male (M) and female (F); (4) ordinal position with two levels, first born (FB) and later born (LB); (5) family size with two levels, small families (SF) and large families (LF); (6) socioeconomic status (SES) with two levels, low SES (LSES) and high SES (HSES); and (7) religious affiliation with two levels, Protestant (P) and Roman Catholic (C). The dependent variable, locus of control (LOC), was assessed with a translated version of the Rotter Locus of Control Scale.

In order to establish a mean score for the German population a random subsample of ten scores from each grade level and school type was drawn, yielding a mean of $\bar{X} = 12.5$ and a standard deviation of $SD = 2.88$ (N = 60).

Table 2. Research model and actual number of subjects per cell

	<i>Gesamtschule</i> (G)	School Type <i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
Hypothesis 1	100	100	100
Hypotheses 2 a b c			
Grade 7	50	50	50
Grade 10	50	50	50
Hypotheses 3 a b c			
Sex M	30	30	30
F	30	30	30
Hypotheses 4 a b c			
Ordinal FB	30	30	30
position LB	30	30	30
Hypotheses 5 a b c			
Family SF	30	30	30
size LF	30	30	30
Hypotheses 6 a b c			
SES LSES	30	30	30
HSES	30	30	30
Hypotheses 7 a b c			
Religious P	15	15	15
affiliation C	15	15	15

Hypothesis 1

There will be no significant difference between the mean scores of students attending the *Gesamtschule* and students attending the *Hauptschule* or the *Gymnasium*.

A comparison of the means and standard deviations of the three groups is presented in Table 3. Students attending the *Hauptschule* had a mean of $\bar{X} = 10.58$, while students in the *Gesamtschule* had a mean of $\bar{X} = 11.75$ and students in the *Gymnasium* had a mean of $\bar{X} = 12.53$. As can be observed in Figure 5, students attending the *Hauptschule* were more internal than students attending the *Gesamtschule* or the *Gymnasium*.

Table 3. Means and standard deviations of locus of control scores for students attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

	<i>Gesamtschule</i> (G)	School Type <i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
\bar{X}	11.75	10.58	12.53
SD	3.60	2.89	3.09
N	100	100	100

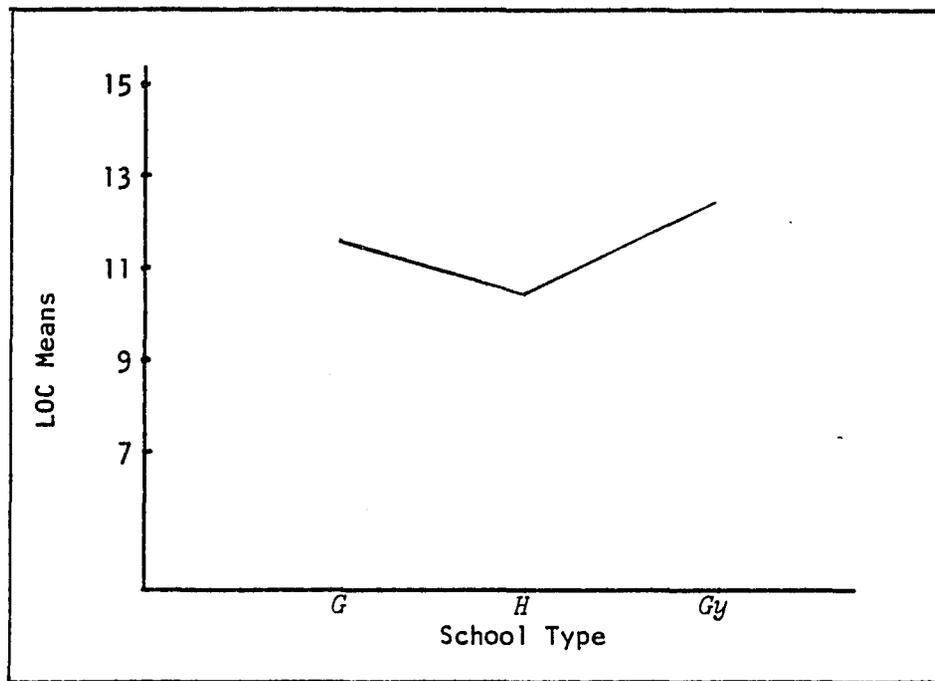


Figure 5. Cell means of locus of control (LOC) as a function of school type

Based on the analysis of variance (Table 4), a significant difference was found to exist between students attending the *Hauptschule* and students attending the *Gesamtschule* or the *Gymnasium* ($F = 9.35$; $df\ 2/297$; $p < .001$). A post-hoc examination of the data at the .05 level of significance showed no significant differences between students at the *Gesamtschule* and students at the *Gymnasium*, but a significant difference between the students attending the *Hauptschule* and students in the other two school types. Since the differences between the means across school types were significant at the .001 level, the null Hypothesis 1 was rejected at the .05 level of significance.

Table 4. Analysis of variance summary table of school types for hypothesis 1

Source of Variance	df	MS	F
A (school type)	2	96.33	9.35*
Within cells	297	10.30	

*p <.001
N = 300

Hypothesis 2

a) There will be no significant difference between the mean scores of students attending grade seven in the *Gesamtschule* and students attending grade seven in the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between mean scores of students attending the tenth grade of the *Gesamtschule* and students attending the tenth grade of the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of tenth grade students attending the *Gesamtschule* and seventh grade students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

In comparing the influence of school type and grade level on locus of control, the data indicated that both had a profound effect on the students. Students in the *Hauptschule*, regardless of grade level, had lower more internal mean scores, while students at the *Gesamtschule* and at the *Gymnasium* had higher more external scores.

When grade level was taken into consideration, seventh grade students, on the average, were more internal than tenth grade students.

Table 5 shows the means and standard deviations by grade and school type. The graphic representation of this data in Figure 6 illustrates the significant effect grade level had on the locus of control regardless of school type. Figure 7 depicts the effect of school type on the students regardless of grade level.

Table 5. Means and standard deviations of locus of control (LOC) for seventh (7) and tenth (10) grade students attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

	<i>Gesamtschule</i> (G)	School Type <i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
Grade 7			
\bar{X}	11.58	9.56	11.34
SD	2.26	2.76	3.22
N	50	50	50
Grade 10			
\bar{X}	12.06	10.84	13.44
SD	3.46	2.82	3.30
N	50	50	50

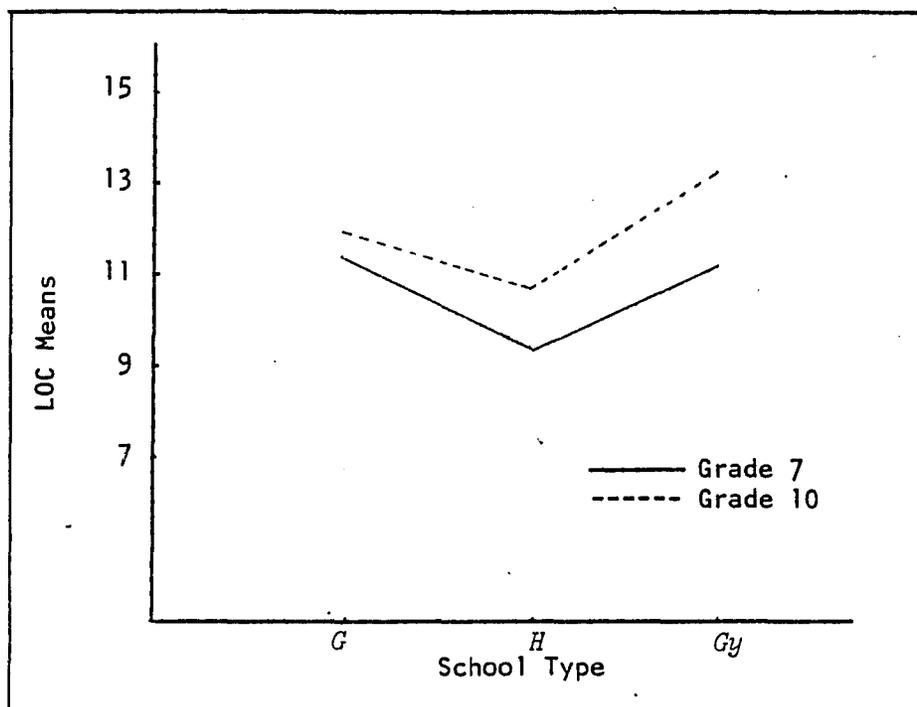


Figure 6. Cell means of locus of control (LOC) as a function of school type and grade level

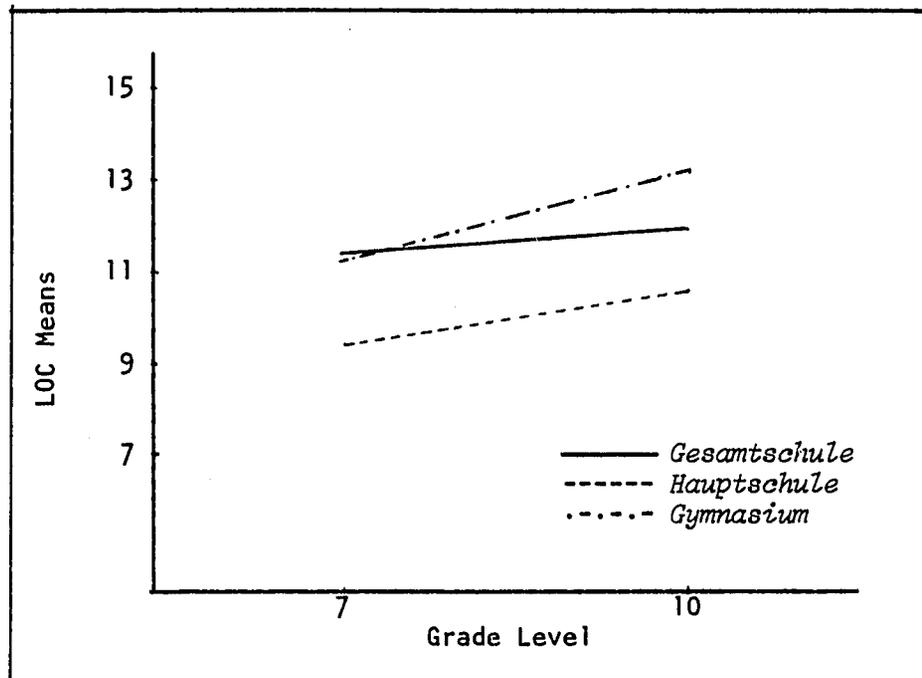


Figure 7. Cell means of locus of control (LOC) as a function of grade level and school type

The analysis of variance (Table 6) produced significant results for school type ($F = 14.37$; $df\ 2/294$; $p < .001$) and grade level ($F = 13.82$; $df\ 1/294$; $p < .001$). The interaction of both variables was not significant at the .05 level, but became significant only at the .25 level.

Post-hoc examination isolated significant differences at the .05 level. There is a significant difference between seventh grade students attending the *Hauptschule* ($\bar{X} = 9.56$) and seventh grade students at the *Gesamtschule* ($\bar{X} = 11.58$) and the *Gymnasium* ($\bar{X} = 11.34$). There was no significant difference between seventh grade students at

Table 6. Analysis of variance summary table for hypothesis 2
school types and grade level

Source of Variance	df	MS	F
A (school type)	2	129.09	14.37*
B (grade level)	1	124.16	13.82*
AB (interaction)	2	16.41	1.82**
Within cells	294	8.98	

*p <.001

**p <.25

N = 300

the *Gesamtschule* and the *Gymnasium*. The null Hypothesis 2a must be rejected.

There was a significant difference between tenth grade students attending the *Hauptschule* ($\bar{X} = 10.84$) and tenth grade students at the *Gesamtschule* ($\bar{X} = 12.06$) and the *Gymnasium* ($\bar{X} = 13.44$). The differences between the tenth grade students at the *Gesamtschule* and the *Gymnasium* was not significant. The null Hypothesis 2b must be rejected at the .05 level of significance.

There was a significant difference between tenth grade students at the *Gesamtschule* ($\bar{X} = 12.06$) and seventh grade students at the *Hauptschule* ($\bar{X} = 11.34$). The difference between tenth grade students and seventh grade students at the *Gesamtschule* was not significant at the .05 level. Hypothesis 2c of no difference between tenth grade

students at the *Gesamtschule* and seventh grade students in all school types must be rejected.

Hypothesis 3

a) There will be no significant difference between the mean scores of female students attending the *Gesamtschule* and female students attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean score of male students attending the *Gesamtschule* and male students attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of female students attending the *Gesamtschule* and male students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

The graphic representation of the data (Figure 8) indicates that, overall, male students tended to be slightly more internal than female students, but the difference was not significant. Figure 9 suggests that males and females in the *Hauptschule* were more internal than either group in the *Gesamtschule* or the *Gymnasium*. It seems that males and females of the *Gesamtschule* did not differ significantly from males and females in the *Gymnasium*.

The analysis of variance (Table 7) did not yield any significant differences between males and females nor any interaction at the .05 level of significance. However, the differences across school types was significant ($F = 9.37$; $df\ 2/174$; $p < .001$). On the basis of the significant F-ratio, Hypotheses 3a and 3b can be rejected. The post-hoc examination resulted in no significant differences between

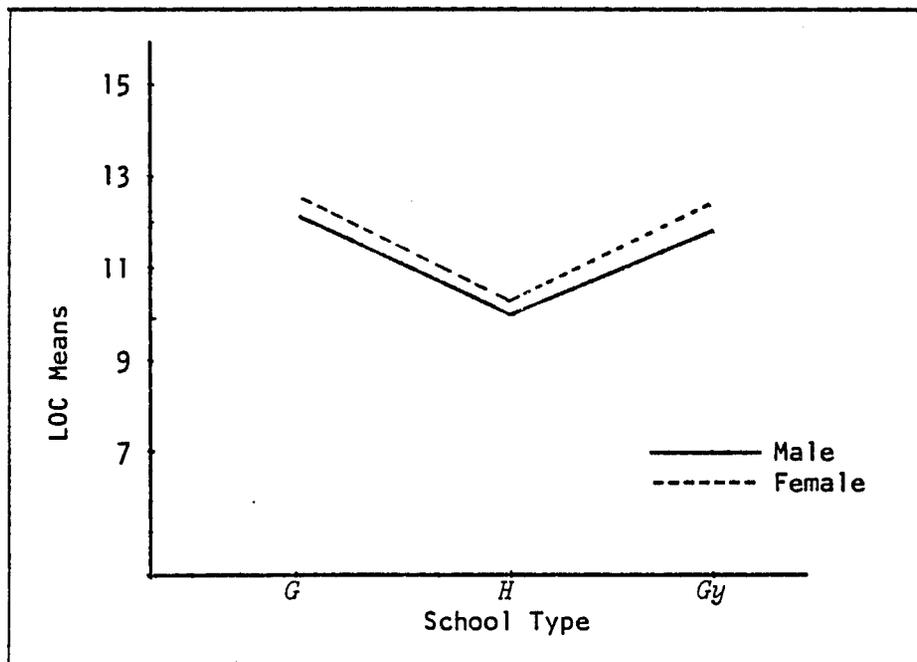


Figure 8. Cell means of locus of control (LOC) as a function of school type and sex

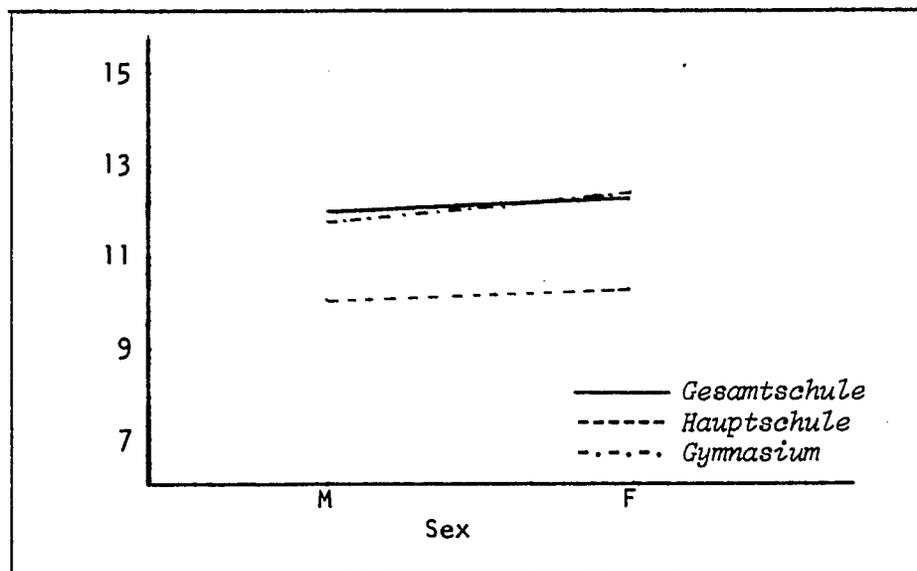


Figure 9. Cell means of locus of control (LOC) as a function of sex and school type

Table 7. Analysis of variance summary table for hypothesis 3
school type and sex

Source of Variance	df	MS	F
A (school type)	2	86.1	9.37*
B (sex)	1	1.8	.20
AB (interaction)	2	.05	.005
Within cells	174	9.19	

*p < .001
N = 180

females in the *Gesamtschule* and males in the *Gesamtschule* as well as males in the *Gymnasium*. There was a significant difference at the .05 level between females in the *Gesamtschule* and males at the *Hauptschule* due to school affiliation and not due to differences in sex (see Table 8). Hypothesis 3c is retained at the .05 level of significance.

Hypothesis 4

a) There will be no significant difference between the mean scores of first born children attending the *Gesamtschule* and first born children attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of later born children attending the *Gesamtschule* and later born children attending the *Hauptschule* or the *Gymnasium*.

Table 8. Means and standard deviations of locus of control (LOC) scores for male (M) and female (F) students attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

Sex		<i>Gesamtschule</i> (G)	School Type <i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
Male	\bar{X}	12.3	10.23	12.26
	SD	3.16	3.32	3.45
	N	30	30	30
Female	\bar{X}	12.47	10.4	12.53
	SD	2.83	2.77	2.54
	N	30	30	30

c) There will be no significant difference between the mean scores of first born children attending the *Gesamtschule* and later born children attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

First born children attending the *Gesamtschule* were more external ($\bar{X} = 12.13$) than first born children attending the *Gymnasium* ($\bar{X} = 11.0$) and the *Hauptschule* ($\bar{X} = 10.26$) (see Figure 10). Later born children were more internal at the *Gesamtschule* ($\bar{X} = 10.6$) and at the *Hauptschule* ($\bar{X} = 10.36$), while they were most external at the *Gymnasium* level ($\bar{X} = 13.2$). The means and standard deviations are summarized in Table 9. When looking at the difference between first born and later born students within each school type (Figure 11), there were no significant differences between first born and later born children at the

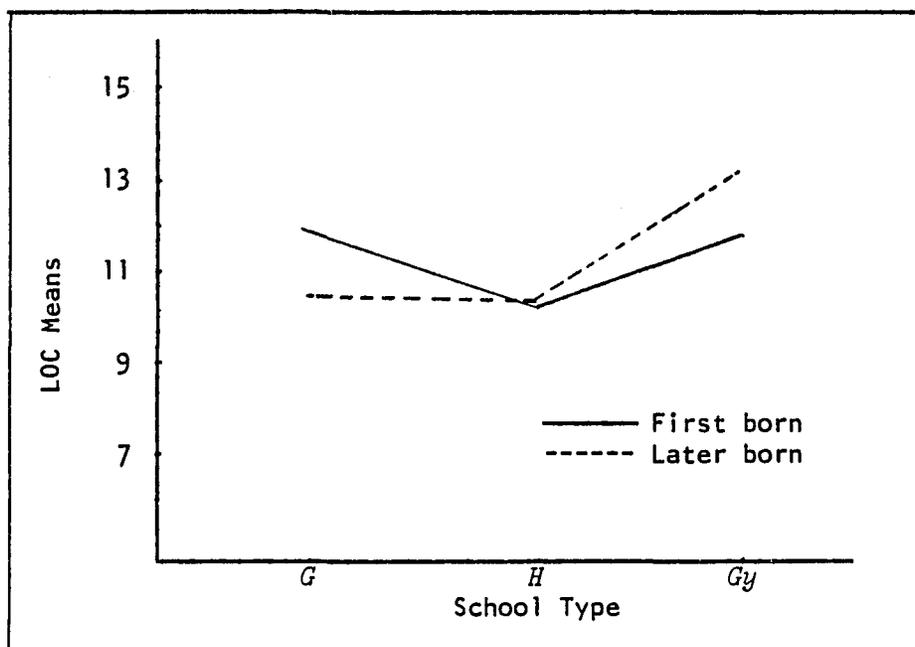


Figure 10. Cell means of locus of control (LOC) as a function of school type and ordinal position

Table 9. Means and standard deviations for locus of control (LOC) scores for first born (FB) and later born (LB) students attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

Ordinal Position	School Type			
	<i>Gesamtschule</i> (G)	<i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)	
First born				
	\bar{X}	12.13	10.26	11.9
	SD	3.27	2.60	2.19
	N	30	30	30
Later born				
	\bar{X}	10.6	10.36	13.2
	SD	3.09	2.53	2.27
	N	30	30	30

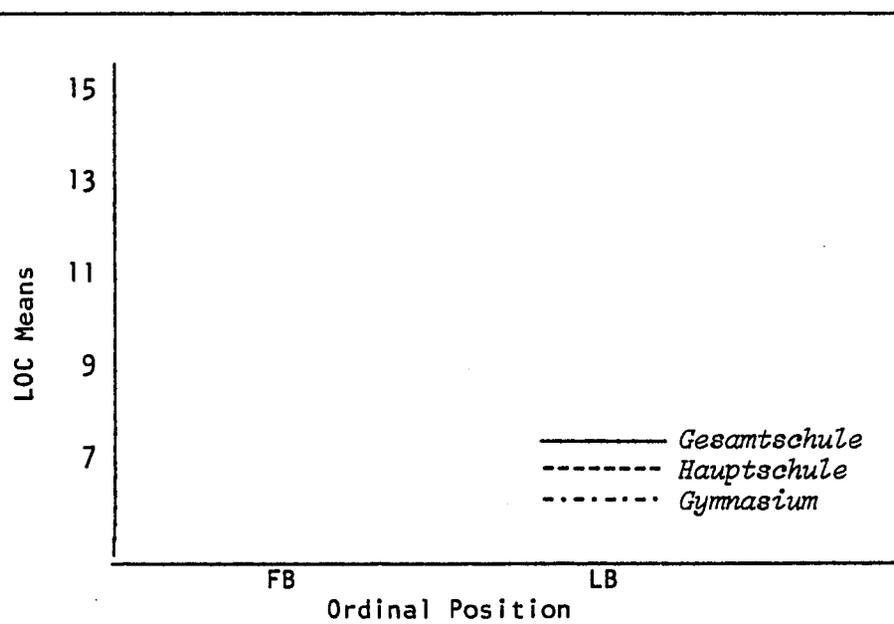


Figure 11. Cell means of locus of control (LOC) as a function of ordinal position and school type

Hauptschule ($\bar{X} = 10.26$ vs. $\bar{X} = 10.36$). In the *Gesamtschule* first born students were more external ($\bar{X} = 12.13$) as compared to later born children ($\bar{X} = 10.6$). The *Gymnasium* level students showed the opposite trend. First born children were more internal ($\bar{X} = 11.9$) than later born children ($\bar{X} = 13.2$).

The analysis of variance (Table 10) yielded significant differences between school types ($F = 10.38$; $df\ 2/174$; $p < .001$), with students at the *Gymnasium* level significantly different from students at the *Hauptschule* and the *Gesamtschule*. No significant differences between ordinal positions, but significant interactions showed up between first born and later born children and school type ($F = 4.20$; $df\ 2/174$; $p < .025$).

Table 10. Analysis of variance summary table for hypothesis 4 school type and ordinal position

Source of Variance	df	MS	F
A (school type)	2	74.91	10.38*
B (ordinal position)	1	.09	.01
AB (interaction)	2	30.34	4.20**
Within cells	174	7.21	

* $p < .001$

** $p < .025$

N = 180

Post-hoc examination of the means produced significant differences at the .05 level between the means of later born children at the *Gymnasium* ($\bar{X} = 13.2$) and later born children at the *Gesamtschule* ($\bar{X} = 10.6$) and at the *Hauptschule* ($\bar{X} = 10.36$) and first born children at the *Hauptschule* ($\bar{X} = 10.26$). No significant differences existed between first born children at the *Gesamtschule* and later born children at the *Gesamtschule*, *Hauptschule* and the *Gymnasium* at the .05 level of significance. Therefore, Hypotheses 4a and 4b must be rejected at the .05 level of significance, while Hypothesis 4c is retained at the .05 level.

Hypothesis 5

a) There will be no significant difference between the mean scores of students from small families attending the *Gesamtschule* and students from small families attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of students from large families attending the *Gesamtschule* and students from large families attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of students from small families attending the *Gesamtschule* and students from large families attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Students attending the *Hauptschule*, regardless of size of family, were more internal ($\bar{X}_{SF} = 9.8$ vs. $\bar{X}_{LF} = 10.26$) than either group attending the *Gymnasium* or the *Gesamtschule* (Table 11). School affiliation as represented by Figure 12 had the greatest effect on locus of

Table 11. Means and standard deviations of locus of control (LOC) scores of students from small and from large families attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

Family Size		School Type		
		<i>Gesamtschule</i> (G)	<i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
Small families	\bar{X}	12.7	9.8	11.86
	SD	3.02	2.50	2.60
	N	30	30	30
Large families	\bar{X}	12.23	10.26	13.53
	SD	2.75	3.17	2.33
	N	30	30	30

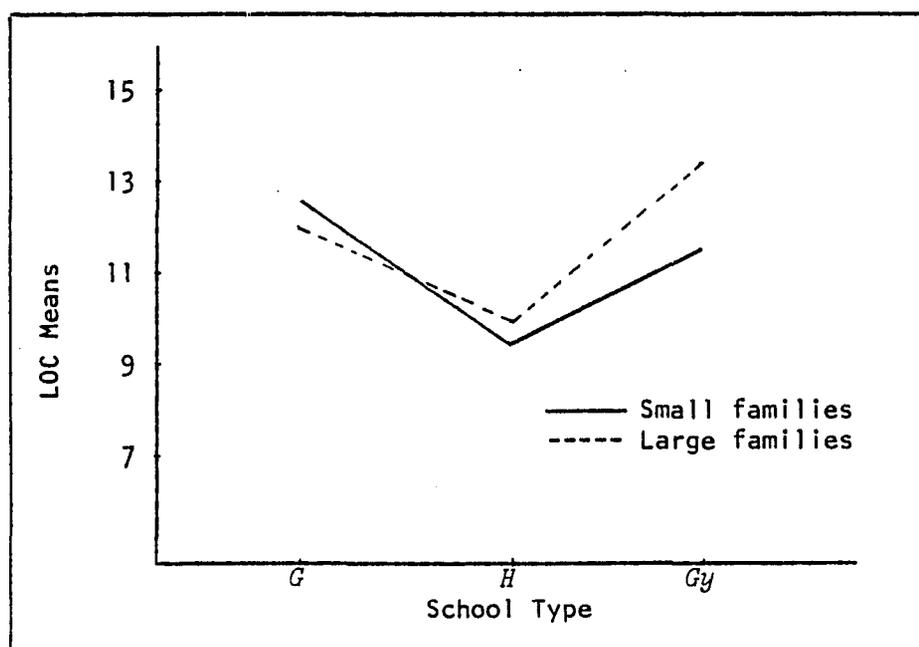


Figure 12. Cell means of locus of control (LOC) as a function of school type and family size

control means. Even though *Gesamtschule* students from small families ($\bar{X} = 12.7$) appeared more external than *Gesamtschule* students from large families ($\bar{X} = 12.23$), the difference was not significant at the .05 level.

At the *Gymnasium* level, students from small families appeared to be more internal ($\bar{X} = 11.86$) than students from large families ($\bar{X} = 13.53$); this difference was also not significant at the .05 level (Figure 12).

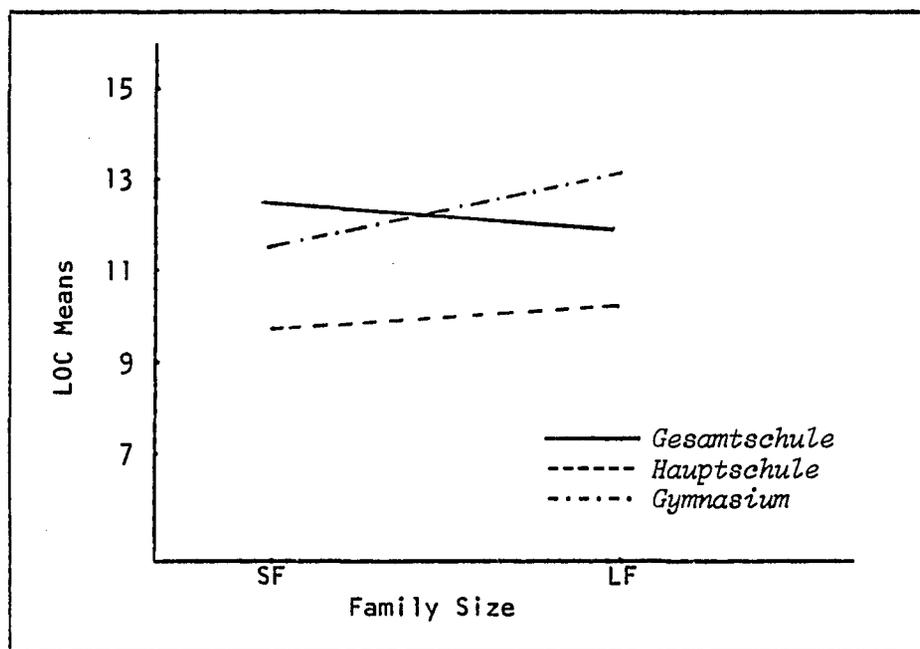


Figure 13. Cell means of locus of control (LOC) as a function of family size and school type

The analysis of variance (Table 12) yielded significant differences across school types ($F = 17.40$; $df\ 2/174$; $p < .001$), but failed to yield significant differences between students from small and large families at the .05 level. These differences became significant at the $p < .25$ level ($F = 1.84$; $df\ 1/174$; $p < .25$). Interactions between school types and family size also became significant at the $p < .25$ level ($F = 2.28$; $df\ 2/174$; $p < .25$).

Table 12. Analysis of variance summary table for hypothesis 5 school type and family size

Source of Variance	df	MS	F
A (school type)	2	130.87	17.40*
B (family size)	1	13.88	1.84**
AB (interaction)	2	17.16	2.28**
Within cells	174	7.52	

* $p < .001$

** $p < .25$

N = 180

At the .05 level of significance no differences between school types must be rejected, but no differences between family size must be retained. Specifically, the null Hypotheses 5a and 5b were rejected. While post-hoc examination produced a significant difference (.05 level) between students from small families at the *Gesamtschule* and large families at the *Hauptschule*, no such differences existed between

students from small families at the *Gesamtschule* and students from large families at the *Gesamtschule* and at the *Gymnasium*. The null Hypothesis 5c must be retained at the .05 level of significance.

Hypothesis 6

a) There will be no significant difference between the mean scores of students from the lower socioeconomic status (SES) attending the *Gesamtschule* and lower SES students from the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of students from the higher socioeconomic status (SES) attending the *Gesamtschule* and students from higher SES attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of students from the lower socioeconomic status (SES) attending the *Gesamtschule* and students from higher SES attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

The means and standard deviations are summarized in Table 13. Figure 14 depicts that there were significant differences, regardless of SES, between students attending the *Gesamtschule*, *Hauptschule* *Gymnasium*. However, as seen in Figure 15, the difference between low SES and higher SES students was not significant.

Students at the *Hauptschule* were more internal, with high SES students insignificantly more internal ($\bar{X} = 10.1$) than lower SES students ($\bar{X} = 10.5$). Students at the *Gesamtschule* were more external, with high SES students having a slightly lower mean score

Table 13. Means and standard deviations of locus of control for low SES (LSES) and high SES (HSES) students attending the *Gesamtschule (G)*, *Hauptschule (H)* and the *Gymnasium (Gy)*

		<i>Gesamtschule</i> (G)	School Type <i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)
Low socioeconomic status	\bar{X}	11.63	10.5	12.63
	SD	3.25	2.87	2.62
	N	30	30	30
High socioeconomic status	\bar{X}	11.6	10.1	12.3
	SD	3.37	3.10	3.09
	N	30	30	30

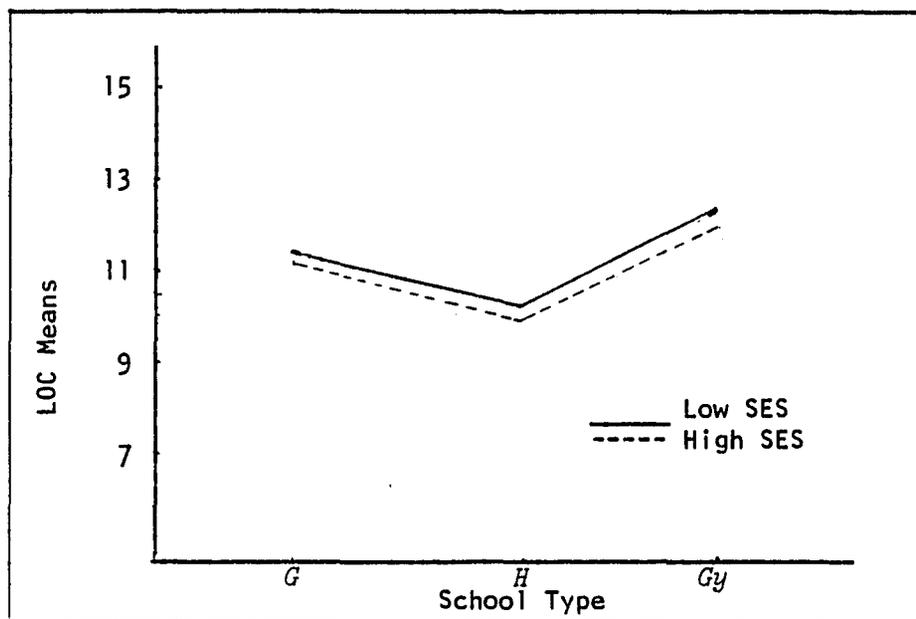


Figure 14. Cell means of locus of control (LOC) as a function of school type and socioeconomic status

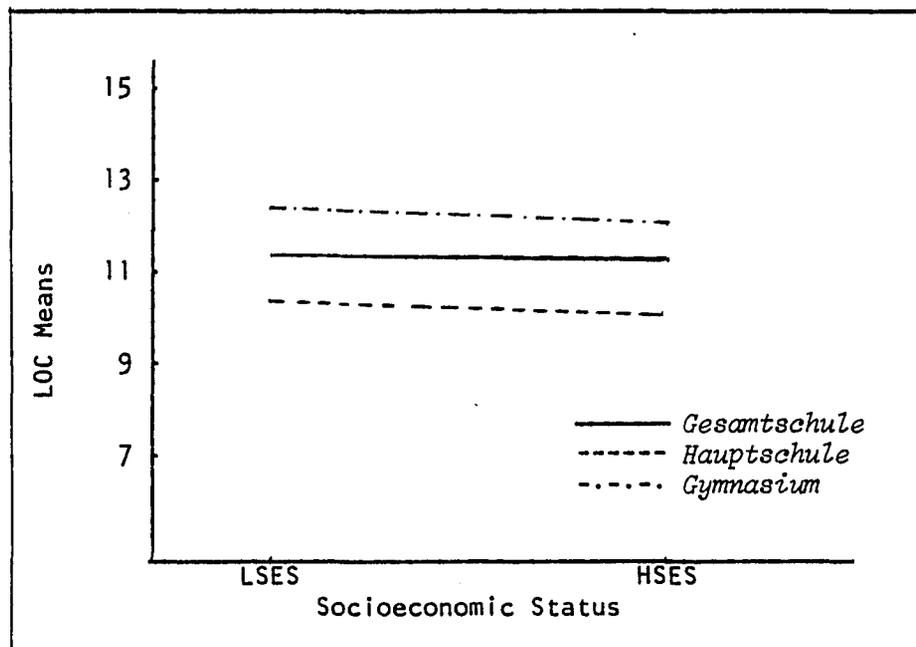


Figure 15. Cell means of locus of control (LOC) as a function of socioeconomic status and school type

($\bar{X}_{HSES} = 11.6$ vs. $\bar{X}_{LSES} = 11.63$). Students at the *Gymnasium* were most external ($\bar{X}_{HSES} = 12.3$ vs. $\bar{X}_{LSES} = 12.63$). Analysis of variance yielded a significant difference across school types ($F = 7.74$, $df\ 2/174$; $p < .001$) (Table 14).

Table 14. Analysis of variance summary table for hypothesis 6 school type and socioeconomic status

Source of Variance	df	MS	F
A (school type)	2	72.52	7.74*
B (SES)	1	2.7	.29
AB (interaction)	2	.54	.06
Within cells	174	9.37	

* $p < .001$
 N = 180

Post-hoc examination of the data isolated a significant difference at the .05 level between students at the *Hauptschule* and students at the *Gymnasium*. The differences between students at the *Hauptschule* and the *Gesamtschule* were not significant at the .05 level. At the .05 level of significance, the null Hypotheses 6a and 6b must be rejected, while Hypothesis 6c must be retained.

Hypothesis 7

a) There will be no significant difference between the mean scores of Protestant students attending the *Gesamtschule* and Protestant students attending the *Hauptschule* or the *Gymnasium*.

b) There will be no significant difference between the mean scores of Roman Catholic students attending the *Gesamtschule* and Roman Catholic students attending the *Hauptschule* or the *Gymnasium*.

c) There will be no significant difference between the mean scores of Protestant students attending the *Gesamtschule* and Roman Catholic students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium*.

Roman Catholic students at the *Gesamtschule* and the *Gymnasium* had high mean scores on the locus of control instrument of $\bar{X} = 12.86$ and $\bar{X} = 12.8$, respectively, while Roman Catholic students at the *Hauptschule* had a mean score of $\bar{X} = 8.86$, indicating that Roman Catholic students at the *Hauptschule* had a very internal orientation (Table 15). Protestant students at the *Gesamtschule* and at the *Hauptschule* had mean scores of $\bar{X} = 10.8$ and $\bar{X} = 10.93$, respectively, whereas Protestant students at the *Gymnasium* were more external with a mean score of $\bar{X} = 12.6$. A graphic representation of these data can be found in Figures 16 and 17.

Analysis of variance of locus of control as a function of school type and religious affiliation produced significant differences across school types ($F = 6.82$; $df\ 2/84$; $p < .005$) and significant interactions ($F = 3.55$; $df\ 2/84$; $p < .05$), but failed to produce

Table 15. Means and standard deviations of locus of control (LOC) for Roman Catholics (RC) and Protestant (P) students attending the *Gesamtschule* (G), *Hauptschule* (H) and the *Gymnasium* (Gy)

Religion	School Type			
	<i>Gesamtschule</i> (G)	<i>Hauptschule</i> (H)	<i>Gymnasium</i> (Gy)	
Roman Catholic	\bar{X}	12.86	8.86	12.8
	SD	2.93	1.88	3.14
	N	15	15	15
Protestant	\bar{X}	10.8	10.93	12.6
	SD	3.76	3.15	2.85
	N	15	15	15

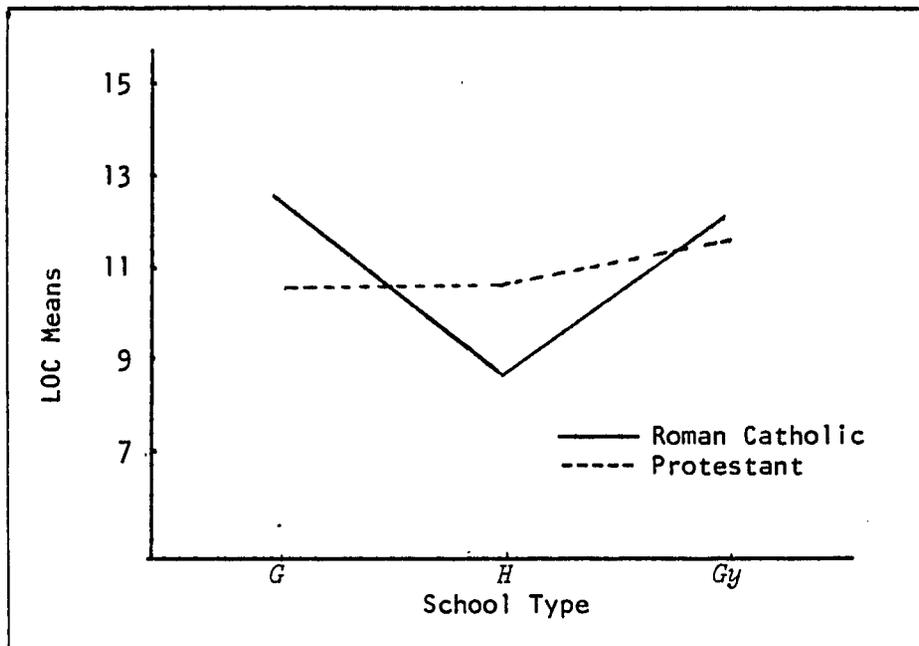


Figure 16. Cell means of locus of control (LOC) as a function of school type and religious affiliation

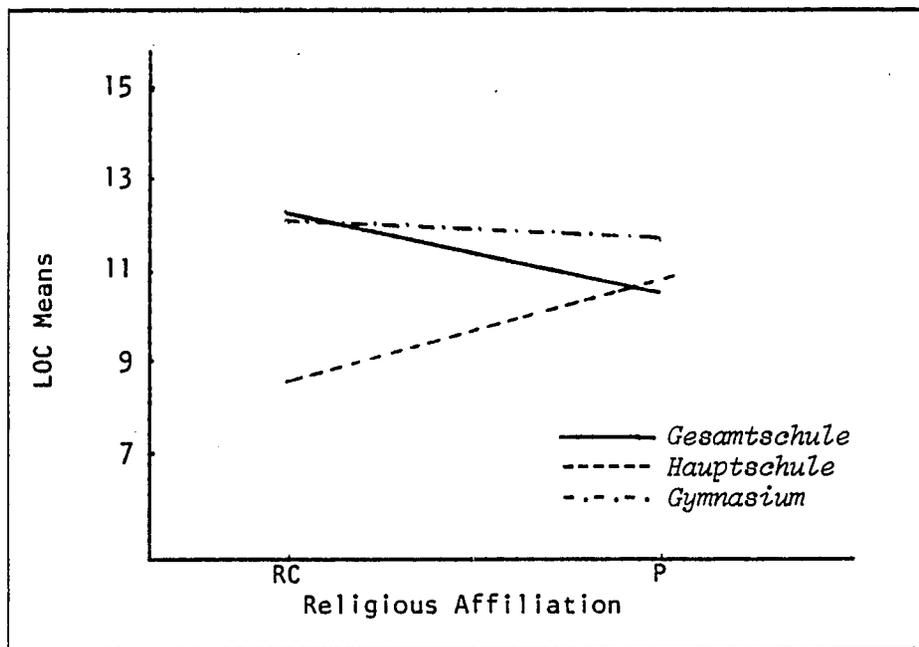


Figure 17. Cell means of locus of control (LOC) as a function of religious affiliation and school type

significant differences between Protestant and Roman Catholic students as a whole (see Table 16).

Table 16. Analysis of variance summary table of hypothesis 7
school type and religious affiliation

Source of Variance	df	MS	F
A (school type)	2	61.65	6.82*
B (religion)	1	.1	.01
AB (interaction)	2	32.14	3.55**
Within cells	84	9.03	

*p < .005

**p < .05

N = 90

Post-hoc analysis of the data pointed toward significant differences between Protestant students at the *Hauptschule* and Protestant students at the *Gymnasium* at the .05 level of significance and no significant differences between Protestant student at the *Gesamtschule* and the *Hauptschule*. Examination of the interaction effect at the .05 level of significance revealed that Roman Catholic students at the *Hauptschule* differed significantly from Roman Catholic students at the *Gesamtschule* and the *Gymnasium*. They also differed significantly from Protestant students at the *Gymnasium* but did not differ from Protestant students at the *Gesamtschule* and the *Hauptschule*. Roman Catholic students at the *Hauptschule* were most internal when compared to the rest

of the students. On the basis of these findings, Hypotheses 7a and 7b can be rejected at the .05 level of significance. Post-hoc examination did not produce significant differences between Protestant students at the *Gesamtschule* and Roman Catholic students at all three secondary schools leading to the retention of Hypothesis 7c at the .05 level of significance.

Summary

Analysis of variance of locus of control score means of selected German students attending the *Gesamtschule*, *Hauptschule* or the *Gymnasium* produced the following results:

All hypotheses tested yielded significant differences between students from the three schools with students from the *Hauptschule* being most internal (significant at the .05 level) and students at the *Gymnasium* being more external than students from the *Gesamtschule*.

Taking the moderator variables into account, the data suggested that students at the seventh grade were more internal than students in grade ten. There were no significant differences between male and female students, students from large families and students from small families and no differences between students from high and low socioeconomic status levels. Significant interactions existed between first born and later born students, as well as Roman Catholic and Protestant students. At the .05 level of significance, later born children at the *Gymnasium* differed significantly from later born children at the *Hauptschule* and from first born children at the *Hauptschule*, indicating that later born children at the *Gymnasium* were more external.

Roman Catholic students at the *Hauptschule* were significantly different, more internal, than Roman Catholic students at the *Gesamtschule* and the *Gymnasium*. They were also more internal than Protestant students at the *Gymnasium*.

Overall, school type had the most decisive effect on the locus of control scores of these German students.

CHAPTER 5

DISCUSSION

It was the purpose of this study to analyze and compare the locus of control of selected seventh and tenth grade students attending the comprehensive high school (*Gesamtschule*) with those attending two of the traditional high schools (*Hauptschule* and *Gymnasium*) in West Berlin, Germany.

The data provided a basis for evaluating the influence of the *Gesamtschule* and the traditional secondary schools on the selected students as measured by their locus of control orientation.

Eight hundred and twenty-nine students from three *Hauptschulen*, two *Gesamtschulen* and two *Gymnasien* participated in this investigation during May and June of 1981. The Rotter I-E Scale and a demographic questionnaire were administered in German to the selected students. Responses were analyzed in reference to seven variables: school affiliation, grade level, sex, ordinal position, family size, socioeconomic status and religious affiliation.

At the .05 level of significance, the analysis of variance yielded statistically significant and insignificant relationships between the dependent and independent variables.

While the findings revealed significant differences between the students in the secondary schools in West Berlin, they did not

confirm the research hypotheses based on the assumption that students at the *Gesamtschule* would exhibit a more internal locus of control. Contrary to the hypothesized expectations, students at the *Hauptschule* scored more internal than students at the *Gesamtschule* or the students at the *Gymnasium*. The data did not reveal any significant differences between students at the *Gesamtschule* and students at the *Gymnasium*. The students in both of these schools scored more external than the *Hauptschule* students.

Designed to equalize educational opportunities, the *Gesamtschule* was to become an instrument of society to effectively intervene in the socialization processes of the youngsters and to foster the success of each student (Rolff, 1970). Based on this assumption, it was expected that the students attending the *Gesamtschule* would develop a more internal locus of control orientation while progressing from grade seven through grade ten. The data did not support this hypothesis. Significant differences existed across school types, with students at the *Hauptschule* being most internal. Significant differences were measured between seventh and tenth grade students; the seventh grade students scored more internal on the Rotter scale. While the differences between grade seven and ten were significant in the *Hauptschule* as well as in the *Gymnasium*, there was no significant difference at the *Gesamtschule* level (Table 5).

Research data on the influence of sex on locus of control has been inconclusive. Several studies reported no significant differences between males and females (Battle and Rotter, 1963; Sherman and

Hoffman, 1978), while others did reveal differential results based on sex (Crandall, Katkovsky, and Preston, 1962; Nowicki and Roundtree, 1971). The results of this investigation did not produce significant differences between males and females, whereas males and females in the *Gymnasium* and the *Gesamtschule* scored more externally, male and female students at the *Hauptschule* scored significantly more internal (Table 7).

Evidence gathered by Crandall et al. (1965) suggested that first born children scored significantly more internal. However, the Nowicki and Roundtree (1971) data suggested that sex can moderate those results. First born boys scored more internal than first born girls, while the reverse was true for later born children.

In this study school affiliation tended to moderate the relationship between locus of control and ordinal position. Although there were no significant differences between first born and later born as a whole, later born children at the *Gesamtschule* scored more internal than first born children. This difference did not reach significance at the .05 level. There were no significant differences between first born children at the *Gesamtschule* and *Gymnasium*, but later born children at the *Gesamtschule* scored significantly more internal than later born children at the *Gymnasium*. There was no difference between first and later born children at the *Hauptschule* level who, overall, scored more internal than the *Gesamtschule* or the *Gymnasium* level students (Table 9).

Locus of control studies by Crandall et al. (1965) also included family size as an independent variable. The analysis of the

data reflected that students from small families scored significantly more internal than students from large families. For the purpose of this research, it was hypothesized that students from small families at the *Gesamtschule* would be more internal than students from large families in all schools and that students at the *Gesamtschule* in general would be more internal than students from the *Hauptschule* or the *Gymnasium*. The data did not confirm these research hypotheses. Students at the *Gesamtschule*, as a whole, were significantly more external than students at the *Hauptschule*, whereas no significant differences existed between students at the *Gesamtschule* and students at the *Gymnasium*.

In the *Hauptschule*, students from small families were more internal than students from large families, the difference being not significant at the .05 level. At the *Gymnasium* level, students from small families scored more internal than students from large families. These differences were also not significant at the .05 level. Students from large families at the *Gesamtschule* were more internal than students from small families, but not significantly so (Table 11).

Numerous studies (Frierson, 1975; Lefcourt and Ladwig, 1972; Rotter, 1972) reported that students from lower socioeconomic levels scored consistently more external than middle and upper class students. One of the objectives of the *Gesamtschule* was to address itself, specifically, to the needs of the lower socioeconomic status child (Dahrendorf, 1965; Roeder, Pasdzierny, and Wolf, 1965; Rolff et al., 1980). Therefore, it was hypothesized that lower socioeconomic status

students at the *Gesamtschule* would be more successful and react more internal than higher socioeconomic status students. Even though high socioeconomic status students in all schools had lower (more internal) locus of control scores, the difference was not significant. Contrary to the more internal locus of control hypothesized for students at the *Gesamtschule*, these students scored significantly more external than students from the *Hauptschule*. The difference between students at the *Gymnasium* and at the *Gesamtschule* was not significant (Table 13).

The German literature criticizing unequal educational opportunities in the traditional system, pointed also to the fact that Roman Catholic students had a lesser chance for a Certificate of Maturity than Protestant students (Roeder et al. 1965). It was therefore hypothesized that Roman Catholic students attending the *Gesamtschule* would be more internal than Roman Catholic students at the *Hauptschule* or the *Gymnasium*. It was further expected by the researcher that Protestant students at the *Gesamtschule* would be more internal than Protestant students at the *Hauptschule* or the *Gymnasium* and also more internal than Roman Catholic students in all three school types. The results of this study did not confirm these research hypotheses. While Protestant students at the *Gesamtschule* were significantly more internal than Protestant students at the *Gymnasium* level, they did not differ significantly from Protestant students at the *Hauptschule*. For Roman Catholic students the most internal group was found in the *Hauptschule*, with Roman Catholic students in the *Gesamtschule* and the *Gymnasium* not being different from one another. On the whole, there

was no significant difference between Protestant and Roman Catholic students. Differences were only significant across school types, with students at the *Hauptschule* being more internal than students at the *Gymnasium*. Students at the *Hauptschule* were also more internal than students at the *Gesamtschule*, but the difference did not reach significant proportions (Table 15).

Students scoring at the internal end of the locus of control continuum perceive their actions to be under their own control and do not orient themselves on outside values. External students, on the other hand, perceive their actions to be outside their own personal control, due to luck, chance or powerful others (Rotter, 1972). The external student, then fashions his actions according to the wishes of his parents, teachers and peers and conforms to society as a whole.

The question needs to be raised; what accounts for the consistent internal scoring of the students at the *Hauptschule* level? These students generally occupy the bottom rung of the educational ladder. The *Hauptschule* is often referred to as the *Restschule*, denoting the fact that its clientele are those students not selected for a higher education--they are left over. Should it not be that these students feel powerless and alienated from society?

One possible explanation for their internality can be found in Blanchard's (1978) doctoral dissertation. She found that black students in segregated schools scored significantly more internal than black students in desegregated schools, because the segregated environment provided more identity and security for the students. It may be

that the *Hauptschule* environment removes the stress of stringent academic performance criteria and provides the student with a structured, secure environment. Many times the *Hauptschule* may provide a kind of success environment and sanctuary for its students which stands in contrast to their home situation.

Based on this researcher's observation, the atmosphere created by the teachers of the *Hauptschule* was in sharp contrast to that in the other schools. In the *Hauptschule* the teachers seemed genuinely interested in each student. Even though the tenth grade students at the *Hauptschule* were more external than their seventh grade counterparts, they were still more internal than the tenth graders in the other schools. Each of these students knew where they were going and what they were doing after graduation, because a job or vocational school placement was waiting for them. Conversations between the teachers and the students centered around the job acquisition by the students and the role the teacher could play in expediting the process. But in the end, ultimately, the student was responsible for getting his own job. This responsibility might have carried over and was reflected in the internal locus of control scores.

In an article in Psychology Today, Maya Pines (1981) reviewed the results of two studies dealing with attitudes of German students toward authoritarianism and dogmatism. While one of the studies reported the German students to be a new breed and extremely antiauthoritarian, the other considered their antiauthoritarian attitude to be a reaction to what is expected of them. This latter view of the German

adolescent was supported by this research. Students at the *Gesamtschule* and *Gymnasium* scored significantly more external than the *Hauptschule* student. In their strife for upward mobility, these students would be dependent on their parents for at least four and maybe as long as ten years. Out of necessity they would have to adjust to the system to please their parents and fulfill the school's academic and social expectancies. Being nonconforming could mean losing everything they were striving for. These students may not have wished to take such a great risk and rather looked for leadership in external sources.

The atmosphere in the *Gesamtschule* and the *Gymnasium* was quite different from that in the *Hauptschule*. These schools were characterized by a more free-wheeling, laissez-faire environment and less personal interrelationships between teachers and students. In discussions with the teachers about the curricula and evaluation systems in the *Gesamtschule*, it became apparent that there was little difference between the *Gesamtschule* and the *Gymnasium*. *Gymnasium* level courses reflecting the goals and methods of a college preparatory education were used as a basis for instruction and as a standard at the *Gesamtschule*. Little or no thought was given to the fact that the *Gesamtschule* was established to eliminate some of the pressures created by the traditional system. Academic performance criteria exerted a constant pressure overshadowing all other concerns. This would explain why students at the *Gesamtschule* and at the *Gymnasium* did not differ significantly in their locus of control orientation.

However, some trends showed up in the *Gesamtschule*, indicating an ameliorating effect when compared to the *Gymnasium*. Even though

tenth graders at the *Gesamtschule* scored more external than the students in grade seven, the difference was not significant, while at the *Gymnasium* level, tenth grade students were significantly more external. This difference between the *Gesamtschule* and the *Gymnasium* could be due to some effort on the part of the teachers to reduce the anxiety level for the students at the *Gesamtschule*. It could also be the result of the heterogeneous population. *Gesamtschule* students enrolled in courses equivalent to the *Hauptschule* level may have had a more internal locus of control, which in turn was reflected in the overall locus of control orientation of the *Gesamtschule* students. Similarly, certain students seemed to fare better attending the *Gesamtschule* as compared with the *Gymnasium*. Later born children at the *Gesamtschule* were significantly more internal than later born children at the *Gymnasium*. *Gesamtschule* students from large families and Protestant students were also slightly more internal.

Even though the literature indicated significant differences in locus of control between lower and higher socioeconomic status students and between males and females, no significant differences were apparent in this study. Due to its special political and economical situation, Berlin may provide a variety of opportunities for all segments of the population and differences between rich and poor and males and females may have been equalized. Berlin is the only area in West Germany not included in the national military draft and many people are attracted to it. No interest loans to families locating in Berlin are another desirable feature, keeping the population stable and attracting young

citizens to the city. In addition, it was the experience of this author that the Rotter instrument measured locus of control in German subjects as well as in American students. The translated version in German compared favorably to the reliability and validity norms established by Rotter.

The author agrees with Schneider and Parsons (1970) that the Rotter instrument should be subdivided into several categories for which the locus of control should be assessed separately. While German *Gymnasium* and *Gesamtschule* students might be generally more internal, the political situation, especially at the time of assessment, may have forced the more sagacious students to answer questions concerning politics and world situations on the external, skewing the total locus of control score toward the external end of the continuum.

In the light of this study, questions need to be asked about the locus of control of the teachers. Are teachers in the *Hauptschule* more internal and therefore have greater influence on their students when compared with teachers at the *Gesamtschule* and the *Gymnasium*? A more extensive personality inventory of the *Hauptschule* teacher needs to be taken. It might be conceivable that a specific teacher type, e.g., one with strong convictions of being able to change the circumstances for their students, is more likely to seek a job at the *Hauptschule*; whereas the teacher at the *Gesamtschule* or the *Gymnasium* perceives his role as the expert in a field and has a stronger relationship to his subject area than to his students. Further studies should also be concerned with the teachers' socioeconomic and professional background, the point of origin and family history.

Further research on school type influence should focus on school climate and school size, interpersonal relationships within school structures among peers and adults, school curriculum structure and content, including career education, teaching methods which include the role of the teacher and teaching styles, student anxiety to succeed in school at expected academic and intellectual performance levels, and to succeed out of school at accepted levels of participation in social and athletic events.

An extension of this research should include instruments other than the locus of control scale, such as the F Scale, Rokeach Scale E and the Cultural Literacy Inventory developed at The University of Arizona by Dr. Herbert B. Wilson (1972).

Since Berlin occupies a special position among the 11 *Länder* of West Germany, further studies should explore differences in locus of control orientations among students in rural areas, as well as in cities other than Berlin and contrast northern and southern German school districts. As a result of the influx of guest workers into West Germany, a variety of subpopulations should be assessed. A sample of such a subpopulation, including Turkish students, is included in Appendix C.

In order to gather more information about locus of control among students in other nations, an extension of this research should include all Office of Economic Cooperation and Development (OECD) countries and provide a basis of comparison similar to the International Association for the Evaluation of Educational Achievement (IEA) study conducted in 1964.

At present the *Gesamtschule* movement in Berlin is being intensely scrutinized. The educational authorities have recommended the closure of two *Gesamtschulen* and changing them into vocational centers, due to the reduced number of secondary students attending the schools. Even the person that suggested the opening of the first *Gesamtschule* in 1968, Carl Evers, evaluated the movement as having advanced too fast without making the school more humane. The *Gesamtschule* was not intended to be in competition with the *Gymnasium* (Adomatis, 1981). However, that seemed to be the general status of the comprehensive school when this researcher was in West Berlin. This research succeeded in providing a prototype for further cross-cultural research in social learning theory, such as locus of control. It demonstrated the usefulness of an American assessment scale for international research and established locus of control norms for a specific German population.

APPENDIX A

THE INTERNAL-EXTERNAL SCALE*
(English Version)

*Rotter (1966)

Instructions for the I-E Scale

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. REMOVE THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and black-in the space under the number 1 or 2 which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. a) Children get into trouble because their parents punish them too much.
b) The trouble with most children nowadays is that their parents are too easy with them.
2. a) Many of the unhappy things in people's lives are partly due to bad luck.
b) People's misfortunes result from the mistakes they make.
3. a) One of the major reasons why we have wars is because people don't take enough interest in politics.
b) There will always be wars, no matter how hard people try to prevent them.
4. a) In the long run people get the respect they deserve in this world.
b) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a) The idea that teachers are unfair to students is nonsense.
b) Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a) Without the right breaks one cannot be an effective leader.
b) Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a) No matter how hard you try some people just don't like you.
b) People who can't get others to like them don't understand how to get along with others.
8. a) Heredity plays a major role in determining one's personality.
b) It is one's experiences in life which determine what they're like.
9. a) I have often found that what is going to happen will happen.
b) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a) In the case of the well prepared student, there is rarely if ever such a thing as an unfair test.
b) Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b) Getting a good job depends mainly on being in the right place at the right time.

12. a) The average citizen can have an influence in government decisions.
b) This world is run by the few people in power, and there is not much the little guy can do about it.
13. a) When I make plans, I am almost certain that I can make them work.
b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a) There are certain people who are just not good.
b) There is some good in everybody.
15. a) In my case getting what I want has little or nothing to do with luck.
b) Many times we might just as well decide what to do by flipping a coin.
16. a) Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b) Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b) By taking an active part in political and social affairs, the people can control world events.
18. a) Most people don't realize the extent to which their lives are controlled by accidental happenings.
b) There really is no such thing as "luck."
19. a) One should always be willing to admit mistakes.
b) It is usually best to cover up one's mistakes.
20. a) It is hard to know whether or not a person really likes you.
b) How many friends you have depends upon how nice a person you are.
21. a) In the long run the bad things that happen to us are balanced by the good ones.
b) Most misfortunes are the result of lack of ability, ignorance, laziness or all three.
22. a) With enough effort we can wipe out political corruption.
b) It is difficult for people to have much control over the things politicians do in office.

23. a) Sometimes I can't understand how teachers arrive at the grades they give.
b) There is a direct connection between how hard I study and the grades I get.
24. a) A good leader expects people to decide for themselves what they should do.
b) A good leader makes it clear to everybody what their jobs are.
25. a) Many times I feel that I have little influence over the things that happen to me.
b) It is impossible for me to believe that chance or luck plays an important role in my life.
26. a) People are lonely because they don't try to be friendly.
b) There's not much use in trying too hard to please people; if they like you, they like you.
27. a) There is too much emphasis on athletics in high school.
b) Team sports are an excellent way to build character.
28. a) What happens to me is my own doing.
b) Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a) Most of the time I can't understand why politicians behave the way they do.
b) In the long run the people are responsible for bad government on a national as well as on a local level.

Questionnaire

Please fill in the top part of the questionnaire. Print your answers and place a check mark next to the items that apply to you. Do not start the test. Wait until you are told to do so. Read all instructions first.

1. Type of school:
 - Elementary School
 - Comprehensive Secondary
 - College Prep. Secondary
 - Secondary Modern
 - Secondary Modern, short course
2. Grade:
 - 5
 - 7
 - 10
 - Other: _____
3. Sex:
 - Male
 - Female
4. Citizenship of family:
 - German
 - Other: _____
5. Religion:
 - Protestant
 - Catholic
 - Jewish
 - Other
6. Occupation of Head of Household:
 - Self-employed
 - Helping in family business
 - Civil servant
 - Salaried employee
 - Laborer, hourly wage earner
 - Occupation: _____
7. Parents:
 - Mother and father at home
 - Father only
 - Mother only
8. Have you ever attended a different school other than your present school? (elementary school attendance does not count)
 - Yes Which: Comprehensive Secondary Modern
 - No Secondary General College Prep.
9. How many children are in your family:
 - 1
 - 2
 - 3
 - More: _____
10. Which order of birth do you occupy in your family?
 - First born
 - Second born
 - Third born
 - Later born: _____

Test Answers

- | | | |
|---------------|----------------|----------------|
| 1. a b | 10. <u>a</u> b | 20. <u>a</u> b |
| 2. <u>a</u> b | 11. a <u>b</u> | 21. <u>a</u> b |
| 3. a <u>b</u> | 12. a b | 22. a b |
| 4. a <u>b</u> | 13. a b | 23. <u>a</u> b |
| 5. a <u>b</u> | 14. a b | 24. a b |
| 6. <u>a</u> b | 15. a <u>b</u> | 25. <u>a</u> b |
| 7. <u>a</u> b | 16. <u>a</u> b | 26. a <u>b</u> |
| 8. a b | 17. <u>a</u> b | 27. a b |
| 9. <u>a</u> b | 18. <u>a</u> b | 28. a <u>b</u> |
| | 19. a b | 29. <u>a</u> b |

The test is scored (letters underlined) in the external direction.

The higher the score the more external is the individual. Six questions are fillers (unscored) and do not affect a person's score.

APPENDIX B

THE INTERNAL-EXTERNAL SCALE

(German Version)

Anleitungen

Dieser Fragebogen findet heraus, wie unterschiedlich die Menschen auf ihre Umwelt reagieren. Zu jeder Nummer gehören zwei Aussagen, gekennzeichnet durch die Buchstaben a und b. Es ist Deine Aufgabe, die Aussage zu wählen, die mehr auf Dich zutrifft oder an die Du fest glaubst. Überlege Dir, ob Du an die gewählte Antwort auch wirklich glaubst. Hast Du sie nur gewählt, weil Du denkst, dass Du sie wählen sollst oder weil Du gerne möchtest, dass die Antwort wahr wäre. Da dieser Fragebogen herausfinden will, an was Du persönlich glaubst, gibt es keine richtigen und auch keine falschen Antworten. Um Deine Antworten zu notieren, ist ein loser Bogen beigelegt.

Nimm Den Losen Bogen Aus Dem Heftchen!

Fülle den oberen Teil des Fragebogens aus und hake die auf Dich zutreffenden Antworten ab. Fange nicht mit dem Beantworten der Aussagen an, bis das Zeichen dafür gegeben wird. Lies erst die Anweisungen bis zum Ende durch.

Bitte beantworte die Aussagen mit Bedacht, aber verschwende nicht zuviel Zeit mit den einzelnen Antworten. Achte darauf, dass Du auch nur eine Antwort für jede Nummer wählst. Danach finde die selbe Nummer auf dem unteren Teil des losen Bogens und markiere entweder a oder b (niemals beides), entsprechend der Wahl die Du getroffen hast.

Beispiel: 1. a b

In einigen Fällen wirst Du Schwierigkeiten mit der Auswahl haben. Entscheide Dich jedoch für eine Antwort, die Deinem Gefühl entspricht. Lasse Dich nicht von den anderen Aussagen beeinflussen. Beantworte jede Nummer unabhängig davon, was zuvor oder danach gedruckt steht.

1. a) Kinder geraten in Schwierigkeiten, weil ihre Eltern sie zu sehr bestrafen.
b) Heutzutage haben die Eltern viel zu viel Verständnis für ihre Kinder, und das ist nicht gut für sie.
2. a) Viele der nachteiligen Dinge, die im Leben passieren, sind lediglich auf Pech zurückzuführen.
b) Vieler Leute Unglück wird durch ihre eigenen Fehler verursacht.
3. a) Einer der Hauptgründe für Kriege ist, dass die Menschen nicht genug Interesse für Politik haben.
b) Es wird immer Kriege geben, ganz egal, wie sehr Menschen versuchen, sie zu verhindern.
4. a) Auf lange Sicht gesehen, bekommen Leute den Respekt, den sie verdienen.
b) Leider wird der Wert des Einzelnen oft übersehen, egal, wie sehr er sich bemüht.
5. a) Die Vermutung, dass Lehrer ihren Schülern gegenüber ungerecht sind, ist grosser Unsinn.
b) Die meisten Schüler wissen überhaupt nicht, wie sehr ihre Noten vom Zufall abhängig sind.
6. a) Ohne die entsprechenden Chancen kann niemand eine Führungsrolle erreichen.
b) Wenn begabte Menschen nicht in Führungspositionen sind, dann haben sie ihre Chancen nicht wahrgenommen.
7. a) Es spielt keine Rolle, wie sehr man sich bemüht, manche Menschen können einen nicht leiden.
b) Menschen, die andere nicht dazu bringen können, sie gerne zu haben, wissen nicht, wie man mit anderen Menschen umgeht.
8. a) Erbgut spielt eine grosse Rolle in der Festlegung der Persönlichkeit.
b) Erfahrungen, die man im Leben macht, formen die Persönlichkeit des Menschen.
9. a) Oft habe ich gefunden, es kommt, was kommen soll.
b) Für mich hat es sich nicht so sehr gelohnt, dem Schicksal zu vertrauen, als klare Entscheidungen über Handlungsweisen selber zu treffen.
10. a) Für den gut vorbereiteten Schüler gibt es kaum eine ungerechte Prüfung.
b) Viele Examensfragen treffen oft auf das Material des Kurses nicht zu, darum ist viel Lernen wirklich nutzlos.

Fortsetzung auf der nächsten Seite.

11. a) *Erfolgreich zu sein, beruht weniger auf Glück, als harter Arbeit.*
b) *Um eine gute Stellung zu bekommen, muss man am richtigen Platz zur richtigen Zeit sein.*
12. a) *Der Durchschnittsbürger kann Entscheidungen der Regierung beeinflussen.*
b) *Ein paar Leute haben die Macht und regieren die Welt, der kleine Mann kann nichts dagegen tun.*
13. a) *Wenn ich Pläne mache, dann bin ich sicher, dass sie in Erfüllung gehen.*
b) *Es ist nicht immer klug vor auszuplanen, weil es oftmals anders kommt, als man denkt.*
14. a) *Manche Leute sind einfach schlechte Menschen.*
b) *Etwas Gutes kann man jedem abgewinnen.*
15. a) *Wenn ich etwas erreichen will, dann verlasse ich mich nicht auf das Glück.*
b) *Oftmals sollte man Entscheidungen durch Würfeln treffen.*
16. a) *Ob man Chef wird, ist oft davon abhängig, ob man das Glück hatte, zuerst an der richtigen Stelle zu sein.*
b) *Leute zu veranlassen, das Richtige zu tun, beruht nicht auf Glück, sondern auf Können.*
17. a) *Was Weltaffären betrifft, da sind wir Opfer von Kräften, die wir nicht verstehen und noch weniger beherrschen.*
b) *Wenn Leute aktiv am politischen und sozialen Leben teilnehmen, dann können sie auch das Geschehen in der Welt kontrollieren.*
18. a) *Die meisten Menschen wissen gar nicht, wie sehr ihr Leben vom Zufall kontrolliert wird.*
b) *So etwas wie Glück gibt es in Wirklichkeit nicht.*
19. a) *Man sollte stets bereit sein, seine Fehler einzugestehen.*
b) *Das Beste ist, wenn man seine Fehler vertuscht.*
20. a) *Es ist für mich schwer herauszufinden, ob jemand mich mag.*
b) *Wie viele Freunde man hat, hängt davon ab, wie nett man ist.*
21. a) *Auf lange Sicht gesehen wird Übles, das einem passiert, vom Guten ausbalanciert.*
b) *Pech ist das Resultat von nichts Können, nichts Wissen, Faulheit oder allen dreien zusammen.*

Fortsetzung auf der nächsten Seite.

22. a) *Mit genügend Tatendrang, können politische Korruption (Schummelei) ausgelöscht werden.*
b) *Bürger haben es schwer zu kontrollieren, was Politiker im Amt tun.*
23. a) *Manchmal kann ich gar nicht verstehen, wie Lehrer auf die Noten kommen, die sie erteilen.*
b) *Zwischen meiner Anstrengung im Lernen und meiner Zensur gibt es eine enge Verbindung.*
24. a) *Ein guter Manager erwartet von Leuten, dass sie selbst entscheiden, was sie tun müssen.*
b) *Ein guter Manager macht allen klar, was sie zu machen haben.*
25. a) *Oftmals habe ich das Gefühl, dass ich wenig Einfluss auf Dinge habe, die mir geschehen.*
b) *Es ist unmöglich für mich, daran zu glauben, dass Glück oder Zufall eine wichtige Rolle in meinem Leben spielen.*
26. a) *Menschen sind einsam, weil sie nicht versuchen, freundlich zu sein.*
b) *Es nutzt nicht viel, dass man sich sehr um Leute bemüht, wenn man ihnen auf den ersten Blick hin gefällt, dann mögen sie einen sowieso.*
27. a) *In den Schulen wird Sport zu sehr betont.*
b) *Mannschaftssportarten sind ideal, um den Charakter zu bilden.*
28. a) *Was mir passiert, geschieht durch mein eigenes Handeln.*
b) *Manchmal denke ich, dass ich nicht genug Einfluss auf mein Leben habe.*
29. a) *Meistens kann ich nicht verstehen, warum Politiker sich so benehmen, wie sie es in Wirklichkeit tun.*
b) *Letztlich sind die Menschen an einer schlechten Regierung (auf nationaler sowie kommunaler Ebene) selber Schuld.*

Mache das Heftchen zu!

Fragebogen

1. *Schulart:*
 Gesamtschule
 Grundschule
 Gymnasium
 Realschule
 Hauptschule
2. *Klasse:*
 5
 7
 10
Andere: _____
3. *Geschlecht:*
 Männlich
 Weiblich
4. *Staatsangehörigkeit
Deiner Familie:*
 Deutsch
 Andere: _____
5. *Religionszugehörigkeit:*
 Evangelisch
 Katholisch
 Jüdisch
 Andere: _____
6. *Berufszugehörigkeit des
Haushaltsvorstands:*
 Selbständig
 Mithelfend
 Beamter
 Angestellter
 Arbeiter
Beruf: _____
7. *Eltern:*
 Vater und Mutter zu Hause
 Nur der Vater zu Hause
 Nur die Mutter zu Hause
8. *Hast Du jemals eine andere Schule besucht?*
 Ja *Welche:* *Gesamtschule* *Hauptschule*
 Nein *Realschule* *Gymnasium*
 Grundschule *Andere:* _____
9. *Wieviele Kinder sind in Deiner Familie?*
 1
 2
 3
 Mehr: _____
10. *Welche Geburtsfolge nimmst Du ein?*
 Erstgeboren
 Zweitgeboren
 Drittgeboren
 Mehr: _____

Antworten

1. a b

2. a b

3. a b

4. a b

5. a b

6. a b

7. a b

8. a b

9. a b

10. a b

11. a b

12. a b

13. a b

14. a b

15. a b

16. a b

17. a b

18. a b

19. a b

20. a b

21. a b

22. a b

23. a b

24. a b

25. a b

26. a b

27. a b

28. a b

29. a b

APPENDIX C

LOCUS OF CONTROL DATA FOR STUDENTS
WITH TURKISH CITIZENSHIP
LIVING IN GERMANY

The total number of Turkish students involved in this study was 90. Sixty-three were in grade 7 and twenty-seven were in grade 10. The population included both males and females.

Table C.1. Turkish students

Grade	<i>Gesamtschule</i>	<i>Hauptschule</i>	<i>Gymnasium</i>
7	10	39	14
10	1	18	8

A random subsample of 30 subjects from the total population was drawn with the aid of the random numbers table. Calculations of the Turkish sample means established it at $\bar{X} = 9.8$ and the standard deviation at $SD = 3.13$.

A t-test of the difference of means between the mean of the German sample ($\bar{X} = 12.5$, $N = 60$) and the Turkish mean indicated a significant difference ($t = 2.938$, $df = 8$) at the .01 level of significance. The Turkish students were significantly more internal than the German students.

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