

THE COLLEGE EXPERIENCE AND TOLERANCE: A STUDY
OF INTERVENING VARIABLES

By

NANCY JANE OGLE

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Bachelor of Science
Phillips University
Enid, Oklahoma
1959

Master of Arts
Kansas State University
Manhattan, Kansas
1967

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of the Oklahoma State University
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Thesis Approved:

Richard A. Dodder

Thesis Adviser

Gene Huff

Wm. S. Trrazier

Donald E. Allen

Larry M. Perkins

N. Burham

Dean of the Graduate College

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CHAPTER I

NATURE OF THE PROBLEM

Introduction

Studies of the effects of the college experience vary in the attributes they choose to investigate and also in terms of the theoretical stance which is adopted. Many college studies are found lacking in any explicit theory concerning which characteristics of students are to be affected by the college experience or the ways in which these effects are produced.

The phrase, "college impact" or "college effects" generally refers to college-induced change in any of a wide variety of student characteristics--including knowledge, personality traits, interests, attitudes, beliefs, opinions and behaviors. Feldman in discussing the direction of future research on college effects writes:

.....to be encouraged is the movement away from analyses of change merely in terms of social-structural correlates (such as the conclusion that students residing in fraternities are less likely to improve their grades than dormitory residents) to the search for the underlying conditions and processes that are producing the correlations.¹

Colleges and students are bound to reflect and to be influenced by the general society in which they participate and are a part. The

¹Kenneth A. Feldman, "Studying the Impact of Colleges on Students." Sociology of Education, Vol. 42, No. 3 (Summer, 1969), p. 225.

college community is not totally isolated from the "culture climate" of the times. Recognition of this supposed general societal effect is shown in the "era" approach² to college impact where reference is made to the 1920's as the era of "the flapper and the coonskin coat," or to the fifties as the decade of the "silent generation".

Turning to the total community of the college one can recognize that colleges will vary in "college climate" resulting from varying size, location, socioeconomic background of the student body, and educational goals among other things. Awareness of these sources of variance does not, however, prevent the researcher from posing the following question:

Do American students--regardless of who they are or where they go to college--change in definable ways during their undergraduate years?.....or more specific--what kinds of students change in what kinds of ways, following what kinds of experience, mediated by what kinds of institutional arrangements?³

The sources of differentiation explaining the distinctions that are present in students as they leave the college experience have been categorized by Newcomb⁴ as: selection, tutelage, and peer influence. Students are different in their response to the college experience because they are different on first coming to college, because they have

²Charles D. Bolton and Kenneth C. W. Kammeyer, The University Student: A Study of Student Behavior and Values (New Haven, Connecticut: College and University Press, 1967), pp. 18-20.

³Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students: An Analysis of Four Decades of Research (San Francisco: Jossey-Bass Inc., Publishers, 1960), p. 5.

⁴Theodore M. Newcomb, "The General Nature of Peer Group Influence," in College Peer Groups: Problems and Prospects for Research, ed. by Theodore M. Newcomb and Everett K. Wilson (Chicago: Aldine Publishing Company, 1968), pp. 2-3.

experienced varying faculty-administration influences, and because students influence one another differently during their college years. Of these three sources of influence Newcomb ranks selection, the characteristics brought to college, as the most important in influencing the outcome of the college experience. Peer influence is rated second, with faculty influence rated third.

Peer influence may be thought of as residing in the "student culture" where the student population of the college acts as the "membership group" for the individual student. The "membership group", however, may or may not act as the "reference group" or the most important "reference group" with regard to the student's evaluation of himself as a person or his values and attitudes.

The "student culture" may also be viewed as consisting of numerous subenvironments which provide different orientations to the college experience. The student's identification with a particular subcultural orientation could conceivably influence both his attitudes and his responses to the educational experience. The individual's attitudes, if thought of as "enduring systems of positive or negative evaluation, emotional feelings, and pro or con action tendencies",⁵ may not only be influenced by the college experience but by his reference group identification and his college subcultural orientation.

Tolerance is only one of the diffuse attributes that may be affected by a student's personal characteristics, his educational experience, his reference group identification and his college subcultural

⁵David Krech, Richard S. Crutchfield and Egerton L. Ballachey, Individual In Society (New York: McGraw-Hill Book Company, Inc., 1962), p. 139.

orientation. Attitudes of authoritarianism, liberalism, conservatism and dogmatism may be thought as contributing to this multifaceted concept, tolerance.

Character of the Study

The investigation to follow is based on a social psychological approach which concentrates on the study of student attitudes and values. The research design is cross-sectional. In such a design, characteristics of students at different class levels are measured at the same point in time. If class levels differ, change is only inferred. The review of literature in the next chapter of this study indicates a persistent research finding that a positive correlation exists between levels of education and attitudes of tolerance. A number of authors have suggested ways in which education lends to greater tolerance. Borhek⁶ and his theory of incongruent experience contribute to the theoretical framework whereby the present study attempts to explain the effect of the educational experience on changing attitudes.

Research efforts, however, dealing with the question of why some subjects experience more of whatever it is that promotes tolerance than do other students is sparse. In other words, while some students are experiencing changing attitudes of tolerance during college, others are not; the question is why. It is mainly to this question that the present research is addressed. An effort is made to identify intervening variables as well as controlling for other variables that may

⁶J. T. Borhek, "A Theory of Incongruent Experience," The Pacific Sociological Review, Vol. 8, No. 2 (Fall, 1965).

aid in understanding the inconsistencies among students in their responses to the educational experience. Rather than analyzing change merely in terms of social structural correlates, an effort is made to explore those processes of identification among college students that affect their response to the college experience as measured by tolerance.

The first step in the following investigation is the design of a theoretical model predicting variations in the degree of tolerance resulting from the college experience. This step leads automatically to the development of a reliable measure of tolerance. Once this tolerance measure is determined the investigation can proceed with level of education used as the independent variable, the degree of tolerance as the dependent variable and other variables used as control variables effecting the relationship between education and tolerance.

Statement of the Problem

The central task of the present study is the testing of a series of propositions emerging from a theoretical model predicting degree of tolerance. The first research objective is the development of a reliable measure of tolerance. Once a tolerance measure is devised, the central question of the investigation is to determine whether a positive correlation exists between level of education and tolerance. Research objectives then shift to an investigation of those factors which are viewed as explaining the relationship between level of education and degree of tolerance. Of principal concern in the investigation are two variables viewed as intervening: (1) The effect that reference group identification has on the relationship between level

of education and tolerance, and (2) The effect that college subcultural orientation has on the relationship between education and degree of tolerance.

Organization of the Study

Chapter I of this study introduces the general focus of the investigation with a statement of the character of the study and statement of the problem to be investigated. Chapter II reviews related research studies that contribute to the theoretical model formulated in Chapter III. The theoretical framework, assumptions and propositions of the model are discussed. Chapter IV presents the methods and analytical techniques used to test the theoretical model. Chapter V presents the results of the investigation by an analysis of the data. Serendipitous findings are discussed in Chapter VI. The summary and conclusions are stated in Chapter VII.

CHAPTER II

REVIEW OF SELECTED LITERATURE

Introduction

Two opposing views have been in existence throughout over forty years of research dealing with the question of the impact of the college experience. One view is that education has a significant and profound effect upon student behavior and attitudes whereas the other concludes that the educational experience does little if anything for the student. More recent research results indicate an intermediate position between these two opposing views concluding that the college experience does have significant but not substantial effects on student attitudes.

These studies in addition to numerous others have sought to determine those factors within the college experience that influence change within the individual as he progresses through his college years. Of central concern to the present study are those factors affecting change in student attitudes of tolerance.

The text of the following review of literature will be organized in five sections which when integrated will provide the basis for the theoretical model to be presented in Chapter III and a test of that model to follow in succeeding chapters. The first section will review the literature concerned with the general impact of the college experience. The second section will review three models of attitude change and studies illustrating each. The third section will review studies

supporting the positive correlation between education and tolerance. The fourth section will include a review of literature concerning the influence of reference group identification. In the final section literature pertaining to the influence of college subculture orientation will be reviewed.

Studies of the Impact of the College Experience

The view that the college experience has a significant and profound effect on student attitudes is most strongly exemplified in the earliest research on this subject by the Bennington study in the thirties. Newcomb¹ finds a significant and progressive change from conservatism to liberalism as the student proceeded through college. The student of the thirties is portrayed as an individual thoroughly socialized into liberal political attitudes.

This impact, however, on the student of the fifties is questioned in a study conducted by Jacob.² Based in part on data collected by the Cornell Values Study during the decade of the fifties, the conclusion is drawn that with the exception of a few colleges, almost no influence on the values of students took place as a result of their college experience. Concentrating on the effects of curriculum rather than extra-curricular influences upon students' value patterns, he maintains that rather than a process of liberalization the student is socialized as a result of his college experience "so that he can fit more

¹Theodore M. Newcomb, Personality and Social Change: Attitude Formation in a Student Community (New York: Holt, Rinehart and Company, 1943).

²Philip E. Jacob, Changing Values in College (New York: Harper and Brothers Publishers, 1957).

comfortably into the ranks of American college alumni".³ Since the patterns of value tend to be similar in American colleges, regardless of location, administration, size and background of the student body, or the character of the program," there is among college students of this country "a striking homogeneity of basic values".⁴

Using the same data provided by the Cornell Values Study and in basic agreement with the conclusions of Jacob, Goldsen, et. al.,⁵ describes the "mental world" of American college students as reflecting the dominant atmosphere of conservatism in that era. Rather than becoming more liberal in their values, the students appear to become increasingly conservative as they passed through college.

Taking exception to the latter two studies above, Rose⁶ suggests that Jacob has grossly oversimplified the student and college scene. He argues that the findings are based on students enrolled in well-known liberal arts and prestige universities and cannot be generalized to all colleges. In his study designed to challenge the studies above, Rose sent questionnaires to 250 randomly selected students at each of eleven institutions of higher learning in the Connecticut Valley of Western Massachusetts. His conclusions are that schools differ in "climate effect" and these varying effects influence and are influenced

³Ibid., p. 4.

⁴Ibid., pp. 12-13.

⁵Rose K. Goldsen, Morris Rosenberg, Robert M. Williams, Jr., and Edward A. Suchman, What College Students Think (Princeton, New Jersey: C. Van Nostrand Company, Inc., 1960).

⁶Peter I. Rose, "The Myth of Unanimity: Student Opinion on Critical Issues," Sociology of Education, 37(Winter, 1963), 129-149.

by the differing social characteristics of students that they recruit.

Studies begun at Vassar in 1952 provide evidence to support the view that the college experience produces evidence of change in students. Sanford⁷ and his co-workers found that students attending college became less conservative, more tolerant of individual differences, and freer in their expressions of impulses.

After the passage of fifteen years, Freedman⁸ again reported on the results of the Vassar study. Applying the Developmental Status Scale, the Impulse Expression Scale, and a measure of the authoritarian tendency which Freedman referred to as the Social Maturity Scale, seniors are found to score higher on rebellious independence; to be more dominant, aggressive, autonomous, exhibitionistic; to express more interest in sex, excitement and change; and to score significantly lower than freshmen on measures of authoritarianism. Sanford⁹, Freedman¹⁰ and their associates in the Vassar studies have come to the conclusion that although the difference between freshmen and seniors are statistically significant, college attendance does not produce dramatic changes in most students.

⁷Nevitt Sanford, "Personality Development During the College Years," Personnel and Guidance Journal, Vol. 35, No. 2 (October, 1956), 74-80. See also Nevitt R. Sanford, (ed), "Personality Development During the College Years," Journal of Social Issues, 12(1956), 1-70.

⁸Marvin B. Freedman, The College Experience (San Francisco: Jossey-Bass Inc., Publishers, 1967).

⁹Nevitt Sanford, "Aims of College Education," in Campus Values, ed. by Charles W. Havice (New York: Charles Scribner's Sons, 1971), p. 21.

¹⁰Freedman, p. 4.

The above conclusion is supported by Nichols¹¹ in a four-year longitudinal study of National Merit Finalists consisting of 432 boys attending 104 different colleges and 204 girls attending 86 different colleges. The study is concerned with changes in interest and personality during the college years measured by the Vocation Preference Inventory and 10 personality scales. The findings indicate that students become more specific and differentiated in their motives and interests, more aware of their own shortcomings and less dependent on external standards for behavior. The conclusion, however, is that though the college effect is significant, it is small compared to differences which exist between students at admission.

The strongest support for the view of significant but not dramatic effects of the college experience is provided by Feldman and Newcomb.¹² Their report is a review and integration of the wide variety of studies that have appeared on the effects of college on students through the forty-year period from the middle twenties to the middle of 1967. Most of their conclusions can pertain to the present study but perhaps most important are the following:

Freshman-to-senior changes in several characteristics have been occurring with considerable uniformity in most American colleges and universities, in recent decades.....Declining "authoritarianism," dogmatism, and prejudice, together with decreasingly conservative attitudes toward public issues..... are particularly prominent forms of change-as inferred from freshman-senior differences.¹³

¹¹Robert C. Nichols, "Personality Change and the College," American Educational Research Journal, Vol. 4, No. 3 (March, 1967), 173-190.

¹²Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students: An Analysis of Four Decades of Research (San Francisco: Jossey-Bass Inc., Publishers, 1969).

¹³Ibid., p. 326.

Models of Attitude Change

Borhek,¹⁴ in introducing his theory of incongruent experience which contributes to the theoretical framework of the investigation to follow, recognizes two other general models contributing to the understanding of attitudes of tolerance and intolerance. The first of these models known as the learning-conformity model can be illustrated by the studies conducted by Lipset¹⁵ and Stouffer.¹⁶ In this model attitudes of authoritarianism, intolerance, and political and religious attitudes are thought to result from learning supported by pressures toward conformity. As Lipset maintains with regard to the lower-class individual:

His educational attainment is less than that of men with higher socio-economic status, and his association as a child with others of similar background not only fails to stimulate his intellectual interests but also creates an atmosphere

¹⁴J. T. Borhek, "A Theory of Incongruent Experience," The Pacific Sociological Review, Vol. 8, No. 2 (Fall, 1965), 89-95.

¹⁵Seymour M. Lipset, "Democracy and Working Class Authoritarianism," American Sociological Review, 24 (August, 1959), 482-501. For a more detailed review of his findings see Seymour Martin Lipset, Political Man (Garden City: Doubleday, 1960). For a study conflicting with Lipset's conclusion that a preference for a "tough" posture is indicative of "authoritarianism" and that such a posture would be more common among low status persons, among those with little education, and among the dispossessed and alienated see Richard F. Hamilton, "A Research Note on the Mass Support for 'Tough' Military Initiatives," American Sociological Review, 33 (June, 1968), 439-445. Comparing data from the 1952 and 1964 election studies of the Survey Research Center at the University of Michigan this study found it was the upper middle class and more educated who favored such a policy in Korea and Viet Nam.

¹⁶Samuel A. Stouffer, Communism, Conformity, and Civil Liberties: A Cross-section of the Nation Speaks Its Mind (Gloucester, Massachusetts: Peter Smith, 1963).

which prevents his educational experience from increasing his general social sophistication and his understanding of different groups and ideas.¹⁷

Stouffer also recognizes tolerant-intolerant attitudes as being learned and resulting from the process of socialization in his study of willingness to grant certain rights to people whose view might be disapproved:

Not only are more of the people who are moving from youth to middle age better educated than their elders, but also they are products of both child-rearing practices and of a school system which is more apt to foster tolerance.¹⁸

The second model, known as the personality-function, stresses intolerant attitudes as resulting from frustration, anxiety, threat, guilt, or a defensive reaction to these.¹⁹ In an attempt to understand the dynamics of ethnic prejudice, Adorno²⁰ and his associates developed the authoritarian syndrome which views prejudice as an expression of a pervasive set of characteristics that are deeply rooted in personality. This personality syndrome is characterized by stereotyped thinking, intolerance of ambiguity, punitive morality, submissiveness toward the powerful and dominance toward the weak, conventionality, anti-intellectualism, or hostility toward people perceived to be different from oneself.

¹⁷Lipset, p. 495.

¹⁸Stouffer, p. 107.

¹⁹Borhek, p. 90.

²⁰T. W. Adorno, Else Frenkel-Brunswik, Daniel J. Levinson and R. Nevitt Sanford, The Authoritarian Personality (New York: Harper and Brothers, 1950).

This model also provides the framework whereby Rokeach²¹ investigates the phenomenon of dogmatism by developing a hypothetical model of a continuum ranging from the "closed mind" to the "open mind". He defines dogmatism as:

.....a relatively closed cognitive organization of beliefs and disbeliefs about reality, organized around a central set of beliefs about absolute authority which, in turn, provides a framework for patterns of intolerance and qualified tolerance toward others.²²

An additional study relating intolerance to personality function is conducted by McClosky²³ in his investigation of the liberal-conservative distinction as related to political and social outlooks. He suggests that "both conservatism and liberalism may be 'natural' or polar positions around which individuals of certain habitual outlooks, temperaments, and sensibilities can comfortably come to rest and be united with others of like disposition."²⁴ He concluded that:

.....the extreme conservatives are easily the most hostile and suspicious, the most rigid and compulsive, the quickest to condemn others for their imperfections or weaknesses, the most intolerant, the most easily moved to scorn and disappointment in others, the most inflexible and unyielding in their perceptions and judgements. Although aggressively critical of the shortcomings of others, they are unusually defensive and armored in the protection of their own ego needs. Poorly integrated psychologically, anxious, often perceiving themselves as

²¹ Milton Rokeach, "The Nature and Meaning of Dogmatism," Psychological Review, Vol. 61, No. 3 (1954), 194-204. For a more detailed discussion of his findings regarding the phenomenon of dogmatism see Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960).

²² Ibid., p. 195.

²³ Herbert McClosky, "Conservatism and Personality," American Political Science Review, 52 (March, 1958), 27-45.

²⁴ Ibid., p. 28.

inadequate, and subject to excessive feelings of guilt, they seem inclined to project onto others the traits they most dislike or fear in themselves.²⁵

Prejudice toward Negroes is measured by means of the Summated Differences Scales in a study conducted by Martin and Westie.²⁶ These scales provide scores ranging from extremely negative prejudice to neutrality (as indicated by a zero point) to extremely positive prejudice. Two statistical categories of subjects are established: a "Tolerant" category whose scores were only slightly on either side of the zero point, and a "Prejudiced" category that encompassed those who were extremely hostile towards Negroes. A random sample of households in Indianapolis yielded 429 initial respondents completing a prognostic scale. From this group, 41 persons qualified on the subsequently administered Summated Differences scales to be classified as tolerant and 59 persons constitute the Prejudiced category. The data reveal that tolerant subjects are significantly less nationalistic, less intolerant of ambiguity, less superstitious, more likely to stress mutual assistance and to give others the benefit of a doubt in making judgements about them, less authoritarian, and less conservative in religious outlook. In addition, those scoring higher than the mean occupational and educational status were more tolerant and females²⁷ less tolerant than males.

²⁵ Ibid., p. 37-38.

²⁶ James Martin and Frank R. Westie, "The Tolerant Personality," American Sociological Review, XXIV (1959), 521-528.

²⁷ For a discussion of birth order and female differences with regard to traditional beliefs see Kenneth Kammeyer, "Birth Order and the Female Sex Role Among College Women," American Sociological Review, (August, 1966), 508-515.

Martin and Westie conclude that their findings lend "confidence to the basic proposition that tolerant persons differ from prejudiced persons in many personal and social respects, that these discriminating characteristics are sufficiently numerous, pervasive, and fundamental to justify reference to tolerant and prejudiced personality syndromes."²⁸

The proceeding reported attitudes of authoritarianism, dogmatism, conservatism and liberalism will be measured in the investigation to follow and form the basis for the tolerance measure as applied in the present study.

In the theory of incongruent experience Borhek provides a slightly different perspective to the understanding of the development of tolerant and intolerant attitudes. He proposes "that tolerance is the result of experiences which are characterized by heterogeneity of ideas or direct or vicarious exposure to other ways of life and other ways of defining situations."²⁹ The basic proposition in his theory is "the greater the incongruence of experience, the less the tendency to think in highly over-simplified either/or terms."³⁰ The individual who is subject to only consistent definitions is then subject to congruent socialization. Whereas, the college experience would subject the individual to incongruence rather than being an indoctrination in tolerance, Borhek suggests education involves a variety of experiences which results in the abandoning of over-simplification leading to more tolerant attitudes.

²⁸ Martin and Westie, p. 527.

²⁹ Borhek, p. 89.

³⁰ Ibid., p. 92.

In contrast to the seeming positive value placed on a state of incongruence by Borhek, Dyer³¹ places a positive value on congruence and does not view it as a means for maintaining one's behavioral status quo but as a practical way of living with others. To be congruent the individual must still behave consistently with old values or begin the process of reevaluation of his value system and begin to abandon or modify old values.

If education creates a state of incongruence for many college students with increased tolerance as a result it does not deny the tendency of the student to move toward a state of congruence by either denying the new educational values or by accepting a new value system. This is in agreement with Festinger³² and the theory of cognitive dissonance in that a person can reduce dissonance either by changing his behavior, or by changing either his internal environment (attitudes and perceptions) or his external environment. When persons are not successful in explaining away or in rationalizing inconsistencies to themselves the inconsistency simply continues to exist. According to Festinger, under such circumstances there is psychological

³¹William G. Dyer, "Congruence and Control," Journal of Applied Behavioral Science, Vol. V, No. 2 (April-June, 1969), 161-173.

³²Leon Festinger, A Theory of Cognitive Dissonance (Palo Alto, California: Stanford University Press, 1957), 1-31.

discomfort.³³ The degree of this discomfort varies according to the individual. In distinguishing his model of incongruence from Festinger's cognitive dissonance theory, Borhek maintains that Festinger is concerned with people's immediate reactions to the fact of dissonance while he is concerned with the long term consequences of dissonance.³⁴

Feldman and Newcomb in commenting on the incongruent aspect of the college experience conclude that college is most likely to have the greatest impact on students who experience continuing not-too-threatening discontinuities. "Too great a divergence between student and college, especially initially, may result in the student's marshalling of resistances. Too little might mean no impetus for change."³⁵

In summary, in the research reported in this review, two general models have been used in research studies of attitudes: the learning-conformity model and the personality-function model. Both have proved

³³Freedman, p. 46. The students sampled in this study felt the college years had imposed more emotional strain on them than the childhood and adolescence period. Most of the clinical scales used showed the Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, and Main Scales significant but small differences between the freshman and senior years. For a study testing this idea of discomfort resulting from inconsistency see Richard L. Meile and Philips N. Haese, "Social Status, Status Incongruence and Symptoms of Stress," Journal of Health and Social Behavior, Vol. X, No. 3 (September, 1969), 237-244. They found that status incongruence and/or amount of status incongruence was not positively related to stress. K. Dennis Kelly and William J. Chambliss, "Status Consistency and Political Attitudes," American Sociological Review, Vol. 31, No. 3 (June, 1966), 375-82. These authors question the explanatory reliability of the status consistency, status congruency, status crystallization concepts at least as used in research in dealing with social stratification.

³⁴Borhek, p. 92.

³⁵Feldman and Newcomb, p. 332.

fruitful in the study of variables effecting attitudes of tolerance and intolerance. A Third model based on incongruent experience holds that the college environment by introducing the student to a weakening of certainties, to incongruent interpersonal associations and ideas reduces his tendency to view the world in "bi-polar" terms and results in increased attitudes of tolerance.

Studies Supporting the Correlation of Education and Tolerance

In reporting literature on the general impact of the college experience in the first section of this chapter a number of studies were found to have touched on the correlation between education and tolerant attitudes. The studies to be reported in this section tend to substantiate further this persistent research finding that education is positively correlated to attitudes of tolerance.

In a study based on a fifteen year survey of public opinion polls, Hyman and Sheatsley³⁶ reported that in only two instances was there a reversal of the finding that educated portions of the general public are more favorable to the exercise of freedom for Communists and other individuals and groups. Due perhaps to the era in which they were reporting, however, they also found a growth in restrictive sentiment in all groups.

Using a college sample ranging from freshmen to graduate students,

³⁶Herbert H. Hyman and Paul R. Sheatsley, "Trends in Public Opinion on Civil Liberties," Journal of Social Issues, Vol. IX, No. 3 (Summer, 1952), 6-16.

Selvin and Hagstrom³⁷ distinguish some general social attributes which are associated with what they call libertarian attitudes as measured by support of the Bill of Rights or civil liberties. They show that a liberalizing effect occurs as a result of the educational experience. They also found that the relationship between education and libertarianism is influenced by the students' socio-economic status, political party identification, religious affiliation, major subject, and place of residence.

Elaborating on the Selvin and Hagstrom study, Alonzo and Kinch³⁸ concerned themselves with the educational level at which socialized attitudes towards civil liberties begin to influence behavior. Using a sample of high school seniors they find them to be more libertarian than the college freshmen in Selvin and Hagstrom's sample. The senior-freshman reversal is explained in part by methodological problems in the measurement instrument and conclude that beyond the first year of college the students become progressively more libertarian than the high school seniors.

From a sample of 390 students enrolled in sociology and anthropology courses at a major university, Simmons³⁹ constructed a composite liberalism index by combining each respondent's equally weighted scores

³⁷Hanan C. Selvin and Warren O. Hagstrom, "Determinants of Support for Civil Liberties," British Journal of Sociology, 11(March, 1960), 51-73.

³⁸Angelo A. Alonzo and John W. Kinch, "Educational Level and Support of Civil Liberties," The Pacific Sociological Review, Vol. 17, No. 2 (Fall, 1964), 89-93.

³⁹J. L. Simmons, "Tolerance of Divergent Attitudes," Social Forces, Vol. 43 (March, 1965), 347-352.

on specific measures of economic, religious, sexual, civil liberties, and social problems liberalism. Four gross categories--extreme conservative, moderate conservative, moderate liberals, and extreme liberals--were formed from the collapsed index scores. Simmons explores the extent to which attitude disparity, liberalism, and alienation from society are related to tolerance. They report that tolerance toward the divergent increases with liberalism and suggest that factors, such as education, which tend to increase liberalism will also tend to increase tolerance.

Holt and Tygart⁴⁰ hypothesize a positive relationship between political tolerance and class standing among a sample of 1,037 responding male students. For that university student population little relationship is reported to exist between political tolerance and class standing of undergraduates. Gains in tolerance are found to occur between the first and second year with no further increase until the graduate level. No consistent relationship between year in college and tolerance appear until student subcultural orientations toward the educational process were controlled.

In the present study the influence of subcultural orientations is one of the two principal intervening variables investigated as influencing the relationship between tolerance and education. The theoretical basis for student subcultural orientations is discussed through the literature reported in the last section of this chapter.

Feldman and Newcomb⁴¹ in providing the most comprehensive review

⁴⁰Norman Holt and C. E. Tygart, "Political Tolerance and Higher Education," Pacific Sociological Review, 12 (Spring, 1969), 27-33.

⁴¹Feldman and Newcomb, p. 20.

of literature on college impact to date conclude that the great majority of studies into effects of education on political, economic and social attitudes show seniors to be more liberal than freshmen and that the majority of the differences are statistically significant.

In summary, the results of reported research in this as well as the first section of this chapter find attitudes of tolerance increasing with the student's progression through his college experience.

Studies Related to the Influence of Reference

Group Identification

The literature on the concept of reference group⁴² reveals that it involves some identifiable grouping to which the individual psychologically related his attitudes. To anyone investigating the development of attitudes, their prediction of stability or resistance to change, the concept of reference group is important.

The studies reviewed in previous sections of this chapter show that research in the main has dealt with the general impact of the college experience or when they have considered specific variables little attempt has been made to study the influence of differentiated peer groups on the relationship between education and attitude change. This assertion is voiced by Newcomb when he says:

⁴²The term "reference group" seems to have first appeared in a monograph by Herbert Hyman, "The Psychology of Status," Archives of Psychology, No. 269 (1942).

The empirical grounds for concluding that substantial peer group effects do in fact occur in contemporary American colleges are not solid as many of us would like to believe.⁴³

Responding to this need for more empirical investigation the study to follow is aimed at attempting an exploratory evaluation of the influence of both student reference group identification and college subcultural orientation on the relationship between education and change in attitudes of tolerance.

In examining the concept "reference group" Shibutani⁴⁴ discloses three distinct referents for the term: "groups which serve as comparison points, groups to which men aspire, and groups whose perspectives are assumed by the actor."⁴⁵ His discussion concludes that the concept of reference group will be most useful in research if it is used to designate that group whose perspective is assumed by the actor as the frame of reference for the organization of his perceptual experience. Used in this manner it refers more to a psychological phenomenon than to an objectively existing group.

Eight years earlier, Kelly⁴⁶ made use of two of the above mentioned referents when he drew a distinction between two major functions which reference groups play in the determination of an individual's attitudes.

⁴³Theodore M. Newcomb, "The General Nature of Peer Group Influence," in College Peer Groups: Problems and Prospects for Research, ed. by Theodore M. Newcomb and Everett K. Wilson (Chicago: Aldine Publishing Company, 1968), p. 5.

⁴⁴Tamotsu Shibutani, "Reference Groups as Perspectives," in Readings in Reference Group Theory and Research, ed. by Herbert H. Hyman and Eleanor Singer (New York: The Free Press, 1968), 103-113.

⁴⁵Ibid., p. 105.

⁴⁶Harold H. Kelly, "Two Functions of Reference Groups," Ibid., pp. 77-83.

These functions are: 1) to provide the individual with standards of behavior or attitudes (the normative function) and 2) to provide the individual with standards or comparison points by which he makes self-judgements (the comparative function). These two functions, however, can be served in one and the same group.

Recognizing that the two functions can present in the same group, the present research views the comparative and normative functions as not necessarily being empirically distinct and both functions are inherent in the operationalized definition of reference group as developed in this investigation. The measure in the present study is based on the theoretical definition provided by Krech, et al.,⁴⁷ where reference group is defined as:

Any group with which an individual identifies himself such that he tends to use the group as a standard for self-evaluation and as a source of his personal values and goals.⁴⁸

The latter authors maintain that the reference group of the individual may include both membership groups and groups to which he aspires to belong. The college is perceived as the total membership group in the present investigation but it is recognized that the total college membership group may or may not function as a reference group influencing the relationship between education and attitudes of tolerance.

In a study illustrating this distinction between membership group

⁴⁷David Krech, Richard S. Crutchfield and Egerton L. Ballachey, Individual in Society (New York: McGraw Hill Book Company, Inc., 1962).

⁴⁸Ibid., p. 102.

and reference group, Rosen⁴⁹ using a sample of 50 adolescent Jewish high school age boys and girls studies their behavioral responses to the eating of kosher meat. The membership groups consist of both family and peer group. In cases where the attitudes of the two groups conflict, the group which the adolescent identifies as reference group was most significant in influencing his behavior; and the group tended to be the peer group rather than family.

In a study measuring changes in attitudes of authoritarianism among 28 women students at a large private coeducational university, Siegel and Siegel⁵⁰ also consider the influence of membership group and reference group identification. All women students during their freshman year share a common membership group--the freshmen dormitory. At the conclusion of the freshman year students are permitted to indicate preference for other living arrangements for their sophomore year among which are Row houses which students generally consider higher in social status. It is hypothesized that those women specifying preferences for Row houses thus having a higher status orientation will score higher on authoritarianism as measured by the E-F scale. Of those original 39 subjects, 28 were available for the follow-up study at the end of their sophomore year. Since not all received their preference for the Row houses, three groups are identified and it is found that attitude change in the subjects over time is a function of the normative

⁴⁹ Bernard C. Rosen, "Conflicting Group Membership: A Study of Parent-Peer Group Cross-Pressures," American Sociological Review, XX (April, 1955), 155-161.

⁵⁰ Albert Engvall Siegel and Sidney Siegel, "Reference Groups, Membership Groups, and Attitude Change," Journal of Abnormal and Social Psychology, 55 (1957) 360-364.

attitudes of both imposed membership groups and the individual's reference group. Subjects who came to take the imposed, initially non-preferred, membership group as their reference group show the greatest decrease in attitudes of authoritarianism.

In a study of 67 college students enrolled in introductory sociology class at a large midwestern state university, Denzin⁵¹ reports on an exploratory attempt to locate the role-specific-significant others and the orientational others⁵² among that sample. In the role-specific area of "student", the evaluation that concerned respondents most came in the following order: faculty, friends, family. In the orientational areas, the evaluation of them as a person, they indicated a concern in the following order: friends, family, faculty. On the basis of the definition of reference group that will be applied in the investigation to follow, it is the influence of the orientational other (that evaluation of the individual as a person that concerns him most) that is measured.

A number of studies indicate the importance of the peer group in comparison to the family in influencing attitudes during the college experience. Freedman⁵³ finds that when family history interviews conducted in the freshman year are compared with those carried out in the senior year, most students had become more independent of family

⁵¹Norman K. Denzin, "The Significant Others of a College Population, Sociological Quarterly, Vol. 7 (1966), 298-310.

⁵²For a more detailed discussion of the "orientational other" see Manford H. Kuhn, "The Reference Group Reconsidered," Sociological Quarterly, Vol. 5 (1964), 5-24.

⁵³Freedman, p. 43.

standards and their attitudes grow more critical toward their parents. Newcomb⁵⁴, using data from the Bennington sample, concludes that the factor differentiating the conservative from the nonconservative student is the use of the home as reference group compared to the use of the college membership group as reference group.

Pearlin,⁵⁵ surveying women students at a southern residence college, investigates the manner in which the identification of college students to various groups is correlated with their attitude toward Negroes. He finds least prejudiced students are those who have experienced a weakening of ties to pre-college membership groups, while the more prejudiced are those who retain firm affiliation with such groups.

Wallace,⁵⁶ in a study tracing the effects of the informal social structure of a Midwestern liberal arts college on students' academic values, achievement, and aspirations found the following factors to influence the desire to attend graduate or professional school: previous academic achievement, socio-economic ambition and the peer group attitude climate. Peer group attitude climate is found to have the greatest positive influence.

⁵⁴Theodore M. Newcomb, "Attitude Development as a Function of Reference Groups: The Bennington Study," in Hyman and Singer, p. 376.

⁵⁵Leonard I. Pearlin, "Shifting Group Attachments and Attitudes Toward Negroes," Social Forces, Vol. 33, No. 1 (October, 1954), 47-50.

⁵⁶Walter L. Wallace, "Peer Influences and Undergraduates' Aspirations for Graduate Study," Sociology of Education, Vol. 38, No. 5 (Fall, 1965), 375-392. For a more detailed discussion see Walter L. Wallace, Student Culture: Social Structure and Continuity in a Liberal Arts College (Chicago: Aldine Publishing Company, 1966).

A similar longitudinal study into the influences on student aspirations was conducted by Thistlewaite and Wheeler⁵⁷ of a relatively homogeneous and talented group qualifying to take the National Merit Scholarship Qualifying Tests enrolled at 140 colleges. They control on eight pre-college characteristics but find only three effecting aspirations--initial aspiration level, sex, and NMSQT scores. The results show students' disposition to seek advanced training are strengthened by association with peers having high educational aspirations.

In summary, the research reviewed in this section indicate that the "reference group" is an important concept in relation to influencing attitudes. Limited research has been conducted to demonstrate empirically reference group effects upon the college experience and attitude change. Reference groups can be viewed as both dependent and independent phenomena. In the present study the "reference group" will be viewed as intervening between education and change in attitudes of tolerance.

Studies Related to the Influence of College

Subcultural Orientation

The majority of studies reviewed in previous sections of this chapter describe the impact of the total college culture. Some writers, however, have recognized two cultures on the college campus: the

⁵⁷ Donald L. Thistlewaite and Norman Wheeler, "Effects of Teacher and Peer Subcultures Upon Student Aspirations," Journal of Educational Psychology, Vol. 57, No. 1 (1966), 35-47.

student culture and the faculty culture. Bushnell⁵⁸ recognizes these two cultures as being in competition in their efforts to socialize the student with the student culture being the dominant force. He views the role of the student peer groups as of "fundamental significance in determining the course of events in the college experience."⁵⁹ Realistically, one also must recognize that the student culture is itself made up of "a plurality of different subenvironments, each valuing different interests and rewarding different activities."⁶⁰

Awareness of these student subenvironments had produced a number of studies offering typologies of student subgroupings.⁶⁰ A number of these studies have taken a student subculture approach focusing on the dissimilarities of college students, not as personalities, but as members of groups having common attitudes, values and behaviors.

Clark and Trow⁶¹ have developed a typology using two basic dimensions, "identification with college" and "involvement with ideas".

⁵⁸ John H. Bushnell, "Student Culture at Vassar," in The American College, ed. by Nevitt Sanford (New York: John Wiley and Sons, 1962), 489-514.

⁵⁹ Ibid., p. 510.

⁶⁰ For discussions of various typologies see Jan Hajda, "Alienation and Integration of Student Intellectuals," American Sociological Review, Vol. 26, No. 5 (October, 1961), 758-769. T. M. Newcomb, K. E. Koenig and D. P. Warwici, Persistence and Change: Bennington College and its Students After Twenty-five Years (New York: John Wiley and Sons, 1967) J. P. Warren, "Student Perceptions of College Subcultures," American Educational Journal, Vol. 5 (1968), 213-232. Charles D. Bolton and Kenneth C. W. Kammeyer, The University Student: A Study of Student Behavior and Values (New Haven, Connecticut: College and University Press, 1967).

⁶¹ Burton R. Clark, Educating the Expert Society (San Francisco: Chandler Publishing Company, 1962) pp. 202-211. For more discussion see Burton R. Clark and Martin Trow, "The Organizational Context," in College Peer Groups: Problems and Prospects for Research, ed. by Newcomb and Wilson, pp. 17-70.

The four student subcultures they describe are: the academic, non-conformist, collegiate and vocational. Both the academic and nonconformist subculture value involvement with ideas but differ in their degree of identification with their college, the former identifying more with the college whereas the latter identify more with off-campus groups. The students in the other two subcultures are not particularly involved in ideas but the collegiate are more strongly attached to their college whereas the vocational is not particularly involved with their college.

These subcultural orientations are important elements of student subcultures where they appear as group norms with regard to the college experience. They can be more important than the classroom in the development of attitudes and values of students. More specifically, the "collegiate subculture" although not excluding academic activities, emphasizes the importance of the extracurricular side of college life. The "vocational subculture" places emphasis on particular fields of study and are in college primarily to obtain training for careers in their chosen fields. The "academic subculture" while not forsaking other aspects of college life, places greatest importance to interest in ideas, pursuit of knowledge, and cultivation of the intellect. The "nonconformist subculture" tends to resist the college administration and to be influenced less than the academic subculture by faculty. It emphasizes individualistic interests and styles, concern for personal identity, and often contempt for many aspects of society.

Holt and Tygart⁶² made use of this classification in their study

⁶²Holt and Tygart, pp. 27-33.

of political tolerance and higher education. They combined the "vocational" and "collegiate" under the classification of "instrumental orientation" and the "academic" and "nonconformist" under "intellectual orientation".

This use of the term subculture has been criticized by Bolton and Kammeyer⁶³ for it implies that these persons are in persistent interaction with one another, and that they are aware of their common orientations. Evidence of such interaction has not been provided in those studies using this classification. Feldman and Newcomb⁶⁴ conclude that rather than classifying memberships in an interacting group, the Clark and Trow typology actually classifies students by similarity in subcultural orientation. It is the latter, subcultural orientation, that is viewed as being measured in the present study.

In summary, research studies reported in this last section of the chapter recognize the existence of both a student and faculty culture in the college environment. The student culture is viewed as having different subenvironments that may be classified according to varying student subcultural orientations. These orientations will be viewed in the present study as exerting an intervening influence between the college experience and attitudes of tolerance.

⁶³Bolton and Kammeyer, pp. 123-130.

⁶⁴Feldman and Newcomb, p. 233.

CHAPTER III

A THEORETICAL MODEL PREDICTING DEGREE OF TOLERANCE

Introduction

The theoretical model¹ to be presented in this chapter is specifically designed to explicate factors influencing the degree of tolerance held by individuals. Based on the statement of the problem and review of literature in the preceding chapters, the theoretical model consists of a point of view which logically generates a set of propositions (hypotheses) to be tested.

Theoretical Framework

It is generally assumed that the university experience plays some role in the transmission of values associated with tolerant attitudes. Both within and outside the classroom there are a number of ways in which the college experience leads to greater tolerance. Through education the student learns to make subtle distinctions and qualified judgements rather than tending to view the world in "bi-polar terms". Certain college courses emphasize and have tolerance as a

¹For a discussion of model construction see David Willer, Scientific Sociology: Theory and Method (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967).

major theme. Perhaps more important, however, than viewing the educational experience as an indoctrination in tolerance is to view it as subjecting the student to cross pressures or to an incongruence of experience that leads the student to greater tolerance. Through the educational experience the student comes into contact with a heterogeneity of ideas, exposure to other ways of life and other ways of defining situations. The greater his incongruence of experience the more difficult it is for the individual to think and make value judgments in over-simplified either/or terms. Thus, education provides a variety of experience which often leads to conflicting definitions of objects and situations and as a result greater tolerance.

This is not viewed, however, as a mechanistic process. The college experience does not automatically produce greater tolerance within each individual. Basic to this model is the conceptual realization of a differential response to the incongruent experiences that students find in the university environment. There are two variables, reference group identification and college subcultural orientation, that are theorized to specify more closely the relationship between education and tolerance.

Since the college environment is viewed as providing incongruency, students who experience a weakening of ties to pre-college reference groups and refer to college groups will be more subject to inconsistent definitions and heterogeneous interpretations of experiences. For it is through the reference group that the individual is provided with standards of behavior or attitudes whereby he makes self-judgments. If, on the other hand, the reference group remains "home" or pre-college whereby they continue to experience more consistent

definitions of the situation they are subject to socialization not leading to more tolerance.

College sub-cultural orientation, like reference group identification, is viewed as an explanation of the differential response of students in the college experience. Students hold a variety of attitudes about their purposes and goals while in college. These attitudes result in certain orientations which vary in the extent to which they subject students to cross pressures or incongruent experiences. The "vocational" and "collegiate" college subcultural orientations have in common orientations that are primarily instrumental in nature, the first for a future job and the second for extra-curricular activities. Both are viewed as indifferent and resistant to involvement with ideas and issues beyond that which is required to pass courses. The "nonconformist" and "academic" subcultural orientations are primarily concerned with ideas. These orientations are intellectual in nature. Both are serious in their pursuit of knowledge and as a result are subject to the cross-pressures that come from contact with different ideas and ways of viewing the self and society. As a result it is the latter groups having the intellectual orientation who will be more subject to incongruent college experience and therefore more tolerant in their attitudes.

In addition to the preceding, other factors affect the relationship between education and tolerance. The student's pre-university background, his social characteristics, are possibly partially responsible for this relationship between education and tolerance. It affects the attitudes that the student brings with him to the university environment, and it affects the ways in which these attitudes

change while the individual is in that environment. This could lead to a series of secondary propositions relating to the previously discussed main proposition. But the implications of the model will be explored in this research for students in general rather than for students differentially predisposed.

Inherent within this theoretical framework are the following basic assumptions underlying the rationale of the model.

Assumptions

- A₁: The college experience provides students with interpretations of experiences incongruent with past interpretations.
- A₂: Students will generally become aware of and accept these incongruent interpretations.
- A₃: The effect of incongruent interpretations is cumulative, meaning that the longer they are a part of the college experience, the longer students will be subject to interpretations incongruent with past interpretations.
- A₄: Students who identify more strongly with reference groups in college will be provided with interpretations more incongruent with their past interpretations.
- A₅: Groupings of people in the college environment will generally offer incongruent interpretations for experiences.
- A₆: All student subcultural orientations produce incongruence but the intellectual orientation creates more than the others.
- A₇: Incongruent interpretations of experience bring about increased tolerance.

Definitions

Incongruent Experience.

Nominal- Experience which involves contact with heterogeneous ideas, exposure to other ways of life and other ways of defining situations producing cross-pressures.

Level of Education.

Nominal- Level of education is defined as the academic classification of the student.

Operational- Level of education is operationally defined by classifying freshmen and sophomores as in the lower educational level; juniors, seniors and graduate students as in the upper educational level.

Attitude.

Nominal- An attitude is defined as a system of positive or negative evaluation, emotional feeling, and pro or con action tendencies.²

Degrees of Tolerance.

Nominal- The degree whereby the individual makes subtle

²David Krech, Richard S. Crutchfield and Egerton L. Ballachey, Individual In Society (New York: McGraw-Hill Book Company, Inc., 1962), p. 139.

distinctions and qualified judgments rather than tending to view the world in "bi-polar" terms.

Operational-Tolerance is operationally defined by the tolerance measure developed in this study. Those scoring above the mean on this measure will be classified as less tolerant; those scoring below the mean are classified as more tolerant.

Reference Group.

Nominal- Reference group is defined as that group whose evaluation of the student concerns him most and provides most support to the student's personal values and goals.

Operational-Reference group is operationally defined by the student's choice of that group whose evaluation and support of values is of most concern to him personally and may be either a college reference group or a hometown reference group. (Refer to questionnaire in Appendix A).

College Subcultural Orientation.

Nominal- A student's degree of involvement with ideas and the extent of his identification with their college subcultural orientation.

Operational-The orientation is operationally defined by the student's rank choice of what to do on a free

evening resulting in his classification as having an intellectual orientation or an instrumental orientation. (Refer to questionnaire in Appendix A.)

Research Propositions

The following propositions are consistent with the general model discussed above and will be tested in this research:

- P₁: Level of education is positively related to degree of tolerance. Students with higher levels of college education will have a higher degree of tolerance.
- P₂: The location of reference groups for students is positively related to degree of tolerance. Students whose major reference groups are within the university will have a higher degree of tolerance than those students whose reference groups are in their hometowns.
- P₃: The relationship between reference group location and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance.
- P₄: Level of education is positively related to identification with reference groups by students. Students with higher levels of college education will be more likely to have their major reference groups within the university than will students with lower levels of education.
- P₅: Among those students who have their major reference groups within the university, the relationship between level of education and degree of tolerance will be more positive than

among those students whose reference groups are in their hometowns.

- P₆: College subcultural orientation is positively related to degree of tolerance. Students whose college subcultural orientation is intellectual (nonconformist and academic) in nature will have higher levels of tolerance than those students whose orientation is instrumental (collegiate and vocational) in nature.
- P₇: The relationship between college subcultural orientation and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance.
- P₈: Level of education is positively related to college subcultural orientation. Students with a higher level of education will be more likely to have an intellectual college subcultural orientation than will students with a lower level of education.
- P₉: Among those students who have an intellectual college subcultural orientation, the relationship between level of education and degree of tolerance will be more positive than among those students having an instrumental subcultural orientation.

INDEPENDENT VARIABLE

INTERVENING VARIABLES

DEPENDENT VARIABLE

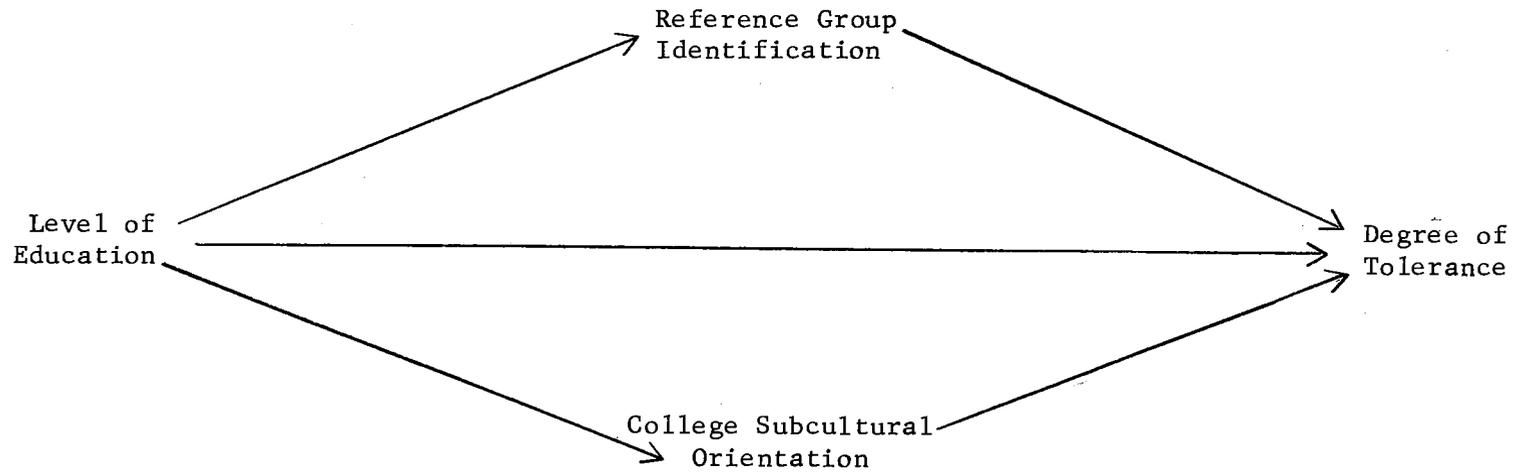


Figure 1. Diagram of the Theoretical Model

CHAPTER IV

METHODS AND ANALYTICAL TECHNIQUES

Introduction

The first chapter of this study discusses the overall scheme of the present investigation. The third chapter presents the structure of the research through the formulation of a theoretical model. The current chapter will be concerned with the methods used in gathering and analyzing the data. This plan, structure and strategy of investigation, make up the research design.¹

Feldman and Newcomb² discuss the different methodological designs which have been utilized in studies of the impact of the college experience. The first of these methods, the longitudinal study, is generally thought of as the preferred method of determining change. In this design, the same students (panel) are studied over time. The second of these methodological designs, the cross-sectional design, is the one followed in the present investigation. In the cross-sectional design, characteristics of students at different educational levels are measured at the same point in time. If educational levels differ,

¹For a discussion of the research design, its meaning, purpose and principles see Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), Chapter 15.

²Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students (San Francisco: Jossey-Bass Inc., Publishers, 1969), pp. 6, 52-53.

change is inferred. Feldman and Newcomb, however, in comparing the results of studies using the two types of design conclude that change inferred from cross-sectional differences are often about the same as differences shown in longitudinal designs. In other words, there appears to be no major differences in the results obtained from the utilization of the two methodological designs. The two designs have different limitations yet both have similar conclusions.

Change, as measured through the application of the cross-sectional design, rests on three inferences and assumptions:³

- (1) the measuring instrument (the tolerance measure to be developed in this study) is presumed to indicate a particular, real attribute of the student;
- (2) the fact of change is inferred from a difference between scores by educational levels; and
- (3) change is assumed to be due to the college experience and/or the influence of other intervening variables.

Sample and Response

The sample used in this study consists of a random sample drawn by student number from the total graduate and undergraduate enrollment at Oklahoma State University during the spring semester of 1970. Questionnaires were mailed to a total sample of 1012 students. Thirty-seven were later excluded due to unknown forwarding addresses. The original return after the first mailing was 55.0 percent. After the

³Kenneth A. Feldman, "Studying the Impact of Colleges on Students," Sociology of Education, Vol. 42, No. 3 (Summer, 1969), p. 208.

follow-up, 70.0 percent of the questionnaires were returned. In administering the follow-up, the total non-returns were randomly divided into two groups. One group received a follow-up letter requesting only that the questionnaire be returned, the other group received both the follow-up letter and a duplicate questionnaire. A Comparison is made to determine the differential return rates between these two types of follow-ups. A follow-up with the second letter only received a return of 58.0 percent whereas the follow-up with the second letter and duplicate questionnaire received a return of 33.0 percent. Table I summarizes the sample response to the mailed questionnaire.

Sample Description

A description of some of the characteristic of the sample is contained in Table II. Since this study focuses on a comparison of upperclassmen and lowerclassmen, the characteristics of the sample are broken down according to these levels of education. There is a higher percentage of males than females in both the upper and lower levels of education. The ration between males and females is higher in the upperclassmen. The percentage difference between single and married students is greater at the lowerclassmen level as could be expected. With regard to number of children in the family, a larger percentage of upperclassmen came from families with four or more children. As could be expected a larger percentage of upperclassmen have attended junior college. The percentage living in own room, apartment or house is higher for upperclassmen; and the percentage of students living in residence halls is higher for lowerclassmen as could be anticipated. A higher percentage of upperclassmen said they participated in the

TABLE I
SAMPLE RESPONSE TO QUESTIONNAIRE

Mailing	Total Mailed Out	Useable Returns	No Response	Useable Returns By Percent
First Mailing	1012	534	441*	55.0
Follow-Up				
Letters Only	265	97	168	58.0
Letters + Questionnaire	265	66	199	33.0
	Final Sample Total	Final Response Total	Percentage Sample Return	
TOTALS	975	697	70.0	

*This total is minus 37 questionnaires returned due to no forwarding address.

TABLE II
CHARACTERISTICS OF THE SAMPLE

Characteristic	Categories	Upper- classmen	Lower- classmen	Total Sample
Sex	Male	69.6*	51.1	61.7
	Female	30.4	48.9	37.9
Size of Hometown	100,000+	26.7	38.6	32.1
	Medium	33.3	28.3	31.1
	10,000-	40.0	33.1	36.9
Social Class Background	High	27.3	36.9	31.2
	Medium	60.5	49.8	56.1
	Low	12.3	13.3	12.7
Marital Status	Single	61.3	90.6	73.8
	Married	37.9	9.1	25.7
	Other	.8	.4	.6
Number of Children in Family	No Siblings	7.6	6.7	7.2
	One	15.4	9.4	12.9
	Two	24.2	26.6	25.1
	Three	23.5	29.4	25.8
	Four or more	40.9	28.0	29.0
Birth Order	Oldest Child	37.6	37.1	37.4
	Middle	20.0	23.7	21.4
	Youngest	28.5	25.8	27.4
	Other	14.1	13.4	13.8
Geographic Mobility	High Mobility(9+)	2.0	3.5	2.6
	Medium (8-5)	5.9	7.4	6.5
	Low (4-1)	36.6	32.5	34.9
	No Mobility	55.5	56.7	56.0
Religious Preference	Catholic	9.6	10.2	9.8
	Jewish	.3	1.1	.6
	Protestant	73.2	73.2	73.2
	None	9.1	8.3	8.8
	Other	7.9	7.3	7.6
Attended Junior College	No	75.8	95.5	83.9
	Yes	24.2	4.5	16.1

*Numbers are percentages.

TABLE II (Continued)

Characteristic	Categories	Upper- classmen	Lower- classmen	Total Sample
Political Preference	Democrat	39.1*	32.7	36.4
	Republican	37.8	40.5	38.9
	Independent	21.5	25.2	23.0
	American	1.8	1.8	1.8
Political Views	Conservative	23.8	24.0	23.9
	Liberal	26.5	23.3	25.2
	Moderate	47.8	49.0	48.3
	Other	2.0	3.9	2.8
Place of Residence	Outside Stillwater	10.8	3.2	7.7
	Residence Hall	24.1	64.8	40.1
	Fraternity-Sorority	9.1	12.6	10.4
	Own Room, Apt., House	53.8	19.4	39.4
	Home of Par. or Relat.	2.2	2.9	2.5
Participation In High School Peer Group	Leading Crowd	54.1	39.2	53.7
	Another Crowd	29.2	29.8	29.5
	No Crowd	14.7	13.3	14.1
	Outside Crowd	2.0	38.6	2.8
Undergraduate Plans Regarding Graduate School	Do Not Plan to Attend	59.1	64.1	61.5
	Planning to Attend	41.0	36.1	38.6
Major Area of Study	Life Science	10.7	7.7	9.5
	Physical Science	5.9	3.9	5.0
	Social Science	12.4	11.6	12.1
	Humanities	3.4	2.1	2.9
	Business	15.1	21.0	17.5
	Engineering	14.1	11.2	12.9
	Architecture	1.3	2.5	1.8
	Home Economics	8.0	9.1	8.5
	Agriculture	10.5	6.3	8.8
Other	19.2	24.9	21.5	
Year in School	Freshman			21.0
	Sophomore			20.2
	Junior			21.0
	Senior			21.9
	Graduate			15.9

*Numbers are percentages

leading crowd in high school, whereas a much larger percentage of lowerclassmen said they belong to a crowd outside the high school. The percentage differences between upperclassmen and lowerclassmen on the other characteristics are only slight; i.e., these characteristics appear to be similarly distributed among the upperclassmen and lowerclassmen in the sample.

The Questionnaire

There are both advantages and disadvantages to the mailed questionnaire⁴ method of data collection in survey research. The predominate advantages to the mailed questionnaire in the present study are wider and more representative distribution of the sample and less "guinea pig effect". The main disadvantage of the mailed questionnaire is the difficulty of obtaining a satisfactory random sample because of non-response. The total percentage response to the questionnaire in the present study was 70.0 percent which could be considered an above average response to a mailed questionnaire. Although a follow-up was conducted to increase the response of the sample, the results of this investigation are used to test a theoretical model rather than to generalize to a population.

The questionnaire was divided into three sections (See Appendix A). The first section included demographic and personal data on

⁴For a discussion of the mailed questionnaire method and the problem of nonresponse see Julian L. Simon, Basic Research Methods in Social Science: The Art of Empirical Investigation (New York: Random House, 1969), pp. 117-121, 242-254.

fifteen pre-college and college characteristics ranging from place of residence to political views.⁵ Although much of this information is not directly relevant to testing the theoretical model of this study it provides data on the general parameters of the sample which is used. Included in the first section are questions determining the two variables viewed in this study as intervening: college subculture orientation and reference group identification. Responses to the following made possible the determination of hometown or college reference group identification based on the definition of reference group provided by Krech, Crutchfield and Ballachey:⁶

- (1) Please indicate the person or groups of people whose evaluation of you concerns you the most.
 - (a) teachers or other adults at O.S.U.
 - (b) close college friends at O.S.U.
 - (c) close college friends from my hometown attending O.S.U.
 - (d) close hometown friends not at O.S.U.
 - (e) parents or other adults at home.

- (2) Please identify the group or persons who are the primary support of your personal values or goals.
(same choices as above)

A choice on both statement of groups or persons from their hometown classifies the student as having a hometown reference group identification. A choice on both statements of groups or persons at O.S.U. classifies them as having a college reference group identification. If the choices are mixed they are classified as having a mixed reference

⁵See Table II where these characteristics are categorized by educational level. See also Appendix B for tables where these characteristics are treated as control variables.

⁶David Krech, Richard S. Crutchfield and Egerton L. Ballachey, Individual In Society (New York: McGraw-Hill Book Company, Inc., 1962), p. 102.

group identification.⁷

As an indicator of the student's subcultural orientation, the questionnaire adopted the same statements used by Holt and Tygart⁸ based on Clark and Trow's four types.⁹ The respondents are asked what they preferred to do on a free evening:

- (a) go to a dance or party sponsored by some campus group (collegiate)
- (b) hear a frank and open discussion by experts on the career opportunities in the field you hope to enter some day (vocational)
- (c) attend a lecture by a well-known academic person in a field of some interest to you (academic)
- (d) attend an informal discussion session off campus by persons concerned with intellectual interests similar to your own (nonconformist).

In contrast to the Holt and Tygart study, the present study had the student rank his choices from 1-4 rather than forcing a selection of only one. The first choice, however, is used to determine their college subcultural orientation which is then collapsed into two general orientations: the instrumental orientation (collegiate and vocational) and the intellectual orientation (academic and nonconformist).

The second section of the questionnaire includes five attitude scales where the items from each scale have been randomly mixed. The data provided by one of these scales, the Anomie Scale developed by

⁷A discussion of the mixed reference group identification is to be presented in Chapter VI of this study.

⁸Norman Holt and C. E. Tygart, "Political Tolerance and Higher Education," Pacific Sociological Review, 12 (Spring, 1969), p. 30.

⁹Burton Clark, Educating the Expert Society (San Francisco: Chandler Publishing Company, 1962), pp. 202-211.

Leo Srole¹⁰ and the Purpose in Life Scale¹¹ which comprises section three of the questionnaire, have not been analyzed in the present study. The remaining four scales of section two of the questionnaire provide the basis for the tolerance measure to be developed in the following section of this chapter.

The method of summated ratings developed by Likert¹² is applied to the four scales utilized in the present study. Each subject indicates for each statement whether they strongly agree, agree, are undecided, disagree, or strongly disagree. Thus, each statement permits five possible responses as an index of strength of agreement. The determination of scale scores for each individual is achieved by summing his responses to all items on that scale, scoring the above five categories 5, 4, 3, 2, and 1, respectively, for favorable items, and reversing the scoring for unfavorable items. The total number of items comprising the four scales is 34.

The Tolerance Measure

The first step of the present investigation is the operationalization of the concept of tolerance used as the dependent variable in this

¹⁰Leo Srole, "Social Integration and Certain Corollaries: An Exploratory Study," American Sociological Review, Vol. 21, No. 6 (December, 1956), 709-716.

¹¹James C. Crumbaugh and Leonard T. Maholich, "An Experimental Study in Existentialism: The Psychometric Approach to Frankl's Concept of Noogenic Neurosis," Journal of Clinical Psychology, Vol. 20 (April, 1964), p. 201.

¹²A. L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, 1957), Chapter VI.

study. A measuring instrument is needed whereby the categories of more tolerant and less tolerance can be identified. This being accomplished, the investigation can then proceed to a comparison of distinguishing personal and social characteristics of the sample in relation to their level of education and degree of tolerance.

Theoretical Basis

Tolerance is viewed as a multifaceted concept consisting of a number of dimensions. In this study tolerance is conceived as being represented in part by four particular dimensions or attitudes: authoritarianism, dogmatism, conservatism, and liberalism.

Adorno¹³ and his associates in attempting to understand the dynamics of ethnic prejudice conceptualized what has come to be known as the "authoritarian personality syndrome". Measured by the F Scale, authoritarianism is reflected in stereotyped thinking, intolerance of ambiguity, punitive morality, submissiveness toward the powerful and dominance toward the weak, conventionality, anti-intellectualism, and hostility toward people perceived as different from oneself. In the present study the Authoritarian-Equalitarian Scale as applied by Eager and Smith,¹⁴ based on an abbreviated measure adopted by Sanford and

¹³T. W. Adorno, Else Frenkel-Brunswick, D. J. Levinson and R. N. Sanford, The Authoritarian Personality (New York: Harper and Brothers, 1950).

¹⁴Joan Eager and M. Brewster Smith, "A Note on the Validity of Sanford's Authoritarian-Equalitarian Scale," Journal of Abnormal and Social Psychology, 47 (April, 1952), p. 265.

Older¹⁵ from the longer F Scale of the California studies of prejudice, is used as a measure of authoritarianism.

Arguing that the F Scale overweights "rightist" rather than general authoritarianism and intolerance, Rokeach has constructed a Dogmatism Scale¹⁶ to measure the latter. Rokeach defines dogmatism as "a relatively closed cognitive organization of beliefs and disbeliefs about reality, organized around a central set of beliefs about absolute authority which, in turn, provides a framework for patterns of intolerance and qualified tolerance toward others".¹⁷ Accordingly, the Dogmatism Scale is conceived to measure both general authoritarianism and general intolerance which is not restricted to any specific ideological content. As such, the Dogmatism Scale claims to measure the degree to which a person has a closed belief system--that is, the extent to which an individual is dogmatic and unreceptive to new ideas. In this study a shortened version of the Rokeach Dogmatism Scale constructed by Schultz¹⁸ is used since this short scale appears to be a reliable substitute of the full scale where brevity is desired and is judged feasible.

¹⁵F. H. Sanford and H. J. Older, A Short Authoritarian-Equalitarian Scale (Philadelphia Institute for Research in Human Relations, Report No. 6, Series A, June, 1950- mimeo) as quoted in Eager and Smith, p. 265.

¹⁶Milton Rokeach and Benjamin Fruchter, "A Factorial Study of Dogmatism and Related Concepts, Journal of Abnormal and Social Psychology, 53:3 (November, 1956), p. 357.

¹⁷Milton Rokeach, "The Nature and Meaning of Dogmatism," Psychological Review, 61 (1954), p. 195.

¹⁸Rolf H. K. Schulze, "A Shortened Version of the Rokeach Dogmatism Scale, Journal of Psychological Studies, Vol. 13, No. 2 (1962), p. 94. For other forms of this scale see Verling C. Troidahl and Frederic A. Powell, "A Short-Form Dogmatism Scale for Use in Feidl Studies," Social Forces, 44 (December, 1965), 211-214.

The third dimension of tolerance in this study is measured by the conservatism scale developed by McClosky.¹⁹ In comparing attitudes of conservatism and liberalism, McClosky describes the extreme conservative in contrast to the liberal as more rigid and compulsive, quicker to condemn weakness in others, more inflexible and unyielding in perceptions and judgements and more intolerant. In constructing the Conservatism Scale, McClosky attempts to concentrate upon those attitudes and values that continually recur among acknowledged conservative thinkers and appear to comprise the invariant elements of the conservative outlook and to avoid attitudes or opinions that seem situationally determined. Right-wing authoritarianism is viewed in many respects as an extreme version of conservatism as McClosky uses the latter term. Authoritarian attitudes, not necessarily in the extreme, have been found to correlate significantly and positively with pro-business attitudes, anti-civil liberty attitudes, anti-Negro attitudes, and anti-welfare attitudes²⁰ and an authoritarian response can be considered a conservative response.²¹

J. L. Simmons²² in a study exploring the extent to which attitude disparity, liberalism, and alienation from society are related to

¹⁹Herbert McClosky, "Conservatism and Personality," American Political Science Review, 52 (March, 1958), 27-45.

²⁰Gary M. Maranell, "An Examination of Some Religious and Political Attitude Correlates of Bigotry," Social Forces, Vol. 45, No. 3 (March, 1967), 356-362.

²¹Gary M. Maranell, Richard A. Dodder, and David F. Mitchell, "Social Class and Premarital Sexual Permissiveness: A Subsequent Test," Journal of Marriage and Family, Vol. 32 (February, 1970), p. 86.

²²J. L. Simmons, "Tolerance of Divergent Attitudes," Social Forces, 43 (March, 1965), 347-352.

tolerance, found that tolerance increased with liberalism. Viewed as a dimension of tolerance in the present study, liberalism is measured by a scale obtained from the College Student Questionnaires.²³ Liberalism is defined as follows:

.....a political-economic-social value dimension, the nucleus of which is sympathy either for an ideology of change or for an ideology of preservation. Students with high scores (liberals) support welfare statism, organized labor, abolition of capital punishment, and the like. Low scores (conservatism) indicate opposition to welfare legislation, to tampering with the free enterprise system, to persons disagreeing with American political institutions, etc.²⁴

Those individuals who score high on liberalism would be more likely than others to "support an ideology of change" - the gist of the Liberalism Scale used in the present study.

The preceding discussion of the theoretical basis for the four scales measuring authoritarianism, dogmatism, conservatism and liberalism, give support to the belief that the scales may in fact measure a general common dimension which can be referred to as tolerance.

Procedure of Analysis

A factor analytic approach²⁵ will be used in this study to substantiate the presence of a general dimension underlying the set of

²³From College Student Questionnaires - Part 2. Copyright @ 1965 by Educational Testing Service. All rights reserved. Used by permission.

²⁴Richard E. Peterson, (ed), College Student Questionnaires: Technical Manual (Princeton, New Jersey: Institutional Research Program for Higher Education, Educational Testing Service, 1968), p. 20.

²⁵For a general discussion of the method of factor analysis see Kerlinger, *Ibid.*, pp. 650-685.

items comprising the four subscales, as well as the independence of the subscales. This method will permit the extraction of the common factor variances from these sets of measures. In addition, the same procedure will be used in analyzing subscale scores.

If, for instance, it is found that all four of the subscales are measuring something in common, then the scales share variance and the scores obtained from them can be added together and used as one measure in analysis. If, however, the subscales do not cluster together, their scores cannot be added together and each subscale must be treated as a separate dependent variable.

The first step in this procedure is to use the raw data to intercorrelate the items in the four scales. The resulting intercorrelation matrix (R) for the four variables is the starting point for the factor analysis. The (R) matrix will represent only the pattern of relationships among the items of the four original variables. As Kerlinger states, at this point the researcher is faced with two questions: "How many underlying variables, or factors, are there? What are the factors?"²⁶

In the factor-analytic procedure the eigenroots and vectors are extracted from the intercorrelation matrix. The result is a matrix of factor loadings which will indicate the degrees of relationship between the original items and each of the new factor variables.²⁷ The

²⁶ Ibid., p. 651.

²⁷ Donald J. Veldman, Fortran Programming for the Behavioral Sciences (New York: Holt, Rinehart and Winston, 1967), pp. 206-245. This source is used as the basic reference and guide for the construction of the computer program for the factor analysis in this study.

procedure of factor analysis in this study should reveal if these thirty-four items share common factor variance and the relations between the items.

Factor Analysis of Subscale Items

Following the above procedures, the items of the four subscales²⁸ were intercorrelated, and the resulting (R) Matrix was then factorized producing a Factor Loading Matrix. This matrix indicates the coefficients that express the relations that exist between the original items and the underlying factors. Eleven factors were extracted whose latent roots (eigenroots) were greater than 1. The unrotated factor I accounted for 14 percent of the total explained variance (51 percent) of the first eleven factors extracted. Seventeen of the thirty-four items load better than .30 on the first factor which suggests a reasonable amount of common variance among the items. Although factor one accounts for only 14 percent of the total explained variance, the drop in the amount of explained variance from one to the other ten factors is impressive enough to lead to a concentration on those seventeen items loading better than .30 on the first factor. The other seventeen items are excluded because they either load higher on another factor or they split indicating the item has ambiguous loadings.

In view of the item loadings on factor one in the principal axis analysis and in view of the amount of variance extracted by this one factor, the seventeen items loading better than .30 on the first factor will be used as the measuring instrument in the present study. Table

²⁸See Appendix C for a complete listing of the four subscales and their items.

III presents the seventeen items and their loadings on Factor I. An examination of the varimax rotation of all factors (See Appendix D) does not support the conclusion that this seventeen item scale can be considered unidimensional. The rotation of all factors indicates that there are more dimensions present than simply the four considered-- liberalism, authoritarianism, conservatism, and dogmatism. Thus, the conclusion reached is that the measuring instrument is a multidimensional rather than an unidimensional scale.

These findings, then, suggest the presence of a generalized dimension underlying the items but also the presence of considerable specific sources of variance independent of the underlying dimension. An examination of the nature of the seventeen items making up this multidimensional measure supports the anticipated conclusion that this generalized dimension can be referred to as tolerance. The items reflect opposition to differing ideas and beliefs, attitudes favorable to conventionality, attitudes favorable to submission to authority, and attitudes opposing change.

Factor Analysis of Subscale Scores

The second factor analysis of the present study lends support to the conclusions above. A principal axis analysis of the four subscale total scores (See Table IV) of each subject was made in this instance. One factor was extracted accounting for 55 percent of the variance, the amount of variance accounted for between the four scores. By moving from an analysis of thirty-four items to an analysis of four items, the probability of loading one factor is considerably increased. However, the loading on one factor indicates there is an underlying dimension

TABLE III

FACTOR ANALYSIS OF SUBSCALE ITEMS PRINCIPAL AXIS ANALYSIS FACTOR I
(N=697)

Subscale Items	Factor I
<u>Liberalism</u>	
1. The government should have the right to prohibit certain groups of persons who disagree with our form of government from holding peaceable public meetings.	.54
2. The police are unduly hampered in their efforts to apprehend criminals when they have to have a warrant to search a house.	.42
3. Capital punishment should be abolished	.46
5. Legislative committees should investigate the political beliefs of college or university faculty members	.44
<u>Authoritarianism</u>	
2. The most important thing a child should learn is obedience to his parents.	.62
4. Most people who don't get ahead just don't have enough will power	.47
5. Women should stay out of politics.	.50
<u>Conservatism</u>	
1. If you start trying to change things very much, you usually make them worse.	.41
3. Its better to stick by what you have than to be trying new things you don't really know.	.45
4. A man doesn't really get to have much wisdom until he's well along in years.	.41
5. I prefer the practical man any time to the man of ideas.	.53
6. If something grows up over time, there will always be much wisdom in it.	.37
7. I'd want to know that something would really work before I'd be willing to take a chance on it.	.41
9. We must respect the work of our forefathers and not think that we know better than they did.	.44

TABLE III (Continued)

Subscale Items	Factor I
<u>Dogmatism</u>	
5. Most people just don't know what's good for them.	.42
8. In this complicated world of ours the only way we can know what is going on is to rely upon leaders or experts who can be trusted.	.36
9. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.	.49

TABLE IV
SUBSCALE INTERCORRELATIONS AND FACTOR LOADINGS

	Subscales				Factor I	Communalities h^2
	1	2	3	4		
1. Liberalism		.4343	.3926	.2206	.68	.46
2. Authoritarianism			.4696	.4454	.81	.66
3. Conservatism				.3983	.77	.60
4. Dogmatism					.69	.47
(N=697)					54.75 Percent Variance	

present and gives support to the decision to treat the seventeen items from the four subscales as a multidimensional scale measuring tolerance.

Test-Retest Reliability

The validity of the tolerance measure was determined by the factor analysis. Factor analysis has been referred to as perhaps the "most important of construct validity tools".²⁹ The results appear to indicate that the scale has some validity and that the "theory" behind its construction can be considered fairly valid.

Reliability, however, refers to the accuracy or precision of a measuring instrument. An analysis was made of the reliability of the tolerance measure through the procedure of test-retest.³⁰ An undergraduate sociology class was asked to respond to the seventeen items of the tolerance measure developed in this study. The scale items were recorded and summated to give a test-run I score for each subject. One week later the same class was administered the same seventeen item scale and again item responses and a summated score were obtained. The correlation coefficient between the scale totals on Test-run I and Test-run II was .96, indicating that subjects were responding almost identically to the scale on both occasions.

²⁹Kerlinger, p. 454.

³⁰For a discussion and examples of the use of test-retest reliability see Peterson, Chapter IV.

Specific Analytical Techniques

Factor Analysis

Factor analysis is a statistical method whereby the nature and number of underlying variables (factors) among a variety of measures are determined through intercorrelation.³¹

Pearson Product-Moment Correlation Coefficient

The product moment correlation is a measure of relationship or rate of change in one variable expressed as a proportion of the change taking place in the other variable. The correlation coefficient is an index of the concomitant variation of two variables and not proof of a cause-and-effect relationship.³²

Chi Square Statistic

The chi square statistic assumes that the data are cast in nominal form and are from independently random samples. The statistic evaluates whether or not frequencies which have been empirically obtained are significantly different from those which would be expected by chance variation. The larger the difference between observed and expected frequencies, the larger the value of chi square. The chi square

³¹For a discussion of factor analysis see Solomon Diamond, Information and Error (New York: Basic Books, Inc., 1959), Chapter 12. See also Kerlinger, Chapter 36.

³²John T. Roscoe, Fundamental Research Statistics for the Behavioral Sciences (New York: Holt, Rinehart and Winston, Inc., 1969), Chapter 12.

basically gives the probability that the distribution of the data could have occurred by chance.

Yule's Q Statistic

This statistic can only be used in a 2x2 contingency table. It is a measure of the association (correlation) between two dichotomous variables.³⁴ The Q statistic is similar in form to the product-moment r and must come out somewhere between +1.0 and -1.0. In using the Q statistic it is useful to have an agreement as to what is a strong value and what is a weak one. The conventions as outlined by Davis³⁵ are applied for describing Q values in the present study.

³³Hubert M. Blalock, Social Statistics (New York: McGraw-Hill, 1960), pp. 212-221.

³⁴For a discussion of Yule's Q and examples of its use see Matilda White Riley, Sociological Research II: Exercises and Manual (New York: Harcourt, Brace and World, Inc., 1963), pp. 116-118, 141.

³⁵James Davis, Elementary Survey Analysis (Englewood Cliffs, New Jersey: Prentice-Hall, 1971), p. 49. The method of determining Q values is as follows:

+ .70 or higher	A very strong positive association
+ .50 to + .69	A substantial positive association
+ .30 to + .49	A moderate positive association
+ .10 to + .29	A low positive association
+ .01 to + .09	A negligible positive association
.00	No association
- .01 to - .09	A negligible negative association
- .10 to - .29	A low negative association
- .30 to - .49	A moderate negative association
- .50 to - .69	A substantial negative association
- .70 or lower	A very strong negative association

Goodman's W^2 Statistic

This statistic can be used to study the conditional association between two variables when a third variable is taken into account; that is when the third variable is held constant. The variable may be either dichotomous or polytomous. When using dichotomous variables, the W^2 is an index of the relationship between three variables dichotomized into a pair of two-by-two tables. The tables are constructed such that one of them contains the interaction of the independent variable, the dependent variable, and the upper half of the controlled variable; the other table contains the interaction of the independent variable and dependent variable together with the lower half of the controlled variable.³⁶

Discussion of Limitations

Willer³⁷ in discussing model construction emphasizes that theoretical models can never be proven true or valid but with extensive testing can be proven reliable. The utility of a model is in the propositions which imply relationship between variables which can be tested. Thus, models although unproveable are nevertheless essential according to Willer. It must be recognized that theories, such as the theory of incongruent experience forming the basic theoretical orientation for

³⁶Leo Goodman, "Multivariate Analysis of Dichotomous Variables," American Journal of Sociology, Vol. 71 (1965), 290-301. In this statistic the interaction is significant at the .05 level if the W^2 value is at least 3.84, $W^2=X^2$.

³⁷David Willer, Scientific Sociology: Theory and Method (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967).

the present study, can result in a number of conceptually different models. The theoretical model presented in the present investigation is only one possible conceptualization of the theory of incongruent experience and the theory of incongruent experience is only one conceptualization of attitude change. The same set of propositions tested in this investigation could conceivably result from a different model. A different model could produce different substantiated relationships between education and attitude change. The theoretical model presented in Chapter III and to be tested in the following chapter (Chapter V) is only one conceptualization of reality, it does not represent reality itself. In addition, this study represents only one test of the reliability of the model presented.

In this study, the purpose is to test a theoretical model, it is not to generalize findings to the Oklahoma State University student population. Although the questionnaire response was 70.0 percent, it is possible that the 30.0 percent nonrespondents could alter the relationship between the variables considered in this study. For those who did respond, however, it is anticipated that the model will hold true.

In the social sciences it is unusual for a perfect correlation among variables to be found. No such perfect correlations are anticipated in the present study although it is expected that the testing of the propositions (hypotheses) will produce correlations which will provide support for the theoretical model.

In the present study the college subcultural orientations are collapsed to provide two general orientations; the instrumental and the intellectual subcultural orientations. Further investigation

beyond the present study should investigate more closely the variations among the four college subcultural orientations; collegiate, vocation, intellectual and nonconformist. The results of the antecedent and other college characteristics will not be discussed to any length in the present investigation although tables presenting the percentage comparisons of the relationship between level of education and degree of tolerance and test variables are presented in Appendix B. The affect of these variables as well as an attempt to look at the overlapping of college subcultural orientations and reference group identifications must await further analysis. Such analysis could produce findings which would conceivably strengthen the findings of the present study or alter them.

Summary

A mailed questionnaire survey was made of a random sample of 1012 students enrolled at Oklahoma State University during the spring semester of 1970. The useable returns totaled 697 making a return rate of 70.0 percent of the original sample.

The purpose of the survey was to collect data relating to a variety of pre-college and college characteristics. The tolerance measure, viewed as the dependent variable in this investigation, was developed from four subscales pertaining to attitudes of liberalism, authoritarianism, conservatism, and dogmatism. The four subscales were subjected to factor analysis. The results indicated that seventeen items comprise an acceptable instrument suitable for use as a measure of tolerance. The resulting data, as well as other data on various social characteristics, will permit cross-sectional comparisons between levels of

education and degree of tolerance controlling on certain test variables.

Specific analytical techniques, which have and will be used in the present study were discussed. They are as follows: factor analysis, Pearson Product Moment Correlation Coefficient, Chi Square, Yule's Q, Goodman's W^2 statistic.

CHAPTER V

TEST OF THE MODEL

The theoretical model presented in Chapter III of this study provides the nine hypotheses (propositions) to be tested in the present chapter. The procedure in the analysis of data is based on the process of multivariate analysis¹ using marginal elaboration with an intervening test variable. The data will be presented in the form of contingency tables and analyzed with the use of Chi Square, Q and percentage differences.

The theoretical model assumes that the college experience introduces the student to incongruent experiences leading to more tolerant attitudes. In addition, the longer he is subject to these incongruent experiences the more tolerant he will become; meaning the student will reflect less authoritarianism, dogmatism, and conservatism and more liberalism in his attitudes.

H₁: Level of education is positively related to degree of tolerance.

Table V on the following page indicates that a higher percentage (55.7) compared to 47.9 percent of the lowerclassmen scored above the mean on tolerance. The relationship between level of education and

¹For a discussion of the general idea of multivariate analysis and the application of marginal elaboration see Paul F. Lazarsfeld and Morris Rosenberg, The Language of Social Research (New York: The Free Press, 1966).

degree of tolerance is statistically significant ($\chi^2 = 9.12$); and has a low positive degree of association ($Q = .16$). The data supporting the first hypothesis is presented in Table V.

The second hypothesis anticipated that students whose major reference groups are within the university would have a higher degree of tolerance than those students whose reference groups are in their hometowns.

TABLE V
EDUCATIONAL LEVEL AND DEGREE OF TOLERANCE

Degree of Tolerance	Level of Education	
	Upper	Lower
More	228 (55.7)*	137 (47.9)
Less	181 (44.3)	149 (52.1)
Totals (N=695)	409 (100.0)	286 (100.0)

$\chi^2 = 9.12, p < .01; Q = .16, \text{ a low positive correlation}$

*The number in parentheses is the percentage

H_2 : The location of reference groups for students is positively related to degree of tolerance.

Among those with college reference groups 68.1 percent were more tolerant in comparison to 41.6 percent of the students with hometown

reference groups. There is a significant difference between location of reference group and degree of tolerance. The two variables have a substantial positive degree of correlation. The second hypothesis is supported by the data presented in Table VI (Chi Square = 26.5, $p < .001$, $Q = .50$).

The third hypothesis anticipated a stronger relationship between reference group location and degree of tolerance than between educational level and degree of tolerance.

H_3 : The relationship between reference group location and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance.

TABLE VI
REFERENCE GROUP IDENTIFICATION AND
DEGREE OF TOLERANCE

Degree of Tolerance	Reference Group Identification	
	College	Hometown
More	128 (68.1)*	77 (41.6)
Less	60 (31.2)	108 (58.4)
Totals (N=373)	188 (100.0)	185 (100.0)

$\chi^2 = 26.5$, $p < .001$; $Q = .50$, a substantial positive correlation

*The number in parentheses is the percentage

This hypothesis is supported by a comparison of the results of the testing of hypotheses one and two presented in Tables V and VI. Both findings are significant but the difference between reference group location and degree of tolerance is more significant (Chi Square = 26.5, $p < .001$) than the significant difference between educational level and degree of tolerance (Chi Square = 9.12, $p < .01$). Whereas the relationship between the former is a substantial positive correlation ($Q = .50$) the relationship between level of education and degree of tolerance is a low positive correlation ($Q = .16$).

The fourth hypothesis anticipates that students with higher levels of college education will be more likely to have their major reference groups within the university than will students with lower levels of education.

H_4 : Level of education is positively related to identification with reference groups by students.

Among upper classmen 56.8 percent are found to identify with a college reference group compared to 41.1 percent of the lower classmen. There is a significant difference between level of education and identification with reference groups although the correlation between the two variables is a moderate correlation. Hypothesis four is supported by the data presented in Table VII (Chi Square = 8.95, $p < .01$, $Q = .31$).

The fifth hypothesis involves the relationship between location of reference group, level of education and degree of tolerance.

H_5 : Among those students who have their major reference groups within the university, the relationship between level of education and degree of tolerance will be more positive than among those students

whose reference groups are in their hometowns.

TABLE VII
EDUCATIONAL LEVEL AND REFERENCE GROUP IDENTIFICATION

Reference Group Identification	Educational Level	
	Upper	Lower
More	126 (56.8)*	62 (41.1)
Less	96 (43.2)	89 (58.9)
Totals (N=373)	222 (100.0)	151 (100.0)

$\chi^2 = 8.95, p < .01; Q = .31, a moderate positive correlation$

*The number in parentheses is the percentage

A percentage comparison of the two sections of Table VIII on the following page indicate that the majority of both upperclassmen (70.6) and lowerclassmen (62.9) having a college reference group are more tolerant than the upperclassmen (42.7) and lowerclassmen (40.5) having a hometown reference group identification. The relationship, however, between level of education and degree of tolerance is insignificant among those with college reference group identification and also insignificant among those with a hometown reference group identification. There is a low positive correlation between educational level and degree of tolerance for the college reference group compared to a negligible positive correlation between level of education and tolerance for the hometown reference group identification. Hypothesis five is

TABLE VIII
 EDUCATIONAL LEVEL, REFERENCE GROUP IDENTIFICATION
 AND DEGREE OF TOLERANCE

Degree of Tolerance	Reference Group Identification							
	College (N=188)				Hometown (N=185)			
	Upperclassmen		Lowerclassmen		Upperclassmen		Lowerclassmen	
More	89	(70.6)*	39	(62.9)	41	(42.7)	36	(40.5)
Less	37	(29.4)	23	(37.1)	55	(57.3)	53	(59.5)
Totals	126	(100.0)	62	(100.0)	96	(100.0)	89	(100.0)
$\chi^2 = 1.15, p < .30; Q = .17, \text{ low positive correlation}$				$\chi^2 = .30, p < .70; Q = .05 \text{ negligible positive correlation}$				

*The number in parentheses is the percentage

somewhat supported by the data presented in Table VIII but certainly not as strongly supported as would be desired (College Reference Group: Chi Square = 1.15, $p < .30$, $Q = .17$) (Hometown Reference Group: Chi Square = .30, $p < .70$, $Q = .05$).

Hypothesis six anticipated that students whose college subcultural orientation is intellectual (nonconformist and academic) in nature will have higher levels of tolerance than those students whose orientation is instrumental (collegiate and vocational) in nature.

H_6 : College subcultural orientation is positively related to degree of tolerance.

Of those students having an intellectual orientation, 63.5 percent are more tolerant compared to 46.7 percent of those students having an instrumental subcultural orientation. There is a significant difference between college subcultural orientation and degree of tolerance with a moderate positive correlation between the two variables. The sixth hypothesis is supported by the data presented in Table IX (Chi Square = 17.79, $p < .001$, and $Q = .33$).

H_7 : The relationship between college subcultural orientation and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance.

This hypothesis is supported by a comparison of the results of hypothesis one presented in Table V and hypothesis six presented in Table IX. Both findings are significant but the difference between college subculture orientation and degree of tolerance is more significant ($X^2 = 26.5$, $p < .001$) than the difference between educational level and tolerance ($X^2 = 9.12$, $p < .01$). Whereas the relationship between subcultural orientation and degree of tolerance is a moderate

positive correlation ($Q = .33$) the relationship between level of education and degree of tolerance is a low positive correlation ($Q = .16$).

TABLE IX
COLLEGE SUBCULTURAL ORIENTATION AND DEGREE OF TOLERANCE

Degree of Tolerance	College Subcultural Orientation	
	Intellectual	Instrumental
More	153 (63.5)*	212 (46.7)
Less	88 (36.5)	242 (53.3)
Totals (N=695)	241 (100.0)	454 (100.0)

$X^2 = 17.79, p < .001; Q = .33, a moderate positive relationship$

*The number in parentheses is the percentage

The eighth hypothesis anticipates that students with a higher level of education will be more likely to have an intellectual college orientation than will students with a lower level of education.

H_8 : Level of education is positively related to college sub-cultural orientation.

The anticipated results that students with a higher level of education will be more likely to have an intellectual orientation than will students with a lower level of education is not supported by percentage

comparison. The majority of both upperclassmen (57.1) and lowerclassmen (76.8) are instrumental in orientation. Comparison, however, of the intellectually orientated indicate that the majority (76.6) are upperclassmen. There is a significant difference between educational level and student subcultural orientation and the relationship is moderately positive as indicated by the data presented in Table X (Chi Square = 28.76, $p < .001$, $Q = .43$).

TABLE X
EDUCATIONAL LEVEL AND COLLEGE SUBCULTURAL ORIENTATION

College Subcultural Orientation	Educational Level	
	Upper	Lower
Intellectual	175 (42.9)*	66 (23.2)
Instrumental	233 (57.1)	219 (76.8)
Totals (N=693)	408 (100.0)	285 (100.0)

$\chi^2 = 28.76$, $p < .001$; $Q = .43$, a moderate positive correlation

*The number in parentheses is the percentage

H_0 : Among those students who have an intellectual college subcultural orientation, the relationship between level of education and degree of tolerance will be more positive than among those students having an instrumental subcultural orientation.

A percentage comparison of the two sections of Table XI indicate that the majority of both upperclassmen (66.3) and lowerclassmen (56.1) having an intellectual subcultural orientation are more tolerant than the upperclassmen (47.6) and lowerclassmen (45.2) having an instrumental orientation. The relationship between level of education and degree of tolerance is insignificant among those with an instrumental college subcultural orientation and also insignificant among those with an instrumental subcultural orientation. There is, however, a low positive correlation between educational level and degree of tolerance for the intellectual orientation compared to a negligible positive correlation between level of education and tolerance for the instrumental orientation. Hypothesis nine is somewhat supported by the data presented in Table XI but certainly not as strongly supported as would be desired (Intellectual Subcultural Orientation: Chi Square = 2.14, $p < .10$, $Q = .21$) (Instrumental Subcultural Orientation: Chi Square = .23, $p < .70$, $Q = .05$).

The implications of these findings will be discussed in the summary and conclusions presented in Chapter VII of this study.

TABLE XI
 EDUCATIONAL LEVEL, COLLEGE SUBCULTURAL ORIENTATION AND
 DEGREE OF TOLERANCE

Degree of Tolerance	College Subcultural Orientation							
	Intellectual (N=241)				Instrumental (N=452)			
	Upperclassmen		Lowerclassmen		Upperclassmen		Lowerclassmen	
More	116	(66.3)	37	(56.1)	111	(47.6)	99	(45.2)
Less	59	(33.7)	29	(43.9)	122	(52.4)	120	(54.8)
Totals	175	(100.0)	66	(100.0)	233	(100.0)	219	(100.0)

$\chi^2 = 2.14, p < .10; Q = .21, a \text{ low positive correlation}$

$\chi^2 = .23, p < .70, Q = .05, a \text{ negligible correlation}$

*The number in parentheses is the percentage

CHAPTER VI

A FURTHER CONSIDERATION: THE MIXED REFERENCE

GROUP IDENTIFICATION

Introduction

The theoretical model tested in this study and presented in Chapter III concerns itself in part with the affect of reference group identification on the relationship between level of education and degree of tolerance. The reference group identification is conceived as being either an identification with a college reference group or an identification with a hometown reference group.

In operationalizing reference group identification, allowance is made for a mixed reference group identification. Such an identification could mean that students; (1) identify with close college friends who are from their hometown, (2) identify with a college reference group with respect to the evaluation of themselves that concerns them most but identify with a hometown reference group as the group of primary support of their personal values and goals, or (3) vice versa.¹ It was anticipated that there would be mixed reference group identifications on

¹Of those students classified as having mixed reference group identification, only six of the 307 indicated a choice of close college friends from their hometown. This small proportion of the total group makes more valid the description of the group as having a mixed reference group identification.

the part of some students; the extent of that choice of reference group identification, however, was not anticipated. Of the total 680 students responding to the question giving reference group identification, 45.0 percent identified with a mixed reference group, 28.0 percent with a college reference group and the remaining 27.0 percent identified with a hometown reference group.

Although the main concern of the present investigation is the testing of a theoretical model which does not explicitly include the mixed reference group identification, some consideration should be given at this point to this unexpected finding. The following questions will be considered: Is there a significant difference or positive correlation between level of education and degree of tolerance among those having a mixed reference group identification? Will the relationship between educational level and degree of tolerance be more positive for the college reference group than for the mixed reference group? Will the relationship between educational level and degree of tolerance be more positive for the mixed reference group than for the hometown reference group? Finally, how do these findings compare to those found when comparing hometown and college reference groups?

Analysis of Data

The following analysis of the relationship between level of education and degree of tolerance for the mixed reference group identification and the comparison of the three reference groups will be made with the use of Yule's Q statistic, Goodman's W^2 statistic and percentage comparisons.

In testing the significant difference between level of education

and degree of tolerance for the mixed reference group, no significant difference is found to exist. There is, however, a low positive correlation between the two variables. Table XII presents the data with regard to the relationship between level of education and degree of tolerance for the mixed reference group identification ($\chi^2 = 2.15$, $p < .10$, $Q = .16$).

TABLE XII
EDUCATIONAL LEVEL, MIXED REFERENCE GROUP IDENTIFICATION
AND DEGREE OF TOLERANCE

Degree of Tolerance	Educational Level	
	Upperclassmen	Lowerclassmen
More	93 (52.0)*	56 (43.8)
Less	86 (48.0)	72 (56.2)
Totals (N=307)	179 (100.0)	128 (100.0)

$\chi^2 = 2.15$, $p < .10$; $Q = .16$, a low positive correlation

*The number in parentheses is the percentage.

A comparison of the three reference group identifications with regard to the relationship between level of education and degree of tolerance is presented in Table XIII. Both the college and mixed reference groups have a low positive correlation between these two variables whereas the relationship between level of education and

TABLE XIII

COMPARISON OF THE RELATIONSHIP BETWEEN LEVEL OF EDUCATION AND DEGREE OF TOLERANCE FOR THREE REFERENCE GROUP IDENTIFICATIONS

Degree of Tolerance	Reference Group Identification					
	College (N=188)		Mixed (N=307)		Hometown (N=185)	
	Upperclassmen	Lowerclassmen	Upperclassmen	Lowerclassmen	Upperclassmen	Lowerclassmen
More	89 (70.6)*	39 (62.9)	93 (52.0)	56 (43.8)	41 (42.7)	36 (40.5)
Less	37 (29.4)	23 (37.1)	86 (48.0)	72 (56.2)	55 (57.3)	52 (59.5)
Totals (N=680)	126 (100.0)	62 (100.0)	179 (100.0)	128 (100.0)	96 (100.0)	89 (100.0)
	Q = .17, a low positive correlation		Q = .16, a low positive correlation		Q = .05, a negligible positive correlation	

*The numbers in parentheses are percentages.

degree of tolerance for the hometown reference group is negligible ($Q = .17$, $Q = .16$, $Q = .05$). Applying Goodman's W^2 statistic an effort is made to determine if a significant difference would exist between pairs of reference group identifications with regards to level of education and degree of tolerance. In comparing college with mixed reference group identification no significant difference is found ($W^2 = .0025$). A comparison of the mixed reference group identification with hometown reference group identification also produced no significant difference ($W^2 = .65$). Similarly, a comparison of hometown and college reference group identification again produced no significant difference ($W^2 = .30$).

The direction of the relationship between level of education and reference group identification is more visible with the percentage comparisons presented in Table XIV. The percentage of upperclassmen identifying with college reference group is 67.0 percent, with mixed reference group 58.3 percent, and with hometown reference group 51.9 percent.

The direction of the relationship between degree of tolerance and reference group identification is evident from an examination of Table XV. The percentage of college reference group identification classified as more tolerant is 68.1 percent, for the mixed reference group 48.5 percent, and for the hometown reference group identification 41.1 percent.

Summary

The results of the data analysis indicate there is no significant difference between educational level and degree of tolerance in the

TABLE XIV
LEVEL OF EDUCATION WITHIN THE THREE REFERENCE
GROUP IDENTIFICATIONS

Level of Education	Reference Group Identification		
	College	Mixed	Hometown
Upperclassmen	126 (67.0)*	179 (58.3)	96 (51.9)
Lowerclassmen	62 (33.0)	128 (41.7)	89 (48.1)
Totals (N=680)	188 (100.0)	307 (100.0)	185 (100.0)

*The numbers in parentheses are percentages.

TABLE XV
DEGREE OF TOLERANCE WITHIN THE THREE REFERENCE
GROUP IDENTIFICATIONS

Degree of Tolerance	Reference Group Identification		
	College	Mixed	Hometown
More	128 (68.0)*	149 (48.5)	77 (41.1)
Less	60 (31.9)	158 (51.5)	108 (58.4)
Totals (N=680)	188 (100.0)	307 (100.0)	185 (100.0)

*The numbers in parentheses are percentages.

mixed reference group although there is a low positive correlation between the variables. Comparing the college reference group identification with the mixed reference group identification and the mixed reference group identification with the hometown reference group identification, W^2 results indicate no significant difference between the paired groups. Percentage comparisons of the three reference group identifications on level of education and degree of tolerance separately, indicate that as students progress through the college experience there is a progressive shifting of reference group identification from hometown to mixed to college reference group identification. Implicit within the theoretical model is the expectation that this shifting of reference group identification as the student moves from one level of education to the next will also produce a shifting toward more tolerant attitudes. The results of the data presented in this chapter support this expectation.

Although it was not known precisely what to expect from the mixed reference group identification, these findings tend to suggest a linear, continued process of disattachment from previous pre-college reference groups to attachment to college reference group identification.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Research dealing with the affect of the college experience has been taking place for over forty years. Current research appears to take the position that although the college experience does produce changes in the attitudes of students, these changes are generally considered significant but not profoundly significant. Many of these college studies are found lacking in any explicit theory concerning which characteristics of students are to be affected by the college experience or the ways in which these effects are to be produced. Current research could benefit from a theoretical framework which focuses on underlying conditions and processes that are producing correlations between variables related to the effects of the college experience.

The college experience is viewed in this study as providing incongruent experiences whereby the student learns to make subtle distinctions and qualified judgements rather than tending to view the world in "bi-polar" terms. The longer the student is involved in the college experience the more difficult it will be to make value judgements in over-simplified either/or terms and the greater the tendency to become more tolerant. The college experience, however, does not automatically produce greater tolerance within each individual.

Using a cross-sectional design, the present study attempts to formulate a reliable theoretical model specifically developed to explicate

factors influencing the degree of tolerance held by students. Research efforts dealing with the question of why some students experience increased attitudes of tolerance while others do not are limited. By concentrating on processes of identification among college students, this study seeks to identify two particular intervening variables that may aid in understanding the inconsistencies among students in their response to the college experience.

The theoretical model views students who experience a weakening of ties to pre-college reference groups and a strengthening of college reference group identification as being more subject to inconsistent definitions and heterogeneous interpretations of experience. If, however, the reference group identification remains "home" or pre-college, the students continue to experience more consistent definitions of experience and are less subject to socialization leading to more tolerance.

Like the first intervening variable, reference group identification, the second intervening variable, college subcultural orientation, is viewed as another explanation of the differential response of students to the college experience. Students hold a variety of attitudes about their purposes and goals while in college. These attitudes result in certain orientations which vary in the extent to which they subject students to cross pressures or incongruent experience. The instrumental college subcultural orientation is viewed in the theoretical model as subjecting the student to less incongruent experience resulting in less tolerance, while those students with an intellectual orientation are viewed as more subject to incongruence as a result of more contact with different ideas and ways of viewing the self and

society. As a result those students identifying with the intellectual orientation will tend to be more tolerant in their attitudes in comparison to those students identifying with the instrumental college sub-cultural orientation.

Research Procedure

In order to test the theoretical model, data was collected through a mailed questionnaire survey of a random sample of 1012 students enrolled at Oklahoma State University. The purpose of the survey was to collect data relating to a variety of pre-college and college characteristics. A return of 697 (70.0 percent) was achieved. This rate of return was considered adequate for the testing of the theoretical model and no attempt is made to generalize beyond the present sample.

A tolerance measure, utilized as the dependent variable in the present study, was developed from four subscales pertaining to attitudes of liberalism, authoritarianism, conservatism, and dogmatism. A factor analysis of the thirty-four items of the four subscales, resulted in the loading of seventeen items at better than .30 on factor I. These seventeen items comprise the tolerance measure applied in the present study. The varimax rotation of all factors indicated that the tolerance measure was multidimensional. Additional support for the belief that a generalized dimension is measured by these seventeen items was provided by a factor analysis of the subscale scores where one factor was extracted. Reliability of the tolerance measure was estimated through the procedure of test-retest, resulting in a correlation coefficient of .96, indicating the subjects were responding almost identically to the scale on two separate occasions.

A review of the theoretical bases of the four subscales in conjunction with an examination of the nature of the seventeen items support the conclusions that this generalized dimension can be referred to as tolerance. Thus, the tolerance measure is a one factor, multi-dimensional scale consisting of seventeen items.

With the development of the tolerance measure, conceived in the model as the dependent variable, the investigation proceeded to test the theoretical model through the process of multivariate analysis using marginal elaboration with an intervening test variable. The data were presented in the form of contingency tables and analyzed with the use of Chi Square, Yule's Q statistic and percentage comparisons.

The Hypotheses

Nine hypotheses were developed from the theoretical model to facilitate the analysis of the data.

H₁) Level of education is positively related to degree of tolerance. (accepted)

H₂) The location of reference groups for students is positively related to degree of tolerance. (accepted)

H₃) The relationship between reference group location and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance. (accepted)

H₄) Level of education is positively related to identification with reference groups by students. (accepted)

H₅) Among those students who have their major reference groups within the university, the relationship between level of education and degree of tolerance will be more positive than among those students

whose reference groups are in their hometowns. (accepted)

H₆) College subcultural orientation is positively related to degree of tolerance. (accepted)

H₇) The relationship between college subcultural orientation and degree of tolerance will be stronger than the relationship between educational level and degree of tolerance. (accepted)

H₈) Level of education is positively related to college subcultural orientation. (accepted)

H₉) Among those students who have an intellectual college subcultural orientation, the relationship between level of education and degree of tolerance will be more positive than among those students having an instrumental subcultural orientation. (accepted)

The Findings

The literature in recent years on the affects of the college experience lead the researcher to anticipate a significant but not strongly significant difference between level of education and degree of tolerance. The findings with respect to the first hypothesis support this expectation. The relationship between level of education and degree of tolerance for this college sample is significant at the .05 level with a low positive degree of correlation between the two variables.

With this finding, the investigation proceded to identify the effects of certain intervening variables on this relationship between educational level and degree of tolerance. With respect to the second hypothesis it is suggested that students whose major reference group identification is within the university are more tolerant than those

students whose reference groups are in their hometowns. A significant difference ($p < .001$) was found between the two reference group identifications on degree of tolerance with a substantial positive correlation between the variables.

Since reference group identification was conceived as intervening, it was anticipated that a stronger relationship would exist between reference group location and degree of tolerance than existed between educational level and degree of tolerance. This hypothesis was substantiated when a moderate correlation of $Q = .31$ was found for the relationship between reference group identification and degree of tolerance compared to a low positive correlation of $Q = .16$ for the relationship between level of education and degree of tolerance.

It was also found with respect to hypothesis four that the students with higher levels of college education were more likely to have their reference group identification within the university whereas the lower-classmen were more likely to have their identification with hometown reference groups. This hypothesis was found to be significant at the .01 level and a moderate positive correlation existed among the variables.

The results of the tests of hypothesis five suggest that for those students having the college reference group identification, the relationship between level of education and degree of tolerance was more positive than among students whose reference group identification was hometown. There was no significant difference between the two variables for either group although the degree and direction of the correlation is in the anticipated direction. For the college reference group identification there was a low positive correlation and for the hometown

reference group identification there was a negligible correlation between level of education and degree of tolerance. This hypothesis was not supported as strongly as was desired.

The same procedure of analysis was followed with the second intervening variable investigated, college subcultural orientation. This test factor was found to be significant at the .001 level and moderately positively related to degree of tolerance when testing hypothesis six. Those students having an intellectual college subcultural orientation were more tolerant (63.5 percent) compared to those students having an instrumental college subcultural orientation (46.7 percent).

It was also found with respect to hypothesis seven, that the relationship between college subcultural orientation and degree of tolerance was stronger with a moderate positive correlation, than the relationship between educational level and degree of tolerance, a low positive correlation. The findings of hypothesis eight support the belief that as the student progresses through college there will be a tendency to move toward an identification with an intellectual orientation whereas the lowerclassmen will be more prone to identify with the instrumental subcultural orientation. The majority of the intellectually orientated are upperclassmen and there is a significant difference ($p < .001$) between educational level and student subcultural orientation with the correlation between variables being a moderate positive correlation.

The findings with regard to hypothesis nine indicate that the relationship between level of education and degree of tolerance for the intellectual college subcultural orientation is more positive than the relationship among those variables within the instrumental subcultural

orientation. A low positive correlation between these variables existed for the college subcultural orientation whereas a negligible positive correlation existed for the instrumental orientation with respect to level of education and degree of tolerance. The difference between the two variables within each orientation was not statistically significant. This hypothesis was not supported as strongly as was desired.

Conclusions

The findings resulting from the testing of the propositions of the model suggest that it may be a reliable theoretical model of the affect of the college experience on attitudes of tolerance for the utility of a model rests in the propositions which imply relationships between variables which can be tested. Although the relationship between level of education and degree of tolerance was not significantly different within the two intervening variables, what is significant is the shifting of reference group identification and subcultural orientation from one level of education to the next. In other words, since the two partial tables were not significantly different, the importance of the intervening variables is not in the interaction of them with level of education and degree of tolerance. The two marginal tables for both of the intervening variables, however, expressed rather strong relationships, suggesting that the intervening variables have a major impact upon tolerance independent of level of education.

This shifting of identification and orientation was even more clearly evident with the introduction of a third reference group identification. The unexpected finding of a large identification with a mixed reference group adds to the reliability of the theoretical model

rather than detracting from it. Percentage comparisons on level of education and degree of tolerance between these three reference groups suggest a linear, continued process of disattachment from previous pre-college reference group identification to attachment to college reference group identification with a corresponding increase in attitudes of tolerance. This same shifting appears to take place with regard to subcultural orientation as lowerclassmen move from the instrumental orientation toward the intellectual orientation with corresponding increasing tolerance.

The data collection in this study also made available information on a number of pre-college and college characteristics not considered in the testing of the model. The relationship between level of education and degree of tolerance controlling on these variables is presented in Appendix B. These test factors have been subjected to a great deal of previous analysis in research dealing with college impact and the percentage comparisons in the present study suggest findings in general agreement with those found in previous research. The influence of these additional test factors on the theoretical model tested in the present study await further analysis. In addition, further analysis should deal with the overlapping impact of reference group identification and college subcultural orientation since in the present study these two intervening variables are treated separately.

If it is assumed that the development of more liberal and tolerant attitudes toward differing ideas and ways of life is one of the goals of the college education, there are a number of implications that can be drawn from the present study. For example, according to the literature, conditions for campus-wide impacts appear to have been most frequently

provided in small, residential, four-year colleges. Such an environment tends to maximize interaction among students. Such interaction tends to encourage contact with differing ideas and ways of looking at self and society. The present large university generally practices institutional arrangements that discourage rather than maximize such interaction between academic levels of the student body as well as interaction between students and others in the college environment. The isolation of freshmen in freshmen dormitories, the lack of interdisciplinary course offerings, and the proportion of course offerings cutting across academic levels, particularly in the first two years of the college experience, are only a few examples of institutional arrangements and lack of arrangements which could encourage peer interaction among lower and upperclassmen. The research suggests that outside of the characteristics the student brings with him to the college environment, peer influence is the most important influence on the outcome of the college experience.

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APPENDIX A

LETTERS AND QUESTIONNAIRE

April 8, 1970

Dear Student,

We are presently engaged in a study of the affect of education upon student attitudes. This study is being conducted through support from the National Science Foundation, the Oklahoma State University Department of Sociology and the OSU Research Foundation.

We are asking your help in this study. Your name was drawn in a random sample representing the student body at Oklahoma State University. Enclosed is a questionnaire which has been designed to obtain information about you and your attitudes regarding a variety of subjects.

Your response is a central element in the success of this research project. If you do not live in a campus residence hall, please return the questionnaire in the enclosed stamped envelope. If you do live in a campus residence hall, please return the questionnaire in the enclosed campus mail envelope.

Thank you for your time and your cooperation.

Sincerely,

Nancy J. Ogle
Department of Sociology
Oklahoma State University
Stillwater, Oklahoma

April 23, 1970

Dear Student,

A week or so ago you received a questionnaire in the mail dealing with student attitudes. Your name was not necessary and will not be used in the study in any way other than for determining who returned the questionnaire. The code number on the questionnaire was used only to enable us to send a follow-up request for response.

As pointed out in the earlier letter your name was selected as a part of a random sample of over a thousand students representing the Oklahoma State University student body. We are aware of how busy you must be at this time of the semester but your response is requested to insure the success of this research project.

If you have not as yet returned the questionnaire would you please take twenty minutes of your time and do so.

Thank you for your help and your cooperation.

Sincerely yours,

Nancy J. Ogle
Department of Sociology
Oklahoma State University
Stillwater, Oklahoma

STUDENT ATTITUDE INVENTORY

Directions

1. Please do not write your name on the questionnaire.
2. Please circle your responses.
3. Please answer all items.

PART I

1. Sex (1) Male (2) Female
2. Classification (1) freshman (2) sophomore (3) junior (4) senior
(5) graduate student (6) other _____
3. Graduate school plans (1) Do not currently plan to do graduate work
(2) Planning to do graduate work
(3) Am presently a graduate student (full-time)
(4) Am presently a graduate student (part-time)
4. Size of Hometown
(1) 100,001 or more (or suburb of a city of this time) (5) 2,501 - 10,000
(2) 50,001 - 100,000 (6) 1,001 - 2,500
(3) 25,001 - 50,000 (7) less than 1,000
(4) 10,001 - 25,000 (8) I live on a farm
5. Did you attend a junior college or vocational college before coming to OSU?
(1) No (2) Yes If yes, how long? _____
6. Religious Preference
(1) Catholic (2) Jewish (3) Protestant (4) None (5) Other _____
7. How many times before graduation from high school did you move to a different city or geographical area? _____
8. Political Preference
(1) Democrat (2) Republican (3) Independent (4) American Party (Wallace)
9. Do you consider your political views to be:
(1) conservative (2) liberal (3) moderate (4) other _____
10. Number of children in your family
(1) No brothers or sisters (2) one (3) two (4) three (5) four or more
11. What position were you in the family?
(1) oldest child (2) middle (3) youngest child (4) other _____
12. Participation in high school peer group (please select only one)
(1) In leading crowd in school (3) In no crowd in school
(2) In another crowd in school (4) In crowd outside school
13. Place of residence if you live in Stillwater
(1) Residence Hall (2) Fraternity-Sorority (3) Own room, apartment, or house
(4) Home of parents or other relatives
14. Place of residence if you do not live in Stillwater
(1) Own room, apartment or house (2) Home of parents or other relatives

15. What is your marital status? (1) single (2) married (3) divorced (4) remarried
16. What would you prefer to do on a free evening? Please rank in order or preference---1, 2, 3, 4,
- _____ Hear a frank and open discussion by experts on the career opportunities in the field you hope to enter someday.
- _____ Attend an informal discussion session off campus by persons concerned with intellectual interests similar to your own.
- _____ Go to a dance or party sponsored by some campus group.
- _____ Attend a lecture by a well-known academic person in a field of some interest to you.
17. Which of the following categories comes closest to your father's occupation? If your father is retired, deceased, or unemployed, indicate his former or customary occupation. (Mark only one)
- (1) unskilled worker, laborer, farm worker
 - (2) semiskilled worker (machine operator)
 - (3) service worker (policeman, fireman, barber, etc.)
 - (4) skilled worker or craftsman (carpenter, electrician, plumber, etc.)
 - (5) salesman, bookkeeper, secretary, office worker, etc.
 - (6) owner, manager, partner of a small business of small farm; lower level governmental official, military commissioned officer
 - (7) professional requiring a bachelor's degree (engineer, elementary or secondary school teacher, etc.)
 - (8) owner, high-level executive---large business or large farm of high-level government agency
 - (9) professional requiring an advance college degree (doctor, lawyer, college professor, etc.)
18. In which of the following categories does your declared or intended major fall:
- (1) Life Science
 - (2) Physical Science
 - (3) Social Science
 - (4) Humanities
 - (5) Business
19. Specify what your declared major or intended major is at this time: _____
20. Please indicate the persons or group of people whose evaluation of you concern you the most
- (1) teachers or other adults at OSU
 - (2) close college friends at OSU
 - (3) close college friends from my hometown attending OSU
 - (4) close hometown friends not at OSU
 - (5) parents or other adults at home
21. Please identify the group or persons who are the support of your personal values or goals.
- (1) teachers or other adults at OSU
 - (2) parents or other adults at home
 - (3) close college friends at OSU
 - (4) close college friends from my hometown attending OSU
 - (5) close home town friends not at OSU

PART II

Please answer the items in this section according to the following code:

SD---Strongly Disagree
D---Disagree
U---Undecided

A---Agree
SA---Strongly Agree

- SD D U A SA 1. Human nature being what it is, there must always be war and conflict.
SD D U A SA 2. Fundamentally, the world we live in is a pretty lonely place.
SD D U A SA 3. If you start trying to change things very much, you usually make them worse.
SD D U A SA 4. The government should have the right to prohibit certain groups of persons who disagree with our form of government from holding peaceable public meetings.
SD D U A SA 5. In spite of what some people say, the lot of the average man is getting worse.
SD D U A SA 6. The most important thing a child should learn is obedience to his parents.
SD D U A SA 7. It is often desirable to reserve judgement about what's going on until one has a chance to hear the opinions of those one respects.
SD D U A SA 8. No matter how we like to talk about it, political authority really comes not from us, but from some higher power.
SD D U A SA 9. The police are unduly hampered in their efforts to apprehend criminals when they have to have a warrant to search a house.
SD D U A SA 10. Nowadays a person has to live pretty much for today and let tomorrow take care of itself.
SD D U A SA 11. A few strong leaders could make this country better than all the laws and talk.
SD D U A SA 12. A person who thinks primarily of his own happiness is beneath contempt.
SD D U A SA 13. It's better to stick by what you have than to be trying new things you don't really know about.
SD D U A SA 14. Capital punishment should be abolished.
SD D U A SA 15. These days a person doesn't really know who he can count on.
SD D U A SA 16. Most people who don't get ahead just don't have enough will power.
SD D U A SA 17. In the history of mankind there have probably been just a handful of really great thinkers.
SD D U A SA 18. A man doesn't really get to have much wisdom until he's well along in years.
SD D U A SA 19. The government should do more than it is presently doing to see that everyone gets adequate medical care.
SD D U A SA 20. There's little use writing to public officials because often they aren't interested in the problems of the average man.
SD D U A SA 21. Women should stay out of politics.
SD D U A SA 22. Most people just don't know what's good for them.
SD D U A SA 23. I prefer the practical man anytime to the man of ideas.
SD D U A SA 24. Legislative committees should investigate the political beliefs of college or university faculty members.
SD D U A SA 25. It's hardly fair to bring children into the world with the way things look for the future.
SD D U A SA 26. People sometimes say that an insult to your honor should not be forgotten.
SD D U A SA 27. Once I get worked up in a heated discussion I just can't stop.
SD D U A SA 28. If something grows up over a long period of time, there will always be some wisdom in it.
SD D U A SA 29. Labor unions these days are doing the country more harm than good.
SD D U A SA 30. People can be trusted.
SD D U A SA 31. The worst crime a person can commit is to attack publicly the people who believe in the same thing he does.

- SD D U A SA 32. I'd want to know that something would really work before I'd be willing to take a chance on it.
- SD D U A SA 33. Conscientious objectors should be excused from military service in wartime.
- SD D U A SA 34. In this complicated world of ours the only way we can know what is going on is to rely upon leaders or experts who can be trusted.
- SD D U A SA 35. All groups can live in harmony in this country without changing the system in any way.
- SD D U A SA 36. The welfare state tends to destroy individual initiative.
- SD D U A SA 37. In the long run the best way to live is to pick friends and associates who tastes and beliefs are the same as one's own.
- SD D U A SA 38. We must respect the work of our forefathers and not think that we know better than they did.
- SD D U A SA 39. While I don't like to admit this even to myself, I sometimes have the ambition to become a great man like Einstein, or Beethoven, or Shakespeare.

PART III

For each of the following statements, circle the number that would be most nearly true for you. Note that the numbers always extend from one extreme feeling to its opposite kind of feeling. "Neutral" implies no judgement either way. Try to use this rating as little as possible.

1. I am usually:

1	2	3	4	5	6	7
completely			(neutral)			exuberant
bored						enthusiastic
2. Life to me seems:

7	6	5	4	3	2	1
always			(neutral)			completely
exciting						routine
3. In life I have:

1	2	3	4	5	6	7
no goals or			(neutral)			very clear
aims at all						goals and aims
4. My personal existence is:

1	2	3	4	5	6	7
utterly meaningless,			(neutral)			very purposeful
without purpose						and meaningful
5. Every day is:

7	6	5	4	3	2	1
constantly new			(neutral)			exactly the
and different						same
6. If I could choose, I would:

1	2	3	4	5	6	7
prefer never			(neutral)			like nine more lives
to have been born						just like this one
7. After retiring:

1	2	3	4	5	6	7
I would like to do some			(neutral)			I would like to completely
of the exciting things						loaf the rest of my life
I have always wanted to do						
8. In achieving life goals I have:

1	2	3	4	5	6	7
made no progress			(neutral)			progressed to complete
whatever						fulfillment

9. My life is:
 1 2 3 4 5 6 7
 empty, filled only (neutral) running over with
 with despair exciting things
10. If I should die today, I would feel that my life has been:
 7 6 5 4 3 2 1
 very worthwhile (neutral) completely worthless
11. In thinking of my life, I:
 1 2 3 4 5 6 7
 often wonder why (neutral) always see a reason
 I exist for being here
12. As I view the world in relation to my life, the world:
 1 2 3 4 5 6 7
 completely (neutral) fits meaningfully
 confuses me with my life
13. I am a:
 1 2 3 4 5 6 7
 very irresponsible (neutral) very responsible
 person person
14. Concerning man's freedom to make his own choices, I believe man is:
 1 2 3 4 5 6 7
 absolutely free to (neutral) completely bound by
 make all life choices limitations of heredity
 and environment
15. With regard to death, I am:
 1 2 3 4 5 6 7
 prepared and (neutral) unprepared and
 unafraid frightened
16. With regard to suicide, I have:
 1 2 3 4 5 6 7
 thought of it seriously (neutral) never given it a
 as a way out second thought
17. I regard my ability to find a meaning, purpose, or mission in life as:
 7 6 5 4 3 2 1
 very great (neutral) practically none
18. My life is:
 7 6 5 4 3 2 1
 in my hands and I (neutral) out of my hands and controlled
 am in control if it by external factors
19. Facing my daily tasks is:
 7 6 5 4 3 2 1
 a source of pleasure (neutral) a painful and boring
 and satisfaction experience
20. I have discovered:
 7 6 5 4 3 2 1
 No mission or (neutral) clear-cut goals and a
 purpose in life satisfying life purpose

APPENDIX B

TABLES COMPARING LEVEL OF EDUCATION WITH DEGREE
OF TOLERANCE CONTROLLING ON TEST FACTORS

TABLE XVI
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON SEX

Degree of Tolerance	Level of Education			
	Upper Classmen		Lower Classmen	
	Male	Female	Male	Female
Less	50.0%	31.5%	60.3%	42.6%
More	50.0	68.5	39.7	56.4
Totals	100.0	100.0	100.0	100.0
N	284.0	124.0	146.0	140.0

TABLE XVII

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON SIZE OF HOMETOWN

Degree of Tolerance	Level of Education					
	Upper Classmen			Lower Classmen		
	100,000+	Medium	10,000-	100,000+	Medium	10,000-
Less	51.5%	40.5%	50.9%	35.0%	52.3%	57.3%
More	48.5	59.5	49.0	65.0	47.7	42.7
Totals	100.0	100.0	100.0	100.0	100.0	100.0
N	101.0	126.0	151.0	120.0	88.0	103.0

TABLE XVIII
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON RELIGIOUS PREFERENCE

Degree of Tolerance	Level of Education									
	Upper Classmen					Lower Classmen				
	C	J	P	N	O	C	J	P	N	O
Less	41.0%	100.0%	47.0%	21.6%	46.9%	53.6%	66.7%	50.5%	34.8%	60.0%
More	49.0	0.0	53.0	78.4	53.1	46.4	33.3	49.5	65.2	40.0
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39.0	1.0	298.0	37.0	32.0	28.0	3.0	202.0	23.0	20.0

C = Catholic
 J = Jew
 P = Protestant
 N = None
 O = Other

TABLE XIX

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON JUNIOR COLLEGE ATTENDANCE

Degree of Tolerance	Level of Education			
	Upper Classmen		Lower Classmen	
	Attended	Not Attended	Attended	Not Attended
Less	56.6%	40.6%	61.5%	51.6%
More	44.4	59.6	38.5	48.4
Totals	100.0	100.0	100.0	100.0
N	99.0	310.0	13.0	273.0

TABLE XX

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON GEOGRAPHIC MOBILITY

Degree of Tolerance	Level of Education							
	Upper Classmen				Lower Classmen			
	HM	MM	LM	NONE	HM	MM	LM	NONE
Less	25.0%	29.2%	38.3%	50.4%	70.0%	33.3%	49.5%	54.9%
More	75.0	70.8	61.7	49.6	30.0	66.7	50.5	45.1
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	8.0	24.0	149.0	226.0	10.0	21.0	93.0	162.0

HM = High Mobility (9+ changes in residence)

MM = Medium Mobility (8-5 changes in residence)

LM = Low Mobility (4-1 changes in residence)

TABLE XXI

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON NUMBER OF CHILDREN IN FAMILY

Degree of Tolerance	Level of Education									
	Upper Classmen					Lower Classmen				
	0	1	2	3	4+	0	1	2	3	4+
Less	32.3%	49.2%	45.5%	42.7%	45.0%	63.2%	48.1%	46.1%	52.4%	56.3%
More	67.7	50.8	54.4	57.3	55.0	36.8	51.9	53.9	47.6	43.7
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	31.0	63.0	99.0	96.0	120.0	19.0	27.0	76.0	84.0	80.0

TABLE XXII
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON BIRTH ORDER

Degree of Tolerance	Level of Education							
	Upper Classmen				Lower Classmen			
	Oldest	Middle	Youngest	Other	Oldest	Middle	Youngest	Other
Less	46.7%	43.8%	41.7%	42.1%	58.1%	49.3%	43.8%	57.9%
More	53.3	56.2	58.3	57.9	41.9	50.7	56.2	41.1
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	152.0	80.0	115.0	57.0	105.0	67.0	73.0	38.0

TABLE XXIII

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE CONTROLLING ON
HIGH SCHOOL PEER GROUP PARTICIPATION

Degree of Tolerance	Level of Education							
	Upper Classmen				Lower Classmen			
	Leading Crowd	Another Crowd	No Crowd	Outside Crowd	Leading Crowd	Another Crowd	No Crowd	Outside Crowd
Less	44.2%	46.2%	33.9%	50.0%	53.0%	54.1%	47.4%	45.5%
More	55.8	53.9	66.1	50.0	47.0	45.9	52.6	54.5
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	217.0	117.0	59.0	8.0	151.0	85.0	38.0	11.0

TABLE XXIV
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON SOCIAL CLASS BACKGROUND

Degree of Tolerance	Level of Education					
	Upper Classmen			Lower Classmen		
	Upper	Middle	Lower	Upper	Middle	Lower
Less	37.8%	47.6%	42.0%	45.7%	56.3%	52.6%
More	62.2	52.4	58.0	54.3	43.7	47.4
Totals	100.0	100.0	100.0	100.0	100.0	100.0
N	111.0	246.0	50.0	105.0	142.0	38.0

TABLE XXV

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON MARITAL STATUS

Degree of Tolerance	Level of Education					
	Upper Classmen			Lower Classmen		
	Single	Married	Other	Single	Married	Other
Less	46.6%	33.3%	33.3%	51.7%	53.9%	100.0%
More	53.4	66.7	66.7	48.3	46.2	0.0
Totals	100.0	100.0	100.0	100.0	100.0	100.0
N	238.0	147.0	3.0	259.0	26.0	1.0

TABLE XXVI
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON POLITICAL PREFERENCE

Degree of Tolerance	Level of Education							
	Upper Classmen				Lower Classmen			
	Dem	Repub	Ind	Amer	Dem	Repub	Ind	Amer
Less	42.4%	53.6%	29.9%	71.4%	52.2%	58.8%	39.4%	80.0%
More	57.6	46.4	70.1	28.6	47.8	41.2	60.6	20.0
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	158.0	153.0	87.0	7.0	92.0	114.0	71.0	5.0

TABLE XXVII

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON POLITICAL VIEWS

Degree of Tolerance	Level of Education							
	Upper Classmen				Lower Classmen			
	Conser	Liberal	Mod	Other	Conser	Liberal	Mod	Other
Less	72.2%	18.5%	45.7%	25.0%	63.2%	45.5%	51.8%	27.3%
More	27.8	81.5	54.3	75.0	36.8	54.5	48.2	72.7
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	97.0	108.0	195.0	8.0	68.0	66.0	139.0	11.0

TABLE XXVIII

EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
CONTROLLING ON GRADUATE SCHOOL PLANS

Degree of Tolerance	Level of Education			
	Upper Classmen		Lower Classmen	
	Not Planning	Planning	Not Planning	Planning
Less	56.1%	33.6%	57.8%	42.6%
More	43.9	66.4	42.2	57.4
Totals	100.0	100.0	100.0	100.0
N	180.0	125.0	180.0	101.0

TABLE XXIX
 EDUCATIONAL LEVEL AND POSSESSION OF TOLERANCE
 CONTROLLING ON PLACE OF RESIDENCE

Degree of Tolerance	Level of Education									
	Upper Classmen					Lower Classmen				
	Out- side	Resid Hall	Frat- Sor	Own	Par- ents	Out- side	Resid Hall	Frat- Sor	Own	Par- ents
Less	47.7%	48.1%	32.4%	42.5%	66.7%	55.6%	47.2%	60.0%	59.3%	75.0%
More	52.3	51.9	67.6	57.5	33.3	44.4	52.8	40.0	40.7	25.0
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	44.0	98.0	37.0	219.0	9.0	9.0	180.0	35.0	54.0	8.0

TABLE XXX

LOWER CLASSMEN AND POSSESSION OF TOLERANCE
CONTROLLING ON ACADEMIC MAJOR

Degree of Tolerance	Life Sci.	Phys Sci.	Soc Sci.	Hum.	Bus.	Eng.	Arch.	Home Ec.	Agri.	Other
More	63.6%	90.9%	60.6%	100.0%	33.3%	28.1%	57.2%	46.2%	38.9%	49.3%
Less	36.4	9.1	39.4	0.0	66.7	71.8	42.9	53.9	61.1	54.9
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	22.0	11.0	33.0	6.0	60.0	32.0	7.0	26.0	18.0	71.0

TABLE XXXI

UPPER CLASSMEN AND POSSESSION OF TOLERANCE
CONTROLLING ON ACADEMIC MAJOR

Degree of Tolerance	Life Sci.	Phys Sci.	Soc Sci.	Hum.	Bus.	Eng.	Arch.	Home Ec.	Agri.	Other
More	70.5%	58.3%	92.2%	78.6%	53.2%	32.8%	60.0%	63.6%	27.8%	46.8%
Less	29.6	41.7	7.8	21.4	46.8	67.2	40.0	36.4	72.1	53.2
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	44.0	24.0	51.0	14.0	62.0	58.0	5.0	33.0	43.0	79.0

APPENDIX C

LISTING OF DIMENSIONS OF TOLERANCE SCALES

Liberalism Subscale

- * 1. The government should have the right to prohibit certain groups of persons who disagree with our form of government from holding peaceable public meetings.
- 2. The police are unduly hampered in their efforts to apprehend criminals when they have to have a warrant to search a house.
- 3. Capital punishment should be abolished.
- 4. The government should do more than it is presently doing to see that everyone gets adequate medical care.
- * 5. Legislative committees should investigate the political beliefs of college and university faculty members.
- * 6. Labor unions these days are doing the country more harm than good.
- 7. Conscientious objectors should be excused from military service in wartime.
- * 8. The welfare state tends to destroy individual initiative.

Authoritarianism-Equalitarianism Subscale

- 1. Human nature being what it is, there must always be war and conflict.
- * 2. The most important thing a child should learn is obedience to his parents.
- 3. A few strong leaders could make this country better than all the laws and talk.
- * 4. Most people who don't get ahead just don't have enough will power.
- * 5. Women should stay out of politics.
- 6. People sometimes say that an insult to your honor should not be forgotten.
- 7. People can be trusted.

* Items appearing with an asterisk are those loading on factor I and making up the tolerance measure.

Conservatism Subscale

- * 1. If you start trying to change things very much, you usually make them worse.
- 2. No matter how we like to talk about it, political authority really comes not from us, but from some higher power.
- * 3. It's better to stick by what you have than to be trying new things you don't really know.
- * 4. A man doesn't really get to have much wisdom until he's well along in years.
- * 5. I prefer the practical man any time to the man of ideas.
- * 6. If something grows up over a long time, there will always be much wisdom in it.
- * 7. I'd want to know that something would really work before I'd be willing to take a chance on it.
- 8. All groups can live in harmony in this country without changing the system in any way.
- * 9. We must respect the work of our forefathers and not think that we know better than they did.

Dogmatism Subscale

- 1. Fundamentally, the world we live in is a pretty lonely place.
- 2. It is often desirable to reserve judgement about what's going on until one has a chance to hear the opinion of those one respects.
- 3. A person who thinks primarily of his own happiness is beneath contempt.
- 4. In the history of mankind there have probably been just a handful of really great thinkers.
- * 5. Most people just don't know what's good for them.
- 6. Once I get wound up in a heated discussion I just don't stop.

* Items appearing with an asterisk are those loading on factor I and making up the tolerance measure.

7. The worst crime a person can committ is to attack publicly the people who believe in the same things he does.
- * 8. In this complicated world of ours the only way we can know what is going on is to rely upon leaders or experts who can be trusted.
- * 9. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
10. While I don't like to admit this even to myself I sometimes have the ambition to become a great man like Winstein or Beethoven or Shakespeare.

* Items appearing with an asterisk are those loading on factor I and making up the tolerance measure.

APPENDIX D

FACTOR ANALYSIS OF FOUR SUBSCALES VARIMAX

ROTATION OF ALL FACTORS

TABLE XXXII

FACTOR ANALYSIS OF FOUR SUBSCALES VARIMAX
 ROTATION OF ALL FACTORS
 (N=697)

Factor Item	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1.					.51						
2.					.64						
3.											
4.		.63									
5.					.63						
6.		.65									
7.											
8.		.72									
9.										.61	
10.											
11.								.82			
12.									.53		
13.											
14.										.51	
15.		.60									
16.		.63									
17.											.76
18.	.65										
19.						.56					
20.	.60										
21.											
22.	.62										
23.											.50
24.											
25.			.56								
26.									.58		
27.											
28.						.80					
29.			.51								
30.							.69				
31.											
32.											
33.											
34.									.56		

VITA

Nancy Jane Ogle

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE COLLEGE EXPERIENCE AND TOLERANCE: A STUDY OF INTERVENING VARIABLES

Major Field: Sociology

Biographical:

Personal Data: Born in Muskogee, Oklahoma, March 21, 1937, the daughter of Mr. and Mrs. C. J. Ogle.

Education: Received the Bachelor of Science degree in education with a concentration in history from Phillips University, Enid, Oklahoma, June, 1959. Received the Master of Arts degree in Sociology from Kansas State University in Manhattan, Kansas, January, 1967. Attended Indiana University in Bloomington, Indiana, for one semester. Attended the National Science Foundation Summer Institute in anthropology at Colorado University in Boulder, Colorado. Completed requirements for Doctor of Philosophy degree at Oklahoma State University, Stillwater, Oklahoma, with a major in Sociology, July, 1972.

Professional Experience: Graduate Research Assistant for the Department of Sociology, Kansas State University from September, 1959 to June, 1960. Social studies teacher in Herington High School, Herington, Kansas from September, 1960 to May, 1963. Assistant Professor of Sociology at Phillips University in Enid, Oklahoma, 1963-1968. Graduate Teaching Associate, Oklahoma State University, 1968-1969. National Science Foundation Faculty Fellow, 1969-1970 at Oklahoma State University. Currently Associate Professor of Sociology at Phillips University, Enid, Oklahoma.

Membership in Professional Organizations: American Sociological Association, Midwest Sociological Association.