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A NEED-PRESS COMPARISON OF AUSTRALIAN AND
UNITED STATES COLLEGE GROUPS

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By

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A DISSERTATION

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CHAPTER I

INTRODUCTION

The discovery of the university as an object of scientific investigation has not been limited to the United States scene. Gibbs (1966), in a cross-cultural comparison of the psychological needs and the achievement of University of Adelaide freshmen, found a significant relationship did exist. He concluded his study by writing:

It seems important that further cross-cultural comparisons should be made in this field with a view to elucidating not only the personality characteristics of achieving and nonachieving students, but also the sociological characteristics of the institutions and broadly social environments in which these characteristics operate [p. 816].

The analysis by Gibbs is indicative of the growing awareness that success in college is dependent upon a number of factors, both intellectual and nonintellectual. Much research has been conducted in the United States on the relationships between personality needs of students and the environmental situations which are thought to modify behavior and learning. A number of investigators (Baker, 1966; McFee, 1961; Pace & Stern, 1958; Stern, 1960, 1961, 1962a, 1962b, 1963a, 1963b; Stern, Stein, & Bloom, 1956;

Thistlethwaite, 1959, 1960) have made extensive application of Murray's need-pressure theory (1938) in their attempts to measure the interaction between individual personality needs and environmental influences impinging upon the lives of college and university students.

Background of the Study

The purpose of the study was to conduct a cross-cultural comparison of students and environments in colleges and universities of the United States and the University of Adelaide, South Australia. As a result of a Fulbright-Hayes research grant, it was possible to gather data for this study in Adelaide, from August, 1966, to September, 1967.

Australia was chosen as an appropriate setting for this cross-cultural comparison because there were enough similarities between Australia and the United States to provide a common frame of reference and enough differences to test the adequacy of the measurement instruments for another culture. For future research purposes, Australia offers a diversity of universities over a widespread geographical area; and the number of universities in operation there is still small enough to provide an excellent picture of the institutional environments that exist in a single country.

The University of Adelaide was selected as the site of the investigation because of the interest and involvement of Dr. D. N. Gibbs, who was a senior lecturer in psychology

at the University of Adelaide at the time of the study. Dr. Gibbs was conducting a similar research project among faculty and staff members during the course of this research, and he also served as consultant in this project.

Statement of the Problem

From examination of the literature on nonintellective variables associated with learning, several important questions have emerged:

1. Do students in different academic fields differ psychologically with respect to intellectualism, liberalism of attitudes, and psychological adjustment?

2. How do colleges differ from each other? Are there distinctive atmospheres at various colleges?

3. Within a particular college, do different departments or divisions manifest distinct environments for learning?

4. What happens to similar students in contrasting environments and to contrasting students in the same environments?

5. Should particular personality types be paired with colleges that would support their personalities?

Specific questions that were posed for this cross-cultural comparison also emerged from examination of the literature, particularly the research associated with refinements of Murray's need-press theory (1938):

1. Are the need-press patterns at the University of Adelaide distinctive from the need-press patterns discovered in colleges and universities in the United States?

2. Are the need-press patterns in different University of Adelaide faculties (called divisions, departments, or colleges in United States universities) significantly different from each other?

3. Is there a correlation between press patterns and student needs?

4. Will need-press differences discernible in men and women students in the United States hold true for Australian students?

This study attempted to answer most of the questions posed by the use of instruments developed in the U. S. to measure the effects of the interaction of personality and environment and to provide one form of institutional self-analysis. It is generally agreed that the institutional influence on students should have a clear relationship to institutional purposes as they are expressed in curricula, policies, services, and equipment. Any serious incongruency between what is stated as objectives and what is done on the campus should lead to change.

In the past, there have been inadequate estimations of collegiate environments. Perhaps, prediction of college success should be concerned with performance as a whole. It is possible that the total pattern of harmony between personal needs and environmental influences will be more

predictive of achievement, growth, and change than any isolated aspect of either the person or the environment. Much more work must be done before this predictive value is realized. A more thorough understanding of the relationships between persons and environments should be established in order to help students find effective and rewarding roles within the environment. To extend examination of such relationships to cross-cultural studies can only increase knowledge of general principles and give further insight to work in comparative education.

CHAPTER II

REVIEW OF RELATED LITERATURE

In an important compilation of research reports on the United States college, Sanford (1962, Chs. 1 & 2) pointed out the need for much more research in higher education since there should be scientific bases for practices and processes in colleges and universities. Sanford (p. 1) suggested that practice in higher education is largely governed either by tradition or by a variety of pressures rather than by the facts and principles of science. Among the legitimate research projects needed, Sanford listed the following: objectives, types of students, academic procedures, student society and culture, student performance, drop-outs, and the effects of college education. Each of these areas could be important in determining the environmental influences of a particular institution.

Interest in conducting research on all aspects of higher education has mushroomed in recent years. This chapter reviews theoretical and experimental analyses of personality/environment interactions on college and university campuses both in the United States and in Australia.

United States Studies

Theories of Personality-Environmental Variables

S-O-R learning model. Theories of the influence of personality and environment on learning have become more prevalent in professional literature today. In the S-O-R (Stimulus-Organism-Response) learning model (Loree, 1965, p. 6), environmental variables are considered as possible stimuli for learning. They are defined by Loree (1965) as "the environmental conditions under which learning occurs [p. 211]."
The individual's needs may be regarded as his inferred characteristics that serve as motivating factors for certain behaviors. In this sense, needs may be regarded as organismic variables. The interaction of environmental stimuli and organismic needs may then produce certain responses. Loree (1965) indicated, however, that it is impossible to identify a particular stimulus in an event as wholly responsible for behavior. He wrote, "The total environmental field or situation contains a multitude of potential stimuli, some of which become effective stimuli as a result of the organism interacting with its environment [p. 211]."

Cognitive field theory. In this theory, emphasis is placed on man as a transactional and active being who interacts with his environment (Waetjen and Leeper, 1966). The

personality needs that were postulated as being necessary for man to be an effectively functioning person as he interacts with his environment were feelings of autonomy, adequate perceptions of reality, and competency.

Need-press theory. Henry Murray's advanced ideas and his pioneering environmental assessment techniques were important forerunners for later developments in this field. Murray (1938) defines a need as

a construct (a convenient fiction or hypothetical concept) which stands for a force (the physico-chemical nature of which is unknown) in the brain region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation [pp. 123-124].

Stern (1962b, p. 28) has pointed out that serious consideration has not been given to the presumed biological aspects of needs but that Murray has highlighted two important characteristics of needs: their functional identification with the individual's goals or purposes and their being revealed in the individual's modes of behavior. Needs may be stimulated by internal processes or by external pressure from environmental forces.

Press represents the environmental forces that influence behavior. Murray (1938) defines press as "a temporal gestalt of stimuli which usually appears in the guise of a threat of harm or promise of benefit to the organism [pp. 40-42]." Stern (1962b) stated that the environmental press "provides an external situational counterpart of the internal personality needs [p. 29]." Ultimately, press

refers to the private world of the individual, but this unique world does merge with that of others at some point and can be observed by a person detached from the event. The observer's interpretation, however, may be different from that of the person involved (Stern, 1962b, p. 29). Behavior, then, is regarded by Stern, Stein, and Bloom (1956) as a "function of the transactional relationship between the individual and his environment [p. 357]."

The concept of press can be applied to any situation in which an individual may be, whether home, school, job, or community. Every aspect of life may impinge upon and affect behavior. Murray and Kluckhohn, quoted in Herr (1965), have stated it well:

A human being does not grow up in a vacuum: his development is determined not only by the physical environment as the biologist proved, and by the family environment as Freud proved, but, as the massive data collected by the cultural anthropologists showed, by the larger societal and cultural institutions . . . [p. 586].

Ideally, it might be desirable to measure all variables in a single research design, but the present level of measurement techniques makes it more feasible for a particular press, such as the college environment, to be isolated for study.

Studies of Campus Cultures

Boroff (1961) vividly described the unique personalities of the colleges and universities he visited across the United States. Of particular interest, however, for the present

investigation were studies of types of students that attend different colleges and studies of student society and culture. Kelley (1949, pp. 27-28) has described a college as a cultural matrix with three interactive elements: (a) the culture the student brings to the campus, (b) the tradition and the established culture of the college community, divided into administrative mores and student mores, and (c) the material structure and physical equipment of the college campus.

Student values. Kelley's first element concerned the selection factor. It is generally acknowledged that students are different from each other when they arrive at college and that they differ from each other when they leave. Some feel that the major source of variance is the fact that they are different when they arrive. In Jacob's classic and controversial study (1959) on student values, he suggested that neither the courses, the curriculum, the teaching methods, nor the faculty have much influence upon the students' values or "the essential standards by which students govern their lives [p. 537]." Jacob's work is important in being one of the first to ascribe the peculiar effect of some colleges to their distinctive institutional environments. He saw the need for further study. Riesman (1958), while decrying the lack of methodological rigor of Jacob's study, still admitted that whatever potency exists in the institutional atmosphere may be due to the already existing views of students who attend.

Miller (1959) was dissatisfied with Jacob's conclusions. In a longitudinal study of student values at an Illinois college, she found that the attitudinal averages at the end of the study were about the same as at the beginning, but there were significant changes in individuals. For some students, there were very great changes. She was cautious in assessing causes, however, since the changes may be due to developmental processes within students, college experience, or a function of the types of questions that were asked (Miller, 1959, pp. 118-119).

The question arises, therefore, concerning whether the atmosphere of the college affects the values and attitudes of students or whether the atmosphere of the college is fixed by the character of the student body, as some researchers have suggested (Heist, 1959; Webster, 1958). This is somewhat like the chicken and egg riddle. Nevertheless, the question has important implications for influencing the learning of attitudes and values.

Peer-group cultures. A number of studies have concentrated on the second aspect of Kelley's description of the college culture--the student and administrative mores--in an attempt to isolate peer-group influences. Newcomb (1962, pp. 474-478) suggested that the conditions leading to the formation of peer groups include acquaintances made before college, the physical proximity or closeness on the campus, and the similarity of attitudes and interests. The continuation of the group depends upon whether the attitude of

group members toward each other are favorable and whether the attitudes remain of common importance.

Newcomb (1962) saw the peer culture as more primary and more potent than faculty or administrative influences. He indicated that the degree of influence exerted over individual members depends upon such factors as the size and homogeneity of the group, the degree of isolation from groups having divergent norms, and the importance the individual attaches to the group-supported ideas. Empirically, there is some evidence that there are marked changes in attitudes during college or professional school years as a result of peer-group influence (Newcomb, 1962, pp. 478-482).

One study of "Ivy College" concluded that the peer culture was the most important single external factor in the students' experience at "Ivy" (Davie & Hare, 1956, p. 20). This peer-group influence was attributed to the fact that students had little contact with others beyond the peer culture as well as the fact that the small size and relative homogeneous nature of the student body tended to promote conformity and group solidarity. The tendency toward conformity was also reinforced by situational factors such as the geographical location of "Ivy," the absence of cars and fraternity system. It was concluded that the relative importance of culture as an external factor for the development of any particular individual depends upon the presence or absence of other external factors and upon the structure of those factors.

The peer culture of Vassar College has been subjected to intensive study (Brown, 1962; Bushnell, 1962; Webster, 1958). Most of the Vassar data support the contention that the peer culture exerted a large influence on the changes in attitudes made during college attendance. Brown (1962), in his study of both Vassar students and alumnae, concluded that there is definite interaction of personality and college environment and that personality changes do take place in college. He felt that the individual motivational factors and the current environmental demands were as significant to learning as intellectual capacity. In his solicitation of votes from Vassar faculty for the "ideal" Vassar student, he reached the conclusion that the Vassar faculty "admires high ability but prefers to find it housed in a well-integrated, developing, pleasant, purposeful young person [p. 542]."

Bushnell (1962) used an anthropological approach when he described student life at Vassar in terms of campus setting and living arrangements, academic and extracurricular activities, and activities associated with the daily, weekly, and yearly cycles. The concept of acculturation, the interchange of cultural elements, was applied at Vassar, where the "academic or faculty culture" was described as the donor culture because of authority and prestigefulness, and the students were described as the "underdeveloped" population. Students were able to control the acculturative process by choosing and rejecting elements or by syncretizing--using

cultural items for different purposes than the donor intended. The student culture at Vassar exhibited considerable unity, cohesion, and resiliency in maintaining control of the acculturation process; and this control is the product of enculturation, the learning of one's own culture. The students felt that the donor culture of the professor was not necessarily the superior one, so they relegated it to a marginal status. Bushnell concluded that the peer culture was of great importance in the students' development of attitudes and goals (pp. 512-513).

Webster (1958, p. 117) was one dissenting voice in this chronicle of the peer group's influence on student attitudes. He did not feel that his data supported the view that college students become more alike in their general attitudes while attending college. In the Cornell Values Study, Goldsen (1960) ascribed many influences on students' activities and attitudes to particular college cultures or to definite subcultures within the college environment. Eddy (1959), in a study of twenty colleges and universities, concluded that students in small, homogeneous colleges are influenced strongly by the total college community, but students in more diversified colleges seek out smaller reference groups.

Nature of campus relationships. Global studies on campus cultures do point out important relationships, but the exact nature and causes of these relationships are not clear. Attempts to study these relationships are being made.

Brown and Bystryn (1956) explored the degree of authoritarianism among Catholic, Jewish, and Protestant women students at three colleges. The only groups to change significantly in the direction of lower authoritarian scores after three years were the Jewish group at College A and Catholic students at College C. A larger number of Jewish students dropped out of college than did students from the other groups. Brown and Bystryn hypothesized that the Jewish students were undergoing a more drastic change of environment and, therefore, experienced a greater need to restructure their social-psychological fields than any other group. Jews at College B avoided this conflict by being members of segregated sorority groups. The Jewish group at College A made more of an attempt to identify with the in-group on their campus and, thus, had a tendency to assimilate the social ideology represented by the college to a greater degree than Jewish students at the two other colleges. The challenge, therefore, to existing authoritarianism may be greatest for minority group members coming from a homogeneous background to an unstructured college environment (pp. 283, 285, 287).

Some studies have shown the importance of student characteristics in setting the tone of a college. Other studies have shown the influence of environmental characteristics in changing the behavior of students. What happens to similar students in contrasting environments and to contrasting students in the same environment needs further exploration.

The study cited above (Brown & Bystryn, 1956) is one step in that direction. Other previously cited studies (Stern, 1960, 1961, 1962a, 1962b, 1963a, 1963b; Stern, Stein, & Bloom, 1956) were attempts to objectify the investigative process of need-press interaction by the introduction and refinement of such personality/environment instruments as the Activities Index (AI) and the College Characteristics Index (CCI).

Studies Utilizing the Activities Index
and the College Characteristics Index

The AI and the CCI, which will be described in Chapter III, were based on Murray's need-press theory and designed to study statistically the relationships between types of student personalities and types of university environments. Many studies have used these instruments. Herr (1965) praised the CCI as "the most practically useful and potentially important of today's environmental assessment instruments [p. 587]."

Campus relationships as isolated by the AI and CCI.

A substantial amount of information concerning the AI and the CCI has been obtained from studies conducted primarily to refine and improve the instruments (Stern, 1962a). Some of the research results are cited below:

1. Behavioral and environmental descriptions based solely on the profiles from the AI and the CCI appeared to be confirmed by independent observers (Stern, 1962a, pp. 709-710).

2. Significant relationships existed between needs profiles and other forms of overt behavior, including academic performance, study patterns, reading skills, deviant behavior, career choice, and other areas as well (Stern, 1960, 1962a).

3. Students and professionals in the same field exhibited significantly different needs profiles from those of students and professionals in other fields (Stern, 1962a, p. 711; see also Stern, 1960; Stern, Stein, & Bloom, 1956).

4. Professionals tended generally to be higher in impulse controls and intellectual needs than students in the same fields, except for teachers, who were characterized by weaker intellectual needs than the academic majors matched with them (Stern, 1962b; Stern, Stein, & Bloom, 1956).

5. Press profiles of National Merit Scholars and Finalists, faculty, and administration tended to be consistent with profiles based on representative student samples from the same institutions (Pace & Stern, 1958; Thistlethwaite, 1959, 1960). Thistlethwaite's conclusions (1959, p. 190) indicated that different college environments were needed for scientific and humanistic scholars to thrive. He also found an association between the press of faculty and changes in students' plans to seek advanced training.

6. Entering college freshmen from different high school backgrounds (public, private, and parochial schools) described their high school press in significantly different ways. They described the expected college press, however,

in highly similar ways although they tended to stress intellectual activities unrealistically high when compared with senior press profiles from the same institution (Stern, 1962a, p. 712; 1961).

7. Significant relationships existed between press profiles and the types of institutions sampled (Stern, 1960, 1962b, 1963a). Three major types of institutions emerged: (a) Institutions with high scores on constraint, conformity, and dependency. The denominational schools were most representative of this type. (b) The institutions that stressed high achievement and personal autonomy. The private liberal arts colleges manifested the highest amount of intellectual press. (c) Institutions characterized by more of a play emphasis--social pleasure and togetherness--and a lack of academic strength. This third type "constitutes the remaining stronghold of the Fitzgerald tradition: fountains of knowledge where students gather to drink [Stern, 1962b, p. 477]."

Stern (1962b, pp. 719-725) has written some vivid descriptions of these three types of colleges based exclusively upon responses to the AI and the CCI. Using only those items on which 87% or more of the subjects agreed, Stern showed distinctive differences between the need-press perceptions of the students. The three colleges included an outstanding private liberal arts college for women located in New England, a well-known Catholic college for women located in the Northwest, and a coeducational state

university located in a small Southern city. Stern concluded about the women's colleges that although the intellectual level of both needs and press at both colleges was very high, the most striking difference lay in the kinds of control exercised over the students. Stern (1962b) wrote:

The press at the denominational school stresses orderliness, planning, and deliberation, whereas the private school atmosphere encourages non-conformity and personal autonomy [p. 724].

Because their needs patterns were closely related to the press patterns, Stern felt that the girls at each school would find it difficult to accept the situation that existed at the other school. The students and atmosphere of the state university were clearly different from either of the women's colleges, leaving the question about which group of girls would adapt to that environment the fastest.

Stern (1963a) has also reported the following research results from the AI and the CCI:

1. Responses to needs scale items appear to be resistant to faking.
2. The social desirability of needs scale items is relatively homogeneous, none being considered important to accept or to reject by any significant number of subjects.
-
8. There is as much agreement in student response to subjective and impressionistic press items as there is to items more readily verifiable by reference to empirical fact.
-
10. The press profiles obtained from student responses are highly consistent with those obtained from faculty and administration at the same institution [pp. 7-8].

Ivey, Miller, and Goldstein (1967) have shown, however, that at one institution significant differences in perceptions did exist between students, head residents, and student personnel staff. This conclusion suggested that Stern's finding of similarity of perceptions among campus groups may not exist at every college and university or between particular groups of students and faculty members on a campus.

Interpretation of the need-press profiles has been facilitated by the extraction of personality and environment factors. The second-order personality factors were named Intellectual Orientation, Dependency Needs, and Emotional Expression; and these factors correspond to the three types of institutions above. The second-order environment dimensions were called Intellectual Climate and Non-Intellectual Climate (Stern, 1963b, pp. 11-12).

Stern (1963a) has analyzed how a number of institutions compare on the Intellectual Climate dimension. In addition to the descriptions derived from the scales themselves, Stern also noted administrative and organizational differences. A comparison of schools scoring high and low on the Intellectual Climate scale has shown that the low schools had six times as many students and four times as many male undergraduate students, tended to be located in the South and in metropolitan areas, were public institutions, had less than three and one-fourth times as many instructors and fewer PhD's, and had less average dollars per student. The personalities of the students also tended to be different.

MacLean (1967) and Baker (1966) both utilized the CCI in studying students according to their local residence. They both found the CCI to be a discriminating instrument showing discernible differences between different sub-cultural student groups. Johnson and Kurpius (1967) found that upperclassmen held a dimmer view of the university's intellectual climate than did freshman, a finding supported by other studies using other instruments. The juniors, however, scored consistently higher than did the juniors of the class two years before, a finding which seemed to correspond with the university's emphasis upon academic excellence in the interim period.

Independence of the CCI from personality needs. The studies cited earlier relate to the CCI as a device for measuring perceptions of environmental press, and some clarification may be necessary to demonstrate that these perceptions are not a function of the personality structure of subjects involved. In a sample of 319 college students (Becker, Goodstein, & Mittman, 1965), the scores on the Minnesota Multiphasic Personality Inventory (MMPI) and the CCI indicated that these two instruments were relatively independent of each other. The largest relationship was found between the CCI and the validity scales, which accounted for only five percent of the variance. In McFee's study (1961, p. 29), correlations between the CCI and AI factor scores ranged from .007 to .057 with the median r equaling .006, indicating the independence of CCI scores from personal needs.

Australian Studies

The problems of Australian university students who fail or underachieve have been receiving increasing attention from research workers over the last decade or so (Caiden, 1964). Lawry (1965, p. 88) suggested, however, that the research on non-academic factors in failure has been limited in scope and lacking in balance. Specifically, there is a paucity of professional literature reporting studies of environmental and personality contributions to student adjustment and progress; and cross-cultural studies of Australian students with other countries are even more scarce. Interest in pursuing such studies, however, was definitely increasing at the time of this investigation, and a few unpublished studies were available through personal contacts with Australian psychologists.

Descriptions of Australian Universities

About a decade ago, there were only a handful of institutions of higher education in Australia. That number has mushroomed until now there are close to 100 such institutions, including the national university, the state universities, the teachers' colleges, the technological institutes, and so on. Still, there are only one to three state universities in each of the six states.

Problems of higher education in Australia. Lawry

(1965, p. 87), in describing some problems of higher education in Australia, stated that universities are undergoing greater stress than other educational levels partly because of the unprecedented student numbers that are increasing faster than the population. Even so, in comparison with many other countries, Australia ranked near the bottom in proportion of population in the 20-24 age group enrolled in school (p. 82). Lawry has also pointed out other salient features of Australian higher education. For example, the social composition of the undergraduate student has changed; new universities have been established; new courses in the sciences and the humanities have been introduced; staff has been expanded; and expenditures have been increased (p. 82). With all the developments, however, several thousand matriculating students have had to be excluded because of the restrictions applied in some universities. Lawry wrote:

Tertiary education has been recognized as a source of national power, as a means of national survival, but in most cases this has meant increased demands for technical education in the applied sciences and in commerce. The utility attached to university studies is still characteristic of the interests of governments, industry, and commerce, many parents and students. The universities are still undecided how to solve the problems of increasing demand and a large student population: by quotas and the exclusion of some capable students, by rapid expansion of the present university system, or by developing new tertiary institutions [p. 87].

Lawry pointed out that the excessively utilitarian character of the universities has been attacked by many

critics (p. 80).

Lawry deplored the educational wastage that is caused by the above-cited conditions along with the relatively low status attached to education by many Australians. Fewer able girls attended university because "prejudice against girls being educated at the tertiary level is still quite strong--and still against women continuing to practice a profession after marriage [pp. 90-91]." As an illustration, less than thirty per cent of the University of Adelaide's full-time students in 1967 were women. The percentage is much higher in the United States.

General description of the University of Adelaide.

The University of Adelaide was established in 1874. By contrast, Flinders University, the only other South Australian university, was established in the early 1960's. In 1967, the University of Adelaide had close to 10,000 students, including part-time, diploma, and external students.

Comparison with institutions of higher education in the United States is difficult because of the quantity of U. S. institutions and the diverse standards maintained. Superficially, at least, the University of Adelaide appeared to be most like the state or public universities in this country. Because of limited teaching facilities, there were some admission restrictions "based as far as practicable on academic merit within the student's preferences as to . . . course [Smith, 1966, p. 2]." Many

U. S. public universities do not have stringent admission requirements though, of course, many do. Students who reside in one Australian state were generally precluded from attending a university in another state, so the University of Adelaide probably is insulated even more than the typical U. S. counterpart. Overseas students, however, were encouraged to attend (Smith, 1966, p. 2).

In 1967, the University of Adelaide offered degrees at the bachelor's, master's, and doctoral levels. The bachelor's degree required only three years of study, which was equivalent to four years of college in the U. S. At Adelaide, an intermediate Honours degree was possible in the fourth year when honours students worked in a more specialized area of their major field. Degrees were offered in Arts, Science, Economics, Music, and a variety of professional fields, such as Dentistry, Medicine, Engineering, and Law. Diploma courses were also available in such fields as Physical Education and Physiotherapy. Course offerings, therefore, were somewhat similar to university offerings in the U. S. (Smith, 1966).

An early study of the University of Adelaide. A. P. Rowe (1960), a former vice-chancellor of the University of Adelaide, attempted a comprehensive analysis of the university and its students in the early 1950's. While examining the university's setting, Rowe described the city of Adelaide and the state of South Australia as provincial, self-satisfied, parochial, ostrich-like in its attitude to

the challenge of Asia, and materialistic. Rowe felt that the emphasis in Adelaide is placed on an established order of life. He suggested that a false sense of egalitarianism prevailed. The "Old Adelaide Families" were described as complacent, smug, conforming, and exhibiting a "spirit of ancestor worship worthy of China [p. 67]." On the credit side, Rowe saw the great majority of Adelaide residents as exhibiting no social pretensions, and as happy, likeable, and earnest (Ch. 5).

The University of Adelaide structures were viewed by Rowe as inefficient, unwieldy, conservative, and lacking in authority and adequate finances. He felt the university failed to confront great issues (pp. 17f.). He was also concerned that the university should provide better conditions for student life, which he felt lagged behind other countries (Ch. 4).

The bulk of Rowe's book (1960, Chs. 6-8) concerned characteristics of University of Adelaide students. At entry, they showed a wider range of academic quality than at universities in the United Kingdom. Failure rates in examinations were high, contributing to the fact that 40% of the entrants did not graduate, and more than 30% took more than the minimum three years to graduate. Rowe believed the bonding system, which imposed contractual obligations upon students in return for financial aid, was pernicious and stultifying (Ch. 6).

Rowe's most ambitious project (pp. 84-109) was a

longitudinal student survey from 1952-1956, beginning with 243 full-time entering students in 1952, 212 at the end of the first year, 168 at the end of the second year, and 118 at the end of the third year. At the end of the fourth year, 135 members of the original group participated in a final questionnaire. Most of these subjects were then interviewed individually. Most of the questions asked at each level concerned extra-curricular interests. The results of this study were difficult to summarize mainly because the research design was more of an informal study rather than a rigorous scientific project. The results tended to support the view that students leave the university very similar to the way they enter in terms of reading habits, sports participation, group membership, and in the expression of their opinions about the value of a university education (Ch. 7). When asked to rank the factors that had been of help to them at the university other than in a professional sense (p. 91), "informal meetings and friendships with other students" was placed at the top of the list. "Intimate contact with members of staff" was second in importance, nudging out the response of "scheduled classes and laboratory work."

A comparison among faculty groups on academic results showed that engineering students had the most difficulty in attaining distinction and in finishing their university work. Students from private schools performed better than state school graduates. The small numbers involved, how-

ever, rendered much of this data inconclusive.

The most controversial part of Rowe's study (pp. 101-109) involved an assessment of the general cultural standard of students. The assessment was called the E factor and was based upon Rowe's impressions of what an educated man should be. Answers to the E-factor questions led Rowe to the conclusion that the University of Adelaide was not countering the influence of non-bookish homes because a relationship was shown between E factor and academic performance and between E factor and father's occupation. These findings appeared to contradict his earlier finding (p. 101) that there was no significant relationship between academic performance and father's occupation. There were no significant differences between the average E factors of students from private and state schools. Some relationship seemed to exist between E factor and the field of study pursued, with engineering students having the lowest average E scores (although dental students occupied that position until there were not enough participating students remaining for that group to be analyzed).

Rowe's study has been examined at length because it was the first and only comprehensive study of its kind. Rowe was very conscious of the sampling and statistical inadequacies of his study, and he urged extensive and continuous study to verify or disprove his findings (p. 109). Rowe's results are significant for the present investiga-

tion in pointing toward nonintellective and environmental factors in academic achievement.

Cross-Cultural Studies

Western Australia-United States Study. Wheeler (1967) administered the Edwards Personal Preference Schedule (EPPS) to 443 entering students of the University of Western Australia as part of an Orientation Week testing program. Intercorrelations between the 15 EPPS personality variables in Western Australia were of about the same size and significance as the normative U. S. sample.

Wheeler found that Western Australian men scored significantly higher than U. S. college men on Order, Abasement, Endurance, and Aggression; and Western Australian women scored significantly higher than U. S. women on the scales of Autonomy, Endurance, and Aggression. U. S. men and women scored significantly higher than Western Australians on Exhibition, Affiliation, Dominance, and Heterosexuality. The total Western Australian subjects scored significantly higher on the scales of Achievement, Order, Autonomy, Abasement, Endurance, and Aggression although Wheeler pointed out that the higher Achievement score was "almost certainly due to the women [p. 27]." Sex differences within the Western Australian group were almost exactly the same as in the U. S. sample although Wheeler took cognizance of the fact that women were very much under-represented in the Western Australian sample.

In a cross-sex, cross-cultural comparison, scores of Western Australian men did not differ from U. S. women's scores on Dominance and Heterosexuality. Similarly, the scores of Western Australian women were as high as U. S. men on Autonomy and Aggression.

For a comparison between Western Australian groups majoring in different fields, Wheeler put together the scores of the three humanities-type faculties of Arts, Economics, and Law for one group; and the five science-type faculties of Science, Engineering, Agriculture, Medicine, and Dentistry formed the second group. Humanities students scored significantly higher than Science students on Intraception, Nurturance, Affiliation, and Deference. Science students scored higher on Endurance, Order, and Heterosexuality.

In analyzing all these results, Wheeler made a number of tentative suggestions about meanings. He felt the grouping of needs might be related to the Australians' ambivalent attitude towards authority. On the one hand, Australians have thought of themselves as being independent, tough, and undisciplined. On the other hand, there appeared to be an "unquestioning acceptance of authority by the community [Lawry, 1965, p. 80, quoted by Wheeler, 1967, p. 57]." Authoritarianism is evidenced in early childhood education and in educational structures (Horne, 1964, p. 218). Wheeler (1967) quoted Taft and Walker as saying, "Here is one more of the basic ambivalences underlying Australian

values--a passive dependence on authority combined with a contemptuous and even aggressive attitude toward it [p. 77]."

Wheeler's speculation concerning the high scores of Western Australian women on Autonomy and Aggression (scores as high as U. S. men) indicated that it is possible that university women subjects in Western Australia were a highly selected group and not representative of the general population of Australian women. Wheeler (1967) wrote: "If there is . . . differential treatment of women in the educational system, it is possible that only girls with high needs on Endurance, Aggression, and perhaps Autonomy, can reach the tertiary level in education [pp. 6-77]."

In the light of the lower male scores on Heterosexuality and of low male and female Affiliation scores, Wheeler questioned the Australian tradition of "mateship" or "the tendency of Australian men to seek recreation in a sex-segregated way [p. 77]." Wheeler referred to Horne (1964) who wrote:

There is a socially homosexual side to Australian male life (of a "butch" kind) that can involve prolonged displays of toughness in male company. Men stand around bars asserting their masculinity with such intensity that you half expect them to unzip their flies [pp. 27-28].

Wheeler suggested that ". . . 'mateship' is no more than a modern myth, originating in the fact that Australian men do not really like women as persons [pp. 7-8]."

The lower score of the Western Australians on Exhibition was related by Wheeler to the Australian's desire for people to be ordinary. He indicated that the art of con-

versation is not emphasized in Western Australia.

Like Gibbs (1965, 1966) in South Australia, Wheeler attempted to discover whether any of his personality variables differentiated between successful and unsuccessful students. A longitudinal study of the subjects' progress over three years of university study revealed that for the first year Achievement and Autonomy scales distinguished between passing and failing groups. For the three-year period, the Endurance scale had to be added. Because the differences generally were small, Wheeler doubted the value of EPPS scores taken singly as predictors of academic success (p. 11). He recommended that further study be directed towards profile or pattern analysis (p. 13).

Adelaide-United States Studies. Because he was cognizant of the fact that 40% of students in Australian universities fail to graduate, Gibbs (1965) was concerned with the social factors relating to student failure. Summarizing the U. S. studies on the characteristics of failing students into three categories--extraverted-gregarious activity, low study motivation, and social irresponsibility--Gibbs showed how his study of failing and passing Arts students at the University of Adelaide yielded similar results. The California Test of Personality was administered to two Pass-Fail criterion samples, who were individually matched on three variables. His conclusions were that unsuccessful students did not demonstrate a classical neurotic pattern but manifested instead patterns of inadequate personal-

social orientation and exhibited "sub-cultural social skills and habits" that hindered their achievement at university level (p. 585). Gibbs wrote:

Failure tends to be persistent, and a "failing orientation" may be related to a sub-cultural clash between the social skills, habits, attitudes, and relationships appropriate to the backgrounds of these students and those that are appropriate to the University environment [p. 585].

Like others before him, Gibbs underscored the importance of the social environment in college success.

In 1963, Gibbs sought to replicate in Australia an American study by Lang, Sferra, and Seymour (1962), who utilized the Edwards Personal Preference Schedule (EPPS) both to measure psychological needs and to relate those needs to students' academic achievement. Gibbs' results (1966) were similar to the U. S. results and confirmed the hypothesis that for freshmen at the University of Adelaide academic achievement was related to some of the psychological needs measured by the EPPS. There were also qualitative differences between male and female students. Specifically, for female freshmen, academic achievement correlated positively with Achievement and Endurance scales and negatively with Nurturance, Change, and Affiliation needs. For male freshmen, academic achievement correlated positively with a need for Deference (and almost with an Endurance need) and negatively with Heterosexual needs. For the total group, academic achievement correlated positively with Endurance and Order needs and negatively with Change, Heterosexuality, and Aggression needs.

The achieving pattern for females indicated a strong desire to succeed and the perseverance required to accomplish their goals. Gibbs (1966) suggested that "the 'achieving' pattern for males consists in habits of quietness and conventionality [p. 815]." For all subjects, academic achievement was related to the abilities to persist and to organize.

In considering the positive meanings of his results, Gibbs (1966) made the following speculations:

Many middle-class migrants to South Australia from other British countries regard this society as "male-dominated." Possibly the qualities associated with female academic achievement are developed in girls who need to achieve success in such a social environment. Again, a stereotypical view of the South Australian community that appears to be held by Australians generally, and also by many South Australians, is one of conventionality and quietness. Perhaps success in this South Australian institution is related to the personality qualities that are valued in the community [pp. 815-816].

These views have not been tested by research yet.

Cross-culturally, the Australian results were highly similar to the U. S. study only in the case of females. Otherwise, there were no strong parallels though a few points of resemblance emerged. Gibbs concluded by suggesting that further cross-cultural comparisons be made.

Summary

In this chapter, the various lines of literature that relate to this investigation were examined. General theorists have been important in giving direction to research efforts; and Murray's need-press theory was an essential base for the development of the Activities Index and the College Characteristics Index, instruments designed to measure personality/environment interactions. Significant results have emerged from the use of these measuring devices. The U. S. studies of campus cultures have been nearly unanimous in ascribing importance to peer influences on student attitudes and activities although the evidence is mixed concerning the nature and the permanence of such influences. It is generally agreed, however, that the peer culture plays a significant role in the college atmosphere that impinges upon college success.

Australian studies in the area of personality/environment interactions have been somewhat scarce. An early study of the University of Adelaide by Rowe, while not rigorously scientific, did make a start at exploring non-intellective variables in university success. Problems in Australian higher education make it imperative that more extensive study be made concerning the factors involved in academic performance, and interest in pursuing such studies

was very keen at the time of the present investigation in 1967. Cross-cultural studies of Australian and U. S. students by Wheeler and Gibbs introduced significant personality differences between men and women students in Australia and cross-cultural differences between the two countries; and these studies have pointed the way for additional cross-cultural comparisons such as this present investigation.

CHAPTER III

PROCEDURES AND METHODOLOGY

The testing of the hypotheses in this study involved five distinct stages. First, it was necessary to revise the Activities Index (AI) and the College Characteristics Index (CCI), which in the revision was renamed the University Characteristics Index (UCI). Second, preliminary forms of the instruments were distributed to psychology classes of the University of Adelaide as a pilot project. Third, the pilot sample was retested as a reliability check. Fourth, a stratified random sample was selected by the computer according to sex, year of study, and major field of study; and the data for the main study were obtained. Fifth, the scoring and statistical analysis of the data were performed.

The Measurement Instruments

The AI is a needs inventory made up of thirty scales largely corresponding to Murray's classification of needs (1938, pp. 76-85) into twelve viscerogenic (physiological) and twenty-eight psychogenic (psychological) needs. The AI consists of items which correspond to behavioral manifestations of personality needs. The CCI was constructed

to contain scales that parallel the needs inventory for purposes of identifying the environmental press conditions likely to facilitate or impede the expression of personality needs. The AI and CCI each contain 300 items, divided into 30 scales of 10 items each (Stern, 1963b, p. 1).

Interpretation of the need-press profiles has been facilitated by a principal components equamax analysis, leading to the extraction of twelve first-order personality factors and eleven first-order environment factors, three second-order personality factors and two second-order environment factors. The second-order personality factors are Intellectual Orientation, Dependency Needs, and Emotional Expression. The second-order environment dimensions are Intellectual Climate and Non-Intellectual Climate (Stern, 1963b). (See Appendix C for factor definitions.)

The CCI is only one of four forms of the more general Environment Index, which includes the following additional forms: the High School Characteristics Index, the Evening College Characteristics Index, and the Organizational Climate Index (Stern, 1963b, p. 2). These additional environmental forms were considered necessary because although both needs and press are inferred from typical events, it is difficult to describe press "in terms which can be generalized beyond a specific type of setting [Stern, 1962b, pp. 31-32]." For this reason, adaptations were made in the CCI to conform to the distinctive cultural milieu of the Australian university while only minor changes

were needed in the AI.

Stern (1963b) gave the following illustration of the scale structure of the AI and CCI:

The Order variable will serve to illustrate the structure of the instruments. Order may be defined briefly as : A prevailing trend towards the compulsive organization of the immediate physical environment, manifested in a preoccupation with neatness, orderliness, arrangement, and meticulous attention to detail. The magnitude of this same variable as a personality need is inferred from the number of preferences a person indicates among such items in the Activities Index as: "washing and polishing things like a car, silverware, or furniture," "keeping an accurate record of the money I spend," "arranging my clothing neatly before going to bed," etc. The magnitude of this same variable as a relevant press in a college environment is inferred from the number of respondents from the same institution who agree with such statements in the College Characteristics Index as: "in many classes students have an assigned seat," "attendance is usually taken in each class," "student papers and records must be neat," etc. [p. 27].

In other words, a response to a single item might be subject to a variety of interpretations, but a complex of similar items lends credence to the interpretation that there is present a particular need or press.

The scales have been found to have an average reliability of .67 as measured by Kuder-Richardson formulas and an average item discrimination index (Ebel) of .54 (Stern, 1962b, p. 32). Stern felt that the reliability score was close to the practical maximum for short-length scales such as these and that the item discrimination score revealed a high degree of internal consistency.

Scales of the type contained in the AI and the CCI

are useful for research purposes because direct observational techniques, while important as supplements, are impractical and limited in ability to sample an adequate range of interactions (Stern, 1962b, p. 31). The simplest type of instrument for estimating typical interaction characteristics is based on the individual preferences of descriptions of various possible activities. This is a less-than-perfect technique for establishing relationships between choices made and actual behavior, but it does provide a helpful approximation and has been the rationale behind a number of widely used instruments, such as the Strong Vocational Interest Blank, the Kuder Preference Record, and the Edwards Personal Preference Schedule (Stern, 1962b, p. 31).

Hypotheses and Relationships That Were Examined

In an effort to seek answers to the questions posed in this study, the following hypotheses and relationships were investigated:

Hypothesis I. There are significant differences between the United States norm groups and the University of Adelaide students on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.
- b. Each of eleven press factors, as reported by the CCI and the UCI.

Hypothesis II. There are significant differences between University of Adelaide men and women students on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.
- b. Each of eleven press factors, as reported by the UCI.

Hypothesis III. There are significant differences between the combined treatment conditions of the University of Adelaide second year students in seven faculties and the University of Adelaide third and fourth year students in the same faculties on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.
- b. Each of eleven press factors, as reported by the UCI.

Hypothesis IV. There are significant interactions among the faculty and year of study variables investigated in the study for the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.
- b. Each of eleven press factors, as reported by the UCI.

Revision and Pilot Administration of the AI and UCI

After a short period of becoming oriented to the University of Adelaide setting and trying to discern differing philosophies and modes of operation in the university, revision of the AI and the CCI was undertaken. The AI, as a more generalizable personality inventory, required only minor changes in wording. The few changes made, therefore, were very simple and not extensive; but CCI changes were

extensive (see Appendix A for a listing of all changes made and Appendix B for copies of the final revised instruments). Revisions made would conform to Stern's viewpoint that Environment Indices need to be specific to the particular environments tested. He himself has developed four environment indices for college, high school, evening college, and a general organizational climate setting. The AI, which purports to measure basic human needs, naturally should not need as many revisions.

Revisions made in the CCI, though numerous, were not revolutionary. They were made to conform to the general theoretical framework Stern had set up, which involved having corresponding press items to match the thirty needs scales. In fact, many of the items were taken directly from some of Stern's other indices, selected to measure the same needs or press in different settings. The University of Adelaide, as a commuter campus, displayed characteristics similar to those described in the Evening College Characteristics Index. Such characteristics were more typical of universities across Australia because at the time of this study in 1967 there were only two residential universities in the country, and they were very young universities.

Most of the changes made in the CCI were simple substitutions. The most obvious change was the name of the index from "College Characteristics Index" to "University Characteristics Index" (UCI). The terms "school" and "college" in Australia connote elementary and secondary

levels rather than the university. "College" may also refer to a living residence associated with the university. The term "faculty" refers to various disciplines rather than to individual instructors, who are instead referred to as "staff." American slang expressions and other forms of speech that were uncommon in Australia had to be changed. Care was taken not to make indiscriminate changes but to change only those words that might cause misunderstanding of the intent of the item.

The revised forms of the indices were distributed to Psychology I and II classes, in October, 1966. Approximately 500 students were enrolled in Psychology I and 130 students in Psychology II, making a total possible number of participants of 630 students. Primarily because of student absences, only 480 sets of questionnaires, or 76.2% of the possible number were actually distributed through psychology tutorial sessions. Close to 60% of the ones distributed were completed. Of those completed, 242 UCI's and 190 AI's were included in the analysis of the data. A few others were unusable. Psychology students were chosen for this pilot study because it was impossible to attempt to draw a university-wide sample since the end of the university year and annual examinations were imminent. As a result of the pilot study administration, further revisions of the AI and the UCI were made based upon student comments and reactions.

Retesting of Pilot Sample

The 1967 university year began in March. In March and April, five to six months after the initial distribution of the AI and UCI, 183 of the 242 pilot study participants were invited to complete the questionnaires again. The other 59 subjects were not enrolled in the university for this year. Of the 183 students invited, 170 actually completed the questionnaires--a 93% response. Of the 170 students, 124 had usable AI's from the previous administration; and 156 students had usable UCI's.

Selection of Main Subjects

The main study was designed originally to replicate the sampling techniques used in the 1958 normative studies in the U. S. In an interview, however, with Dr. C. Robert Pace, on July 30, 1966, it became clear that sampling techniques for the 1958 studies varied considerably from the use of single classroom groups to attempts at random sampling. Individual administrators of the indices on the various campuses were allowed to select samples that appeared feasible to them. Dr. Pace did not feel that this variety of methods made a great difference in sampling results, and he offered several techniques in his CUES Manual (1963). It was not possible, therefore, to repli-

cate any particular method. For that reason, it was decided that this research study should use the sampling technique assumed theoretically to be the best--a random sampling technique.

The University of Adelaide computer was utilized to draw a random stratified sample of SS on the basis of faculty, sex, year of study, excluding first-year students, part-time, postgraduate, overseas, and some diploma students. It was felt that the inclusion of these students in the main study would introduce extraneous variables that would be difficult to control. The nine faculties selected were Arts, Science, Medicine, Engineering, Law, Dentistry, Economics, Architecture, and Music. Faculties excluded were Agricultural Science, which was located some distance from the main campus, Pharmacy, Physical Education, Physiotherapy, Social Studies, Technology, and Applied Science, all of which were diploma courses.

Within the Australian culture, the purpose of this study was to investigate differentially the interrelationships of faculty or divisional groupings, year of study, and sex variables with the perception of needs and press. It was possible to vary the independent variables in the following ways:

A. Faculty	B. Year of Study	C. Sex
A ₁ Arts	B ₁ Second	C ₁ Male
A ₂ Science	B ₂ Third	C ₂ Female
A ₃ Medicine	B ₃ Four plus	
A ₄ Engineering		
A ₅ Law		
A ₆ Dentistry		
A ₇ Economics		
A ₈ Architecture		
A ₉ Music		

Forty different treatments were possible by selecting differentially one level from each of the three dimensions of faculty, year of study, and sex, though not all forty treatments were considered in this study.

The Ss were observed on the following dependent variables: (a) Needs factor scores as reported by the Stern Activities Index (AI), and (b) Press factor scores as reported by the University Characteristics Index (UCI).

Out of approximately 6,000 full-time students, 3,030 students qualified as possible Ss, according to the stated criteria. The computer drew three ten percent samples of the first, fourth, and seventh names on the enrollment list, which was not arranged in any systematic fashion.

The first sample of 303 students was used in its entirety with the exception of 12 students who had participated in the pilot study and 30 students who either did not respond at all or wrote that they were unable to participate. It was decided to utilize a 15% sample, so 176 Ss were selected from Sample II, including 42 substitutes for the 42 students not available in the first sample.

Thus, 421 students, or 92.3% of the students invited to participate, completed the two questionnaires. Actually used in this study were 412 students--296 males and 116 females. The other nine sets of questionnaires were not usable. Table 1 shows the total number invited to participate and their response, and the composition of each group is shown in Table 2.

Data Collection

Ss were invited by letter to complete the AI and UCI in the Psychology Department (see Appendix D for sample letters). The questionnaires were administered to groups of Ss ranging in number from 10 to 60, except for individual administrations for the few Ss who could not come at the specified times.

Statistical Treatment of the Data

For Hypotheses I and II, the differences between the means of the U. S. normative sample and the University of Adelaide Ss were tested through use of formulas for uncorrelated data (Downie & Heath, 1959, Ch. 12), and the t test was the test of significance. The .05 level was employed as the confidence point necessary for accepting the hypotheses.

For Hypotheses III and IV, which concerned the internal differences that might exist at the University of Ade-

TABLE 1
RESPONSE OF STUDENTS ELIGIBLE TO PARTICIPATE
IN MAIN STUDY

<u>Ss</u>	Sample I	Sample II	Total
Invited	291	176	467
Responded	261	160	421

TABLE 2
COMPOSITION OF MAIN SAMPLE

Faculty	Male				Female				To- tals
	Year			Total	Year			Total	
	2	3	4+		2	3	4+		
Arts	16	20	23	59	26	20	27	73	132
Science	28	28	25	81	9	10	2	21	102
Medicine	4	12	30	46		3	6	9	55
Engineering	18	10	14	42				0	42
Law	10	6	7	23	2			2	25
Dentistry	3	6	8	17	2	2		4	21
Economics	6	4	4	14				0	14
Architecture	4		5	9	3			3	12
Music	1	2	2	5	1		3	4	9
Totals	90	88	118	296	43	35	38	116	412

laide, a multi-factor analysis of variance technique was used with the F ratio as the test of significance. In order to determine which faculty and year of study groups differed significantly from each other, t tests were used on the rank order of means.

The post hoc analysis, which compared University of Adelaide Ss with students from different types of U. S. colleges, merely employed a visual comparison of standard score means with no tests of significance performed.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter is concerned with the presentation and analysis of the data relative to the hypotheses being investigated in this study. The Australian data were obtained from a random sample consisting of 412 University of Adelaide students, selected on the basis of sex, year of study, and department or faculty of study. The Stern Activities Index (modified for Australia) and the College Characteristics Index (changed to University Characteristics Index for Australia) were administered to the participants in this study.

The hypotheses postulated in this study were designed to compare Australian students with U. S. students and also with each other along the dimensions of the perception of certain personality need factors and certain environmental press factors. Various statistical tools were employed in order to investigate different aspects of the hypotheses. For comparing Australian students to the U. S. normative sample, a formula for calculating the differences between means of uncorrelated data was used. In order to study differentially the interrelationships of sex, year of study, and faculty, a multi-factor analysis of variance design was utilized. Hypotheses were accepted on the basis of criterion

probability of significance of .05 or less. To provide structure to the analysis, the hypotheses will be discussed in order and the data relating to the AI and the UCI presented separately.

Hypothesis I--Comparisons Between U. S. and
Adelaide Factor Means

Needs Factors

That portion of Hypothesis I concerned with the AI was stated as follows:

There are significant differences between the United States norm groups and the University of Adelaide means on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.

Tables 3 and 4 show the significant differences between the AI factor means of the U. S. and Adelaide men and women students.

Factor 1. Self-Assertion. This factor reflects a desire for receiving social and political recognition and for achieving personal power. The hypothesis was rejected for women but accepted for men. The obtained t value ($t = 4.32$) revealed that U. S. men scored higher than Adelaide men on this factor with the difference being significant at the .001 level of confidence. Thus, U. S. men showed a greater need for personal, social, and political power. The difference between Adelaide women and U. S. women was not significant on this factor.

TABLE 3

SIGNIFICANCE OF AI FACTOR MEANS FOR U. S.
AND AUSTRALIAN MEN STUDENTS

Factors	U. S. (N=558)		Aust. (N=296)		<u>t</u>	p
	\bar{X}	<u>s</u>	\bar{X}	<u>s</u>		
1. Self-Assertion	20.5	1.7	18.4	7.6	4.32	.001
2. Audacity- Timidity	20.5	1.8	21.0	6.1	1.39	--
3. Intellectual Interests	26.4	3.0	25.1	7.7	2.77	.01
4. Motivation	27.0	1.7	25.5	6.6	3.95	.001
5. Applied Interests	18.0	2.4	15.1	6.2	7.83	.001
6. Orderliness	20.7	3.1	16.9	7.2	8.64	.001
7. Submissiveness	22.0	2.1	19.0	6.1	8.33	.001
8. Closeness	22.9	2.0	20.6	5.9	6.51	.001
9. Sensuousness	12.9	1.2	13.0	5.0	.34	--
10. Friendliness	11.7	1.4	11.6	4.7	.37	--
11. Expressiveness- Constraint	16.7	1.0	17.2	6.3	1.35	--
12. Egoism- Diffidence	9.2	1.3	9.2	4.3	.00	--

TABLE 4

SIGNIFICANCE OF AI FACTOR MEANS FOR U. S.
AND AUSTRALIAN WOMEN STUDENTS

Factors	U. S. (N=518)		Aust. (N=116)		<u>t</u>	p
	\bar{X}	<u>s</u>	\bar{X}	<u>s</u>		
1. Self-Assertion	16.7	2.0	15.7	6.8	1.57	--
2. Audacity- Timidity	14.7	2.3	16.7	6.0	3.51	.001
3. Intellectual Interests	25.0	3.2	28.5	5.9	6.14	.001
4. Motivation	25.5	2.4	26.0	5.8	.89	--
5. Applied Interests	15.5	1.4	15.9	6.2	.69	--
6. Orderliness	19.5	3.2	16.5	7.8	5.48	.001
7. Submissiveness	23.1	2.0	22.3	5.3	1.60	--
8. Closeness	25.8	2.7	26.2	5.8	.74	--
9. Sensuousness	15.7	1.9	16.3	5.0	1.27	--
10. Friendliness	11.7	1.9	11.2	4.2	1.25	--
11. Expressiveness- Constraint	20.2	2.3	19.7	6.3	.83	--
12. Egoism- Diffidence	8.2	1.0	9.8	4.0	4.32	.001

Factor 2. Audacity-Timidity. This factor emphasizes aggressiveness in physical activities and in interpersonal relationships. The hypothesis that there is a difference on this factor between the U. S. students and the University of Adelaide students was rejected for men, but accepted for women. Adelaide women scored significantly higher than U. S. women ($\underline{t} = 3.51, \underline{p} < .001$), indicating more need for aggressiveness in Adelaide women.

Factor 3. Intellectual Interests. This factor involves various forms of intellectual activities, including interests in the arts and the sciences, both abstract and empirical. There were significant differences on this factor for both men and women. U. S. men scored significantly higher than the Adelaide men ($\underline{t} = 2.77, \underline{p} < .01$), while Adelaide women scored significantly higher than the U. S. women ($\underline{t} = 6.14, \underline{p} < .001$). This finding suggested that U. S. men and Australian women showed a greater interest in the types of intellectual activities tapped by the AI than did their sex counterparts in the other country. Interestingly enough, Adelaide women were significantly higher in their need in this area than even the U. S. men, a fact which is examined later in this report.

Factor 4. Motivation. Conventional expressions of need achievement are evident in this factor, as shown by elements of competitiveness, perseverance, and intellectual aspiration. The hypothesis for this factor was accepted for men, but rejected for women. U. S. men showed a

higher need for achievement than Adelaide men ($t = 3.95$, $p < .001$). The women of the two countries showed no significant mean difference in their motivational levels.

Factor 5. Applied Interests. Subjects who score high on this factor indicate an interest in succeeding in concrete and socially acceptable activities, particularly in the areas of business and science. U. S. men Ss revealed a higher need for achieving such tangible success than did Adelaide men ($t = 7.83$, $p < .001$). There was no significant difference between the scores of the women.

Factor 6. Orderliness. High scores on this factor suggest a need for a style of life stressing personal organization and deliberateness, with major emphasis being on ritually following routines and avoiding impulsive behavior. There were significant differences between the two countries for both men and women on this needs factor. U. S. Ss, both men and women, demonstrated a greater need for orderliness than their Adelaide counterparts. The t ratios (men, 8.64, and women, 5.48) were significant at the .001 level of confidence.

Factor 7. Submissiveness. This factor is similar to the preceding factor of Orderliness in that both imply the presence of a high degree of control, but the control on this factor is based upon social conformity rather than the type of internal control suggested by the Orderliness factor. The hypothesis that there was a significant difference between the Adelaide and U. S. Ss on this factor was

accepted for men, but rejected for women. U. S. men scored significantly higher than Adelaide men ($t = 8.33$, $p < .001$), which indicated a higher degree of control of impulse expression for U. S. men. There was no significant difference for women on this factor.

Factor 8. Closeness. This factor suggests a need for warmth and emotional support. There were significant differences on this factor for men only. U. S. male Ss scored significantly higher than Adelaide men ($t = 6.51$, $p < .001$). U. S. and Adelaide women did not differ significantly from each other although a visual check of Tables 3 and 4 indicated that both groups of women scored higher than did the men.

Factor 9. Sensuousness. The items associated with this factor suggest a delight in sensual gratification along with self-indulgence. There were no significant differences between the U. S. and Adelaide Ss on this needs factor.

Factor 10. Friendliness. This factor indicates an interest in friendly, playful relationships with other people and involves simple amusements enjoyed in groups. There were no significant differences on this factor between the groups of Ss, which indicated a similarity of interests in friendly relationships with others.

Factor 11. Expressiveness-Constraint. This factor stresses an emotional adaptability and freedom from self-imposed controls, which implies impulsive, spontaneous, and uninhibited behavior. There were no significant cross-

cultural differences on this factor for either men or women.

Factor 12. Egoism-Diffidence. High scores on this factor suggest an extreme preoccupation with self in terms of appearance and comfort as well as self-gratification through fantasies. The hypothesis that there was a significant difference between Adelaide students and the U. S. students was accepted for women but not for men. The obtained t values of 4.32 ($p < .001$) indicated that Adelaide women were more preoccupied with themselves than were U. S. women. The male S_s showed no such cross-cultural differences.

Press Factors

That portion of Hypothesis I concerned with the CCI and UCI was stated as follows:

There are significant differences between the United States norm groups and the University of Adelaide means on the following criteria measures:

- a.
- b. Each of eleven press factors, as reported by the CCI and the UCI.

Table 5 shows the significant differences between the CCI/UCI factor means of the U. S. and Adelaide students. There was no cross-cultural sex differentiation possible for press factors since the U. S. normative data for the CCI is presented without making any distinctions of sex. It was possible, of course, to compare male and female responses within Australia.

TABLE 5

SIGNIFICANCE OF CCI AND UCI FACTOR MEANS FOR U. S.
AND AUSTRALIAN MEN AND WOMEN STUDENTS

Factors	U. S. (N=1,193)		Aust. (N=412)		<u>t</u>	P
	\bar{X}	<u>s</u>	\bar{X}	<u>s</u>		
1. Aspiration Level	22.9	3.2	22.4	4.6	2.00	.05
2. Intellectual Climate	28.0	6.0	23.3	6.9	12.37	.001
3. Student Dignity	19.7	2.5	19.3	4.9	1.60	--
4. Academic Climate	12.4	2.4	10.9	3.4	8.33	.001
5. Academic Achievement	31.0	4.5	27.5	6.9	9.46	.001
6. Self-Expression	23.2	2.5	20.6	5.7	8.97	.001
7. Group Life	23.6	3.5	20.5	4.7	12.40	.001
8. Academic Organization	34.0	5.5	28.9	5.4	16.45	.001
9. Social Form	25.0	5.5	25.9	5.2	2.90	.01
10. Play-Work	21.1	4.3	25.2	4.6	15.77	.001
11. Vocational Climate	26.5	6.0	26.9	4.1	1.54	--

Factor 1. Aspiration Level. This factor indicates whether a university encourages students to be involved in the decision-making processes of the school and whether administration is receptive to innovation and change. The hypothesis that U. S. norm groups would score significantly higher than University of Adelaide students was accepted for this press factor ($t = 2.00$, $p < .05$). Ss in the U. S. seemed to perceive that they possessed a higher ability to influence their environment.

Factor 2. Intellectual Climate. This factor measures the level of staff scholarship and plant facilities in the areas of the arts, the humanities, and the social sciences. There was a notable cross-cultural difference on this factor inasmuch as U. S. Ss scored significantly higher than Adelaide Ss ($t = 12.37$, $p < .001$). U. S. participants, therefore, perceived a higher quality of staff and plant than the Adelaide Ss.

Factor 3. Student Dignity. This factor deals with the issue of student freedom and institutional attempts to maximize personal responsibility and to minimize the level of coercion. Differences between U. S. and Adelaide participants were not significant.

Factor 4. Academic Climate. This factor is similar to the Intellectual Climate factor (Factor 2), but it stresses academic excellence in staff and facilities in the more conventional areas of the natural sciences, social sciences, and the humanities. There was a significant dif-

ference on this factor ($t = 8.33$, $p < .001$) because U. S. Ss perceived their colleges and universities as stressing staff and plant excellence in these areas to a greater extent than did University of Adelaide students.

Factor 5. Academic Achievement. High scores on this factor reflect students' perceptions that their universities set high standards of achievement, particularly in such areas as course work, examinations, honors, etc. There was a significant difference in the way U. S. and Adelaide Ss regarded standards of academic excellence at their colleges ($t = 9.46$, $p < .001$), indicating that U. S. students were more aware of high academic standards set by their colleges than the Adelaide Ss were.

Factor 6. Self-Expression. This factor reflects the opportunities universities offer to students for the development of leadership potential and self-assurance. There was a significant difference for this factor ($t = 8.97$, $p < .001$), indicating that U. S. Ss felt that their schools offered greater opportunities for self-development than the Adelaide students perceived for their university.

Factor 7. Group Life. This factor concerns the types of warm, friendly, supportive group activities that exist on a campus, even reflecting an interest in activities devoted to the welfare of others. Again, the U. S. Ss scored significantly higher than the Adelaide Ss ($t = 12.40$, $p < .001$), indicating a greater sense of closeness among the student body.

Factor 8. Academic Organization. Emphasis in this factor is on the degree of organization and structure in the academic environment. U. S. Ss viewed their colleges as being significantly higher on this factor than did Adelaide Ss ($t = 16.45$, $p < .001$), strongly suggesting a greater awareness of college organization.

Factor 9. Social Form. This factor is closely related to the Group Life factor (Factor 7), but it minimizes the friendly aspects of Factor 7 and stresses the welfare aspects. It also includes the element of opportunities for the development of social skills of a formal nature. Adelaide Ss scored significantly higher on Social Form ($t = 2.90$, $p < .01$).

Factor 10. Play-Work. This factor represents the opportunities that are available for excessive participation in social activities. Adelaide Ss scored significantly higher than the U. S. norm group on this factor ($t = 15.77$, $p < .001$).

Factor 11. Vocational Climate. This factor emphasizes the presence of practical, applied activities and also a high level of orderliness and conformity. There was no significant difference between the students of the two countries on this factor.

Hypothesis II--Comparisons Between Adelaide
Men and Women Factor Means

The next three hypotheses were concerned with relationships that existed between various University of Adelaide student groupings rather than a cross-cultural comparison with the United States. For Hypothesis II, a formula for testing the differences between the means was used. Table 6 shows the results of this analysis. Hypotheses III and IV employed a factorial design. It was not possible to include Hypothesis II in that design because of the absence of female members for most cells.

Needs Factors

That portion of Hypothesis II that relates to the needs factors was stated as follows:

There are significant differences between University of Adelaide men and women students on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.

Table 6 shows the differences between the men and women AI factor means.

The University of Adelaide men students scored higher than the university's female students on Factor 1--Self-Assertion and on Factor 2--Audacity-Timidity. These findings indicated a greater need in the men Ss than in the women students for attaining personal and socio-political

TABLE 6

SIGNIFICANCE OF AI FACTOR MEANS FOR UNIVERSITY
OF ADELAIDE MEN AND WOMEN STUDENTS

Factors	Men (N=296)		Women (N=116)		<u>t</u>	<u>p</u>
	<u>X̄</u>	<u>s</u>	<u>X̄</u>	<u>s</u>		
1. Self-Assertion	18.4	7.6	15.7	6.8	3.50	.001
2. Audacity- Timidity	21.0	6.1	16.7	6.0	6.51	.001
3. Intellectual Interests	25.1	7.7	28.5	5.9	4.81	.001
4. Motivation	25.5	6.6	26.0	5.8	.76	--
5. Applied Interests	15.1	6.2	15.9	6.2	1.18	--
6. Orderliness	16.9	7.2	16.5	7.8	.48	--
7. Submissiveness	19.0	6.1	22.3	5.3	5.44	.001
8. Closeness	20.6	5.9	26.2	5.8	8.77	.001
9. Sensuousness	13.0	5.0	16.3	5.0	6.03	.001
10. Friendliness	11.6	4.7	11.2	4.2	.84	--
11. Expressiveness- Constraint	17.2	6.3	19.7	6.3	3.62	.001
12. Egoism- Diffidence	9.2	4.3	9.8	4.0	1.34	--

power. Allied to this factor was the perception by the men of a greater need for aggressive behavior as indicated by Factor 2.

The University of Adelaide women students scored higher than the men students on Factor 3--Intellectual Interests, Factor 7--Submissiveness, Factor 8--Closeness, Factor 9--Sensuousness, and Factor 11--Expressiveness-Constraint. The female students, therefore, showed a greater need for, or interest in, intellectual activities in both the arts and the sciences. The other factors in which the female students scored higher than the male students dealt more with the affective area than with the intellectual area. The female students seemed to recognize a greater need for warmth and emotional supportiveness (Factor 8) and also an interest in activities of a sensual nature (Factor 9). Factors 7 and 11 were both significantly higher for females than for males. They seem to be contradictory factors since both deal with the level of impulse control. The high score in Submissiveness, however, implies a high level of control of impulse expression based on social pressure to conform, while the higher score in Expressiveness-Constraint stresses freedom from self-imposed controls. This may be an indication, therefore, of conflict within the Adelaide university women between their desires and community expectations.

Press Factors

That portion of Hypothesis II that relates to the press factors was stated as follows:

There are significant differences between University of Adelaide men and women students on the following criteria measures:

- a.
- b. Each of eleven press factors, as reported by the UCI.

Table 7 shows the differences between the male and female UCI factor means.

The University of Adelaide men students scored significantly higher than the university's women students only on Factor 11--Vocational Climate. This suggested that men students perceived the university environment as manifesting a press toward practical, applied activities and the rejection of aesthetic experiences.

The University of Adelaide women students scored significantly higher than men students on the following factors: Factor 1--Aspiration Level, Factor 2--Intellectual Climate, Factor 4--Academic Climate, Factor 5--Academic Achievement, and Factor 6--Self-Expression. Since the reversed form of Factor 11--Vocational Climate is included in the larger Intellectual Climate dimension, it is clear that the women students perceived the university as exerting more intellectual press than the men students perceived. This difference in perception coincided with the women students' greater expression of need for, or interest in, intellectual activities in the arts and sciences.

TABLE 7

SIGNIFICANCE OF UCI FACTOR MEANS FOR UNIVERSITY
OF ADELAIDE MEN AND WOMEN STUDENTS

Factors	Men (N=296)		Women (N=116)		<u>t</u>	<u>p</u>
	\bar{X}	<u>s</u>	\bar{X}	<u>s</u>		
1. Aspiration Level	22.0	4.5	23.2	4.7	2.19	.05
2. Intellectual Climate	22.4	6.6	25.6	7.4	4.01	.001
3. Student Dignity	19.2	4.9	19.7	5.0	.98	--
4. Academic Climate	10.6	3.4	11.7	3.5	2.78	.01
5. Academic Achievement	27.0	7.0	28.9	6.4	2.72	.01
6. Self-Expression	20.2	5.8	21.7	5.6	2.34	.001
7. Group Life	20.6	4.7	20.3	4.8	.71	--
8. Academic Organization	28.7	5.4	29.2	5.6	.78	--
9. Social Form	26.0	5.3	25.8	4.7	.22	--
10. Play-Work	25.0	4.6	25.7	4.6	1.40	--
11. Vocational Climate	27.4	3.9	25.4	4.3	4.39	.001

Hypotheses III and IV--Analysis of Variance for Adelaide
Subjects by Faculty and Year of Study

Needs Factors

Hypotheses IIIa and IVa were considered together; they were stated as follows:

Hypothesis III--There are significant differences between the combined treatment conditions of the University of Adelaide second year students in seven faculties and the University of Adelaide third and fourth year students in the same faculties on the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.

Hypothesis IV--There are significant interactions among the faculty and year of study variables investigated in the study for the following criteria measures:

- a. Each of twelve needs factors, as reported by the AI.

A 7 x 3 factorial design was employed to test these hypotheses. Table 8 shows the F ratios and rank order of means that were obtained from the analysis of variance conducted for the Activities Index. Subsequent tables show analysis of variance results for each factor.

The hypothesis that year of study would have a significant effect on the AI factor scores at the University of Adelaide was rejected. There was no significant difference on any of the AI factors that could be attributed to the year of study. Interaction effects between faculty and year

TABLE 8

ANALYSIS OF VARIANCE F RATIOS AND RANK ORDER OF MEANS FOR
SIGNIFICANT AI FACTORS

Factors	Faculty	Year of	Inter-	Rank Order of
		Study	action	Faculty Means ^a
1. Self-Assertion	3.56**		1.61*	L,E,N,M,A,D,S
2. Audacity- Timidity	6.36**		1.38	N,S,M,E,L,D,A
3. Intellectual Interests	5.66**			A,M,S,N,L,E,D
4. Motivation	1.08			
5. Applied Interests	5.32**			S,N,M,A,D,E,L
6. Orderliness			1.12	
7. Submissiveness	2.23*			A,S,M,D,N,L,E
8. Closeness	3.97**			A,E,M,S,D,N,L
9. Sensuousness	1.73	1.88	1.28	
10. Friendliness	1.60	2.61		
11. Expressiveness- Constraint	1.48	1.26	1.82*	
12. Egoism- Diffidence			1.56	

Note.--F ratios less than 1.00 are insignificant and, thus, unlisted.

^aA=Arts; S=Science; M=Medicine; N=Engineering; L=Law; D=Dentistry; E=Economics.

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

of study were noted on only the following two factors: Factor 1--Self-Assertion and Factor 11--Expressiveness-Constraint. This finding is a probable indication that the factor scores operated in one way at one level and in the opposite way at another level.

The hypothesis that faculty would be a significant variable for the AI scores was accepted for half of the twelve factors. The significant factors were Factor 1--Self-Assertion, Factor 2--Audacity-Timidity, Factor 3--Intellectual Interests, Factor 5--Applied Interests, Factor 7--Submissiveness, and Factor 8--Closeness. These six factors are discussed first, and appropriate tables are presented to show analysis of variance and results of t tests of significance.

Factor 1--Self-Assertion. The hypothesis that the main effect of faculty would be significant was accepted for this factor ($F = 3.56$, $p < .01$), indicating that students in different major fields showed varying desires for personal, social, and political power. The rank order of faculty means was Law, Economics, Engineering, Medicine, Arts, Dentistry, and Science, indicating that Law students showed the most concern for such power. The Science students showed the least interest in such power. More specifically, t tests revealed that the Law mean differed significantly from Science, Dentistry, Arts, and Medicine, suggesting that there was no difference between Law, Economics, and Engineering. The Economics mean differed from Science and Dentistry,

but was not significantly different from Arts, Medicine, Engineering, and Law. The Engineering mean was only significantly different from Science. Table 10 shows these results.

The hypothesis that year of study would have an effect did not show up on this factor nor any of the other factors, but the hypothesis that there would be significant interactions between faculty and year of study did hold true for this factor ($F = 1.61$, $p < .05$). The cell factor means showed that Medicine and Dentistry scores went up for Year 3, then down for Year 4+. Conversely, Law and Engineering means went down for Year 3 and rose sharply for Year 4+. Economics rose sharply for both Year 3 and Year 4+. Arts and Science means paralleled each other for Years 2 and 3, but went in divergent ways for Year 4+. The complete analysis of variance is given in Table 9.

TABLE 9
COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
SELF-ASSERTION

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	195.66	3.56	.01
Year of Study	2	1.17		--
Faculty X Year	12	87.81	1.61	.05
Between Treatments	20	170.44	3.12	.01
Within Treatments	<u>370</u>	54.66		
Total	390			

TABLE 10

SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF SELF-ASSERTION

Faculty Groupings	\bar{X}	s	t	p
1. <u>Law</u>	22.04	8.09		
and				
Science	15.83	7.07	3.53	.001
Dentistry	16.14	7.58	2.53	.05
Arts	17.89	7.74	2.37	.05
Medicine	18.24	7.28	2.01	.05
2. <u>Economics</u>	22.00	7.26		
and				
Science	15.83	7.07	3.09	.001
Dentistry	16.14	7.58	2.30	.05
3. <u>Engineering</u>	18.40	7.17		
and				
Science	15.83	7.07	1.98	.05

Factor 2. Audacity-Timidity. This factor, which tests the need for aggressiveness, was significant for the faculty treatment effect ($F = 6.36$, $p < .01$). The rank order of faculty means was Engineering, Science, Medicine, Economics, Law, Dentistry, and Arts. Table 12 shows the significant faculty means. Engineering had the largest mean score and was significantly different from Arts, Dentistry, and Law. Science and Medicine were both significantly different from Arts. There were no other significant faculty differences, nor were there significant effects from the year of study and interaction treatments. Table 11 shows the complete analysis of variance for this factor.

TABLE 11

COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
AUDACITY-TIMIDITY

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	241.45	6.36	.01
Year of Study	2	20.74		--
Faculty X Year	12	52.39	1.38	--
Between Treatments	20	105.94	2.79	.01
Within Treatments	<u>370</u>	37.97		
Total	390			

TABLE 12
SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF AUDACITY-TIMIDITY

Faculty Groupings	\bar{X}	s	t	p
1. <u>Engineering</u>	23.31	5.45		
and				
Arts	17.69	6.42	5.56	.001
Dentistry	18.24	6.42	3.24	.01
Law	19.32	5.51	2.87	.01
2. <u>Science</u>	21.28	6.43		
and				
Arts	17.69	6.42	4.22	.001
3. <u>Medicine</u>	20.87	5.71		
and				
Arts	17.69	6.42	3.35	.001

Factor 3. Intellectual Interests. Table 14 shows that the main effect of faculty was a significant source of variance ($F = 5.66$, $p < .01$) on this factor, which indicates the level of interest in intellectual activities in the arts and the sciences. The rank order of means was the faculties of Arts, Medicine, Science, Engineering, Law, Economics, and Dentistry. This means that the S_s from the Arts faculty

TABLE 13

SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF INTELLECTUAL INTERESTS

Faculty Groupings	\bar{X}	s	t	p
1. <u>Arts</u>	27.93	6.43		
and				
Dentistry	20.52	7.17	4.88	.001
Economics	21.57	9.22	2.51	.05
Law	22.64	7.35	3.44	.001
Engineering	25.05	7.23	2.40	.05
2. <u>Medicine</u>	26.69	7.28		
and				
Dentistry	20.52	7.17	4.33	.001
Economics	21.57	9.22	2.24	.05
Law	22.64	7.35	3.31	.01
3. <u>Science</u>	26.48	7.45		
and				
Dentistry	20.52	7.17	3.43	.001
Economics	21.57	9.22	2.25	.05
Law	22.64	7.35	2.23	.05
4. <u>Engineering</u>	25.05	7.23		
and				
Dentistry	20.52	7.17	2.34	.05

scored significantly higher on this factor than did students from Dentistry, Economics, Law, and Engineering, but they did not differ significantly from students in Medicine and Science. The mean score for Medicine differed significantly from Dentistry, Law, and Economics; Science differed significantly from Dentistry, Economics, and Law; Engineering differed from Dentistry. Arts, Medicine, and Science were similar in their intellectual interests on the upper level, and Dentistry, Economics, and Law were similar on the lower level. Table 13 shows these significant differences. There were no significant differences between the levels of year of study, nor were there significant interactions among the faculty and year of study variables.

TABLE 14

COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
INTELLECTUAL INTERESTS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	290.84	5.66	.01
Year of Study	2	6.23		--
Faculty X Year	12	38.10		--
Between Treatments	20	110.69	2.15	.01
Within Treatments	<u>370</u>	51.37		
Total	390			

Factor 5. Applied Interests. On this test of interest in practical, applied activities, there was a significant difference due to the main effect of faculty ($F = 5.32$, $p < .01$). The rank order of faculty means was Science, Engineering, Medicine, Arts, Dentistry, Economics, and Law. An examination of Table 16, which lists the faculty mean differences, showed that Science scored significantly higher than Law, Economics, Dentistry, Arts, and Medicine. Engineering was the only faculty that shared similar interests with Science in practical activities; and Engineering, in turn, differed from Arts, Dentistry, Economics, and Law. Medicine scored significantly higher than Law, and Arts scored higher than Law. There were no significant year of study or interaction effects. Table 15 shows the complete analysis of variance for this factor.

TABLE 15

COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
APPLIED INTERESTS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	191.98	5.32	.01
Year of Study	2	33.89		--
Faculty X Year	12	12.58		--
Between Treatments	20	67.43	1.87	.05
Within Treatments	<u>370</u>	36.07		
Total	390			

TABLE 16

SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF APPLIED INTERESTS

Faculty Groupings	\bar{X}	s	t	p
1. <u>Science</u>	17.51	5.37		
and				
Law	11.88	5.77	4.40	.001
Economics	12.64	5.14	3.22	.01
Dentistry	13.52	5.06	3.12	.01
Arts	14.64	6.94	3.59	.001
Medicine	15.18	5.11	2.68	.01
2. <u>Engineering</u>	17.02	5.53		
and				
Law	11.88	5.77	3.62	.001
Economics	12.64	5.14	2.61	.05
Dentistry	13.52	5.06	2.43	.05
Arts	14.64	6.94	2.29	.05
3. <u>Medicine</u>	15.18	5.11		
and				
Law	11.88	5.77	2.46	.05
4. <u>Arts</u>	14.64	6.94		
and				
Law	11.88	5.77	2.75	.01

Factor 7. Submissiveness. Table 17 shows that the main effect of faculty was a significant source of variance ($F = 2.23, p < .05$), indicating a high level of impulse control due to social conformity on the part of students in the faculties having the highest mean scores on this factor. The rank order of those faculties was Arts, Science, Medicine, Dentistry, Engineering, Law, and Economics, suggesting that on this factor the Arts Ss were most unlike the Law Ss. Other significant differences were that Arts had a higher mean score than Economics and Engineering, and Science was higher than Economics. Table 18 shows these results. There were no significant year of study or interaction effects.

TABLE 17

COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
SUBMISSIVENESS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	82.19	2.23	.05
Year of Study	2	1.93		--
Faculty X Year	12	32.84		--
Between Treatments	20	44.55	1.21	
Within Treatments	<u>370</u>	36.75		
Total	390			

TABLE 18

SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF SUBMISSIVENESS

Faculty Groupings	\bar{X}	s	t	p
1. <u>Arts</u>	20.94	6.03		
and				
Economics	17.29	3.97	3.09	.01
Law	17.40	7.16	2.34	.05
Engineering	18.57	5.14	2.52	.05
2. <u>Science</u>	20.24	6.65		
and				
Economics	17.29	3.97	2.36	.05

Factor 8. Closeness. On this factor measuring the need for warmth and emotional support, the main effect of faculty was a significant source of variance ($F = 3.97$, $p < .01$). The rank order of faculty means was Arts, Economics, Medicine, Science, Dentistry, Engineering, and Law. Table 19 shows that Arts students were more aware of needs for warmth and emotional supportiveness than Law and Engineering students; Medicine and Science were significantly higher in the expression of this need than Law and Engineering; and Economics was significantly higher than Law. Arts,

TABLE 19
SIGNIFICANCE OF FACULTY MEANS FOR THE AI
FACTOR OF CLOSENESS

Faculty Groupings	\bar{X}	s	t	p
1. <u>Arts</u>	23.62	6.72		
and				
Law	18.44	6.58	3.65	.001
Engineering	20.05	5.85	3.31	.01
2. <u>Economics</u>	23.00	4.66		
and				
Law	18.44	6.58	2.29	.05
3. <u>Medicine</u>	22.84	4.89		
and				
Law	18.44	6.58	2.97	.01
Engineering	20.05	5.85	2.49	.05
4. <u>Science</u>	22.29	6.50		
and				
Law	18.44	6.58	2.64	.01
Engineering	20.05	5.85	2.02	.05

Economics, Medicine, and Science could be grouped together at the upper level; and Law and Engineering were very similar to each other at the lower end of the rank order. There were no year of study or interaction effects. Table 20 shows the complete analysis of variance for this factor.

TABLE 20
COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
CLOSENESS

Source	df	MS	F	p
Faculty	6	156.59	3.97	.01
Year of Study	2	38.45		--
Faculty X Year	12	32.49		--
Between Treatments	20	70.32	1.79	.01
Within Treatments	370	39.46		
Total	390			

Factor 11. Expressiveness-Constraint. This factor, which measures spontaneous and impulsive behavior, was the only other needs factor that showed some significant effects. While there were no significant sources of variance coming from the main effects of faculty or year of study, there was a significant interaction ($F = 1.82$, $p < .05$), indicating that faculty was varied in some way by year of study. Table 21 shows this effect. The cell factor means showed

that Arts, Medicine, Engineering, Law, and Dentistry factor means all declined in Year 3; and all made slight increases in Year 4+, except Medicine, which remained at the same level, and Dentistry, which dropped even lower in Year 4+. Science and Economics means, on the other hand, rose in Year 3; then the Science mean declined sharply in Year 4+, while the Economics mean remained stable.

TABLE 21

COMPLETE ANALYSIS OF VARIANCE FOR THE AI FACTOR OF
EXPRESSIVENESS-CONSTRAINT

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	59.73	1.48	--
Year of Study	2	50.87	1.26	--
Faculty X Year	12	73.34	1.82	.05
Between Treatments	20	67.01	1.66	.05
Within Treatments	<u>370</u>	40.31		
Total	390			

For the other five AI factors (Factor 4--Motivation, Factor 6--Orderliness, Factor 9--Sensuousness, Factor 10--Friendliness, and Factor 12--Egoism-Diffidence), there was no significant difference between the levels of faculty and the levels of year of study, nor were there any signifi-

cant interactions among the variables of faculty and year of study. Briefer versions of their analysis of variance are presented in the following five tables.

TABLE 22

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN TREATMENTS FOR THE AI FACTOR OF MOTIVATION

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	20	36.81		--
Within Treatments	<u>370</u>	40.83		
Total	390			

TABLE 23

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN TREATMENTS FOR THE AI FACTOR OF ORDERLINESS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	20	46.13		--
Within Treatments	<u>370</u>	56.24		--
Total	390			

TABLE 24

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN
TREATMENTS FOR THE AI FACTOR OF SENSUOUSNESS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	20	36.66	1.50	--
Within Treatments	<u>370</u>	24.62		--
Total	390			

TABLE 25

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN
TREATMENTS FOR THE AI FACTOR OF FRIENDLINESS

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	20	17.27		--
Within Treatments	<u>370</u>	20.04		--
Total	390			

TABLE 26

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN
TREATMENTS FOR THE AI FACTOR OF EGOISM-DIFFIDENCE

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	20	22.96	1.29	--
Within Treatments	<u>370</u>	17.75		--
Total	390			

Press Factors

That portion of Hypotheses III and IV concerning the press factors was stated as follows:

Hypothesis III--There are significant differences between the combined treatment conditions of the University of Adelaide second year students in seven faculties and the University of Adelaide third and fourth year students in the same faculties on the following criteria measures:

- a.
- b. Each of eleven press factors, as reported by the UCI.

Hypothesis IV--There are significant interactions among the faculty and year of study variables investigated in the study for the following criteria measures:

- a.
- b. Each of eleven press factors, as reported by the UCI.

A 7 x 3 factorial design was employed to test these hypotheses. Table 27 shows the F ratios and rank order of means that were obtained from the analysis of variance conducted for the UCI. Subsequent tables show specific analysis of variance results for each factor and t-test tables showing significant differences between different groups on some factors.

The hypothesis (IVb) that interaction effects between faculty and year of study would be a significant source of variance in the UCI factors was rejected. There was no significant interaction effect for any of the eleven factors. As Table 27 indicates, however, the two main effects

TABLE 27

ANALYSIS OF VARIANCE F RATIOS AND RANK ORDER OF MEANS FOR
SIGNIFICANT UCI FACTORS

Factors	Faculty	Year of Study	Inter-action	Rank Order of Means by Faculty ^a	Year
1. Aspiration Level	1.89	3.25*			2,3,4+
2. Intellectual Climate	5.21**			A,M,S,N, L,D,E	
3. Student Dignity	4.77**	1.75	1.05	N,A,S,L, M,E,D	
4. Academic Climate	3.97**		1.22	A,M,S,N, D,L,E	
5. Academic Achievement	1.77	5.98**			2,3,4+
6. Self-Expression		6.36**	1.27		3,2,4+
7. Group Life	2.92**			M,E,N,S, D,A,L	
8. Academic Organization					
9. Social Form	5.30**			M,E,D,L, S,N,A	
10. Play-Work	2.29*	2.78		L,E,M,A, D,N,S	
11. Vocational Climate	4.36**	1.00		D,E,N,L, M,S,A	

Note.--F ratios less than 1.00 are insignificant and, thus, not listed in the table.

^aA=Arts; S=Science; M=Medicine; N=Engineering; L=Law; D=Dentistry; E=Economics.

* $p < .05$.

** $p < .01$.

of faculty and/or year of study showed significant differences on all of the UCI factors except Factor 8--Academic Organization, which suggested that all levels of faculty and year of study had similar perceptions of the degree of organization and structure in the academic environment. The three factors for which year of study was a significant variable were Factor 1--Aspiration Level, Factor 5--Academic Achievement, and Factor 6--Self-Expression. The seven factors for which faculty was a significant variable were Factor 2--Intellectual Climate, Factor 3--Student Dignity, Factor 4--Academic Climate, Factor 7--Group Life, Factor 9--Social Form, Factor 10--Play-Work, and Factor 11--Vocational Climate. Each factor is presented in order, and analysis of variance and t-test tables for each are presented.

Factor 1. Aspiration Level. Table 28 shows that on this factor, which measures the strength of institutional encouragement of students to participate in decision-making processes and to have some influence on their environment, there was a significant source of variance due to the main effect of year of study ($F = 3.25, p < .05$). This finding indicated that Ss at one level of year of study scored significantly higher than Ss at other levels of year. The rank order of means for year of study was Year 2, Year 3, and Year 4+, suggesting that Year 2 students perceived the university as encouraging students to set high standards for themselves to a greater degree than students in Year 4+. Closer examination of the data indicated that Year 2 scores

were significantly different only from Year 4+ ($t = 2.20$, $p < .05$). There was no significant difference between Year 2 and Year 3, nor between Year 3 and Year 4+.

The hypothesis that the faculties would show significant differences on Factor 1 did not hold true; no significant source of variance could be attributed to faculty. In addition, there were no observable interaction effects between faculty and year of study.

TABLE 28
COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR
OF ASPIRATION LEVEL

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	37.69	1.89	--
Year of Study	2	64.86	3.25	.05
Faculty X Year	12	18.27		--
Between Treatments	20	28.76	1.44	--
Within Treatments	<u>370</u>	19.97		
Total	390			

Factor 2. Intellectual Climate. This factor measures students' perceptions of the quality of staff and plant in the arts and sciences. Table 29 shows that the main effect of faculty provided a significant source of variance at the

.01 level of confidence ($F = 5.21$). This indicated that Ss of one or more faculties scored significantly higher on the criterion measure than Ss in other faculties. The rank order of means by faculty was Arts, Medicine, Science, Engineering, Law, Dentistry, and Economics. Arts and Medicine Ss scored significantly higher than Economics, Dentistry, Law, Engineering, and Science. Table 30 shows these faculty differences. There were no other significant differences between other faculties. There were also no significant differences on the main effect of year of study or from interaction effects.

TABLE 29
COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR
OF INTELLECTUAL CLIMATE

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	234.78	5.21	.01
Year of Study	2	34.89		--
Faculty X Year	12	39.57		--
Between Treatments	20	97.66	2.17	--
Within Treatments	<u>370</u>	45.07		
Total	390			

TABLE 30

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI
FACTOR OF INTELLECTUAL CLIMATE

Faculty Groupings	\bar{X}	s	t	p
1. <u>Arts</u>	25.43	7.41		
and				
Economics	19.79	6.24	2.76	.01
Dentistry	20.43	5.97	2.93	.01
Law	20.64	5.86	3.59	.001
Engineering	22.02	6.10	3.00	.01
Science	22.48	6.41	3.29	.001
2. <u>Medicine</u>	24.64	7.41		
and				
Economics	19.79	6.24	2.46	.05
Dentistry	20.43	5.97	2.56	.05
Law	20.64	5.86	2.73	.01
Engineering	22.02	6.10	2.03	.05
Science	22.48	6.41	1.99	.05

Factor 3. Student Dignity. On this factor, which deals with the issue of student freedom versus institutional coercion, the main effect of faculty was significant ($F = 4.77$, $p < .01$). The rank order of means was Engineer-

ing, Arts, Science, Law, Medicine, Economics, and Dentistry. Table 32 shows that Dentistry scored significantly lower than Engineering, Arts, Science, Law, and Medicine; Economics scored significantly lower than Arts; Medicine scored significantly lower than Engineering and Arts, but higher than Dentistry, as noted above. There were no other faculty differences, nor were there significant year of study or interaction effects for this factor. Table 31 shows the complete analysis of variance for this factor.

TABLE 31
COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
STUDENT DIGNITY

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	105.36	4.77	.01
Year of Study	2	37.86	1.75	--
Faculty X Year	12	22.83	1.05	--
Between Treatments	20	49.09	2.27	.01
Within Treatments	<u>370</u>	21.66		
Total	390			

Factor 4. Academic Climate. For this press factor, which measures students' perceptions of the academic excellence of staff and facilities in the natural sciences, the social sciences, and the humanities, there was a significant

TABLE 32

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI FACTOR OF
STUDENT DIGNITY

Source	\bar{X}	s	t	p
1. <u>Engineering</u>	20.81	5.04		
and				
Dentistry	15.14	3.45	4.61	.001
Medicine	18.24	5.03	2.50	.05
2. <u>Arts</u>	20.29	4.24		
and				
Dentistry	15.14	3.45	5.25	.001
Economics	17.71	5.46	2.04	.05
Medicine	18.24	5.03	2.65	.01
3. <u>Science</u>	19.72	4.95		
and				
Dentistry	15.14	3.45	4.01	.001
4. <u>Law</u>	19.40	4.55		
and				
Dentistry	15.14	3.45	3.51	.001
5. <u>Medicine</u>	18.24	5.03		
and				
Dentistry	15.14	3.45	3.51	.001

main effect of faculty ($F = 3.97, p < .01$). The rank order of means was Arts, Medicine, Science, Engineering, Dentistry, Law, and Economics. Arts S_s scored significantly higher on this factor than every other faculty except Medicine. Medicine scored significantly higher than Economics, Law, and Dentistry. There were no significant sources of variance for this factor from the main effect of year of study or from interaction effects. Tables 33 and 34 show the results of analysis of variance and t tests of differences between the faculty means.

TABLE 33

COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
ACADEMIC CLIMATE

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	43.09	3.97	.01
Year of Study	2	4.88		--
Faculty X Year	12	13.26	1.22	--
Between Treatments	20	21.37	1.70	.05
Within Treatments	<u>370</u>	10.87		
Total	390			

TABLE 34

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI
FACTOR OF ACADEMIC CLIMATE

Faculty Groupings	\bar{X}	s	t	p
1. <u>Arts</u>	11.77	3.43		
and				
Economics	9.07	4.53	2.71	.01
Law	9.40	5.01	3.53	.001
Dentistry	9.67	2.08	3.89	.001
Engineering	10.48	3.41	2.11	.05
Science	10.80	3.31	2.15	.05
2. <u>Medicine</u>	11.56	2.98		
and				
Economics	9.07	4.53	1.98	.05
Law	9.40	5.01	2.93	.01
Dentistry	9.67	2.08	3.11	.01

Factor 5. Academic Achievement. For this factor, which reflects a belief that the university sets high standards of achievement in such areas as course work, examinations, and honors, Table 35 shows that the main effect of year of study was a significant source of variance ($F = 5.98$, $p < .01$). The rank order of year of study means was simply Year 2, Year 3, and Year 4+. Subsequent t tests performed

showed that Year 2 students scored significantly higher in this factor than both Year 3 ($t = 2.52$, $p < .01$) and Year 4+ ($t = 3.24$, $p < .01$). There was no significant difference between Year 3 and Year 4+, nor were there significant faculty or interaction effects.

TABLE 35

COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
ACADEMIC ACHIEVEMENT

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	73.60	1.77	--
Year of Study	2	247.52	5.98	.01
Faculty X Year	12	29.86		--
Between Treatments	20	62.82	1.51	--
Within Treatments	<u>370</u>	41.58		
Total	390			

Factor 6. Self-Expression. This factor, which measures the opportunities offered for developing student leadership potential and self-assurance, showed a significant source of variance for the main effect of year of study ($F = 6.36$, $p < .01$). The rank order of year means was Year 3, Year 2, and Year 4+; and further testing of the differences between these means showed that Year 2 differed from

Year 4+ ($t = 3.04$, $p < .01$) and Year 3 differed from Year 4+ ($t = 2.27$, $p < .05$). Year 2 and Year 3 did not differ significantly from each other. There were no significant faculty or interaction effects. Table 36 shows the complete analysis of variance for this factor.

TABLE 36
COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
SELF-EXPRESSION

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	21.96		--
Year of Study	2	202.17	6.36	.01
Faculty X Year	12	40.60	1.27	--
Between Treatments	20	51.12	1.60	.05
Within Treatments	<u>370</u>	31.98		
Total	390			

Factor 7. Group Life. In their perception of the various forms of mutually supportive group activities among the student body, the students of different faculties manifested significantly different scores ($F = 2.92$, $p < .01$). The rank order of faculty means was Medicine, Economics, Engineering, Science, Dentistry, Arts, and Law. Medicine Ss were the only ones that differed significantly from other faculties. They differed from Law ($t = 2.70$, $p < .01$),

Arts ($\underline{t} = 3.87, p < .001$), Dentistry ($\underline{t} = 2.73, p < .01$), and Science ($\underline{t} = 2.86, p < .01$). They were similar in perceptions, therefore, to Economics and Engineering. Table 37 shows the analysis of variance for this factor.

TABLE 37
COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
GROUP LIFE

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	54.45	2.92	.01
Year of Study	2	4.97		--
Faculty X Year	12	19.04		--
Between Treatments	20	28.26	1.28	--
Within Treatments	<u>370</u>	22.06		
Total	390			

Factor 8. Academic Organization. As indicated earlier, there were no significant sources of variance from either of the main effects of faculty or year of study, nor were there any significant interaction effects. This suggested that all levels of students viewed the degree of structure in the University of Adelaide in similar ways. Table 38 shows the lack of significance.

TABLE 38

ANALYSIS OF VARIANCE SHOWING THE BETWEEN AND WITHIN
TREATMENTS FOR THE UCI FACTOR OF
ACADEMIC ORGANIZATION

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Treatments	26	22.98		--
Within Treatments	<u>370</u>	27.51		
Total	390			

Factor 9. Social Form. This factor stresses the welfare aspects of the Group Life of Factor 7, and it also emphasizes the development of social skills. The main effect of faculty was a significant source of variance for this press factor ($\underline{F} = 5.30, \underline{p} < .01$). The faculty means, from the highest to the lowest, were for Medicine, Economics, Dentistry, Law, Science, Engineering, and Arts. Medicine ss scored significantly higher than Arts, Engineering, Science, and Law; Economics scored higher than Engineering; and Dentistry scored significantly higher than Arts, Engineering, and Science. Again, there were no significant differences due to the year of study and the interaction variables. Tables 39 and 40 give analysis of variance and t-test results.

TABLE 39

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI
FACTOR OF SOCIAL FORM

Faculty Groupings	\bar{X}	s	t	p
1. <u>Medicine</u>	28.62	4.66		
and				
Arts	24.75	5.11	5.18	.001
Engineering	25.10	5.02	3.54	.001
Science	25.63	5.10	3.72	.001
Law	25.76	5.44	2.27	.05
2. <u>Economics</u>	28.14	3.89		
and				
Engineering	25.10	5.02	2.19	.05
3. <u>Dentistry</u>	28.00	4.46		
and				
Arts	24.75	5.11	2.05	.05
Engineering	25.10	5.02	2.27	.05
Science	25.63	5.10	1.98	.05

TABLE 40

COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR
OF SOCIAL FORM

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	134.28	5.30	.01
Year of Study	2	18.99		--
Faculty X Year	12	23.87		--
Between Treatments	20	56.50	2.23	.01
Within Treatments	370	25.35		
Total	390			

Factor 10. Play-Work. For this factor, which stresses excessive participation in social activities, there was a significant source of variance from the main effect of faculty ($F = 2.29$, $p < .05$). The rank order of faculty means was Law, Economics, Medicine, Arts, Dentistry, Engineering, and Science. Examination of the differences between the faculty means showed that Law, Medicine, and Arts were significantly higher than Science; and Law and Medicine were higher than Engineering. There were no significant differences due to the main effect of year or to interaction effects. Tables 41 and 42 shows the analysis of variance and t-test results.

TABLE 41

COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
PLAY-WORK

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	48.47	2.29	.01
Year of Study	2	58.98	2.78	--
Faculty X Year	12	10.60		
Between Treatments	20	26.80	1.27	--
Within Treatments	<u>370</u>	21.12		
Total	390			

TABLE 42

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI
FACTOR OF PLAY-WORK

Faculty Groupings	<u>\bar{X}</u>	<u>s</u>	<u>t</u>	<u>p</u>
1. <u>Law</u>	26.40	2.99		
and				
Science	24.17	4.33	2.97	.01
Engineering	24.19	4.15	2.51	.05
2. <u>Medicine</u>	26.06	4.83		
and				
Science	24.17	4.33	2.42	.05
Engineering	24.19	4.15	2.05	.05
3. <u>Arts</u>	25.42	4.89		
and				
Science	24.17	4.33	2.05	.05

Factor 11. Vocational Climate. In the way Ss viewed the university's emphasis on practical, applied activities, the main effect of faculty was a significant source of variance ($F = 4.36, p < .01$). The rank order of faculty means was Dentistry, Economics, Engineering, Law, Medicine, Science, and Arts. Table 44 shows that Dentistry, Economics, Engineering, and Medicine were significantly higher in their view of the vocational climate than Arts and Science. In addition, Law was significantly higher than Arts. There was no significant source of variance due to the main effect of year of study or the interaction effect, as Table 43 illustrates.

TABLE 43

COMPLETE ANALYSIS OF VARIANCE FOR THE UCI FACTOR OF
VOCATIONAL CLIMATE

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Faculty	6	126.75	4.36	.01
Year of Study	2	16.45		--
Faculty X Year	12	29.36	1.00	--
Between Treatments	20	17.62		--
Within Treatments	<u>370</u>	29.32		
Total	390			

TABLE 44

SIGNIFICANCE OF FACULTY MEANS FOR THE UCI
FACTOR OF VOCATIONAL CLIMATE

Faculty Groupings	\bar{X}	s	t	p
1. <u>Dentistry</u>	29.38	3.68		
and				
Arts	25.15	2.33	5.16	.001
Science	25.83	7.43	3.03	.01
2. <u>Economics</u>	28.50	4.43		
and				
Arts	25.15	2.33	2.79	.01
Science	25.83	7.43	1.98	.05
3. <u>Engineering</u>	28.14	3.45		
and				
Arts	25.15	2.33	5.25	.001
Science	25.83	7.43	2.57	.01
4. <u>Law</u>	28.04	4.22		
and				
Arts	25.15	2.33	3.36	.001
5. <u>Medicine</u>	27.82	3.78		
and				
Arts	25.15	2.33	4.85	.001
Science	25.83	7.43	2.22	.05

Post Hoc Analysis

After analysis of the data was completed, it seemed useful to extend the comparison between the U. S. and Adelaide subjects to comparisons between students from different types of U. S. colleges and University of Adelaide students. The types of colleges included in the U. S. normative data (Stern, 1963b, p. 25) were Liberal Arts, Business Administration, Denominational, Education, Engineering, and University. Tables 45, 46, and 47 outline some of the comparisons of factor standard score means by showing which types of U. S. colleges were most like the University of Adelaide and which were most dissimilar.

In comparing Adelaide men with students from different types of U. S. colleges, no clear pattern emerged, nor was there a clear pattern for the U. S. normative data. Adelaide male scores were closest to U. S. Liberal Arts students on the needs factors of Audacity-Timidity, Orderliness, and Closeness. The Orderliness score for Liberal Arts was the lowest of the six U. S. types, but the men of Adelaide were one standard deviation below Liberal Arts. Again, Liberal Arts was lowest on the Closeness factor, but Adelaide men were one-half standard deviation below them.

TABLE 45

COMPARISON OF AI STANDARD SCORE FACTOR MEANS
FOR ADELAIDE MEN AND U. S. NORMATIVE GROUPS

Factors	Adelaide Men	U. S. Normative Sample			
		Most Similar to Adelaide Group	Score	Less Similar to Adelaide Group	Score
1. Self-Assertion	-2.70	B Adm	- .84	Univ	.58
2. Audacity-Timidity	.60	LA	.72	B Adm	-3.06
3. Intellectual Interests	- .90	Denom	- .54	LA B Adm	2.13 -3.91
4. Motivation	-1.80	B Adm	-1.62	Engr	1.20
5. Applied Interests	-2.45	B Adm	-1.88	Engr	1.16
6. Orderliness	-2.60	LA	-1.69	Denom	2.91
7. Submissiveness	-2.85	Univ	-1.13	Educ	1.75
8. Closeness	-2.35	LA	-1.85	Denom	2.13
9. Sensuousness	.35	Univ	.00	Denom Engr	1.53 -1.09
10. Friendliness	- .20	Univ	- .06	B Adm	3.02
11. Expressiveness-Constraint	.90	Educ	- .67	Denom	-1.18
12. Egoism-Diffidence	.00	Denom	- .04	B Adm	3.02

Note.--B Adm = Business Administration; Denom = Denominational; Educ = Education; Engr = Engineering; LA = Liberal Arts; Univ = University.

TABLE 46

COMPARISON OF AI STANDARD SCORE FACTOR MEANS FOR
ADELAIDE WOMEN AND U. S. NORMATIVE GROUPS

Factors	Adelaide Women	U. S. Normative Groups			
		Most Similar to Adelaide Group	Score	Less Similar to Adelaide Group	Score
1. Self-Assertion	-1.00	Denom	-1.03	Univ	1.38
2. Audacity- Timidity	1.75	LA	2.11	Educ Denom	-1.42 -1.41
3. Intellectual Interests	2.20	LA	1.95	Educ	-2.03
4. Motivation	.40	Univ	.89	Denom	-1.45
5. Applied Interests	.60	Univ	.41	Educ	-1.14
6. Orderliness	-1.90	LA	-1.90	Denom	1.45
7. Submissiveness	- .85	LA	-1.60	Denom	1.08
8. Closeness	.20	Denom	.99	LA	-2.19
9. Sensuousness	.60	Educ	.57	LA	- .90
10. Friendliness	- .60	Denom	.65	Educ	2.08
11. Expressiveness- Constraint	- .50	Educ	.13	LA	.92
12. Egoism- Diffidence	2.35	Univ	1.20	LA	- .54

Note.--B Adm = Business Administration; Denom = Denomi-
national; Educ = Education; Engr = Engineering; LA =
Liberal Arts; Univ = University.

On three factors, the scores of Adelaide men were closest to Business Administration male students in the U. S.: Self-Assertion, Motivation, and Applied Interests. In each case, Business Administration was the lowest of the six U. S. college types; and, in each case, Adelaide men scored below Business Administration. The contrast was particularly startling for the factor of Self-Assertion because Adelaide men scored two standard deviations below Business Administration, indicating that Adelaide men had far less interest in socio-political power than any group of U. S. men.

On three factors, Adelaide men's scores were closest to the U. S. University group: Submissiveness, Sensuousness, and Friendliness. In this particular grouping, Adelaide men scored below all six types of U. S. subjects only on Submissiveness. On two factors, Adelaide men scored closest to U. S. Denominational students: Intellectual Interests and Egoism-Diffidence. Examining the U. S. colleges that were least similar to Adelaide men also produced unclear results because there was a great deal of scatter.

Adelaide women were most like Liberal Arts women in the U. S. on the following factors: Audacity-Timidity, Intellectual Interests, Orderliness, and Submissiveness. They were most like U. S. University women on three factors: Motivation, Applied Interests, and Egoism-Diffidence. On the last factor, they were significantly higher than University women. For the factors of Self-Assertion,

TABLE 47

COMPARISON OF CCI AND UCI STANDARD SCORE FACTOR MEANS
FOR UNIVERSITY OF ADELAIDE AND U. S. NORMATIVE GROUPS

Factors	Adelaide	U. S. Normative Groups			
		Most Similar to Adelaide Group	Score	Less Similar to Adelaide Group	Score
1. Aspiration Level	- .85	Univ	- .75	LA	2.29
2. Intellectual Climate	-1.75	B Adm	-2.14	LA	2.90
3. Student Dignity	- .10	Educ Denom	- .18 - .19	LA	2.39
4. Academic Climate	-1.25	Denom	-1.27	LA	1.91
5. Academic Achievement	-1.55	Univ B Adm	-1.58 -1.63	LA	2.04
6. Self- Expression	-2.10	B Adm	-2.05	LA	2.17
7. Group Life	-1.70	LA	-1.26	Denom	2.20
8. Academic Organization	-1.80	LA	-1.95	Denom	2.07
9. Social Form	.25	Educ	.09	LA	-2.04
10. Play-Work	1.80	Univ	1.94	LA	-1.64
11. Vocational Climate	.05	Educ	.16	LA	-3.16

Note.--B Adm = Business Administration; Denom = Denomi-
national; Educ = Education; LA = Liberal Arts; Univ =
University.

Closeness, and Friendliness, Adelaide women were most similar to U. S. Denominational women. On two factors (Sensuousness and Expressiveness-Constraint), Adelaide women were most like U. S. Education women. Again, no significant pattern emerged for the women.

On the UCI press factors, there was a clearer comparison with U. S. colleges that were most unlike Adelaide. On all but two factors (Group Life and Academic Organization), Adelaide was most dissimilar to Liberal Arts colleges in the U. S. For those two factors, the University of Adelaide was less similar to Denominational colleges in the U. S. Examining the factor scores of the colleges that were most like Adelaide again revealed that there was a wide spread among all types of U. S. institutions. Engineering, however, did not appear in either the similar or the dissimilar comparative categories.

From this cursory examination, the evidence is mixed in comparisons between the University of Adelaide and different types of U. S. institutions. It may be useful to extend this analysis to a more detailed comparison between different University of Adelaide faculties and U. S. normative groups since internal differences at Adelaide have emerged from the present investigation.

Summary of Findings

To test the hypotheses in this study, several statistical designs were employed. For Hypothesis I, which investigated the differences between the U. S. and Adelaide students on the Activities Index and the College Characteristics Index, the formula for testing differences between means for uncorrelated data was used. The AI factor means were considered by sex as well as by country. Sex differentiation was not possible for the UCI/CCI. Hypothesis II employed the same formula to test differences between the means of Australian men and women students. Hypotheses III and IV utilized a 7 x 3 factorial design to investigate the effects of faculty and year of study on the AI and UCI factors. The interaction effects between these two were also observed.

Hypothesis I. There were significant differences between U. S. and Adelaide students on many of the needs and press factors. On the AI, U. S. men students scored significantly higher than Adelaide men students on the following factors: Factor 1--Self-Assertion, Factor 3--Intellectual Interests, Factor 4--Motivation, Factor 5--Applied Interests, Factor 6--Orderliness, Factor 7--Submissiveness, and Factor 8--Closeness. Adelaide men did not score significantly higher than U. S. men on any of the AI factors.

Adelaide women scored significantly higher than U. S. women on the following factors: Factor 2--Audacity-Timidity, Factor 3--Intellectual Interests, and Factor 12--Egoism-Diffidence. U. S. women scored significantly higher than Adelaide women on Factor 6--Orderliness.

On the CCI/UCI, U. S. students scored significantly higher than Adelaide students on the following factors: Factor 2--Intellectual Climate, Factor 4--Academic Climate, Factor 5--Academic Achievement, Factor 6--Self-Expression, Factor 7--Group Life, and Factor 8--Academic Organization. Adelaide students scored significantly higher than U. S. students on the following two factors: Factor 9--Social Form and Factor 10--Play Work.

The post hoc analysis comparing Adelaide ss with specific types of U. S. institutions of higher learning yielded interesting, but inconclusive, results. On the AI factors, Adelaide men and women showed characteristics similar to all types of U. S. institutions though even in their similarities there were large dissimilarities. For example, on the factor of Self-Assertion, Adelaide men were most similar to Business Administration subjects in the U. S.; yet Adelaide men's scores were two standard deviations below Business Administration. On the CCI, there was no clear pattern of which type of U. S. college was most like Adelaide, but on nine of the eleven factors Adelaide was most dissimilar to Liberal Arts colleges in the U. S.

Hypothesis II. There were significant differences between University of Adelaide male students and female students on both the AI and the UCI. On the AI, the men students scored higher than the women students on the needs factors of Self-Assertion and Audacity-Timidity. The women students expressed greater needs on the factors of Intellectual Interests, Submissiveness, Closeness, Sensuousness, and Expressiveness-Constraint. The factors for which there were no sex differences were Motivation, Applied Interests, Orderliness, Friendliness, and Egoism-Diffidence.

On the UCI, the men students scored significantly higher than women students only on the press factor of Vocational Climate. The women students scored higher on the press factors of Aspiration Level, Intellectual Climate, Academic Climate, Academic Achievement, and Self-Expression. The factors for which there were no significant sex differences were Student Dignity, Group Life, Academic Organization, Social Form, and Play-Work.

Hypotheses IIIa and IVa. On the AI, there were significant differences between the seven faculties of Arts, Science, Medicine, Engineering, Law, Dentistry, and Economics and also some interactions between the faculty and year of study variables. The needs factors for which faculty was important were Self-Assertion, Audacity-Timidity, Intellectual Interests, Applied Interests, Submissiveness, and Closeness, all significant differences at the .01 level of confidence, except for Submissiveness.

The rank order of faculty means was examined and t tests made to determine where the differences existed. The pattern of differences tended to put at one end of the continuum Arts, Science, and Medicine; and at the other end, Dentistry, Economics, and Law. These distinctions were not always clear-cut, however.

The hypothesis that year of study would be an important variable on the AI was not borne out for any of the twelve factors. Interaction effects were observed for two factors: Self-Assertion and Expressiveness-Constraint.

Hypotheses IIIb and IVb. On the UCI, significant differences were manifested between the seven faculties; and the year of study variable was significant for three factors. The seven press factors for which faculty was important were Intellectual Climate, Student Dignity, Academic Climate, Group Life, Social Form, Play-Work, and Vocational Climate. Again, examination of the pattern of differences tended to place the same groups together at either end of the continuum. The year of study variable affected significantly the press factors of Aspiration Level, Academic Achievement, and Self-Expression.

In conclusion, there appeared to be cultural, sex, and faculty or major field differences between University of Adelaide and U. S. students and between University of Adelaide students at various levels. These differences were reflected in the perceptions of needs and environmental press as measured by the Activities Index and the College/

University Characteristics Index. There were few differences in the perception of needs and press attributable to the year of study variable or the faculty and year of study interaction.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to examine the inter-relationships of personality needs and environmental influences cross-culturally between the U. S. and Australia and also within the Australian culture. The Activities Index and University Characteristics Index were administered to a randomly selected sample of 412 University of Adelaide students. Studying the results statistically yielded a number of significant results.

Discussion of Findings

Hypothesis Ia

In comparing University of Adelaide men students with U. S. men students on the needs factors measured by the AI, the U. S. Ss scored significantly higher than Adelaide Ss on seven of the twelve factors. The statistical results of this analysis were presented earlier in this study (Ch. III, pp. 52-53). The factors for which U. S. men were highest were Self-Assertion, Intellectual Interests, Motivation, Applied Interests, Orderliness, Submissiveness, and Closeness.

The results on Orderliness, Submissiveness, and Audacity-

Timidity did not agree with Wheeler's finding (1967) that Western Australian men scored significantly higher than U. S. men on the Edwards Personal Preference Schedule on the Order, Abasement, and Aggression scales. Adelaide men SS did not emphasize a need for order and submissiveness, nor did they show high aggressive qualities as compared with U. S. men. It is possible, however, that the two instruments are tapping different aspects of the same characteristics, but the names given to the scales are very similar. Of course, it is also possible that Western Australian men differ significantly from South Australian men on these factors.

As indicated earlier, Australians have been described as people who think of themselves as being independent, tough, and undisciplined (Horne, 1964). The findings for this study would seem to confirm that image for male subjects, who had the lowest Submissiveness score (emphasizing social conformity and other-directedness) of all groups. Their lower Orderliness score may also suggest that they are undisciplined in some aspects of their lives. They also had the lowest Closeness score, which indicated that they felt less need for emotional warmth and support or, at least, for admitting a need for support. This finding suggests that Wheeler (1967) may be right when he debunked the Australian tradition of "mateship," although that tradition may be one way of admitting need for support from others.

In Wheeler's study (see Ch. 2, p. 29), Western Australians scored low on Edwards' Exhibition scale. This may

correspond to a similar low score on Self-Assertion in this study. A comparison of the Australian mean score with all of the norm groups in the U. S. indicated that Adelaide men were far less interested in achieving personal power and socio-political recognition than any U. S. group of men students.

The low Applied Interests score for Adelaide men was difficult to interpret, especially in light of Lawry's report (1965, p. 80) that Australian universities were being attacked for their "excessively utilitarian" character. The low score may suggest that students (at least, at Adelaide) are not as utilitarian in their needs patterns as universities assume. Of course, Lawry's concern was directed to the larger needs of society that may dictate a utilitarian policy. It may also be that U. S. institutions are even more bent toward the utilitarian approach.

In this study, Adelaide women scored significantly higher than U. S. women on three factors only: Audacity-Timidity, Intellectual Interests, and Egoism-Diffidence; and U. S. women scored significantly higher on the Orderliness factor. There were, therefore, more similarities between the women of the two countries than between the men.

The differences that did show up between the women were instructive. Wheeler (1967) found that Western Australian women scored higher than U. S. women on Edwards' scales of Autonomy, Endurance, and Aggression; and that they also inflated the Achievement score for both men and women, making

the Western Australians' Achievement score significantly higher than the U. S. score. The high scores that Adelaide women made in this present study manifested a pattern similar to Gibbs' description (1966) of the "bluestocking" type of woman. Both Gibbs and Wheeler (1967) discussed the status of women in Australian society; and they both suggested that if Australian women were going to compete successfully in their "male-dominated society," they must exhibit aggressive, self-contained, and highly intellectual behavior.

In light of this interpretation of necessary behavior for Australian university women, it is of interest to look at some cross-sex, cross-cultural comparisons. For example, Adelaide women scored higher than any of the four groups, including U. S. men, on the factor of Intellectual Interests; and the difference was significant at the .001 level of confidence. It was as though the Adelaide women were saying, "We are as good as men are and even better than they are in the intellectual arena." Compared to both sets of men, the Adelaide women were not as aggressive, but they were significantly more aggressive than U. S. women. Adelaide women scored significantly lower than Adelaide men on the Submissiveness factor, but they were very near the mean score of U. S. men on this factor.

The post hoc analysis comparing Adelaide with six types of U. S. colleges yielded wide scatter on the needs factors. Adelaide men scored below the lowest of the U. S. types on Self-Assertion, Motivation, Applied Interests, Orderliness,

Submissiveness, and Closeness. Adelaide women were higher than all U. S. women samples on Intellectual Interests and Egoism-Diffidence. These findings simply added to pictures already drawn of Adelaide men and women.

Hypothesis Ib

Turning to the CCI/UCI comparisons, U. S. Ss viewed their college environments as being significantly higher than Adelaide students viewed their environment in six of the eleven factors: Intellectual Climate, Academic Climate, Academic Achievement, Self-Expression, Group Life, and Academic Organization. The Adelaide Ss viewed the University of Adelaide as being significantly higher in Social Form and Play-Work factors. There was no significant difference on Aspiration Level, Student Dignity, and Vocational Climate.

These results seemed to indicate that Adelaide students did not view the university as having the quality of staff, facilities, and organization that was perceived by U. S. students, nor did they view the university as providing the kind of institutional incentives to student development as U. S. students did. On the other hand, the Adelaide students did perceive the university as providing social/recreational opportunities. Their scores on the factor of Work-Play were similar to U. S. universities (Stern, 1963b, p. 25) and most unlike liberal arts colleges in the U. S. In fact, on nine of the eleven press factors, the post

hoc analysis revealed that the University of Adelaide was perceived by its students as being most unlike Liberal Arts colleges in the U. S. Liberal Arts colleges had been found to exhibit the greatest amount of intellectual press and student autonomy (Stern, 1962b). Comparing types of U. S. colleges that were most similar to the University of Adelaide did not reveal any clear patterns. Whether there is any bearing of these perceptions upon academic success will need to be tested.

Hypothesis II

Comparing the University of Adelaide men students with its women students yielded the result that the men were significantly higher on two factors: Self-Assertion and Audacity-Timidity. On the other hand, Adelaide women scored significantly higher on the factors of Intellectual Interests, Submissiveness, Closeness, Sensuousness, and Expressiveness-Constraint. In contrast to the very high Intellectual Interests score, all of the other significant scores on the AI were in the affective area that is usually considered more the woman's domain.

The conflict between Submissiveness and Expressiveness-Constraint has been noted already in Chapter III (p. 64). What these results may indicate here is that in spite of the "bluestocking" image that the Adelaide woman presents, she may be undergoing some strong social pressure to conform to

the typical role of women in Australian society. She may also be experiencing an inner urge to break through this pressure and express her impulses as she would like. It is possible that she is still much weaker in some areas because the male character is still the dominant one in Australian society. The significant scores for males dealt with this very area because they indicated their stronger need to achieve personal, socio-political power, and to be aggressive. These observations continue to support the view of Australian men as being independent and tough. The women, however, emerged as being more warm and emotional than the picture previously drawn of their being coldly intellectual, hard-driving, aggressive females.

On the UCI, women students perceived the university as exerting more intellectual press than did the men students. Since a large proportion of Arts and Science students were women, this may account for the high scores on the Intellectual Climate dimension that were manifested in those faculties.

Hypotheses IIIa and IVa

Studying the effect that faculty and year of study would have upon the University of Adelaide Ss on the AI showed that faculty was a very significant variable on six of the twelve factors: Self-Assertion, Audacity-Timidity, Intellectual Interests, Applied Interests, Submissiveness,

and Closeness. The first three factors relate to the Intellectual Climate dimension, and the last three are on the Non-Intellectual Climate dimension (Stern, 1963b).

The pattern of rank order of faculty means indicated that for four of the six significant factors Dentistry and Law students ranked near the bottom of the rank order and were significantly different from the means of the top faculties. Arts, Medicine, and Science students ranked near the top of the means. Dentistry students were generally regarded on the campus as having low morale and motivation. Such a view of Dentistry students goes back even as far as 1952 when Rowe conducted his comprehensive study of the University of Adelaide (1960). Their low scores on most of these AI factors may reflect such a low view and may be a serious problem in that faculty.

Engineering students tended to range in the upper half of the rank order and Economics students in the lower half of that order. In analyzing his results, Wheeler (1967) banded together the scores of the three humanities-type faculties of Arts, Economics, and Law for one group and combined the five science-type faculties of Science, Engineering, Agriculture, Medicine, and Dentistry for the second group. This present study indicated that it may be a mistake to group in that fashion because Arts students were more closely associated with Medicine students than with Law or Economics, and Dentistry students were rather unlike Medicine students. Similarly, Economics students were more

closely related to Dentistry students in terms of their scores.

The hypothesis that there would be significant year of study effects on the data did not hold true for any factors. This is consistent with Stern's view (1962b) that the AI, as a personality instrument, should be more stable from culture to culture and from year to year. This finding also possibly correlates with Jacob's conclusions that students exhibited the same differences at the end of their period of study as existed when they entered college (Jacob, 1959).

The hypothesis that there would be interaction effects on the AI between faculty and year of study was verified for two factors: Self-Assertion and Expressiveness-Constraint. This indicated that there was the operation of the seven levels of faculty in one way and of the three levels of year of study in the opposite way. With a 7 x 3 factorial design, the specific interaction of these variables is not that clear-cut. The precise relationships that may exist need to be pursued. Kerlinger (1965, p. 239), however, cautioned against rash interpretations of interaction effects by citing three possible causes of significant interactions. In addition to "true" interaction, Kerlinger suggested that such effects can occur by chance or because of the operation of some unwanted and uncontrolled variable at one level of the experiment but not at the other level. There is a possibility, nevertheless, of a "true" interaction of faculty and year of study on these factors, which measured the desire

for personal, social, and political power and the level of spontaneous and uninhibited behavior.

Hypotheses IIIb and IVb

Faculty and year of study were also significant variables for the UCI, confirming Stern's findings (1962a, pp. 711, 714-715) that students in different academic fields differ in their perceptions of personality needs and environmental press. In this study, faculty was a significant source of variance for seven factors: Intellectual Climate, Student Dignity, Academic Climate, Group Life, Social Form, Play-Work, and Vocational Climate. Stern (1963b) divided the eleven factors into two second-order dimensions, called Intellectual Climate and Non-Intellectual Climate.

An examination of the rank order of faculty means (see Table 27) revealed that the faculties that had the highest mean score on the Intellectual Climate scale tended to have the lowest scores on the Non-Intellectual Climate factor, and vice versa. For example, Arts, Medicine, and Science scored highest on the Intellectual Climate factors; Dentistry and Economics scored the lowest. Then, for Play-Work, Vocational Climate, Social Form, and Group Life, Dentistry and Economics (for two of those) ranked near the top. This finding tied in well with the views about the climate of the Dentistry students that were mentioned earlier.

Comparing the AI with the UCI indicated that faculties which ranked high on the AI in Intellectual Interests were also high on the UCI in Academic Climate and Intellectual Climate. Conversely, those with the lowest means on the AI also had the lowest means on similar factors of the UCI. This indicated that students were perceiving the university in ways that correlated with their personality needs. A more precise correlational study needs to be made to determine whether this is indeed true. If it is true, it may be in conflict with findings reported earlier that the CCI was independent of personality needs (McFee, 1961). The question arises about whether it is desirable for the personality needs to correlate highly with environmental perceptions. Also, a cause and effect question needs to be examined concerning whether the different faculties are attracting particular kinds of students or whether the university culture is affecting the students.

Arts students revealed a high need (see Table 8, p. 68) for warm and supportive relationships, but they perceived the university as providing less support for this need than did other faculties. They appeared at the end of the rank order of means for Group Life and Social Form.

There were some significant differences due to year of study on the factors of Aspiration Level, Academic Achievement, and Self-Expression. The indication was that Aspiration Level decreased the longer one stayed in the university. The same appeared true for the factor of Academic Achievement

since the rank order of both factors was Year 2, Year 3, and Year 4+. For Self-Expression, however, the order was Year 3, Year 2, and Year 4+. There were no significant interaction effects on the UCI.

The role of the peer culture could not be tested easily by the use of the particular instruments used in the study although there was some evidence of differential close relationships existing in the various faculties. The difficulty existed in this study as at "Ivy College" (Davie & Hare, 1956) in determining what cultural elements would be important for any particular individual. The instruments used in the study, however, highlighted some important differences that existed in people and environments.

Conclusions

1. The AI and CCI both proved to be instruments capable of differentiating between groups of students even on the basis of a cross-cultural comparison. Inside Australia, the results tended to be consistent with previous studies; and the instruments were given face validity by psychology teachers at Adelaide, who felt the results of this study confirmed their own perceptions of the students and the environment of the university.

2. Cross-sex, cross-cultural comparisons yielded some interesting results. For example, Adelaide women had the same score on the Submissiveness factor as the U. S. men.

Adelaide women also had the highest mean score of all groups, both male and female, on the factor of Intellectual Interests.

3. Some of the results of this study were confirmed by reports from other studies in Australia, both Western Australia and South Australia. There were some conflicts, however, which suggested the need for further study.

4. Within the University of Adelaide, sex differences were apparent. The men were more self-assertive and aggressive in their needs patterns than were the women. The women exhibited a need for the kind of intellectual and autonomous behavior necessary for survival in the "male-dominated" society of Australia.

5. It would have been desirable to include the sex variable in the analysis of variance design utilized at the University of Adelaide, but that was not possible due to the absence of female members in most cells. The analysis did show that other variables were important in differentiating between groups on campus.

6. Faculty membership affected the results to a large extent. On both the AI and the UCI, patterns of faculty means could be discerned, placing the Law and Dentistry in one group on many of the significant factors and the Arts, Science, and Medicine faculties in another group. The latter were especially high in the intellectual aspects of personality and perceptions of the environment; and the first group scored high in the non-intellectual aspects of

the AI and the UCI.

7. Year of study was not as significant a variable, showing no significance on the AI and affecting only three factors on the environmental perceptions evidenced by the UCI.

8. Interaction effects were also not very apparent between faculty and year of study, showing up only on the AI factors of Self-Assertion and Expressiveness-Constraint. Interpretations of these interactions were difficult because of the complexity of the analysis of variance design.

9. As indicated in #6, there was some cursory evidence of correlation between some of the AI factor scores with UCI factor scores. It was not possible to conduct an extensive correlational analysis during this investigation.

10. The post hoc analysis comparing the standard score factor means of Adelaide students with six different types of U. S. institutions yielded mixed results. Only on the UCI did a pattern emerge showing that Adelaide was most dissimilar to Liberal Arts colleges in the U. S.

Recommendations

The findings of this study suggested the following recommendations:

1. Since the AI and CCI showed significant results, the study should be replicated, both in its cross-cultural and internal aspects. The first extension could be to com-

pare the University of Adelaide with Flinders University, both located in the city of Adelaide. Then, comparisons with other Australian states could be made. Some of the conflicts that were noted in previous studies could then be elucidated.

2. Although the instruments used in this study yielded interesting results, further improvements and refinements may be possible through factor analytic studies of the Australian results. Australian norms should be established.

3. Further cross-cultural comparisons should include a comparison of different Australian faculties with different types of U. S. colleges.

4. Since the year of study did not prove to be significant for the most part in the Australian study, it perhaps could be eliminated in future studies and the sex variable included. Other important sources of variance could also be sought out and incorporated into the design.

5. More extensive study should be made of the differences between faculties and between individuals. This may yield important results for institutional evaluation and student counseling. Faculties may be concerned about the types of students they attract and about the effect that they exert upon students. Individual need-pressure profiles may be helpful for this aspect of evaluation.

6. Other faculties should be included in the analysis of variance. Such faculties as Architecture, Music, and Agriculture may throw further light on the results that

have emerged in this study.

7. Relationships between the AI and the CCI should be examined more thoroughly. Perhaps, the congruence between the two scores should be noted and compared with pass/fail ratios. Thus, the predictive value of the instruments could be tested and utilized and relationships to academic success highlighted.

CHAPTER VI

SUMMARY OF THIS STUDY

The purpose of this study was to conduct a cross-cultural comparison of student needs and environmental influences in U. S. colleges and the University of Adelaide, South Australia, and to make a similar comparison of differences existing within the University of Adelaide. The Activities Index (AI) and the College Characteristics Index (CCI) were modified to suit distinctive aspects of Australian culture, and a pilot administration with psychology classes was conducted to further refine the instruments.

The main study utilized a stratified, random sample, drawn by the computer on the basis of faculty, sex, and year of study, excluding first-year students, part-time, postgraduate, overseas, and some diploma students. The nine faculties selected were Arts, Science, Medicine, Engineering, Law, Dentistry, Economics, Architecture, and Music. A 15% sample (467 students) were invited to participate, and 421 students (92.3%) completed the questionnaires; 412 sets were actually analyzed.

Statistical treatment involved using a formula for testing the differences between the means for the cross-

cultural comparisons. The Australian analysis required a similar formula but mainly utilized a multi-factor analysis of variance technique (a 7 x 3 factorial design), with the F ratio and t tests as tests of significance. The .05 level was the necessary confidence point although most results were significant at the .01 and .001 levels of confidence. Rank orders for faculty and year of study groups were also employed.

In the cross-cultural comparison of the AI, U. S. male students scored significantly higher than Adelaide men on seven of the twelve factors: Self-Assertion, Intellectual Interests, Motivation, Applied Interests, Orderliness, Submissiveness, and Closeness. Australian men did not score significantly higher than U. S. men on any AI factor. Australian women scored significantly higher than U. S. women on Audacity-Timidity, Intellectual Interests, and Egoism-Diffidence. U. S. women scored significantly higher only on Orderliness. Cross-sex, cross-cultural comparisons revealed that Australian women scored higher than all groups, both male and female, on Intellectual Interests; and they scored close to the U. S. male mean on Submissiveness.

On the CCI, U. S. Ss scored significantly higher than Australian Ss on six of the eleven factors: Intellectual Climate, Academic Climate, Academic Achievement, Self-Expression, Group Life, and Academic Organization. Australian students scored significantly higher on Social Form and

Play-Work.

University of Adelaide men students scored higher than the university's women students on the needs factors of Self-Assertion and Audacity-Timidity. The women students scored higher than the men on Intellectual Interests, Submissiveness, Closeness, Sensuousness, and Expressiveness-Constraint.

On the AI, significant differences between the faculties on six of the twelve factors revealed the pattern of Arts, Medicine, and Science students scoring high on the Intellectual Interests factor, with Dentistry, Law, and Economics scoring low. A similar pattern was observable on the press factors, where the faculty differences were significant for Intellectual Climate, Student Dignity, Academic Climate, Group Life, Social Form, Play-Work, and Vocational Climate.

There were few year of study or interaction effects on the AI and CCI. This finding supported the view of the AI as a more stable personality instrument. It also suggested that other possible sources of variance should be tested in future studies.

It was concluded, therefore, that both the AI and CCI proved capable of differentiating between groups of students, both cross-culturally and internally. Sex, faculty, and a few year of study variables led to the emergence of a defined pattern of personality needs and perceptions of environmental press.

APPENDIX A

DETAILED CHANGES MADE IN THE
MEASUREMENT INSTRUMENTS

ACTIVITIES INDEX REVISIONS

Item	Original Form	Revised Form
37, 77	Program	Programme
46	And rubbers	Or other protective clothing
52	Bureau drawers	Chest of drawers
75	President of the United States	Prime Minister of Australia
76	Light	Traffic light
84	Community Chest	Meals on Wheels
85	Other planets	Another planet
95, 275	An instructor or superior	A lecturer or a person in authority
106	Fast and steep roller coaster	Fast ferris wheel
120	Working Figuring	Doing Working
133	Riding	Driving
137, 257	-----	Australian
159	-----	Am
162	Letting loose	Giving way
177	Gum	Bubble gum
192	Yelling Ball game	Shouting Football game

Item	Original Form	Revised Form
199	Colors	Colours
204	Fixing light sockets	Repairing electrical plugs
224	Center	Centre
235	Through space	To the moon and other planets
249	Snap	Vim
286	Hunting	Shooting
297	Bathtub	Bath

COLLEGE CHARACTERISTICS INDEX REVISIONS

Item	Original Form	Revised Form
Cover, 5, 10, 20, 21, 47, 53, 57, 60, 112, 124, 130, 131, 140, 143, 148, 160, 173, 175, 183, 186, 194, 211, 218, 221, 234, 254, 261, 262, 290, 293	School, Campus, or College	University
9, 37, 41, 61, 79, 81, 95, 110, 129, 134, 147, 179, 181, 184, 185, 193, 219, 225, 227, 231, 251, 285, 291	Faculty or In- structors	Staff or Lecturers
8, 94, 141, 142, 154, 162, 171, 189, 210, 212, 236, 239, 241, 243, 270, 274, 283	Professor(s)	Staff or Lecturer(s)
8, 18, 52, 62, 99, 123, 142, 187, 232, 233, 289	Class(es)	Lectures, Tutorials, or Tutorial class
172, 207	Campus	University grounds
134, 284	Colorful	Colourful
3	Grades	Credits and dis- tinctions
4	Grade lists	Assignment or Essay Marks
9	As "professor" or "doctor"	By title rather than by first name
11	Student-pep rallies, parades dances, carni- vals, or demon- strations	Student-organized rallies and demon- strations about local, national, or international issues.

Item	Original Form	Revised Form
15	Famous	Notable
17	Social science professors	Arts staff
20	Upperclassmen	Senior students
22	Have an assigned seat	Are assigned particular seats
23	Really get excited	Get very excited
38	Really work	Work hard
68	Really play	Play hard
88	Really enjoy dancing	Enjoy dancing very much
27	Classes	Tutorial classes
28	Snack bar	Refectory
29	Lessons	Work
30	Graduate work	Post-graduate work
36	Examinations and readings	Syllabuses and reference lists
43	In class and out	Whether studying or not
48	Phrases	Slang expressions
57	Dance	Art
72	Feel around here	Feel here
72	Pretty evident	Fairly evident
75	Pretty pointless	Rather pointless
132	Pretty cool	Rather cool
156	Pretty much alike	Very much alike
157	Pretty practical	Fairly practical
174	Pretty efficient	Fairly efficient
192	Pretty matter-of-fact	Rather matter-of-fact
281	Pretty rare around here	Rather rare here
96	Pretty much	Very much
89	Always trying to help out	Ever-helpful

Item	Original Form	Revised Form
91	Wants help	Wants help from staff
107	Planning	Planning to do
108	Dormitory raids, water fights, and other student pranks	A classroom prank
120	Double-crostics	Deleted
122	For high grades	Deleted
123	Recite	Speak
126	Summer	Summer vacation
128	Around	Deleted
141	Report can rate an A grade	Essay can secure full marks
142	Take attendance	Pass around a roll
143	Get around In a hurry	Spread around Quickly
146, 227	Course offerings	Level of courses
148	Bermuda shorts	Shorts
157	Or counselors	Deleted
158	Can Another one for it rather than take it over	Will Another one rather than repeat it
167	Theater	Theatre
168	Most staff offices	The offices of most mem- bers of staff
169	Favorites	Favourites
178	Boys and girls	Men and women students
188	"Snap" courses Tough	"Soft" options Hard

Item	Original Form	Revised Form
200	Campus Chest, CARE, Red Cross	World University Service
214	Snack bar, taverns, and in one another's rooms	Refectory, coffee lounges, hotels
218	Gets pushed around	Is imposed on
219	Office	Deleted
227	Social Sciences	Arts faculty
230	Church and social organizations	University religious and other clubs
242	Textbook	Lecture notes
248	Campus religious program	Staff in the university
256	Rubbers	Deleted
259	Society orchestras	Serious music
269	Program	Courses
271	Apple-polishing	Toadying to persons in authority
300	Grading Discussions	Marking Tests

Complete Item Substitutions

4	There are no fraterni- ties or sororities.	All people do here is to go to lectures or to the library; there is very little social life.
31	Resident students must get written permission to be away from the campus overnight.	Staff members very often make you feel like a child.
46	Initiations and class rivalries sometimes get a little rough.	Students are somewhat heed- less of vehicular traffic in university roadways.

Item	Original Form	Revised Form
63	Students are expected to play bridge, golf, bowl together, etc., regardless of individual skill.	Students are expected to be mature enough to accept criticism from staff.
66	There are many students from widely different geographic regions.	The student population here is a heterogenous one.
69	Religious worship here stresses service to God and obedience to His laws.	Most students are deferential towards staff members.
76	Fire drills are held in student dormitories and residences.	Procedures to be followed in case of fires, air raids, or accidents are prominently posted.
80	Most students here would not want pets (dogs, cats, etc.) even if they were allowed to have them.	If a student has to be absent from a class, the other students usually do not bother to help him to catch up on what he missed.
87	Student rooms are more likely to be decorated with pennants and pin-ups than with paintings, carvings, mobiles, fabrics, etc.	Not much has been done with pictures, draperies, colours and decoration to make university buildings pleasing to the eye.
121	For a period of time freshmen have to take orders from upperclassmen.	People are made to feel inadequate here for admitting in tutorial classes that they don't know the answers.
138	Students often start projects without trying to decide in advance how they will develop or where they may end.	Students tend to express opinions on many issues without adequate deliberation.

Item	Original Form	Revised Form
150	"Alma Mater" seems to be more important than "subject matter" at this school.	There is more interest here in learning just for marks rather than learning for its own sake.
153	Students' mid-term and final grades are reported to parents.	Students' course selections are closely checked by faculty advisers to guard against mistakes.
166	Drinking and late parties are generally tolerated, despite regulations.	Smoking in classrooms is generally tolerated by staff.
177	The library has paintings and phonograph records which circulate widely among the students.	Many students here have good personal collections of paintings and gramophone records.
190	Anyone who knows the right people in the faculty or administration can get a better break here.	A lot of students here argue just for the pleasure of winning an argument.
196	All undergraduates must live in university approved housing.	The university goes out of its way to protect students from dangerous situations which would cause accidents.
197	Humanities courses are often elected by students majoring in other areas.	Many students are interested in television programmes dealing with social and political problems.
199	There are definite times each week when dining is made a gracious social event.	Lecturers are always well dressed and carefully groomed.
202	Most student rooms are pretty messy.	In this university care of departmental furnishings and equipment is not stressed.

Item	Original Form	Revised Form
205	Tutorial or honors programs are available for qualified students.	University courses tend to place stress on speculative thinking and theoretical interests.
216	The history and traditions of the college are strongly emphasized.	There is great attention paid to traditional observances in this university.
234	The college offers many really practical courses such as typing, report writing, etc.	This university offers many very applied courses.
238	Some of the most popular students have a knack for making witty, subtle remarks with a slightly sexy tinge.	Lecturers frequently tend to use clever, sexy innuendoes in class.
246	Old grads are always pleased to discover that few things have changed.	Things are always done the same way--from class to class and from year to year.
260	Chapel services on or near the campus are well attended.	Most students are helpful to fellow students with physical handicaps.
266	Introductory science or math courses are often elected by students majoring in other areas.	An interest in science is often shown by students majoring in other faculties.
268	This college's reputation for marriages is as good as its reputation for education.	The opportunities for meeting eligible marriage partners in this university are as great as the opportunity for acquiring a good education.
278	It is very difficult to get a group decision here without a lot of argument.	Students are not likely to accept administrative blunders without complaining or protesting.
292	Classes meet only at their regularly scheduled time and place.	Lecturers tend to show annoyance if a student happens to arrive late at lectures occasionally.

APPENDIX B

FINAL REVISED INSTRUMENTS

A C T I V I T I E S I N D E X

This booklet contains a number of brief statements describing many different kinds of activities. You will like some of these things. They will seem more pleasant than unpleasant to you, perhaps even highly enjoyable. There will be others that you will dislike, finding them more unpleasant than pleasant. The activities listed in this booklet have been obtained from a great many different persons. People differ in the kinds of things they enjoy, like to do, or find pleasant to experience. You are to decide which of these you like and which you dislike. Please do not omit any item.

This information will be used confidentially for research purposes only and will not be related in any way to student records.

DIRECTIONS

Print the information called for on the special answer sheet: your name, your age and sex, the date, etc. Then, as you read each item, circle letter

- L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.
- D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

DIRECTIONS FOR USING ANSWER SHEET

The rows of responses are numbered to correspond to the items in the Test Booklet. Each question may be answered either L or D. In marking your answers on the Answer Sheet, make sure that the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either L or D for every statement.

- * Do Not Use Ball Point or Ink.
- * Keep your Answer Sheet Clean.
- * Do not make stray marks.
- * Erase errors completely.
- * Do not mark on Test Booklet.

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.
 D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| <ol style="list-style-type: none"> 1. Taking the blame for something done by someone I like. 2. Setting difficult goals for myself. 3. Concealing a failure or humiliation from others. 4. Having other people let me alone. 5. Getting what is coming to me even if I have to fight for it. 6. Being quite changeable in my likes and dislikes. 7. Scheduling time for work and play during the day. 8. Working twice as hard at a problem when it looks as if I don't know the answer. 9. Seeing someone make fun of a person who deserves it. 10. Persuading a group to do something my way. 11. Being a newspaperman who crusades to improve the community. 12. Listening to music that makes me feel very sad. 13. Taking up a very active outdoor sport. 14. Keeping in the background when I'm with a group of wild, fun-loving, noisy people. 15. Toughening myself, going without an overcoat, seeing how long I can go without food or sleep, etc. 16. Diving off the tower or high board at a pool. 17. Learning about the causes of some of our social and political problems. 18. Doing something crazy occasionally, just for the fun of it. | <ol style="list-style-type: none"> 19. Imagining what I would do if I could live my life over again. 20. Feeding a stray dog or cat. 21. Taking special precautions on Friday, the 13th. 22. Washing and polishing things like a car, silverware, or furniture. 23. Making my work go faster by thinking of the fun I can have after it's done. 24. Being good at typewriting, knitting, carpentry, or other practical skills. 25. Understanding myself better. 26. Learning how to prepare slides of plant and animal tissue, and making my own studies with a microscope. 27. Holding something very soft and warm against my skin. 28. Talking about how it feels to be in love. 29. Belonging to a close family group that expects me to bring my problems to them. 30. Concentrating intently on a problem. 31. Suffering for a good cause or for someone I love. 32. Working for someone who will accept nothing less than the best that's in me. 33. Defending myself against criticism or blame. 34. Going to the park or beach with a crowd. 35. Shocking narrow minded people by saying and doing things of which they disapprove. |
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Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 36. Getting up and going to bed at the same time each day. | 52. Keeping my chest of drawers, desks, etc., in perfect order. |
| 37. Planning a reading programme for myself. | 53. Spending most of my extra money on pleasure. |
| 38. Returning to a task which I have previously failed. | 54. Learning how to repair such things as the radio, sewing machine, or car. |
| 39. Doing what most people tell me to do, to the best of my ability. | 55. Thinking about different kinds of unusual behaviour, like insanity, drug addiction, crime, etc. |
| 40. Having other people depend on me for ideas or opinions. | 56. Studying wind conditions and changes in atmospheric pressure in order to better understand and predict the weather. |
| 41. Being an important political figure in a time of crisis. | 57. Eating after going to bed. |
| 42. Crying at a funeral, wedding, graduation, or similar ceremony. | 58. Watching a couple who are crazy about each other. |
| 43. Exerting myself to the utmost for something unusually important or enjoyable. | 59. Working for someone who always tells me exactly what to do and how to do it. |
| 44. Wearing clothes that will attract a lot of attention. | 60. Finding the meaning of unusual or rarely used words. |
| 45. Working until I'm exhausted, to see how much I can take. | 61. Being polite or humble no matter what happens. |
| 46. Being careful to wear a raincoat or other protective clothing when it rains. | 62. Setting higher standards for myself than anyone else would, and working hard to achieve them. |
| 47. Studying the music of particular composers, such as Bach, Beethoven, etc. | 63. Admitting when I'm in the wrong. |
| 48. Acting impulsively just to blow off steam. | 64. Leading an active social life. |
| 49. Thinking about ways of changing my name to make it sound striking or different. | 65. Doing something that might provoke criticism. |
| 50. Discussing with younger people what they like to do and how they feel about things. | 66. Rearranging the furniture in the place where I live. |
| 51. Waiting for a falling star, white horse, or some other sign of success before I make an important decision. | 67. Putting off something I don't feel like doing, even though I know it has to be done. |
| | 68. Having to struggle hard for something I want. |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 69. Listening to a successful person tell about his experience. | 87. Chewing on pencils, rubber bands, or paper clips. |
| 70. Getting my friends to do what I want to do. | 88. Talking about who is in love with whom. |
| 71. Taking an active part in social and political reform. | 89. Being a lone wolf, free of family and friends. |
| 72. Avoiding excitement or emotional tension. | 90. Spending my time thinking about and discussing complex problems. |
| 73. Staying up all night when I'm doing something that interests me. | 91. Trying to figure out how I was to blame after getting into an argument with someone. |
| 74. Speaking at a club or group meeting. | 92. Competing with others for a prize or goal. |
| 75. Imagining myself Prime Minister of Australia. | 93. Being ready with an excuse or explanation when criticized. |
| 76. Crossing streets only at the corner and with the traffic light. | 94. Meeting a lot of people. |
| 77. Listening to TV or radio programmes about political and social problems. | 95. Arguing with a lecturer or a person in authority. |
| 78. Being in a situation that requires quick decisions and action. | 96. Being generally consistent and unchanging in my behaviour. |
| 79. Pausing to look at myself in a mirror each time I pass one. | 97. Going to a party where all the activities are planned. |
| 80. Helping to collect money for poor people. | 98. Doing a job under pressure. |
| 81. Paying no attention toomens, signs, and other forms of superstition. | 99. Going along with a decision made by a supervisor or leader rather than starting an argument. |
| 82. Keeping an accurate record of the money I spend. | 100. Organizing groups to vote in a certain way in elections. |
| 83. Dropping out of a crowd that spends most of its time fooling around or having parties. | 101. Living a life which is adventurous and dramatic. |
| 84. Helping to direct a fund drive for the Red Cross, Meals on Wheels, or other charitable organizations. | 102. Having someone for a friend who is very emotional. |
| 85. Imagining life on other planets. | 103. Sleeping long hours every night in order to have lots of rest. |
| 86. Reading articles which tell about new scientific developments, discoveries, or inventions. | 104. Playing music, dancing, or acting in a play before a large group. |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 105. Thinking about what I could do that would make me famous. | 123. Being corrected when I'm doing something the wrong way. |
| 106. Riding on a fast ferris wheel. | 124. Belonging to a social club. |
| 107. Comparing the problems and conditions of today with those of various times in the past. | 125. Teasing someone who is too conceited. |
| 108. Doing whatever I'm in the mood to do. | 126. Moving to a new neighbourhood or city, living in a different country, etc. |
| 109. Daydreaming about what I would do if I could live my life any way I wanted. | 127. Finishing something I've begun, even if it is no longer enjoyable. |
| 110. Comforting someone who is feeling low. | 128. Staying away from activities which I don't do well. |
| 111. Avoiding things that might bring bad luck. | 129. Following directions. |
| 112. Arranging my clothes neatly before going to bed. | 130. Being able to hypnotize people. |
| 113. Getting as much fun as I can out of life, even if it means sometimes neglecting more serious things. | 131. Playing an active part in community affairs. |
| 114. Learning how to make such things as furniture or clothing myself. | 132. Going on an emotional binge. |
| 115. Trying to figure out why the people I know behave the way they do. | 133. Walking instead of driving whenever I can. |
| 116. Doing experiments in physics, chemistry or biology in order to test a theory. | 134. Doing something that will create a stir. |
| 117. Sleeping in a very soft bed. | 135. Thinking about winning recognition and acclaim as a brilliant military figure. |
| 118. Seeing love stories in the movies. | 136. Standing on the roof of a tall building. |
| 119. Having someone in the family help me out when I'm in trouble. | 137. Studying different types of government, such as the Australian, American, English, Russian, German, etc. |
| 120. Doing crossword puzzles, working out moves in checkers or chess, playing anagrams or scrabble, etc. | 138. Doing things on the spur of the moment. |
| 121. Admitting defeat. | 139. Having lots of time to take care of my hair, hands, face, clothing, etc. |
| 122. Taking examinations. | 140. Having people come to me with their problems. |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 141. Being especially careful the rest of the day if a black cat should cross my path. | 159. Turning over the leadership of a group to someone who is better for the job than I am. |
| 142. Recopying notes or memoranda to make them neat. | 160. Being an official or a leader. |
| 143. Finishing some work even though it means missing a party or dance. | 161. Actively supporting a movement to correct a social evil. |
| 144. Working with mechanical appliances, household equipment, tools, electrical apparatus, etc. | 162. Giving way and having a good cry sometimes. |
| 145. Thinking about what the end of the world might be like. | 163. Taking frequent rest periods when working on any project. |
| 146. Studying the stars and planets and learning to identify them. | 164. Being the only couple on the dance floor when everyone is watching. |
| 147. Listening to the rain fall on the roof, or the wind blow through the trees. | 165. Imagining situations in which I am a great hero. |
| 148. Flirting. | 166. Driving fast. |
| 149. Knowing an older person who likes to give me guidance and direction. | 167. Talking about music, theatre, or other art forms with people who are interested in them. |
| 150. Being a philosopher, scientist, or professor. | 168. Controlling my emotions rather than expressing myself impulsively. |
| 151. Having people laugh at my mistakes. | 169. Catching a reflection of myself in a mirror or window. |
| 152. Working on tasks so difficult I can hardly do them. | 170. Lending my things to other people. |
| 153. Keeping my failures and mistakes to myself. | 171. Carrying a good luck charm like a rabbit's foot or a four-leaf clover. |
| 154. Going to parties where I'm expected to mix with the whole crowd. | 172. Making my bed and putting things away every day before I leave the house. |
| 155. Annoying people I don't like, just to see what they will do. | 173. Going to a party or dance with a lively crowd. |
| 156. Leading a well-ordered life with regular hours and an established routine. | 174. Managing a store or business enterprise. |
| 157. Planning ahead so that I know every step of a project before I get to it. | 175. Seeking to explain the behaviour of people who are emotionally disturbed. |
| 158. Avoiding something at which I have once failed. | 176. Going to scientific exhibits. |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 177. Chewing or popping bubble gum. | 195. Imagining how it would feel to be rich and famous. |
| 178. Reading novels and magazine stories about love. | 196. Playing rough games in which someone might get hurt. |
| 179. Having others offer their opinions when I have to make a decision. | 197. Finding out how different languages have developed, changed, and influenced one another. |
| 180. Losing myself in hard thought. | 198. Letting my reasoning be guided by my feelings. |
| 181. Accepting criticism without talking back. | 199. Dressing carefully, being sure that the colours match and the various details are exactly right. |
| 182. Doing something very difficult in order to prove I can do it. | 200. Taking care of youngsters. |
| 183. Pointing out someone else's mistakes when they point out mine. | 201. Having a close friend who ignores or makes fun of superstitious beliefs. |
| 184. Having lots of friends who come to stay with us for several days during the year. | 202. Shining my shoes and brushing my clothes every day. |
| 185. Playing practical jokes. | 203. Giving up whatever I'm doing rather than miss a party or other opportunity for a good time. |
| 186. Doing things a different way every time I do them. | 204. Repairing electrical plugs, making curtains, painting things, etc. around the house. |
| 187. Keeping to a regular schedule, even if this sometimes means working when I don't really feel like it. | 205. Reading stories that try to show what people really think and feel inside themselves. |
| 188. Quitting a project that seems too difficult for me. | 206. Collecting data and attempting to arrive at general laws about the physical universe. |
| 189. Listening to older persons tell about how they did things when they were young. | 207. Sketching or painting. |
| 190. Organizing a protest meeting. | 208. Daydreaming about being in love with a particular movie star or entertainer. |
| 191. Getting my friends to change their social, political, or religious beliefs. | 209. Having people fuss over me when I'm sick. |
| 192. Shouting with excitement at a football game, horse race, or other public event. | 210. Engaging in mental activity. |
| 193. Having something to do every minute of the day. | 211. Making a fuss when someone seems to be taking advantage of me. |
| 194. Speaking before a large group. | |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 212. Choosing difficult tasks in preference to easy ones. | 230. Talking over personal problems with someone who is feeling unhappy. |
| 213. Apologizing when I've done something wrong. | 231. Going ahead with something important even though I've just accidentally walked under a ladder, broken a mirror, etc. |
| 214. Going to the park or beach only at times when no one else is likely to be there. | 232. Keeping my room in perfect order. |
| 215. Questioning the decisions of people who are supposed to be authorities. | 233. Being with people who are always joking, laughing, and out for a good time. |
| 216. Eating my meals at the same hour each day. | 234. Being treasurer or business manager for a club or organization. |
| 217. Doing things according to my mood, without following any plan. | 235. Imagining what it will be like when rocket ships carry people to the moon and other planets. |
| 218. Doing something over again, just to get it right. | 236. Reading scientific theories about the origin of the earth and other planets. |
| 219. Disregarding a supervisor's directions when they seem foolish. | 237. Eating so much I can't take another bite. |
| 220. Talking someone into doing something I think ought to be done. | 238. Listening to my friends talk about their love-life. |
| 221. Trying to improve my community by persuading others to do certain things. | 239. Receiving advice from the family. |
| 222. Being with people who seem always to be calm, unstirred, or placid. | 240. Solving puzzles that involve number or figures. |
| 223. Giving all of my energy to whatever I happen to be doing. | 241. Taking the part of a servant or waiter in a play. |
| 224. Being the centre of attention at a party. | 242. Sacrificing everything else in order to achieve something outstanding. |
| 225. Setting myself tasks to strengthen my mind, body, and will power. | 243. Having my mistakes pointed out to me. |
| 226. Skiing on steep slopes, climbing high mountains, or exploring narrow underground caves. | 244. Going on a vacation to a place where there are lots of people. |
| 227. Learning more about the work of different painters and sculptors. | 245. Fighting for something I want, rather than trying to get it by asking. |
| 228. Speaking or acting spontaneously. | 246. Avoiding any kind of routine or regularity. |
| 229. Imagining the kind of life I would have if I were born at a different time in a different place. | |

Legend: L - if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D - if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

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| 247. Organizing my work in order to use time efficiently. | 265. Thinking about the meaning of eternity. |
| 248. Avoiding some things because I'm not sure I'll be successful at it. | 266. Reading about how mathematics is used in developing scientific theories, such as explanations of how the planets move around the sun. |
| 249. Carrying out orders from others with vim and enthusiasm. | 267. Walking along a dark street in the rain. |
| 250. Directing other people's work. | 268. Being romantic with someone I love. |
| 251. Being a foreign ambassador or diplomat. | 269. Having people talk to me about some personal problem of mine. |
| 252. Seeing sad or melodramatic movies. | 270. Following through in the development of a theory, even though it has no practical applications. |
| 253. Avoiding things that require intense concentration. | 271. Telling others about the mistakes I have made and the sins I have committed. |
| 254. Telling jokes or doing tricks to entertain others at a large gathering. | 272. Picking out some hard task for myself and doing it. |
| 255. Pretending I am a famous movie star. | 273. Concealing my mistakes from others whenever possible. |
| 256. Swimming in rough, deep water. | 274. Inviting a lot of people home for a snack or party. |
| 257. Studying the development of Australian, English, or American literature. | 275. Proving that a lecturer or a person in authority is wrong. |
| 258. Being guided by my heart rather than by my head. | 276. Staying in the same circle of friends all the time. |
| 259. Making my handwriting decorative or unusual. | 277. Striving for precision and clarity in my speech and writing. |
| 260. Taking care of someone who is ill. | 278. Giving up on a problem rather than doing it in a way that may be wrong. |
| 261. Finding out which days are lucky for me, so I can hold off important things to do until then. | 279. Having friends who are superior to me in ability. |
| 262. Having a special place for everything and seeing that each thing is in its place. | 280. Influencing or controlling the actions of others. |
| 263. Doing something serious with my leisure time instead of just playing with the crowd. | 281. Converting or changing the views of others. |
| 264. Learning how to raise attractive and healthy plants, flowers, vegetables, etc. | |

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| 282. Being unrestrained and open about my feelings and emotions. | 292. Keeping a calendar or notebook of the things I have done or plan to do. |
| 283. Doing things that are fun but require lots of physical exertion. | 293. Limiting my pleasures so that I can spend all of my time usefully. |
| 284. Doing things which will attract attention to me. | 294. Being efficient and successful in practical affairs. |
| 285. Thinking about how to become the richest and cleverest financial genius in the world. | 295. Concentrating so hard on a work of art or music that I don't know what's going on around me. |
| 286. Being extremely careful about sports that involve some danger like sailing, shooting, or camping. | 296. Studying rock formations and learning how they developed. |
| 287. Reading editorials or feature articles on major social issues. | 297. Reading in the bath. |
| 288. Making up my mind slowly, after considerable deliberation. | 298. Reading about the love affairs of movie stars and other famous people. |
| 289. Trying out different ways of writing my name, to make it look unusual. | 299. Being with someone who always tries to be sympathetic and understanding. |
| 290. Providing companionship and personal care for a very old helpless person. | 300. Working out solutions to complicated problems, even though the answers may have no apparent, immediate usefulness. |
| 291. Going to a fortune-teller, palm reader or astrologer for advice on something important. | |

U N I V E R S I T Y

C H A R A C T E R I S T I C S I N D E X

There are 300 statements in this booklet. They are statements about university life. They refer to the curriculum, to university teaching and classroom activities, to rules and regulations and policies, to student organizations and activities and interests, to features of the campus, etc. The statements may or may not be characteristic of your university, because universities differ from one another in many ways. You are to decide which statements are characteristic of your university and which are not. Your answers should tell us what you believe the university is like rather than what you might personally prefer. You won't know the answer to many of these statements, because there may not be any really definite information on which to base your answer. Your response will simply mean that in your opinion the statement is probably true or probably false about your university. Please do not omit any item.

This information will be used confidentially for research purposes only and will not be related in any way to student records.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, circle letter

- T - when you think the statement is generally TRUE or characteristic of the university, is something which occurs or might occur, is the way people tend to feel or act.
- F - when you think the statement is generally FALSE or not characteristic of the university, is something which is not likely to occur, is not the way people typically feel or act.

DIRECTIONS FOR USING ANSWER SHEET

The rows of responses are numbered to correspond to the items in the Test Booklet. Each question may be answered either T or F. In marking your answers on the Answer Sheet, make sure the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either T or F for every Statement.

- * Do Not Use Ball Point or Ink.
- * Keep your Answer Sheet Clean.
- * Do not make stray marks.
- * Erase errors completely.
- * Do not mark on Test Booklet.

Legend: T - True. Generally true or characteristic of the university, is something which occurs or might occur, is the way people tend to feel or act.

F - False. Generally false or not characteristic of the university, is something which is not likely to occur, is not the way people typically feel or act.

1. Students are encouraged to criticize administrative policies and teaching practices.
2. The competition for credits and distinctions is intense.
3. In many courses assignment or essay marks are publicly posted.
4. All people do here is to go to lectures or to the library; there is very little social life.
5. Students are conscientious about taking good care of university property.
6. The students here represent a great variety in nationality, religion, and social status.
7. Most courses are very well organized and progress systematically from week to week.
8. Staff often try to provoke arguments in tutorial classes, the livelier the better.
9. Students address staff members by title rather than by first name.
10. There is a recognized group of student leaders in this university.
11. Student-organized rallies and demonstrations about local, national, or international issues occur very rarely.
12. Students here learn that they are not only expected to develop ideals but also to express them in action.
13. Discussions get quite heated, with a lot of display of feeling.
14. There is a lot of interest here in student theatrical groups.
15. Many notable people are brought to the campus for lectures, concerts, student discussions, etc.
16. There is an extensive program of sports and informal athletic activities within the university.
17. Many of the arts staff are actively engaged in research.
18. In most tutorial classes there is very little joking and laughing.
19. Receptions, teas, or formal dances are seldom given here.
20. Many senior students play an active role in helping new students adjust to university life.
21. No one needs to be afraid of expressing extreme or unpopular viewpoints in this university.
22. In many lectures students are assigned particular seats.
23. Students get very excited at an athletic contest.
24. It's important socially here to be in the right club or group.
25. Books dealing with psychological problems or personal values are widely read and discussed.
26. The library is exceptionally well equipped with journals, periodicals, and books in the natural sciences.
27. On nice days many tutorial classes meet outdoors on the lawn.
28. There is lots of informal dating during the week--at the library, refectory, movies, etc.
29. Students often help one another with their work.

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| <p>30. There is a lot of emphasis on preparing for post-graduate work.</p> <p>31. Staff members very often make you feel like a child.</p> <p>32. It is fairly easy to pass most courses without working very hard.</p> <p>33. Student organizations are closely supervised to guard against mistakes.</p> <p>34. There is a lot of group spirit.</p> <p>35. Most people here seem to be especially considerate of others.</p> <p>36. Courses, syllabuses, and reference lists are frequently revised.</p> <p>37. Lecturers clearly explain the goals and purposes of their courses.</p> <p>38. When students do not like an administrative decision, they work hard to get it changed.</p> <p>39. Many students try to pattern themselves after people they admire.</p> <p>40. Student elections generate a lot of intense campaigning and strong feeling.</p> <p>41. Students and staff are proud of their tough-mindedness and their resistance to pleaders for special causes.</p> <p>42. Most students get extremely tense during exam periods.</p> <p>43. Students put a lot of energy into everything they do--whether studying or not.</p> <p>44. When students run a project or put on a show everybody knows about it.</p> <p>45. Students spend a lot of time planning their careers.</p> | <p>46. Students are somewhat heedless of vehicular traffic in university roadways.</p> <p>47. The university offers many opportunities for students to understand and criticize important works in art, music, and drama.</p> <p>48. New fads and slang expressions are continually springing up among the students.</p> <p>49. Students take a great deal of pride in their personal appearance.</p> <p>50. There are courses which involve field trips to slum areas, welfare agencies, or similar contact with underprivileged people.</p> <p>51. The values most stressed here are open-mindedness and objectivity.</p> <p>52. Students must have a written excuse for absence from lectures.</p> <p>53. The big university events draw a lot of student enthusiasm and support.</p> <p>54. There are psychology courses which deal in a practical way with personal adjustment and human relations.</p> <p>55. There would be a capacity audience for a lecture by an outstanding philosopher or theologian.</p> <p>56. When students get together they seldom talk about science.</p> <p>57. The university has invested very little in drama and art.</p> <p>58. Student gathering places are typically active and noisy.</p> <p>59. There is a student loan fund which is very helpful for minor emergencies.</p> |
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| <p>60. The university is outstanding for the emphasis and support it gives to pure scholarship and basic research.</p> <p>61. Students are seldom kept waiting when they have appointments with staff members.</p> <p>62. Most courses require intensive study and preparation outside of lectures.</p> <p>63. Students are expected to be mature enough to accept criticism from staff.</p> <p>64. There are many opportunities for students to get together in extra-curricular activities.</p> <p>65. Most students show a good deal of caution and self-control in their behaviour.</p> <p>66. The student population here is a heterogenous one.</p> <p>67. It is made clear to students here that careful planning and organization of work is essential.</p> <p>68. People here play hard to win, not just for the fun of the game.</p> <p>69. Most students are deferential towards staff members.</p> <p>70. Students are expected to report any violation of rules and regulations.</p> <p>71. Many students here develop a strong sense of responsibility about their role in contemporary social and political life.</p> <p>72. The way people feel here is always fairly evident.</p> <p>73. Few students here would ever work or play to the point of exhaustion.</p> | <p>74. Students have many opportunities to develop skill in organizing and directing the work of others.</p> <p>75. Most students would regard mountain-climbing, rugged camping trips, or driving a car all night as rather pointless.</p> <p>76. Procedures to be followed in case of fires, air raids, or accidents are prominently posted.</p> <p>77. A lecture by an outstanding literary critic would be poorly attended.</p> <p>78. Many informal student activities are unplanned and spontaneous.</p> <p>79. Poise and sophistication are highly respected by both students and staff.</p> <p>80. If a student has to be absent from a class, the other students usually do not bother to help him to catch up on what he missed.</p> <p>81. Most staff members are liberal in interpreting regulations and treat violations with understanding and tolerance.</p> <p>82. Student papers and reports must be neat.</p> <p>83. There are lots of dances, parties, and social activities.</p> <p>84. Many courses stress the speculative or abstract rather than the concrete and tangible.</p> <p>85. There are many facilities and opportunities for individual creative activity.</p> <p>86. A lecture by an outstanding scientist would be poorly attended.</p> |
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| 87. Not much has been done with pictures, draperies, colours and decoration to make university buildings pleasing to the eye. | 101. Boy-girl relationships in this atmosphere tend to be practical and uninvolved, rarely becoming intensely emotional or romantic. |
| 88. Most students here enjoy dancing very much. | 102. There is a lot of excitement and restlessness just before holidays. |
| 89. The person who is ever-helpful is likely to be regarded as a nuisance. | 103. There are so many things to do here that students are busy all the time. |
| 90. Most students have very little interest in round tables, panel meetings, or other formal discussions. | 104. Most students here would not like to dress up for a fancy ball or a masquerade. |
| 91. If a student wants help from staff, he usually has to answer a lot of embarrassing questions. | 105. Most students are more concerned with the present than the future. |
| 92. Personality, pull, and bluff get students through many courses. | 106. Many students drive sports cars. |
| 93. In many courses there are projects or assignments which call for group work. | 107. Few students are planning to do post-graduate work in the social sciences. |
| 94. The staff seem to have little time for conversation with students. | 108. A classroom prank would be unthinkable here. |
| 95. The staff and administration are often joked about or criticized in student conversations. | 109. Most students here enjoy such activities as dancing, skating, diving, gymnastics. |
| 96. Everyone here has very much the same attitudes, opinions, and beliefs. | 110. Students often run errands or do other personal services for the staff. |
| 97. Activities in most student organizations are carefully and clearly planned. | 111. Many students have special good luck charms and practices. |
| 98. Channels for expressing students' complaints are readily accessible. | 112. University architecture and landscaping stress symmetry and order. |
| 99. Students almost always wait to be called on before speaking in tutorial classes. | 113. There is very little studying over the week-ends. |
| 100. Personal rivalries are fairly common. | 114. Students are more interested in specialization than in general liberal education. |
| | 115. Modern art and music get little attention here. |
| | 116. Few students are planning careers in science. |

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| 117. This is mainly a meat and potatoes community, with little interest in gourmet food or anything unusual. | 130. The important people in this university expect others to show proper respect for them. |
| 118. Students spend a lot of time talking about their boy or girl friends. | 131. There are practically no student organizations actively involved in university or community affairs. |
| 119. Students here are encouraged to be independent and individualistic. | 132. Most students respond to ideas and events in a rather cool and detached way. |
| 120. A lot of students like chess, puzzles, and other abstract games. | 133. There seems to be a lot of interest here in health diets, vitamin pills, anti-histamines, etc. |
| 121. People are made to feel inadequate here for admitting in tutorial classes that they don't know the answers. | 134. There are a good many colourful and controversial figures on the staff. |
| 122. Students who work hard are likely to be regarded as odd. | 135. Education here tends to make students more practical and realistic. |
| 123. In most tutorials every student can expect to be called on to speak. | 136. Students are frequently reminded to take preventive measures against illness. |
| 124. The university helps students to get to know each other. | 137. A student who insists on analyzing and classifying art and music is likely to be regarded as a little odd. |
| 125. Many students seem to expect other people to adapt to them rather than trying to adapt themselves to others. | 138. Students tend to express opinions on many issues without adequate deliberation. |
| 126. Many students travel or look for jobs in different parts of the country during the summer vacation. | 139. Students who are not properly groomed are likely to have this called to their attention. |
| 127. Assignments are usually clear and specific, making it easy for students to plan their studies effectively. | 140. The university regards training people for service to the community as one of its major responsibilities. |
| 128. People here seem to thrive on difficulty--the tougher things get, the harder they work. | 141. A well reasoned essay can secure full marks here even though its viewpoint is opposed to the lecturer's. |
| 129. In talking with students, staff members often refer to their colleagues by their first names. | 142. Lecturers usually pass around a roll in lectures. |

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| 143. New jokes and gags spread round the university quickly. | 158. If a student fails a course, he will usually substitute another one rather than repeat it. |
| 144. Family social and financial status may not be talked about but everyone knows who's who. | 159. A lot of students here will do something even when they know they will be criticized for it. |
| 145. The student newspaper rarely carries articles intended to stimulate discussion of philosophical or ethical matters. | 160. There are no favourites at this university--everyone gets treated alike. |
| 146. Level of courses and staff in the natural sciences are outstanding. | 161. Students are actively concerned about national and international affairs. |
| 147. There is a lot of interest here in poetry, music, painting, sculpture, architecture, etc. | 162. An open display of emotion would embarrass most lecturers. |
| 148. Shorts, pin-up pictures, etc., are common at this university. | 163. Students get so absorbed in various activities that they often lose all sense of time or personal comfort. |
| 149. There is a high degree of respect for nonconformity and intellectual freedom. | 164. It is easy to obtain student speakers for clubs or meetings. |
| 150. There is more interest here in learning just for marks rather than learning for its own sake. | 165. There is little sympathy here for ambitious daydreams about the future. |
| 151. No one is expected to suffer in silence if some regulation happens to create a personal hardship. | 166. Smoking in classrooms is generally tolerated by staff. |
| 152. Examinations here provide a genuine measure of a student's achievement and understanding. | 167. When students get together they seldom talk about trends in art, music or the theatre. |
| 153. Students' course selections are closely checked by faculty advisers to guard against mistakes. | 168. There seems to be a jumble of papers and books in the offices of most members of staff. |
| 154. Students almost never see the lecturers except in class. | 169. There are no mirrors in any of the toilets or halls. |
| 155. Students occasionally plot some sort of escapade or rebellion. | 170. There is a great deal of borrowing and sharing among the students. |
| 156. Most students dress and act very much alike. | 171. Some of the staff react to questions in class as if the students were criticizing them personally. |
| 157. Faculty advisers are fairly practical and efficient in the way they dispatch their business. | 172. The university grounds and buildings always look a little unkempt. |

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| 173. Everyone has a lot of fun at this university. | 188. Everyone knows the "soft" options to take and the hard ones to avoid. |
| 174. Many students enjoy working with their hands and are fairly efficient about making or repairing things. | 189. Lecturers seem to enjoy breaking down myths and illusions about famous people. |
| 175. Special museums or collections are important possessions of the university. | 190. A lot of students here argue just for the pleasure of winning an argument. |
| 176. Laboratory facilities in the natural sciences are excellent. | 191. Students are encouraged to take an active part in social reforms or political programmes. |
| 177. Many students here have good personal collections of paintings and gramophone records. | 192. Graduation is a rather matter-of-fact, unemotional event. |
| 178. There are several popular spots where a crowd of men and women students can always be found. | 193. Staff members put a lot of energy and enthusiasm into their teaching. |
| 179. Most of the staff are not interested in students' personal problems. | 194. There is a lot of fanfare and pageantry in many of the university events. |
| 180. Very few students here prefer to talk about poetry, philosophy, or mathematics, as compared with motion pictures, politics, or inventions. | 195. Nearly all students expect to achieve future fame or wealth. |
| 181. Staff members are impatient with students who interrupt their work. | 196. The university goes out of its way to protect students from dangerous situations which could cause accidents. |
| 182. Students set high standards of achievement for themselves. | 197. Many students are interested in television programmes dealing with social and political problems. |
| 183. Students quickly learn what is done and not done in this university. | 198. Students who tend to say or do the first thing that occurs to them are likely to have a hard time here. |
| 184. Staff members rarely or never call students by their first names. | 199. Lecturers are always well dressed and carefully groomed. |
| 185. When students dislike a staff member they make it evident to him. | 200. A good deal of enthusiasm and support is aroused by fund drives for refugee aid, World University Service, etc. |
| 186. There are many foreign students in the university. | 201. There always seem to be a lot of little quarrels going on. |
| 187. In most lectures, the presentation of material is well planned and illustrated. | |

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| 202. In this university care of departmental furnishings and equipment is not stressed. | 217. Most students follow a systematic schedule for studying and recreation. |
| 203. It's easy to get a group together for card games, going to the movies, etc. | 218. No one is imposed on at this university without fighting back. |
| 204. The academic atmosphere is practical, emphasizing efficiency and usefulness. | 219. Staff members and administrators see students only during scheduled hours or by appointment. |
| 205. University courses tend to place stress on speculative thinking and theoretical interests. | 220. Students exert considerable pressure on one another to live up to the expected codes of conduct. |
| 206. Students more interested in science than in arts are likely to be regarded as a little odd. | 221. National elections generate a lot of intense campaigning and strong feeling at the university. |
| 207. There are paintings or statues of nudes on the university grounds. | 222. Students here can be wildly happy one minute and hopelessly depressed the next. |
| 208. Students frequently go away for football games, skiing weekends, etc. | 223. Many lectures are delivered in a monotone with little inflection or emphasis. |
| 209. Students commonly share their problems. | 224. Public debates are held frequently. |
| 210. Most of the lecturers are dedicated scholars in their fields. | 225. The staff encourage students to think about exciting and unusual careers. |
| 211. The university administration has little tolerance for student complaints and protests. | 226. Students rarely get drunk and disorderly. |
| 212. Standards set by lecturers are not particularly hard to achieve. | 227. Level of courses and staff in the arts faculty are outstanding. |
| 213. Frequent tests are given in most courses. | 228. Spontaneous student rallies and demonstrations occur frequently. |
| 214. Students spend a lot of time together at the refectory, coffee lounges, hotels, etc. | 229. Proper social forms and manners are important here. |
| 215. Students are sometimes noisy and inattentive at concerts or lectures. | 230. Many university religious and other clubs are especially interested in charities and community services. |
| 216. There is great attention paid to traditional observances in this university. | 231. The staff tend to be suspicious of students' motives and often make the worst interpretations of even trivial incidents. |

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232. Lecture rooms are kept clean and tidy.
233. There isn't much to do here except go to lectures and study.
234. This university offers many very applied courses.
235. Long, serious intellectual discussions are common among the students.
236. Many of the natural science lecturers are actively engaged in research.
237. In papers and reports, vivid and novel expressions are usually criticized.
238. Lecturers frequently tend to use clever, sexy innuendoes in class.
239. The staff go out of their way to help you.
240. In class discussions, papers, and exams, the main emphasis is on breadth of understanding, perspective and critical judgment.
241. Students don't argue with the lecturer; they just admit they are wrong.
242. Learning what is in the lecture notes is enough to pass most courses.
243. The staff regularly check up on students to make sure that assignments are being carried out properly and on time.
244. Students frequently study or prepare for examinations together.
245. Students pay little attention to rules and regulations.
246. Things are always done the same way--from class to class and from year to year.
247. It is hard to prepare for examinations because students seldom know what will be expected of them.
248. The staff in the university tend to emphasize the importance of acting on personal conviction rather than the acceptance of tradition.
249. Student publications never lampoon dignified people or institutions.
250. People here are always trying to win an argument.
251. There are a number of prominent staff members who play a significant role in national or local politics.
252. Students tend to hide their deeper feelings from each other.
253. Class discussions are typically vigorous and intense.
254. The university tries to avoid advertising and publicity.
255. The future goals for most students emphasize job security, family happiness, and good citizenship.
256. Few students bother with raincoats, hats, or other special protection against the weather.
257. The library is exceptionally well equipped with journals, periodicals, and books in the social sciences.
258. There are frequent informal social gatherings.
259. Serious music is more popular here than jazz bands or novelty groups.
260. Most students are helpful to fellow students with physical handicaps.
261. The university has an excellent reputation for academic freedom.

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| 262. University buildings are clearly marked by signs and directories. | 276. Most students look for variety and novelty in summer jobs. |
| 263. Students are very serious and purposeful about their work. | 277. It is easy to take clear notes in most courses. |
| 264. Education for leadership is strongly emphasized. | 278. Students are not likely to accept administrative blunders without complaining or protesting. |
| 265. Students who are concerned with developing their own personal and private system of values are likely to be regarded as odd. | 279. A controversial speaker always stirs up a lot of student discussion. |
| 266. An interest in science is often shown by students majoring in other faculties. | 280. The student leaders here have lots of special privileges. |
| 267. To most students here, art is something to be studied rather than felt. | 281. The expression of strong personal belief or conviction is rather rare here. |
| 268. The opportunities for meeting eligible marriage partners in this university are as great as the opportunity for acquiring a good education. | 282. Very few things here arouse much excitement or feeling. |
| 269. Students are expected to work out the details of their own courses in their own way. | 283. The staff really push the students' capacities to the limit. |
| 270. Most of the staff are very thorough teachers and really probe into the fundamentals of their subjects. | 284. Student parties are colourful and lively. |
| 271. There is a lot of toadying to persons in authority here. | 285. Quite a number of staff members have had varied and unusual careers. |
| 272. Most courses are a real intellectual challenge. | 286. Rough games and contact sports are an important part of informal athletic activities within the university. |
| 273. Students have little or no personal privacy. | 287. In many courses the broad social and historical setting of the material is not discussed. |
| 274. The lecturers really talk <u>with</u> the students, not just <u>at</u> them. | 288. Students frequently do things on the spur of the moment. |
| 275. Students ask permission before deviating from common policies or practices. | 289. Students think about dressing appropriately and interestingly for different occasions--lectures, social events, sports, and other affairs. |

Legend: T - True. Generally true or characteristic of the university, is something which occurs or might occur, is the way people tend to feel or act.

F - False. Generally false or not characteristic of the university, is something which is not likely to occur, is not the way people typically feel or act.

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>290. This university has a reputation for being very friendly.</p> <p>291. Many staff members seem moody and unpredictable.</p> <p>292. Lecturers tend to show annoyance if a student happens to arrive late at lectures occasionally.</p> | <p>296. There is a lot of interest in the philosophy and methods of science.</p> <p>297. Concerts and art exhibits always draw big crowds of students.</p> <p>298. Nearly everyone here has a date for the weekends.</p> |
| <p>293. Every year there are carnivals, parades, and other festive events at the university.</p> <p>294. Most students are interested in careers in business, engineering, management, and other practical affairs.</p> <p>295. There is considerable interest in the analysis of value systems, and the relativity of societies and ethics.</p> | <p>299. Counselling and guidance services are rather personal, patient, and extensive.</p> <p>300. Careful reasoning and clear logic are valued most highly in marking student papers, reports, or tests.</p> |

APPENDIX C

DEFINITIONS OF NEED-PRESS FACTORS

PERSONALITY FACTOR DEFINITIONS (AI)

Factor 1. Self-Assertion. This factor reflects a need to achieve personal power and socio-political recognition. It is based on items which emphasize political action, directing or controlling other people, and the acceptance of roles involving considerable group attention.

Factor 2. Audacity-Timidity. The second factor is more personally than socially oriented. The emphasis here is on aggressiveness in both physical activities and in interpersonal relationships. It is of interest that this personal aggressiveness should also be associated with a high level of interest in science.

Factor 3. Intellectual Interests. The factors with the highest loadings in this dimension are based on items involving various forms of intellectual activities. These include interests in the arts as well as the sciences, both abstract and empirical.

Factor 4. Motivation. This factor, like 1 and 2 above, represents another form in which need achievement may be expressed. Here, however, are the more conventional forms of striving most recognizable among students, involving elements of competitiveness and perseverance as well as of intellectual aspiration.

Factor 5. Applied Interests. A high score on this factor suggests an interest in achieving success in concrete, tangible, socially acceptable activities. The items involve orderly and conventional applications in business and science.

Factor 6. Orderliness. People with high scores on this factor have indicated a marked interest in activities stressing personal organization and deliberativeness. Although some of the items are concerned with long range planning and relatively high level time perspective, the major emphasis here is on the maintenance of ritual and routine and the avoidance of impulsive behavior.

Factor 7. Submissiveness. The preceding factor suggests a strong defensive system, based on rigid internal controls, for guarding against the expression of impulses. The Submissiveness factor also implies a high level of con-

trol, but one which is based on social conformity and other-directedness. The items emphasize humility, deference, getting along with others, keeping in one's place, etc. It is of interest that the Nurturance scale items should appear in this context, suggesting that the submissive individual's interest in supportive activities is based to a considerable extent on his own unexpressed need for such help.

Factor 8. Closeness. This factor is closely related to Factor 7, with which it shares both the Nurturance and Deference scales. However, the abusive and self-denying qualities implicit in Factor 7 are absent here. In their place is an acceptance of items which recognize one's needs for warmth and emotional supportiveness.

Factor 9. Sensuousness. The thirty items associated with this factor are concerned with activities of a sensual character. The items suggest a measure of self-indulgence along with a delight in the gratifications which may be obtained through the senses.

Factor 10. Friendliness. Persons with high scores on this factor are indicating an interest in playful, friendly relationships with other people. These interests involve simple and uncomplicated forms of amusement enjoyed in a group setting.

Factor 11. Expressiveness-Constraint. This factor stresses emotional lability and freedom from self-imposed controls. Individuals with high scores on this factor are outgoing, spontaneous, impulsive, and uninhibited.

Factor 12. Egoism-Diffidence. This factor reflects an extreme preoccupation with self. The items are concerned with appearance and comfort, as well as with fantasies in which the self obtains unusually high levels of gratification. The responses to other items in this group suggests that reality itself is interpreted in egocentric terms, but this may be not so much a matter of autistic distortion as of narcissistic egoism.

[Stern, 1963, pp. 13-17]

ENVIRONMENT FACTOR DEFINITIONS (CCI)

Factor 1. Aspiration Level. A high score on this factor indicates that the college encourages students to set high standards for themselves in a variety of ways. These include opportunities for students to participate in decision-making processes involving the administration of the school, and administrative receptivity to change and innovation, thus implying that a student's efforts to make some impact on his environment have some probability of being successful. But a high level of aspiration is also encouraged by introducing students to individuals and ideas likely to serve as models of intellectual and professional achievement.

Factor 2. Intellectual Climate. All of the various items contributing to this factor reflect the qualities of staff and plant specifically devoted to scholarly activities in the humanities, arts, and social sciences.

Factor 3. Student Dignity. This factor is associated with institutional attempts to preserve student freedom and maximize personal responsibility. Schools with high scores on this factor tend to regulate student conduct by means other than legislative codes or administrative fiat. There is a minimum of coercion and students are generally treated with the same level of respect accorded any mature adult.

Factor 4. Academic Climate. This factor stresses academic excellence in staff and facilities in the conventional areas of the natural sciences, social sciences, and the humanities.

Factor 5. Academic Achievement. Schools high in this factor set high standards of achievement for their students. Course work, examinations, honors, and similar devices are employed for this purpose.

Factor 6. Self-Expression. The last of the factors in this area is concerned with opportunities offered to the student for the development of leadership potential and self assurance. Among the activities serving this purpose are public discussions and debates, projects, student drama and musical activities, and other forms of participation in highly visible activities.

Factor 7. Group Life. The four scales on this factor are concerned with various forms of mutually supportive group activities among the student body. These activities are of a warm, friendly character, more or less typifying adolescent togetherness, but the items also reflect a more serious side to this culture as represented in activities devoted to the welfare of fellow students and less fortunate members of the community.

Factor 8. Academic Organization. The various components of this factor may be regarded as the environmental counterparts of the needs for orderliness and submissiveness in the individual. High scores on this factor are achieved by institutions which stress a high degree of organization and structure in the academic environment.

Factor 9. Social Form. In some respects this factor represents the formal institutionalization of those activities represented in Factor 7 (Group Life). There is in fact considerable overlap between these two factors, but Factor 9 minimizes the friendly aspects of Factor 7 while stressing its welfare components. Schools characterized by this factor also offer opportunities for the development of social skills of a formal nature and in some respects suggest the finishing school counterpart of the vocational climate represented in Factor 11 below.

Factor 10. Play-Work. Schools high in this factor offer opportunities for participation in a form of collegiate life reminiscent of the popular culture of the 1920's. These are the institutions sometimes referred to as the fountains of knowledge where students gather to drink.

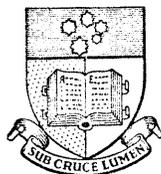
Factor 11. Vocational Climate. The last of the non-intellectual factors is also shared with the Intellectual Climate area. The items of Factor 11 emphasize practical, applied activities, the rejection of aesthetic experience, and a high level of orderliness and conformity in the student's relations to the faculty, his peers, and his studies.

[Stern, 1963b, pp. 18-21]

APPENDIX D

LETTERS USED IN DEVELOPING THE STUDY

THE UNIVERSITY



OF ADELAIDE

ADELAIDE, SOUTH AUSTRALIA

Student Attitude Research

I am a Fulbright Research Scholar here in Adelaide for a few months to conduct a cross-cultural survey of attitudes of university students. University of Adelaide students from various Faculties are participating in this study, and the results will be compared with data obtained from students in American universities.

You have been selected to participate by a statistical sampling procedure. Accordingly, I should like very much to see you for a period of about 1-1/2 hours during the next two or three weeks.

I have tentatively made an appointment for you to see me in the Psychology Lecture Room, Psychology Department (Prince of Wales Building), either on

or on I should be most grateful if you would attend the time most convenient for you.

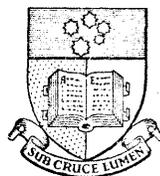
If either of these times is not suitable for you, would you please advise the Secretary of the Psychology Department (23-4333, Ext. 570) and arrange another time.

Yours sincerely,

Ruth B. Lewis

th April, 1967.

THE UNIVERSITY



OF ADELAIDE

ADELAIDE, SOUTH AUSTRALIA

Student Attitude Research

I am a Fulbright Research Scholar here in Adelaide for a few months to conduct a cross-cultural survey of attitudes of university students. University of Adelaide students from various Faculties are participating in this study, and the results will be compared with data obtained from students in American universities.

You have been selected to participate by a statistical sampling procedure. Accordingly, I should like very much to see you for a period of about $1\frac{1}{2}$ hours during the next two or three weeks.

I have tentatively made an appointment for you to see me in the Psychology Lecture Room, Psychology Department (Prince of Wales Building), either on Wednesday, 26th April, at 12.00 noon or on Friday, 28th April, at 9.00 a.m. I should be most grateful if you would attend the time most convenient for you.

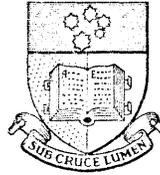
If either of these times is not suitable for you, would you please ring me at the Psychology Department, 23-4333, Ext. 259 (4.00 p.m. - 5.00 p.m., Monday, 24th April, or 9.00 a.m. - 11.30 a.m., Wednesday, 26th April) to arrange another time. Of course, you may see me in the Psychology Department at other times.

Yours sincerely,

21st April, 1967.

Ruth B. Lewis

THE UNIVERSITY



OF ADELAIDE

ADELAIDE, SOUTH AUSTRALIA

Dear

Student Attitude Research

I assume that none of the times suggested for you to complete the questionnaires have been suitable. I realize that many part-time students, for example, may only attend the university during the evenings.

As it is very important that no one is omitted, I have arranged to mail the questionnaires to anyone who finds it inconvenient to come to the Psychology Department during working hours.

If you would like to have them posted to you, please let me know as soon as possible. Please either see me in the Psychology Building (upstairs on the first floor now), or leave a message with the Secretary of the Psychology Department (23-4333, Ext. 570).

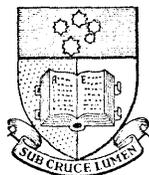
Please complete and return the questionnaires as quickly as possible. Your cooperation will be very much appreciated.

Yours sincerely,

th April, 1967.

Ruth B. Lewis

THE UNIVERSITY



OF ADELAIDE

ADELAIDE, SOUTH AUSTRALIA
DEPARTMENT OF PSYCHOLOGY

Dear

Student Attitude Research

I am writing to you about the cross-cultural survey of student attitudes I am conducting. I assume that neither of the times suggested for you to complete the questionnaires has been suitable.

As it is very important for statistical reasons that no one is omitted, I should like to see you in the Psychology Lecture Room, Psychology Department (Prince of Wales Building) at one of the following times:

Thursday, 8th June

9.00 a.m.
12.30 p.m.
2.00 p.m.

Friday, 9th June

9.00 a.m.
12.30 p.m.
5.15 p.m.

Tuesday, 13th June

9.00 a.m.
10.30 a.m.
12.00 noon
1.30 p.m.
5.15 p.m.

Wednesday, 14th June

9.00 a.m.
10.30 a.m.
12.00 noon
1.30 p.m.
3.00 p.m.

If none of these times are suitable, would you please arrange another time by ringing me at the Psychology Department (23-4333, Ext 258), between 10.30 a.m. and 12.00 noon, on Thursday, 8th June, and on Friday, 9th June, or by seeing me in the Psychology Department at other times. Your cooperation will be very much appreciated.

Yours sincerely,

6th June, 1967.

Ruth B. Lewis.

October 3, 1966

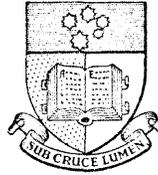
TO: ALL TUTORS
FROM: RUTH B. LEWIS

Please read the following instructions when you distribute the Activities Index and the College Characteristics Index in your Psychology tutorials:

"We are requesting you to participate in a cross-cultural study of Australian and American students and universities, conducted by Ruth Lewis, an American Ph.D. student. Would you kindly complete these two questionnaires and return them at your next tutorial. The directions are clearly indicated on the questionnaires."

Please return all undistributed questionnaires to me in Room 26.

THE UNIVERSITY



OF ADELAIDE

ADELAIDE, SOUTH AUSTRALIA
DEPARTMENT OF PSYCHOLOGY

Dear

Student Attitude Research

Last September, you very kindly cooperated in completing two questionnaires which gave some indication of your attitudes and perceptions of the university environment.

A statistical analysis of the group results has proved to be very interesting and will continue to be useful as the study is extended this year to a sample of students from several faculties. Later, a comparison will be made with results from students in American universities.

Your help is now needed again. To obtain a measure of the reliability of the questionnaires, it will be necessary for them to be given again to the same students this year.

I should very much appreciate it if you will complete the questionnaires again for me at any one of the following times at the Psychology Lecture Room (enter behind the W.E.A. Bookroom):

- (a) Monday, 20th March, 10.00 a.m. - 12.00 noon.
- (b) Tuesday, 21st March, 9.00 - 11.00 a.m. or 1.00 - 3.00 p.m.
- (c) Wednesday, 22nd March, 10.00 a.m. - 12.00 noon.
- (d) Friday, 24th March, 10.00 a.m. - 12.00 noon.

If you cannot come at any of these times, please see me in Room 26, Ground Floor (beside stairs), Psychology Building (enter from the car park). I shall arrange a time to suit you.

Thank you very much for your help.

Yours sincerely,

Ruth B. Lewis

16th March, 1967.

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