# A NEEDS ASSESSMENT OF GUIDANCE AND COUNSELLING SERVICES AS PERCEIVED BY TRADES STUDENTS OF THE DISTRICT VOCATIONAL SCHOOLS OF NEWFOUNDLAND AND LABRADOR

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A Needs Assessment of Guidance and Counseling

Services as Perceived by Trades Students

of the District Vocational Schools of

Newfoundland and Labrador

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ABSTRACT

This study was designed to examine the need for
guidance and counseling services in the district vocational
schools of Newfoundland and Labrador, as perceived by trades
students.

A needs assessment instrument was developed for this
purpose, and its validity and generalizability established.
The instrument was designed to measure, in addition to a
total overall level of perceived need, levels of perceived
need in each of the following five need categories: voca-
tional, educational, personal, financial and social.

During the period of this study (1981-82), there were
sixteen district vocational schools in the Province, with a
trade student population of two thousand eight hundred
seventy. A stratified sample of five hundred trade students
were randomly selected within school clusters and program
clusters. School clusters each consisted of several schools
which were similar with respect to the size of community in
which they were located and the resulting availability of
guidance and/or counseling services in that community. Pro-
gram clusters consisted of trade programs which were grouped
according to the recommendations of the Division of Technical
and Vocational Education, Department of Education, Newfound-
land and Labrador. Beyond the basic sample of five hundred
trade students, a number of other trade students were ran-
domly selected from several program clusters in order to

facilitate inferential analysis.

Data for the study were collected through the needs assessment instrument which was administered by the researcher, to groups of trade students in the sample. A small proportion of the sample was administered the instrument under the supervision of a district vocational school principal.

The data was analyzed by means of descriptive statistics as well as distributions and appropriate inferential procedures, such as T-distributions and analysis of variance.

A large proportion of the trade students sampled indicated a moderate to high level of need for guidance and counseling services both from a total need point of view and from the point of view of categories of need. Significant differences were found between the level of perceived need by need categories. Data also showed significant differences between program clusters on several of the need categories. No significant differences were found between school clusters. Data analysis was also conducted on several demographic characteristics of trade students and results revealed significant differences between groups for several of these characteristics.

Major recommendations resulting from this study were as follows: 1) guidance and counseling services be provided to each of the district vocational schools of Newfoundland and Labrador by assigning a qualified guidance counselor to

each school and 2) a provincial guidance and counseling co-ordinator be appointed to the central office of the Division of Technical and Vocational Education, Department of Education, Newfoundland and Labrador.

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CHAPTER I

INTRODUCTION

Statement of Purpose

The purpose of this study was to determine the need for guidance and counseling services as perceived by the trades students in the vocational schools of Newfoundland and Labrador. In addition to an assessment of overall level of perceived need, this study was designed to determine whether or not such needs were related to different trades training programs and to five different school clusters which were set up according to similarity of communities. The instrument used measured needs in vocational, educational, personal, social and financial categories.

Research Questions

1. Do trades students in vocational schools in Newfoundland and Labrador perceive a significant level of need for guidance and counseling services as measured by a needs assessment instrument?

2. Do trades students in vocational schools in Newfoundland and Labrador differ by school or program in their perception of the need for guidance and counseling services as measured by a needs assessment instrument?

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3. How do trades students in the vocational schools in
   Newfoundland and Labrador perceive the various cate-
   gories of student need as measured by a needs assessment
   instrument?

4. Do trades students in the vocational schools in New-
   foundland and Labrador differ by school or program in
   their perception of various categories of student need
   as measured by a needs assessment instrument?

Rationale

The students enrolled in the trades programs at the
vocational schools in the province have not in the past had
the services generally provided by guidance and counseling
personnel. However, the need for such services appears to
be getting progressively greater (Chipp, 1979; Grewal, 1980;
Quinton, 1980).

Over the past decade in Canada, and, more specifically,
for the purpose of this paper, in Newfoundland and Labrador,
the supply of workers is exceeding the demand. As a result
there is more demand being put on training institutions to
train people not only in the skill areas specific to their
career, but also in the areas of employability skills, self-
awareness, career awareness, interpersonal relationships and
decision-making skills, as well as providing them with
counseling services, i.e. the personal and social support
they need to cope with the stress of day to day living and

the added stress of possible unemployment after graduation.
The Canadian School Trustees Association (1980) confirmed
this point of view when they stated:

> Rising inflation, a stagnant economy, and a youth
> unemployment rate which prevents the necessary social
> and economic integration of the young into the labour
> market is forcing schools to re-think the focus of
> their guidance services. (p. I)

Widespread public dissatisfaction with the manner in
which schools prepare young people for jobs is becoming more
pressing. Employers who are now being faced with a buyers'
market are able to, and do demand higher academic qualifi-
cations, more job experience, better work preparedness (more
employability and interpersonal skills) and a committment to
the work ethic. As a result of these demands from the commu-
nity and criticisms from students and graduates, schools are
becoming more concerned about the ultimate fate of their
graduates in the job market and are giving higher priority to
guidance and counseling services as a step to producing
graduates with good life and employability skills, as well as
specific job related skills (Canadian School Trustees
Association, 1980).

All theorists of career development take the position
that the preparation for careers is a continuous process and
actually begins at a very early age, continuing into late
adulthood. An example of such a viewpoint was expressed by
Moore and Miller when they argued:

> Comprehensive career guidance is an open and continuous
> education. Counselling and guidance personnel at every

level--primary, secondary, postsecondary and beyond--
should integrate life skills into the "curriculum" for
all students, not just special groups. Career guidance
is developmental; therefore awareness, exploration, and
preparation for life, occur throughout the entire formal
school program. Examples of post-secondary career
development may include increasing occupational skills
or may focus on leisure activities, daily living skills
or interpersonal skills. (p. 18)

In spite of arguments that post-secondary students have

already made a choice of careers and have reached a level of

stability in their lives where guidance and counseling

services aren't necessary, it appears that post-secondary

students, like public school students, do, in fact, have a

significant need for such services. Hansen and Tennyson

(1975) suggested that post-secondary school students should

receive guidance and counseling services to help them:

(a) develop interpersonal skills essential to work;
(b) develop information processing skills about self
and work; (c) reintegrate the self; (d) acquire a sense
of community; (e) commit oneself to the concept of
career; (f) acquire the determination to participate in
change; and (g) creatively apply management skills to
life roles. (p. 643)

These ideas were supported by Watts (1980) when he

stated that the systematic learning experiences of post-

secondary students are (a) opportunity awareness, (b) self-

awareness, (c) decision learning, and (d) transition learning.

These theoretically based points of view are also sup-

ported by empirically based findings. Palmo and Devantier

(1976), in a study on the counseling needs of vocational-

technical students, found that needs go beyond career related

needs such as career awareness and employability skills.

They found students in need of help with personal growth (self-concept and self-confidence), as well as help with personal, educational and financial problems. In their study they found the following needs as being the most often reported: (1) improvement of self-image; (2) help in deciding if they have made the best career choice for them; (3) help to self-evaluate skills, progress and level of training; (4) help in finding remedial and tutoring assistance; (5) help to identify academic skills which are missing; (6) need for individual and small group counseling; (7) help with personal needs; (8) more career information; (9) more career counseling; (10) direct contact with people from the work world; and (11) exposure to vocational school programs while still in high school.

Other studies which have been done in this area have had similar findings. The Bureau of Vocational, Technical, and Adult Education of the West Virginia State Department of Education (1979) in a report on a needs study done to assist in the formulation of state and local career and vocational guidance plans, stated that, in addition to having access to academic advisors and job and career placement centers, first year post-secondary students were also entitled to career and vocational guidance services.

The Bureau of Instructional Support Services of the Pennsylvania State Department of Education (1978) stated that:

It is not the purpose of career education to develop
or provide jobs for youth. Rather, it is directed
more to the improvement of the quality of each
individual's life. Through acquisition of basic
educational skills, learning better how to seek and
find employment, hold a job, and make decisions about
one's life, career education can contribute positively
to the substance of the lives it touches. (p. 4)

An examination of several guidance programs already in
existence in post-secondary training schools in Newfoundland
and Nova Scotia, namely the guidance and counseling programs
at the Halifax Regional Vocational School, The Bay St. George
Community College, the Carbonear Vocational School, and the
College of Trades and Technology, St. John's, revealed the
following services: career counseling services to feeder
schools, orientation, occupational information, student
assessment, on-the-job experience, instruction and practice
in life skills and employability skills, individual and
group counseling, and placement.

As a result of rapid technological change, the resul-
ting demands from the job market; demands from youth and
adults for further training and help in choosing training
programs; demands from career conscious educators; high rate
of dissatisfaction with choice of trades program and re-
sulting high drop out rate; and general trends in the edu-
cation of youth and adults, the Division of Technical and
Vocational Education of the Department of Education, New-
foundland and Labrador, in 1978 began an investigation into
the general area of procedures and criterion used in the
selection and admission of students to the vocational

schools. As a result of this investigation a major

recommendation was that guidance services be provided to

vocational school students (Quinton, 1980). McHinder Grewal

(1979), in a report to the Admissions and Prerequisites

Committee which conducted the above investigation, made what

appears to be a good summary of the status of guidance and

counseling services in Newfoundland and Labrador when he

stated:

> In a democratic society like ours, it is the function
> of the school to acquaint the individual with his
> weaknesses, capabilities and interests, so that he
> can make a wise choice. Due to lack of this help in
> most of our academic schools and in all the vocational
> schools in Newfoundland, many misfits may become a
> burden on our society. It is most unfortunate, both
> economically and to the people involved, if expensive
> equipment and trained personnel are used to train
> people not suited for the training. (p. 4)

Also, as a result of research for the causes of students

dropping out of the Stephenville Adult Centre, Chipp (1978)

made the following recommendations for that particular

Centre: (1) A comprehensive vocational counseling centre

be set up immediately; (2) That for all students below the

age of twenty-five, counseling services be made readily

available and that career guidance be provided; (3) That

students with low entering grade levels have constant contact

with the school counselor for psychological support.

An all too common view of guidance services for the

schools, and especially for post-secondary settings, is one

that is concerned solely with helping students make good

career choices. This view is not supported by the literature

either from a theoretical or empirical point of view, as has
been demonstrated previously in this paper. Post-secondary
students are often faced with the stresses of functioning in
a new environment, as students who are about to enter the
world of work for the first time. The student needs to
prepare for and learn to live the fullest life. Some
educators go so far as to argue that man's present way of
life is more oriented toward leisure than purely toward
work. They suggest that students need help in grasping the
fact that the meaning of human life, the development of
their multipotentialities, is not completely contained within
paid work (Turgeon, 1975).

For example, Gysbers and Moore (1981) stated that:

> Because of the increasing complexity and interrelated-
> ness of all aspects of society, it no longer seems
> possible to clearly separate one role from another,
> one setting from another. ...the concept of career
> encompasses a variety of possible patterns of personal
> choice related to each individual's total life style;
> its components are occupation, education, personal and
> social behaviour, learning how to learn, social
> responsibility, and leisure time activities. (p. 648)

As a result of the trends and apparent needs described
above, and because to this point in time there has been no
attempt to determine the degree of need for guidance and
counseling services that vocational school trades students
may or may not have, this study has been conducted to deter-
mine that level of need.

There are sixteen vocational schools in major centres
throughout the Province. Of these sixteen schools, only one,

the Carbonear Vocational School, has the services of a guidance counselor. While several vocational schools have offered some career guidance through Life Skills Programs, there have been no full scale organized guidance and counselling services provided for the students.

If guidance and counseling services are to be provided to these students, the first step is to determine how great the need is, what categories of needs should get most attention and what groups of students exhibit the greatest need. One of the accepted and, in fact, most commonly promoted and used methods to determine need is through the use of a needs assessment instrument.

In support of this approach, Pautler and Roeder (1973) argued that "Guidance programs and activities must be derived from the needs and goals of the people and institution to be served - rather than from a tradition-base collection of related services" (p. 97). "This," said Pautler and Roeder, "means that those who plan and set up a program must be able to assess individual and institutional needs" (p. 97). Along those same lines of thought, Drier (1977) stated that before needs for guidance and counseling services can be rationally taken care of, they must be identified and defined. Thus, a needs assessment approach to program planning is necessary. He stated that students of an institution should be respondents to such a needs assessment.

Silvester (1976) also put forth this approach when he argued that:

Many times individuals with urgent needs are reticent to verbalize these dissatisfactions to the organization. This is one reason that needs assessment or needs appraisal studies are undertaken by an organization. Another reason might be that the organization wishes to know whether there are new thrusts a program should take in addition to what is already being done. In still another instance there may be a desire to determine match/mismatch between the needs of an organization and its clientele.

For programs in education, reasons for needs assessment studies may be further specified as follows:

(1) To determine the extent of change in conditions which affect the educational process and to incorporate new methods, new techniques, and new ideas that take these changes into consideration.

(2) To determine the extent to which the expressed need(s) of learners are being met by the program(s) presently being offered, to determine whether unmet needs are those that the system can and should meet, and to determine appropriate strategies to employ, should it be decided that one or more of the unmet needs should be fulfilled by the system. (p. 11)

DiSilvestro (1978) wrote that "one of the most important yet most often neglected steps in developing student services for adults is the performance of a needs assessment" (p. 4). Hence, it appears that the successful attainment of programs which seek to fulfil the educational requirements of target populations is dependent upon the reliable information concerning the nature of the unmet needs and interests of adults.

Silvester (1976) observed that any procedure of needs assessment must be responsive to the unique characteristics of a particular system and that the only restrictions placed on the assessment process should be those dictated by limitations in personnel and finances.

It is with this idea of the uniqueness of the vocational

school trades students of Newfoundland and Labrador in mind that this study has been conducted. It is also with this uniqueness in mind that a needs assessment instrument has been constructed and validity and reliability established. The instrument was constructed specifically for trades students of the vocational schools of Newfoundland and Labrador, and was pretested with a representative sample of these students. These trades students might be considered unique in that they are different from vocational school students who have been studied in other needs surveys reported in the literature and which are referred to in this paper. The Newfoundland and Labrador trades students are different in that they have completed a secondary school program which is academically oriented as opposed to the school program which a large number of vocational education students studied by other researchers experienced and which is vocationally oriented. As well, a large portion of New-foundland and Labrador trades students have come from small outports and, as a result, have not previously experienced the complexities of a larger and more urban kind of society. This also points to the probability of needs which might be different from those of the students referred to in other studies.

The approach of assessing the perceived needs for guidance and counseling services, of the target population, as the initial steps of planning a comprehensive guidance program was carried out by the Bureau of Vocational, Technical,

and Adult Education of the West Virginia State Department of
Education (1979); Palmo and Devantier (1976); Moore & Miller;
Stewart (1979); Downs et al.; Veres (1979); Drier (1977);
Silvester (1976); Michigan Adult Basic Education Needs
Assessment, Final Report (1978); and Perrone et al. (1977).
It has also been recommended from a theoretical point of view
by DiSilvestro (1978), Struggs (1981), Tolbert (1980), Gysbers
and Moore (1981) and Pautler and Roeder (1973).

Hence, needs assessment is considered to be the very
first and probably one of the most important steps involved
in planning and designing a guidance program either at the
public school or the post-secondary school level.

Significance

While large numbers of students (approximately 3,000
in 1981-82) attended trade training programs in the voca-
tional schools of Newfoundland and Labrador, very few have
had assistance from trained personnel in making their
choice of trades, and, hence, choice of careers. A signifi-
cant number of those who apply for admission to the voca-
tional schools and are admitted, drop out, especially during
the first several weeks of the school year (Yetman). Often
a significant number of those who remain, do so because of
external pressures, such as family, the materialistic and
general demand to get a trade and a good job. Many probably
find themselves in trades which do not match their interests

and aptitudes, since the majority have had no career guidance. Others have personal, educational, financial and socially related problems for which the vocational school system provides little help.

To this point in time, however, it is not known what the level of discontent and misplacement actually is for the vocational school trades students. The literature, administrators and vocational school teachers, suggest that there is a need for guidance and counseling services.

The investigation by the Prerequisites and Selections Advisory Committee (Quinton, 1980), the Report by Grewal (1980), and the study done by Chipp (1978) all conclude that there is a need for such a service for the trades students of our vocational schools.

The next logical step is to identify and document these needs, according to the suggestions of Pautler and Roeder (1973), Drier (1977) and Silvester (1976). Tolbert (1980) stated that in order to identify and document needs, a needs-survey instrument is of immense value.

The instrument used in this study measured five categories of needs for guidance and counseling services. These categories were Vocational, Educational, Personal, Financial, and Social. This concept of need categories is discussed in detail in Chapter 2 of this report. By obtaining measures for each category, the study provided an empirical set of data which will enable planners of a guidance program for the vocational schools to make sound decisions with respect

to the kinds of services to provide as well as with respect to the main areas of concentration of such a program.

Also, because of the stratification of the sample by school and program, the data collected provides planners with a reliable basis for priorizing the schools and training programs with respect to the guidance and counseling services. Thus this study provides planners of future guidance and counseling programs in the vocational schools of Newfoundland and Labrador with data which will make possible sound decisions concerning the priority rankings of categories of services, vocational schools, and the training programs. In summary, this study provides needs information which is necessary in order to plan and implement an effective and efficient guidance program in our vocational schools.

As DiSilvestro (1978) concluded "There is no more important step that can be taken by people who are developing adult student services than to perform a needs assessment."

Definition of Terms

Trades Students - Refers to those students who are enrolled in a training program in district vocational schools in Newfoundland and Labrador, which will prepare them for work in a particular skilled occupation. These training programs are of nine months or shorter duration.

Significant level of perceived need - This term is operationally defined as being a score of eighty-six out of a total possible score of one hundred ninety-six on the needs assessment instrument or a percentage score of forty-four on that instrument.

Needs assessment instrument - Refers to the needs assessment instrument developed for the purposes of this study to measure the trades students', of the vocational schools of Newfoundland and Labrador, perception of need for guidance and counseling services.

Categories of needs - Refers to the five categories of guidance and counseling needs as measured by the needs assessment instrument - namely Educational, Vocational, Personal, Social, and Financial.

Total Need - Refers to the level of need indicated by the total score on the needs assessment instrument or the sum of the needs of the five need categories.

Limitations

The findings of this study are limited to the trades students' perceptions of need for guidance and counseling services and does not measure the perceptions of administrators, teachers or the community. Another limitation is that the study does not measure the perception of need for guidance and counseling services of dropouts or graduates

from the trades programs of the vocational schools.

The findings of this study are also limited to the trades students of the vocational schools of Newfoundland and Labrador, unless one assumes that the trades students of other vocational schools have similar programs, have had similar secondary training and have been drawn from a similar population as those who attend the vocational schools of Newfoundland and Labrador.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter presents a review of the related litera-
ture, both from a theoretical and empirical point of view.
In some instances it is an extension of the discussion of
the literature in Chapter 1 of this report. The focus in
this chapter is on assessment, procedures, and findings.

Assessment - The First Step

From a theoretical point of view, many writers argue
that a needs assessment is the logical and necessary first
step in the planning and implementation of a guidance and
counseling program. These writers argue that, in order to
provide the most effective and efficient guidance and
counseling program, it must first be established what the
particular needs of the target group are and which needs
should be given priority. They suggest that a guidance
and counseling program which is not based on assessed
needs is one which will probably not be successful
(Campbell, Walz, Miller, & Kriger, 1973; Gysbers & Moore,
1981; Hays, 1977; Huffman, 1979; Perrone et al., 1977;
Tolbert, 1980; Walker, 1976; Watts, 1980; West Virginia
State Department of Education, 1979). Drier (1977)

summarized this point well when he said "The question for us all is, deciding how to spend our limited time and resources in ways which will have the greatest amount of impact in the crisis situation" (p. 37).

The needs studies and surveys which have been carried out in the past have been done for a number of different reasons. Some have been conducted as an evaluation of an existing guidance and counseling program (Perrone et al., 1977); others have been conducted to determine if there was a need for such a service (Silvester, 1976; Stewart, 1979; West Virginia State Department of Education, 1979); while others have been conducted to gather data and information needed to plan and implement a guidance and counseling program (Downs et al.; Veres, 1979).

In the following section a number of these studies reported in the literature will be discussed. The studies chosen are those which relate most closely to the circumstances of this study. While they do not parallel the study at hand, they are useful in demonstrating procedure and an overall need for guidance and counseling services for post-secondary students and young adults. The discussion which follows will focus on procedures for needs assessment and findings of these assessments.

Procedures

Many needs surveys have been carried out using assessment instruments which have already been constructed and validity and reliability established. Two examples of needs assessment instruments which have been developed for use with specific target groups are the Comprehensive Counseling and Personnel Services Program Assessment (Post-Secondary) and the Comprehensive Counseling and Personnel Services Program Assessment (Adult) (Moore et al.). Another needs assessment instrument which has been used by researchers is the Love-Richmond Vocational Student Inventory (Downs, et al.)

The disadvantages of using such an instrument for a particular study is that the instrument, since it was developed for a general target group, might not necessarily sufficiently account for student characteristics, school and program characteristics or needs which might be specific to the target group of the particular study. For these reasons several researchers have developed their own needs assessment instrument following accepted procedures of instrument construction (Danielson, 1978; Michigan Basic Adult Education Needs Assessment, 1978; Silvester, 1976; Stewart, 1979; Veres, 1979; West Virginia State Department of Education, 1979).

With respect to sampling, several researchers argue that a needs assessment of guidance and counseling services should assess the perceptions of teachers, administrators,

counselors, graduates and dropouts. A number of studies
have been done which sampled from several of those groups
(Downs, Drier, 1977; Herr, 1975; Michigan Adult Basic
Education, 1978; Stewart, 1979). On the other hand some
researchers have assessed only students' perception of need
and sampled students according to sex, age, program, and/or
urban versus rural characteristics (Downs; Perrone et al.,
1977; Silvester, 1976; Veres, 1979). Silvester (1976)
basically summarized the position of those researchers when
he stated, "Many times individuals with urgent needs are
reticient to verbalize these dissatisfactions to the organi-
zation. This is one reason needs assessment studies are
undertaken" (p. 11). This point of view was discussed in
more detail in Chapter 1 of this report.

In the studies reported the needs instruments were
administered to groups and/or to individuals. After the
data was collected a number of statistical procedures was
conducted. Descriptive statistics, usually means, standard
deviations and correlation coefficients were calculated.
Levels of need were represented in terms of percentages.
Inferential statistics were also used to determine if signifi-
cant differences existed between sample groups and between
categories of needs. The procedures used for this purpose
were the Chi-Square, Spearman Rho, T-test and the Pearson
Product Moment Coefficient procedure (Downs et al.; West
Virginia State Department of Education, 1979). The Analysis

of Variance procedure was used in Michigan Adult Basic

Education (1978) report and by Silvester (1976).

Findings

Moore and Miller stated that "in every survey of adult

needs, adults indicate the need for more and better infor-

mation and counseling services" (p. 9).

The researchers of the West Virginia State Department

(1979) stated:

> The major finding was that there exists a need for
> career and vocational guidance and counseling services
> throughout the state. There was agreement between all
> surveyed populations that considerable discrepancy
> existed between what services were available and what
> needs were inadequately met. ... the survey population
> expressed a strong desire for career counseling as well
> as increased information services related to occu-
> pational endeavors. This indicates that a comprehensive
> program should include opportunity for personal coun-
> seling as well as information services to better satisfy
> the needs of the population. (p. 41)

> In summary,

> the results established that the importance of needs
> does not necessarily determine if the needs are being
> met; that there are definite needs which deserve
> increased emphasis; that all included needs were con-
> sidered important; that students had inadequate input
> into the determination of activities; that there was
> more agreement between the populations as to what needs
> were important than what needs were met; that needs
> were being partially met; and, that increased emphasis
> on career and vocational guidance and counselling
> activities would be acceptable to all parties. (p. 42)

Stewart (1979) found that over two-fifths of those

sampled indicated that they were interested in receiving

career counseling. Downs et al. found that:

> Seventy percent of the students surveyed said that
> they would like help with other decisions than job-
> skill training. Over 4/5 of the sample population
> wanted help with job placement. Half wanted help
> with financial matters and 2/5 wanted help with
> health information. Approximately 1/3 requested
> assistance with recreation, rules and regulations,
> family situations, and personal relations. One-
> fourth of the students wanted assistance with
> feelings about self and physical appearance. One-
> seventh of the students surveyed were open to
> accepting help with alcohol and drugs. (p. 101)

This study also found significant differences between city
and rural groups of students in several needs areas of
satisfaction, aspirations, program choices, personal
relations, money, health and job placement; that the older
students were, in general, more satisfied with their pro-
gram; female students had a slightly lower sense of voca-
tional identity than males; and females admitted to having
more problems with which a counselor could help than males.
Veres (1979), Silvester (1976), Michigan Adult Basic
Education (1978) and Perrone et al. (1977) obtained similar
findings in their studies.

A good summary of recommendations resulting from most
of the studies discussed above was made by Downs et al.
when she recommended that existing counselors be freed from
extraneous duties and spend full time and effort on guidance
functions; guidance staff be increased; and that the entire
school, headed by the administrator, recognize the guidance
and counseling needs of the students, and the entire
curriculum be geared to the resolution of those needs.

CHAPTER 3

PROCEDURES AND METHODOLOGY

This chapter describes the procedures and methodology which were followed in this study. The following topics will be covered: instrument development, sampling, data collection, and statistical procedure.

Instrument Development

In order to construct a needs assessment instrument it is first necessary to specify the desired terminal competencies of individuals in the target group (Campbell, Walz, Miller, & Kriger, 1973).

Much has been written from a theoretical point of view about the desired competencies or goals of a guidance and counseling service for young adults, such as, those found in the vocational school trades programs of Newfoundland and Labrador. Agne and Nash (1973) stated that:

> ...some of the possibilities we see in career edu-
> cation include: giving all young people a sense of
> competence; making education a genuinely "relevant"
> activity; obliterating the status-tainted distinctions
> among vocational, general, business, and college
> preparatory curricula; creating a genuine "learning
> society"; effectively sweeping curricular, instructional
> and organizational changes in classrooms at all levels
> of schooling in America; and decredentialing an already
> over-certified society. (pp. 96-97)

Other writers have listed what they see as goals of post-high school years. Some of these goals were as follows: knowledge of self; development of interpersonal skills; development of information processing skills about self and work; development of awareness of training and job opportunities; development of decision making skills; development of a sense of community; mastery of strategies necessary to plan adequately for the future; and development of coping skills to deal with rapid change (Gysbers & Moore, 1981; Hansen & Tennyson, 1975; Havighurst, 1952; Hunt, 1974; London, 1973; Myers, 1941; Peters & Shertzer, 1963; Stevenson, 1973).

Some of the widely accepted elements of guidance and counseling programs are self-awareness, appreciation and attitudes, career awareness, employability skills, decision making skills, economic awareness, educational awareness, and skill awareness and beginning competence (Mullen, 1974; Pautler & Roeder, 1973; Tolbert, 1980; Watts, 1980; West Virginia State Department of Education, 1979).

Studies, such as done by Perrone et al. (1977) and Palmo and Devantier (1976) have supported the theoretical point of view and have added several other goals of guidance and counseling programs, namely: help in finding remedial and tutoring assistance; help with personal needs; individual and small group counseling; and help to get direct contact with the work world. Perrone et al. (1977) grouped these needs under the following five headings: vocational,

educational, personal, social, and financial.

Following Campbell's et al. (1973) model of first

establishing an extensive list of goals or student behavior

objectives, the literature and existing guidance and

counseling programs were examined and a list of fifty-four

student behavioral goals was compiled. These fifty-four

goals were then translated into needs statements and each

was assigned to one of the following five categories:

vocational, educational, personal, social, and financial.

The next step in the construction of a measuring

instrument is to establish validity. Hopkins and Stanley

(1981) stated that content validation is primarily a process

of logical analysis. They said that the following questions

need to be answered when establishing content validity:

> (1) Does the test content parallel the curricular
> objectives in content and processes? (2) Are the
> test and curricular emphasis in proper balance?
> (3) Is the test free from prerequisites that are
> irrelevant or incidental to the present measurement
> task? (For example, are the reading and vocabulary
> levels of the test appropriate for the examinees).
> (p. 77)

Content validity of the needs assessment instrument

for this study was established by two procedures. First,

a group of five experts, trained and experienced guidance

counselors in vocational-technical schools in Newfoundland,

judged the appropriateness, scope and classification of the

fifty-four goals which had been compiled. The experts were

also asked to look for repetition among the goals as well

as to add any goals they felt important. All experts
responded, and as a result, the number of goals were in-
creased to sixty-one. It was recommended that certain goals
might better fit into a category other than the one in which
it was originally placed. There were also some examples of
redundancy pointed out.

The next step, having revised the previous list, was
the restating of each of these goals into the form of
questionnaire items which were suitable for the format of
the intended instrument, and which would be appropriate in
terms of vocabulary and level of comprehensibility for
vocational school trades students. The goal statements
were rewritten with this in mind. The items were then
arranged in random order to avoid any error which might
result from set responses if the items were arranged by
category.

Gysbers and Moore (1981) argued that in order to
determine how significant a particular need might be, it
is necessary to ask the respondents two questions concerning
each statement of need. The first of these questions should
ask the respondents what level of importance they would place
on the particular need; and the second question would ask
the respondents to what extent they needed more help than
they were presently getting with the particular need. By
considering both responses to each item, the researcher may
determine how significant a particular need is for each
respondent. This idea of two responses per item was also

demonstrated in a study by the West Virginia State Department of Education (1979) and by Huffman (1979).

Hence, the needs assessment instrument of this study was constructed in like manner. One question asked for a rating on a Likert scale of 1 to 5, of how important the concern stated in the item was to the respondent, and the second question asked the respondents for a rating on the same scale, of how much more help they would like to have with the particular need stated in each item.

A second step designed to establish validity was to administer the instrument to a tryout group. This step was necessary in order to determine if items were ambiguous, if the respondents understood the meaning of the item, and if negative attitudes were generated. The tryout indicated to the researcher whether or not the respondents were answering the questions which were being asked. The literature suggests that the size of the tryout group should range from ten to fifty respondents. Danielson (1978) used a tryout group of twelve students.

The respondents in the tryout group of this study, besides responding to each item, were also asked to point out items they had trouble understanding and items which they perceived to have the same or very similar meaning. The tryout group was divided into groups of three or less for the administration of the instrument and the researcher sat with each group during administration, in order to receive

recommendations for change.

The tryout group consisted of eleven students from the College of Trades and Technology, St. John's. A breakdown of students in the tryout group by program and demographic characteristics appear in Table 1.

Table 1

Tryout Sample

Subject	Program	Sex	Age	Marital Status	Duration of Program
1	Computer data entry	F	19	S	6 mths.
2	Computer data entry	F	24	S	6 mths.
3	Computer data entry	F	N/A	N/A	6 mths.
4	Sheet Metal	M	19	S	9 mths.
5	Sheet Metal	M	21	S	9 mths.
6	Sheet Metal	M	33	M	9 mths.
7	Beauty Culture	F	17	S. Parent	9 mths.
8	Beauty Culture	F	17	S	9 mths.
9	Carpentry	M	24	M	9 mths.
10	Carpentry	M	22	S	9 mths.
11	Carpentry	M	20	S	9 mths.

As a result of this pilot administration, several changes were made in the original instrument. Question 2,

concerning whether or not the respondent needed more help
with each item, was reworded and a sample item was included
in the instruction sheet. Also, several items were reworded,
examples were added and some items were dropped because of
redundancy. The final draft of the questionnaire contained
fifty-six items and is found in Appendix A. A table
indicating the items which make up each category is found
in Appendix B.

Having administered the instrument to the tryout group,
a statistical analysis of the resulting measures was con-
ducted. Several questions concerning the instrument were
answered by this analysis. The questions which needed to be
answered were: (1) Is there a significant difference
between the response for question 1 (importance of need) and
the response for question 2 (need for more help) on each
item? (2) Does the instrument discriminate well between
categories? (3) Does the instrument discriminate well
between subjects by categories? (4) Does the instrument
discriminate well between items within categories?
(5) Does the instrument discriminate well between subjects?

The Pearson-Product Moment correlation was used to
answer question 1. It was found that respondents did indeed
respond differently to question of need importance and the
question of need for more help in that area, since none of
the correlations were found to be significant at the .05
level of confidence. This indicated the desirability of
asking both questions of each need item.

Some writers recommend establishing generalizability of an instrument. They argue that a measuring instrument is useful only if the score it yields can give us information about something else. An observed score must at least inform us as to the expected value of other measures. Traditionally, reliability has required that conditions of measuring be equivalent. Proponents of the generalizability theory admit that each observation belongs to a multitude of possible sets of observations (Cardinet et al., 1976; Gillmore et al., 1978).

A generalizability study was conducted on the tryout data in an attempt to answer questions 2, 3, 4 and 5 above. As a result of this procedure it was found that, while the instrument does not discriminate well between categories on an overall basis, it does discriminate well between subjects by category, and, as well, discriminates well between subjects on an overall score. It also discriminates well between items within categories. Table 2 contains the generalizability coefficients which were obtained as a result of the generalizability study.

Table 2

Generalizability Coefficients for Needs Instrument

Source	p^2
Category	0
Subject	.907
Items within Categories	.759
Subjects by Categories	.733

Since, as discussed earlier, students responded to two questions for each item on the instrument, a method was devised so that the two responses to each item (how important the need was and how much more help was needed) could be combined to form a single response measure. This single measure or priority score by item had to be such that when calculated the priority scores ranked the items in order of priority in a manner which would parallel a ranking based on logical reasoning. For example, from a logical point of view an item with a response of 3 (on a scale of 1 to 5) to the question of more help needed and a response of 5 to the question of importance, would take priority over an item with a response of 3 to the question of more help needed and a response of 4 to the question of importance and similarly with other items where a response to at least one question on an item was greater than the response or responses on another item.

Using this idea a priority formula was developed. This priority formula which was used to combine responses to the question of importance and the question of the extent of more help needed for each item, was as follows: $ps = \log (H)^I$ where ps represents priority score; H represents the response to the question of help needed for each item; and I represents the response to the question of importance for each item. Table 3 illustrates all possible priority scores for each item on the instrument.

Table 3

Possible Priority Scores for Each Item $(ps = \log (H)^{I})$

H (help needed) Rating	I (importance) Rating	Priority Score
5	5	3.5
5	4	2.8
5	3	2.1
5	2	1.4
5	1	.7
4	5	3.0
4	4	2.4
4	3	1.8
4	2	1.2
4	1	.6
3	5	2.4
3	4	1.9
3	3	1.4
3	2	1.0
3	1	.5
2	5	1.5
2	4	1.2
2	3	.9
2	2	.6
2	1	.3
1	5	0
1	4	0
1	3	0
1	2	0
1	1	0

This formula was considered adequate since it provided scores which fit well in a logical order of priority. It does not discriminate between items with a help (H) score of one, but this is not a problem for the purposes of this study because, if the help needed is rated one, then that particular item or need ranks low when compared to items with a help rating of more than one. Since these items with a help score of one has been ranked lowest in importance, it is not necessary to discriminate between them because of their assigned low level of priority.

As a result of the procedures described above, the needs assessment instrument was considered valid and reliable and was quite adequate for the purposes of this study.

Sampling

Enrolled in the trades program of the vocational schools of Newfoundland and Labrador for the 1981-82 school year, were a total of 2,870 students. These 2,870 students were divided between thirty-three trade programs and sixteen schools. As a result of the high degree of similarity between some programs and the students of these programs, and the resulting probable similarity of guidance and counseling needs, it was decided to group the trades programs into eight program clusters. These program clusters were: Business Education, Mechanical I, Mechanical II, Construction, Electricity, Drafting, Services I, and Services II. Table 4

Table 4

Programs by Program Cluster

Program Cluster	Program
Business Education	Bookkeeper - Clerktyping Clerk Accounting Stenography Dicta Typing Short-hand Typing
Mechanical I	Aircraft Maintenance I Aircraft Airframe Maintenance Aircraft Powerplant Maintenance M.V.R. Body M.V.R. Mech. Heavy Equipment Repair Heavy Equipment Operator Marine Diesel Diesel Mech. Small Equipment Repair Oil Burner Repair
Mechanical II	Welding Metal Machinist Machinist Millwright Refrigeration Steam/Pipefitting
Construction	Carpentry Carpentry and Joinery Construction worker Brick laying Plumbing & Domestic Heating
Electricity	Electrical (Basic) Electronic (Basic) Electronic Communication Electrical Lineman Electric Power Utilities
Drafting	Drafting (Basic) Drafting (Arch.)
Services I	Cooking Hospitality training
Services II	Beauty Culture Barbering

illustrates the trade programs which make up each cluster.

In an attempt to facilitate the analysis and inter-
pretation of the data, it was decided to group the sixteen
vocational schools of Newfoundland and Labrador by clusters.
The schools were grouped on the basis of the size of the
community in which each was located and the proximity of the
school to one of the two largest towns in the province -
namely St. John's and Corner Brook. It was felt that stu-
dents of the schools in the larger communities would have
access to more guidance and counseling services, especially
in the area of careers (i.e. Canada Manpower Services); as
well, students of larger centres probably had the services
of a guidance counselor during high school; and students at
schools which were closest to the two cities in the province
might have access to the greater number and scope of
services available in those cities. Table 5 illustrates
the grouping of schools by school cluster. Happy Valley,
for the purposes of this study, was treated separately
because of its large native student population.

A total sample of 500 students were surveyed in this
study. The sample was stratified by program cluster and
school cluster. In order to be representative of the total
trades student population, the sample was proportionate to
the total population by program cluster and school cluster.
Table 6 illustrates the total trades student population of
the vocational schools of Newfoundland and Labrador by
program cluster and school cluster. Table 7 illustrates the

Table 5

Schools by School Cluster

School Cluster I	Corner Brook Vocational School Grand Falls Vocational School Gander Vocational School Lewisporte Vocational School
School Cluster II	Baie Verte Vocational School Springdale Vocational School St. Anthony Vocational School Port-Aux-Basques Vocational School
School Cluster III	Bonavista Vocational School Clarenville Vocational School Burin Vocational School
School Cluster IV	Carbonear Vocational School Bell Island Vocational School Seal Cove Vocational School Placentia Vocational School
School Cluster V	Happy Valley Vocational School

Table 6

Distribution of Trades Student Population
by Program and School Clusters

Program Clusters

School Cluster	Business Education	Mechanical I	Mechanical II	Construction	Electricity	Drafting	Services I	Services II	Total
Cluster I	499	118	116	92	119	42	9	70	1065
Cluster II	156	57	54	45	24	14	0	0	350
Cluster III	218	70	110	66	49	30	11	24	578
Cluster IV	310	81	69	50	84	15	12	36	657
Cluster V	61	35	30	28	29	12	13	12	220
Total	1244	361	379	281	305	113	45	142	2870

Table 7

Distribution of Sample by Program
and School Cluster

Program Clusters

School Cluster	Business Education	Mechanical I	Mechanical II	Construction	Electricity	Drafting	Services I	Services II	Total
Cluster I	86	22	20	16	22	7	1	12	186
Cluster II	28	10	9	8	4	3			62
Cluster III	36	12	19	12	9	5	1	4	98
Cluster IV	54	14	12	9	15	3	1	6	114
Cluster V	11	7	5	5	5	2	2	3	40
Total	215	65	65	50	55	20	5	25	500

distribution of the sample population of this study.

In order to facilitate comparisons across program clusters and school clusters, several more students than are indicated in Table 7 were surveyed from school cluster V, and an extra number sufficient to increase each of the Drafting, Service I and Service II program clusters to a total of fifty was surveyed. Services I had a small total student population. Hence, as many students from this program cluster as were available at the time of the survey were included in the sample.

The school or schools which were selected to represent each school cluster were selected using a table of random numbers. The program or programs which were selected to represent each program cluster were also selected using a table of random numbers. Students within the selected programs within the selected vocational schools were randomly chosen for the sample from within those classes. In instances where it was necessary to go to another class or another program within the cluster, or even another school within that cluster, the above procedure was followed until a sample of sufficient size was obtained for that particular program and school cluster.

Data Collection

The data was collected by the administration of the needs assessment instrument to groups of trades students from

the sampled schools and programs. The researcher travelled
to each of the vocational schools which had been chosen for
the sample from school clusters I to IV, and personally
administered the instrument to the sample population. The
administrator of school cluster V was coached through a
telephone conversation with the researcher on the steps to
be followed in the final selection of students for each pro-
gram cluster sample within that school and on the steps to
be followed in the administration of the instrument. The
needs assessment instrument was then forwarded to the admin-
istrator who had the instrument administered to his school
sample. The completed instruments were then returned to the
researcher.

Permission to collect this data in the above manner was
obtained from Eric Yetman, the Assistant Director of the
Division of Technical and Vocational Education of the Depart-
ment of Education of Newfoundland and Labrador.

Statistical Procedure

In order to facilitate discussion the raw scores on the
completed assessment instruments were converted to percen-
tage scores. Percentage scores below forty-four percent
were considered to indicate a low level of need; from forty-
four percent to eighty percent were considered indicative of
a moderate level of need; and above eighty percent were
considered indicative of a high level of need for guidance

and counseling services.

Scores of forty-four percent or above have been defined as indicative of a significant need. It might be noted that while this level of forty-four percent is an arbitrary one, the procedure by which it was arrived at is an accepted method. This procedure used the mean and standard deviation which was calculated on the data obtained from the pilot administration of the instrument. One standard deviation was subtracted from the mean to obtain the forty-four percent level. The same level of forty-four percent results if one standard deviation is subtracted from the median total score of the final student sample. The low, moderate, and high levels of needs boundaries were determined by using one standard deviation below and above the mean referred to above.

Mean total scores and standard deviations by school cluster and by program cluster were calculated. Mean category scores and standard deviations by school clusters and by program clusters were also calculated.

In an attempt to answer research question 1, a sample wide mean total percentage score and standard deviation was calculated. This mean and standard deviation was used to demonstrate the level of need trade students have for guidance and counseling services in the vocational schools of this province.

To answer research question 2 concerning significant difference between mean overall scores by school cluster and

by program cluster, a one-way analysis of variance was con-
ducted. Since in some instances there were significant
differences at the .05 level of confidence indicated, the
Student-Newman-Keuls test was conducted to determine exactly
where the differences were occurring.

To answer research question 3 concerning significant
difference between mean category scores of the total student
sample, a series of T-tests of means on dependent samples
was conducted.

To answer research question 4 concerning the significant
difference between mean category scores by school cluster and
by program cluster, one-way analysis of variance was conducted
for each of the category scores by school cluster and by pro-
gram cluster. Since in some instances there were significant
differences indicated, the Student-Newman-Keuls procedure was
followed.

As well in order to verify the results of the one-way
analysis of variance, the multivariate analysis of variance
procedure provided in the Statistical Package for Social
Sciences (Nie, Hall, Jenkins, Steinbrenner, & Bent, 1975) was
followed in some instances. Pearson Product correlations
were calculated between category scores on the total student
sample.

In addition to considering the four main research
questions of this study in the statistical analysis, one-way
analysis of variance was conducted to determine if there were
significant differences at the .05 level of confidence on need

category scores for each of four demographic characteristics,
namely age, sex, marital status and residence (at home, away
from home). In several instances the Student-Newman-Keuls
procedure was required.

CHAPTER 4

ANALYSIS OF THE DATA

This chapter is divided into four major sections. The first section presents the data related to the total scores by total student sample, and by program and school clusters. The second section reports findings on need category scores by program cluster; the third section deals with need category scores by school cluster; and the fourth section presents the data on the need patterns as perceived by trade students in district vocational schools by need category and by age, sex, marital status and residence.

Descriptive statistics were computed on total scores and need category scores for each program cluster, school cluster, demographic characteristics and the total student sample. One-way analysis of variance and the Newman Keuls posteriori test were conducted in an attempt to determine if there were significant differences in perceived need between the groups described above and to decide where such differences were. In addition multivariate analysis of variance was conducted on need category scores by program and school clusters. T values and Pearson correlations were also calculated on need category scores on the total sample responses and are reported in the following pages.

Student Perceptions of Total Need

The level of overall need for guidance and counseling services was reported using the mean and standard deviation of the total score on the survey instrument across the total student sample. These values are illustrated in Table 8. A difficulty which occurred in nearly all of the statistical analyses was that of missing responses to items. These missing scores caused considerable numbers of cases to be eliminated from computations of statistics. Hence, as indicated in Table 8, the total number of cases which were included in the calculation of the mean and standard deviation of the total scores was 386, out of the total sample. However, a sample size of 386 was considered quite adequate for these purposes.

Table 8

Mean and Standard Deviation of Total Scores for
Trade Students in District Vocational Schools

N	$\overline{X}$	SD
386	120.4	35.0

The mean of 120.4, a raw score with an equivalent percentage score of sixty-one, falls well above the level of need of

forty-four percent which is considered a significant level
of need for the purposes of this study. It is, in fact,
nearly one standard deviation above the significant level.
Assuming the distribution of total scores to be a normal
distribution, approximately eighty-four percent of the
respondents to the survey scored above the level of signifi-
cant need. A graph of the distribution of the total scores
for the sample is displayed in Figure 1.

A one-way analysis of variance was conducted on the
total scores to determine if there were differences between
program clusters and between school clusters at the .05
level of confidence. Significant differences were found
across program clusters and the Student-Newman-Keuls test
revealed the following homogeneous groups with respect to
mean total scores: group 1 - Construction, Mechanical II,
Mechanical I, Drafting, Electrical, and Business Education;
group 2 - Mechanical I, Drafting, Electrical, Business Edu-
cation, and Services II. These groups were not distinct
groups since there is some overlap. Hence, an examination of
the total score means and the ninety-five percent confidence
interval for the means by program cluster was carried out,
and shows that the following distinct groups were homogeneous
with respect to total scores: group 1 - Construction and
Mechanical II; group 2 - Mechanical I, Drafting, Electrical,
and Business Education; and group 3 - Services II. These
homogeneous groups and program clusters within groups were
listed in ascending order of magnitude of need. It should
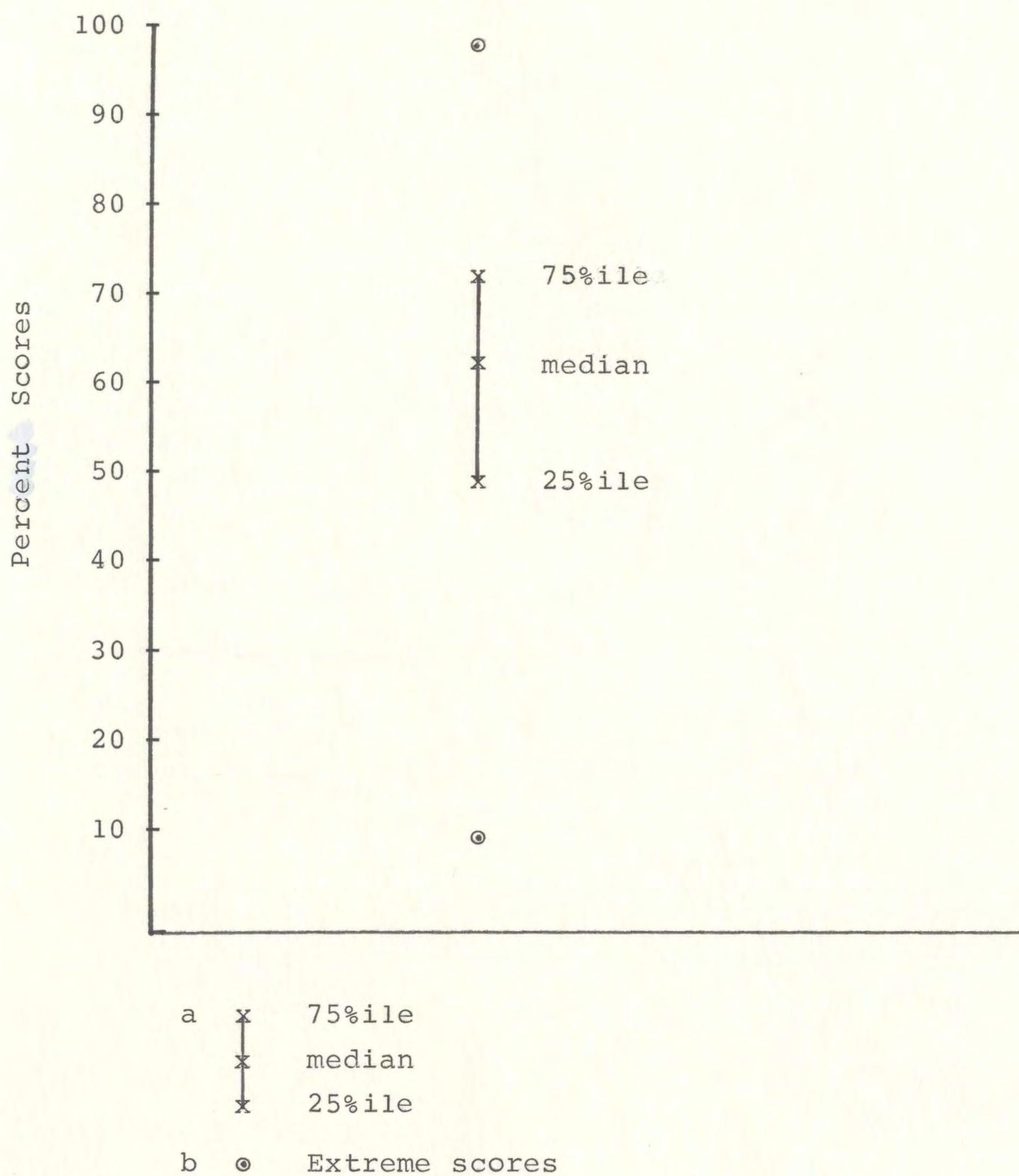
Figure 1. Distribution of total need scores as perceived by the total student sample

be noted at this point that the program cluster, Services I, was not included in the analysis of variance because of its sample size. The analysis of variance was run on samples of equal size (forty-nine) which were randomly selected from the total sample. It might also be noted that the mean of the total need scores for each program cluster was higher than the significant level, ranging from a low raw score of 104.8 (fifty-three percent) for the Construction cluster to a high raw score of 134.2 (sixty-eight percent) for the Services II cluster.

A one-way analysis of variance found no significant difference at the .05 level of confidence between school clusters. However, the level of need reported by respondents was higher than the significant level of need with a raw score range from 112.3 (fifty-seven percent) for School Cluster I to 127.9 (sixty-five percent) for School Cluster IV. Table 9 contains the degrees of freedom, mean squares, and F-ratios from the one-way analysis of variance by both program cluster and school cluster for total scores. Figure 2 and Figure 3 illustrate the total score distribution by program cluster and school cluster, respectively.

Student Perceived Need by Need Category and Program Clusters

When considering the levels of perceived need by program cluster, the need category scores were calculated. Table 10 illustrates the numbers of cases, means, and standard

Table 9

One-way Analysis of Variance of Total Scores
by Program and School Clusters

Grouping	Source	Degrees of Freedom	Mean Square	F
Program Clusters	Between	6	2760.4	2.4*
	Within	247	1136.6	
	Total	253		
School Clusters	Between	4	2103.5	1.7
	Within	263	1256.2	
	Total	267		

Note: The cases used in this analysis were randomly
       selected from the total sample and were
       different in number for program and school
       clusters.

* $\underline{P} < .05$
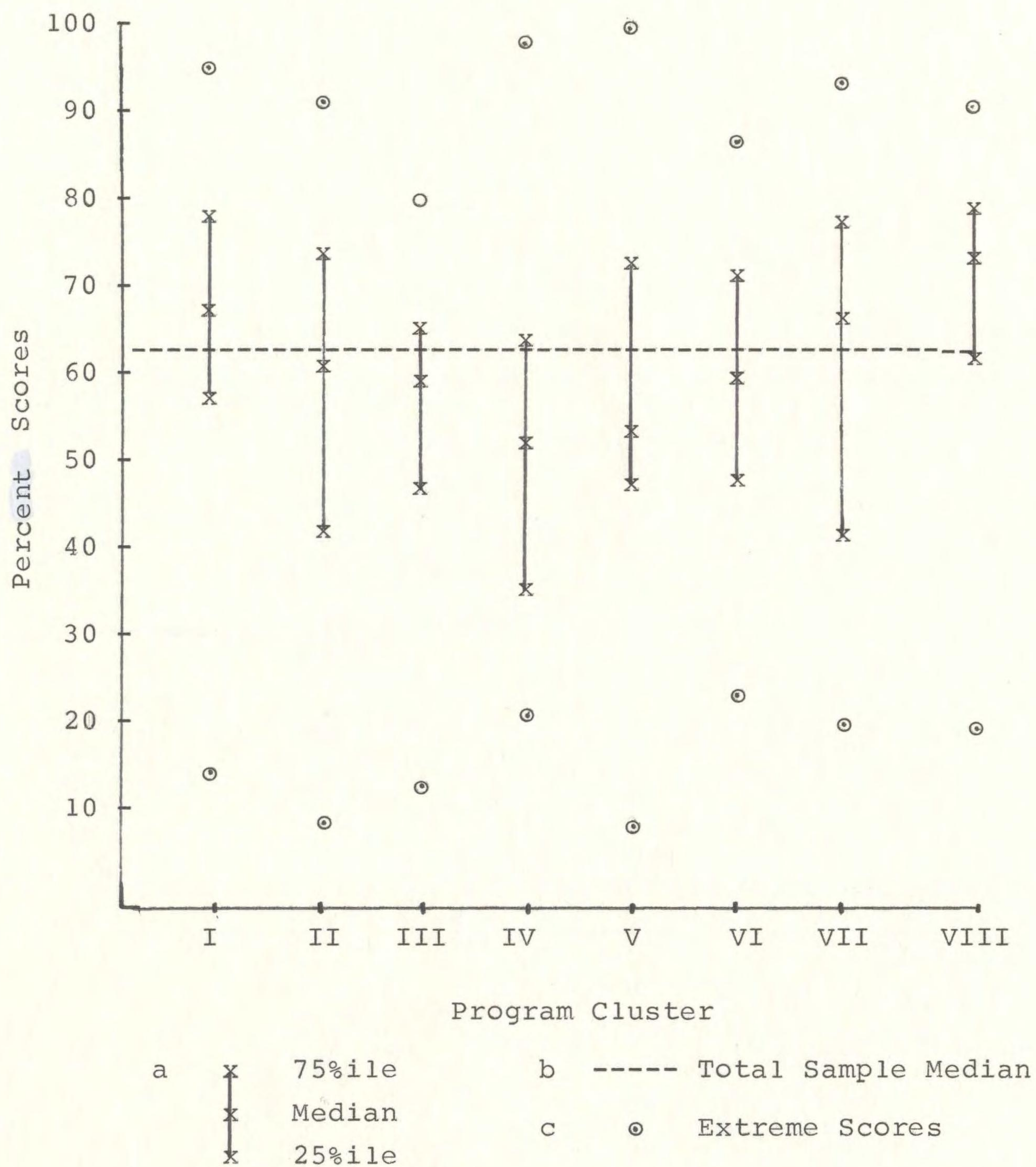
Figure 2. Distribution of total need scores by program cluster
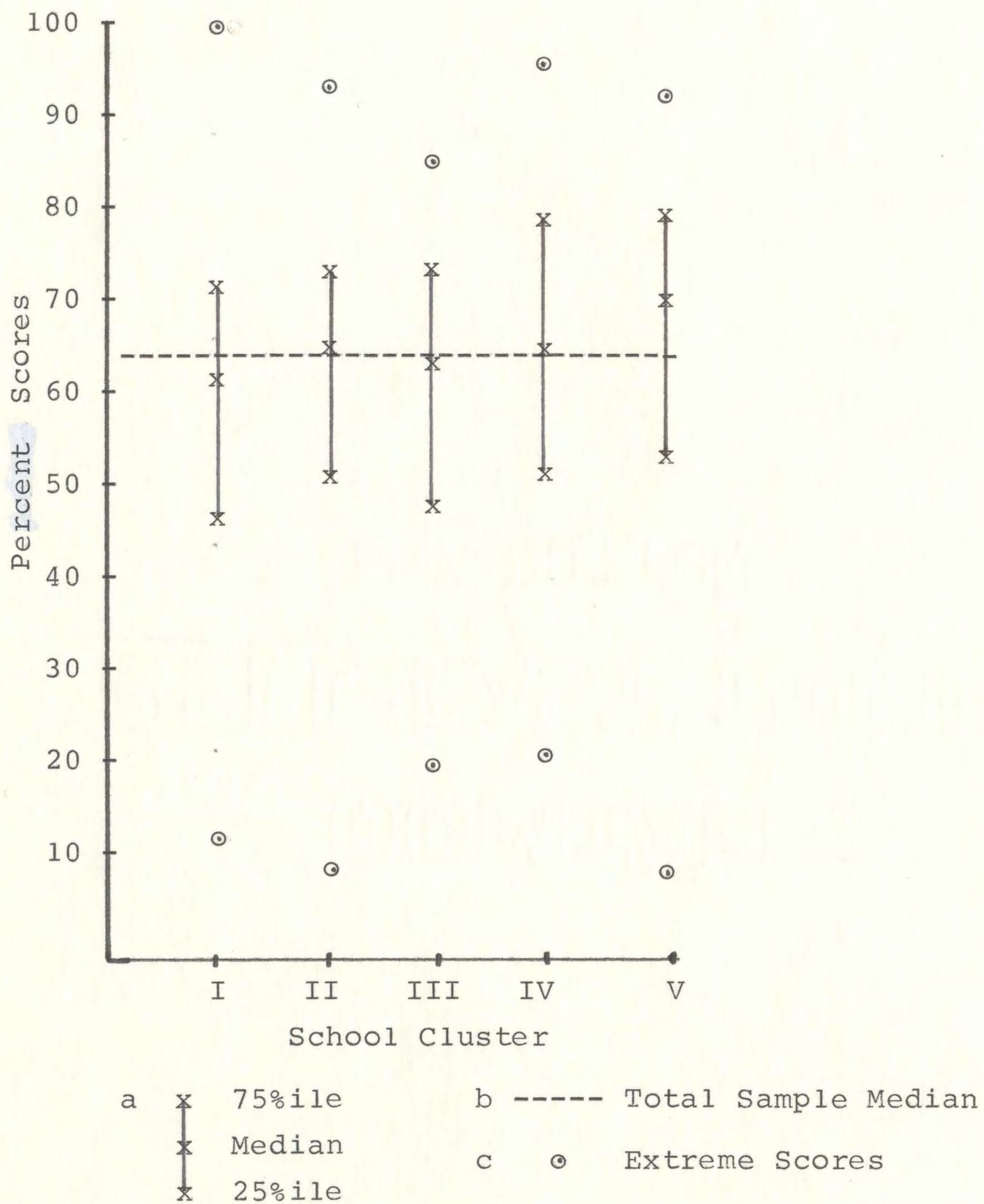
Figure 3. Distribution of total need scores by school cluster

Table 10

Means and Standard Deviations of Need Categories by Program Cluster

Program Cluster	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.
Business Education	49	31.6	7.8	49	21.2	5.7	49	40.3	12.0	49	11.6	3.9	49	16.1	5.7
Mech I	44	28.8	9.3	47	19.6	6.9	43	37.1	13.8	49	10.8	4.9	49	15.6	7.2
Mech II	44	28.9	6.7	48	17.9	5.3	43	36.8	10.6	47	11.4	4.5	48	14.7	5.5
Const.	38	29.8	8.3	47	19.7	6.6	37	36.9	13.7	48	11.6	4.8	45	15.1	6.7
Elect.	38	29.4	8.7	47	18.8	6.5	32	36.4	13.5	46	10.8	4.9	48	15.1	6.9
Draft	43	29.7	7.1	47	19.2	5.8	39	38.4	10.9	47	11.3	4.0	43	15.3	5.3
Serv. I	26	30.6	8.6	30	20.4	7.1	20	38.8	14.5	30	14.0	4.8	30	17.0	7.8
Serv. II	46	33.7	8.0	46	22.9	5.6	40	44.8	11.9	47	14.5	4.0	43	17.5	5.8
Total	302	30.4	8.1	331	19.9	6.2	283	38.8	12.5	333	11.7	4.6	325	15.6	6.2

Note: These statistics were calculated on a random sample of 49 respondents from each program cluster. The program cluster Services I had statistics calculated on its total sample. The numbers for several of the other clusters are less than 49 as a result of missing values.

deviations of each of the five category scores for each program cluster as well as for the total sample.

In the vocational need category it was found that all program clusters had a mean score which was significantly higher than the significant level of forty-four percent. The mean scores ranged from a low of 28.8 raw score or sixty-three percent which is more than one standard deviation above the significant level, to a high of 33.7 raw score or seventy-four percent which is nearly two standard deviations above the significant level. Figure 4 gives an illustration of the distribution of vocational need scores by program.

All program clusters also revealed significant levels of need in the educational category, personal category, financial category and social category. In the educational category the mean scores ranged from a low raw score of 17.9 (fifty-seven percent) in the Mechanical II cluster to 22.9 (seventy-three percent) in the Services II cluster. In all clusters the mean scores were considerably higher than the significant level. In the personal category the mean scores ranged from 36.4 (fifty-five percent) in the Electrical cluster to 44.8 (sixty-seven percent) in the Services II cluster. In the financial category of needs the mean scores ranged from 10.8 (fifty-two percent) in the Mechanical I and the Electrical clusters to 14.5 (sixty-nine percent) in the Services II cluster. With respect to the social need category the mean scores ranged from 14.7 (forty-seven percent) in the Mechanical II cluster to 17.5 (fifty-six percent) in the
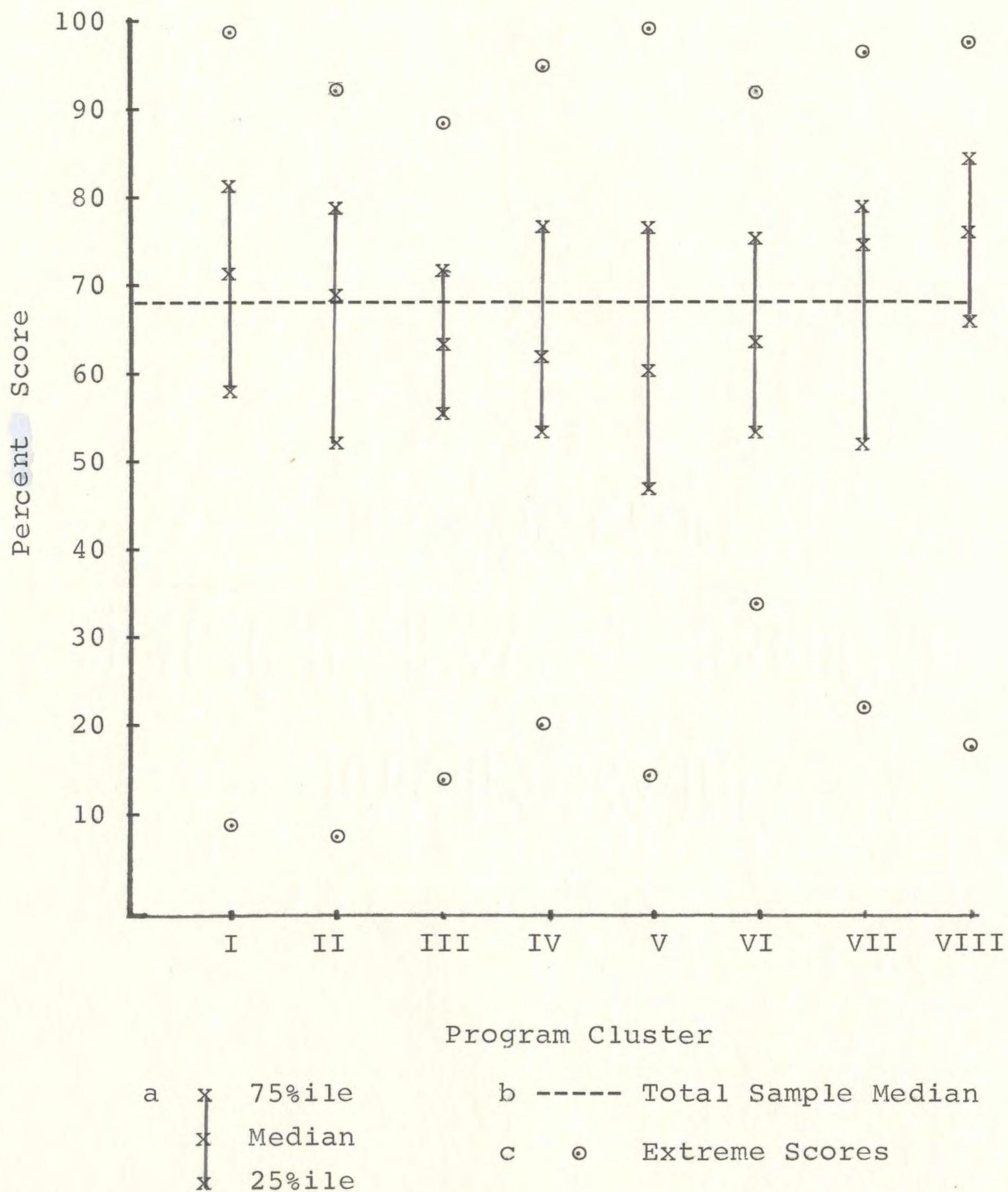
Figure 4. Distribution of vocational need scores by program cluster
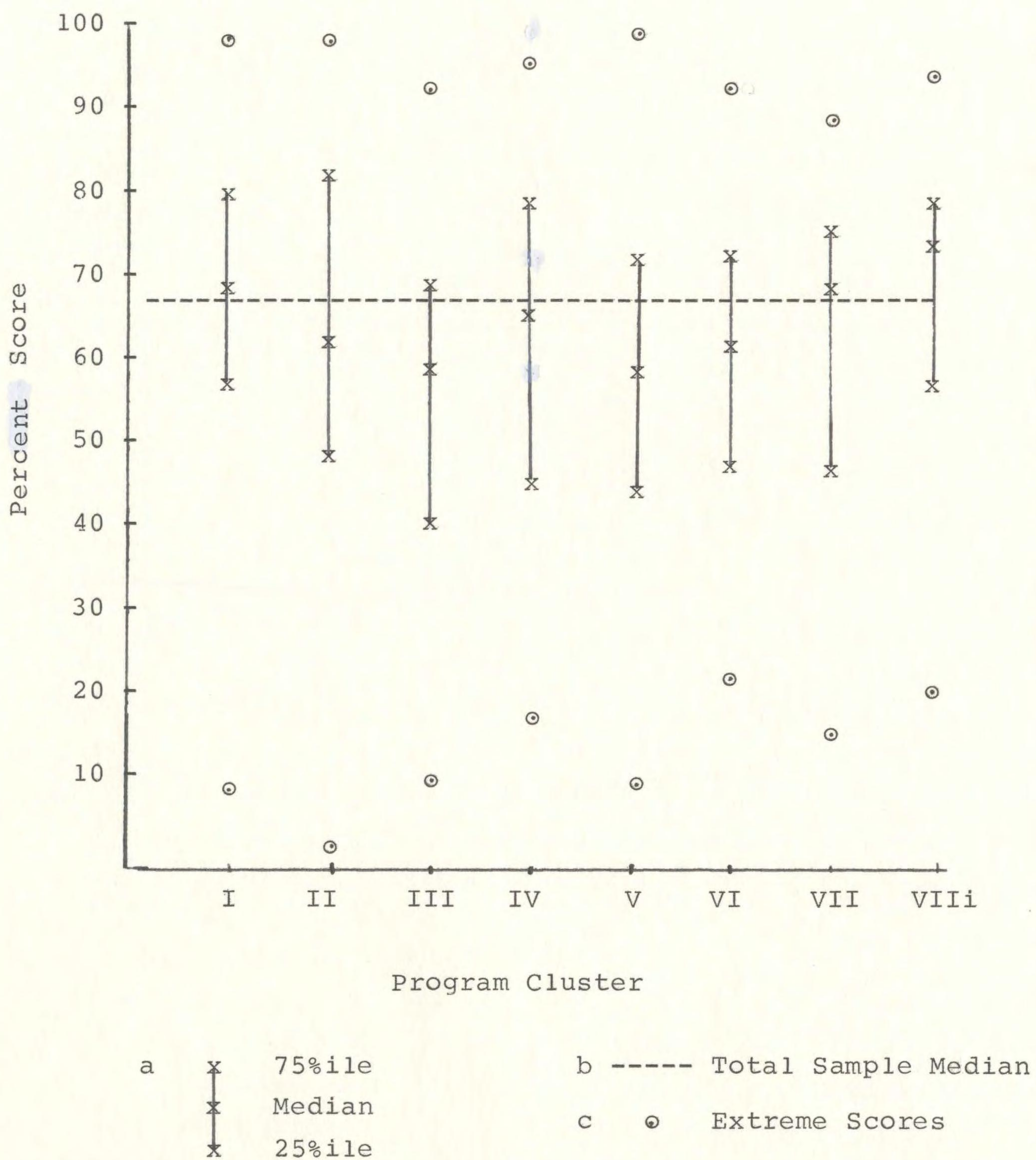
Figure 5. Distribution of educational need scores by program cluster
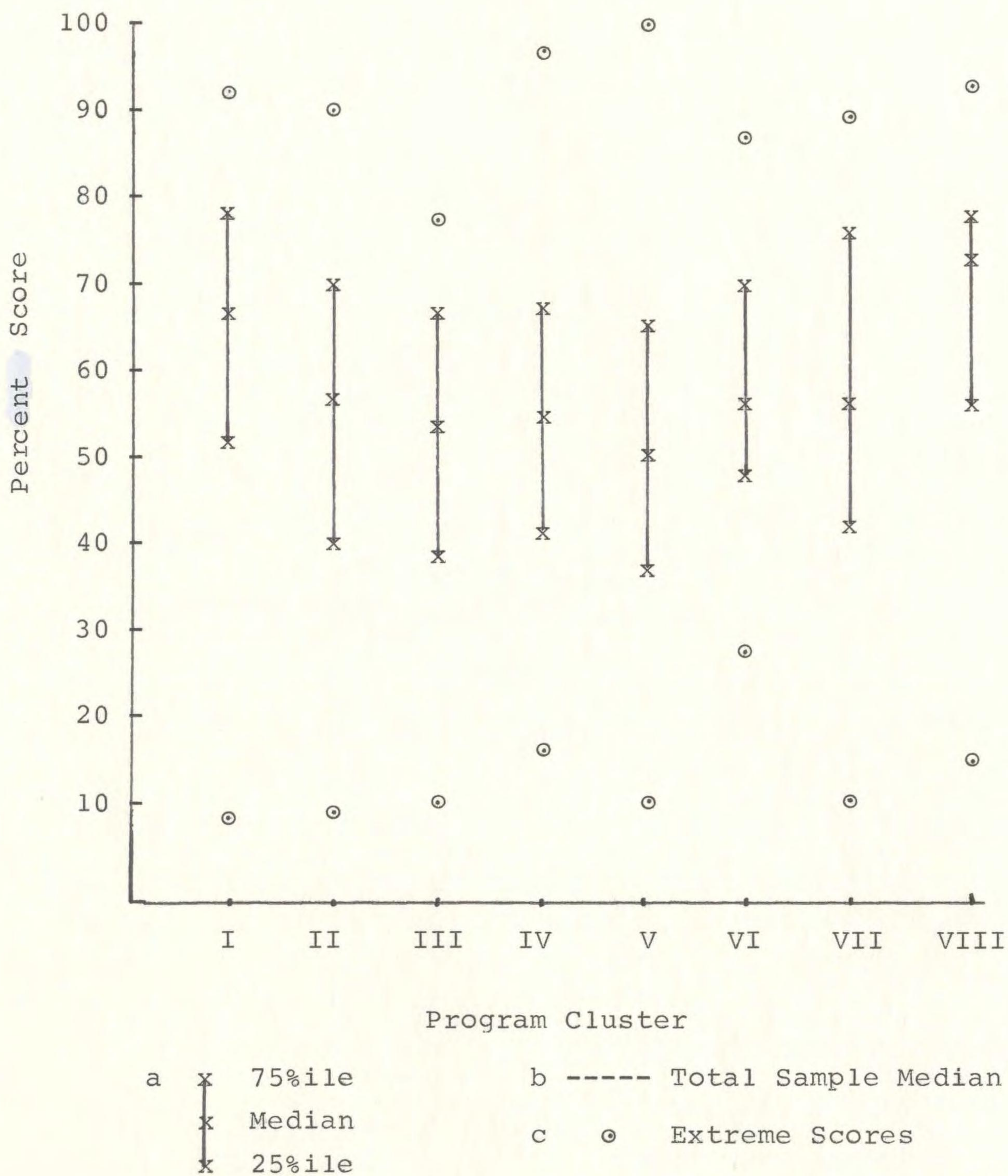
Figure 6. Distribution of personal need scores by program cluster
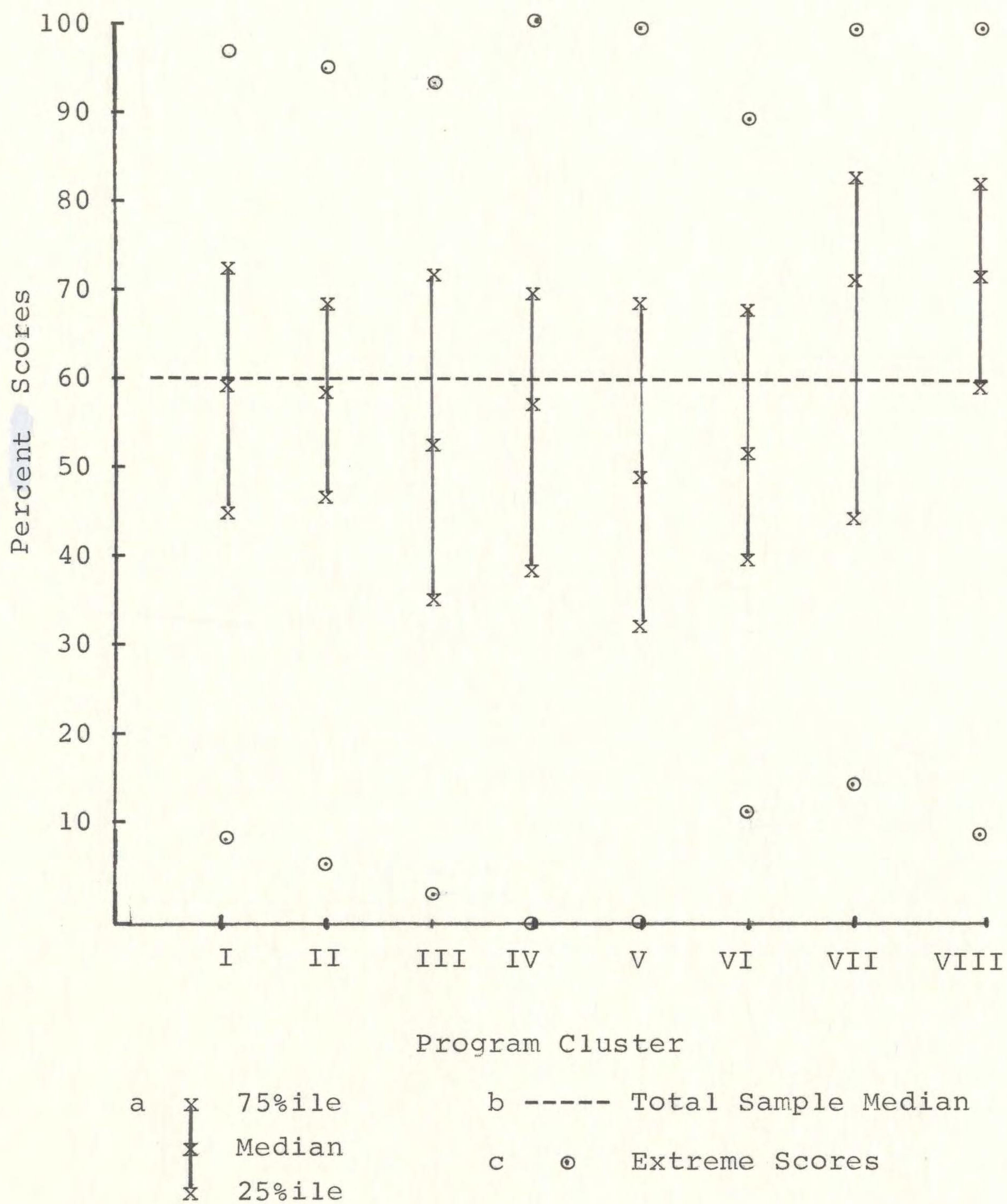
Figure 7. Distribution of financial need scores by program cluster
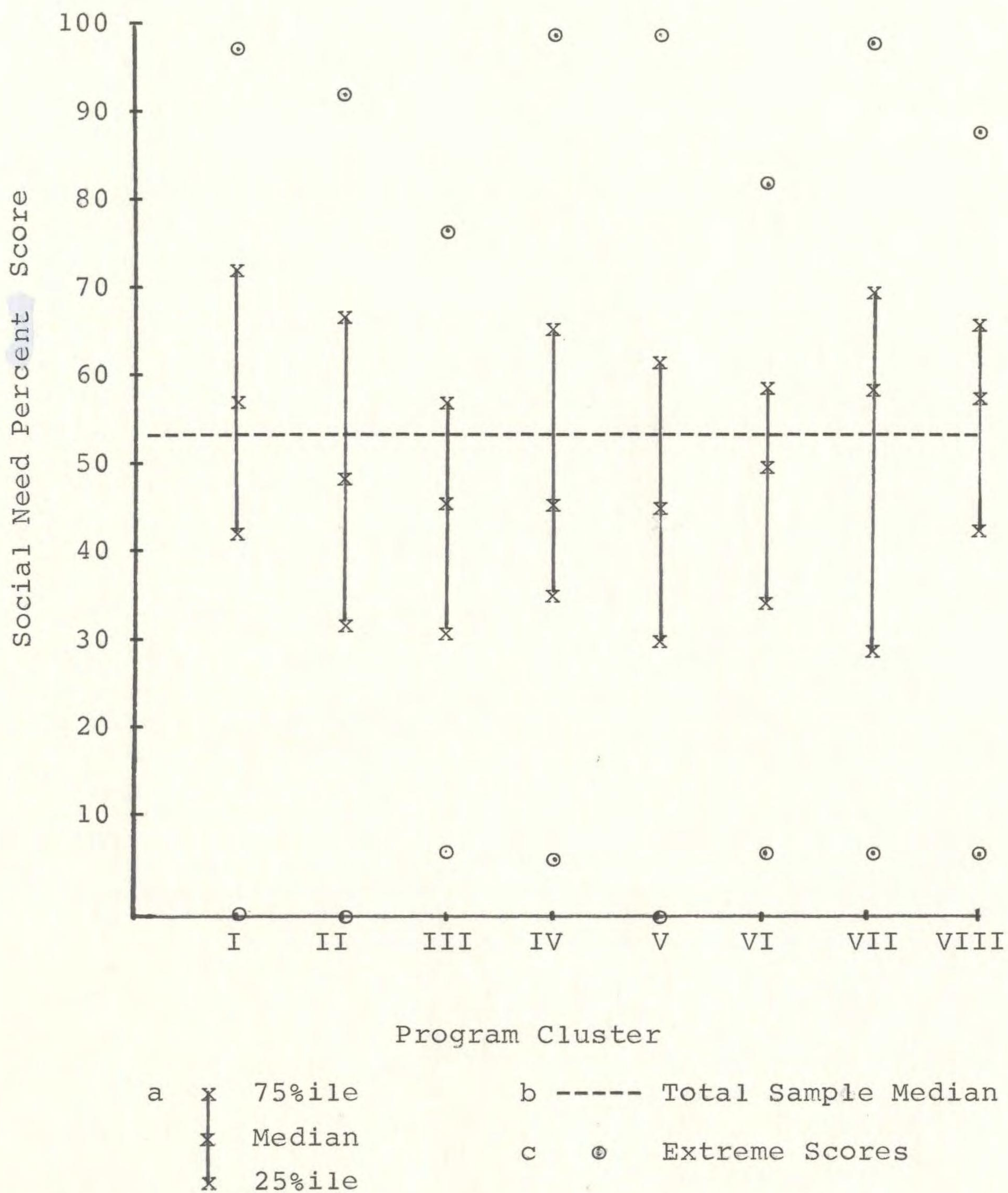
Figure 8. Distribution of social need scores by program cluster

Services II cluster. Figures 5,6,7, and 8 provides an illus-
tration of the educational, personal, financial, and social
need category score distributions, respectively, by program
cluster.

Figure 9 shows the distribution of scores for each need
category, on the total student sample. As can be seen from
this figure, data from this study provided the following
priority ranking of need categories, beginning with the
highest: vocational, educational, personal, financial, and
social. A series of T-tests on these need category means
found them to be all significantly different from each other.
Table 11 contains the T values of each T-test.

One-way analysis of variance was conducted on each need
category, by program cluster, in an attempt to determine if
there were significant differences between program clusters.
In order to facilitate this analysis, samples of equal size
were randomly selected from the total student sample in each
program cluster. The number of cases selected for each
cluster was equal to the number of cases in the program
cluster with the smallest sample. The number of cases
selected for each program cluster was forty-nine. The pro-
gram cluster, Services I, was not included in the analysis
of variance procedures because of its relatively small sample
size. The statistics from the one-way analysis of variance
by need category and program cluster is found in Table 12.
As is indicated, significant differences at the .05 level of
confidence were found between program clusters in the
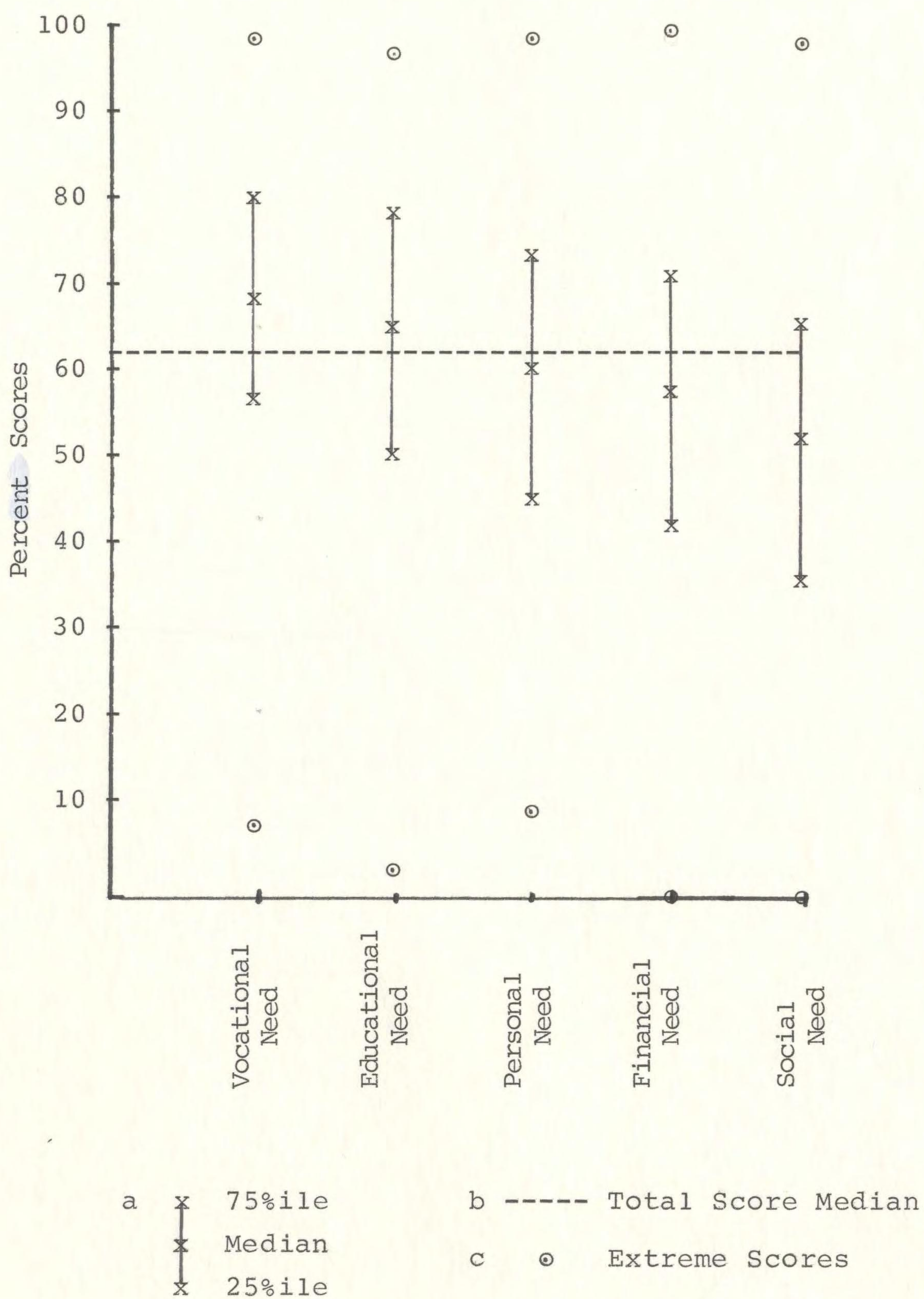
Figure 9. Distribution of need category scores for the total student sample

Table 11

T-Values of Need Category Scores of Total Student Sample

Need Category Pairs	Degrees of Freedom	T-Value	2-Tail Probability
Vocational Educational	482	5.23	0.000
Vocational Personal	420	13.93	0.000
Vocational Financial	482	13.62	0.000
Vocational Social	476	26.21	0.000
Educational Personal	432	9.18	0.000
Educational Financial	547	9.26	0.000
Educational Social	539	22.81	0.000
Personal Financial	435	2.25	0.025
Personal Social	430	14.31	0.000
Financial Social	539	9.17	0.000

Table 12

One-way Analysis of Variance of Need Category Scores by Program Clusters

Grouping	Source	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
Program Clusters	Between	6	143.6	2.2*	6	128.1	3.5*	6	360.7	2.4*	6	76.2	3.9*	6	39.3	1.0
	Within	295	63.9		324	36.8		276	152.7		326	19.8		318	38.8	
	Total	301			330			282			332			324		

* $\underline{P} < .05$

vocational, educational, personal, and financial need categories.

The Student-Newman-Keuls test was conducted to determine which program clusters were different for each of those need categories. For each need category where significant differences were found across programs, homogeneous groups of program clusters, with respect to the level of need indicated by respondents, are listed in the following pages. Both the groups and program clusters within these groups are listed in ascending order of need level.

With respect to the vocational need category which was found to have, at the .05 level of confidence, significantly different scores among program clusters, the Student-Newman-Keuls test found no significant differences at the .05 level of confidence. However, on examination of mean vocational category scores by program cluster and the ninety-five percent confidence interval for mean vocational category scores by program cluster, the program clusters fell into the following homogeneous groups: group 1 - Mechanical I and Mechanical II; group 2 - Electrical, Drafting, and Construction; group 3 - Business Education; and group 4 - Services II.

With respect to the educational category needs score, a one-way analysis of variance revealed significant differences at the .05 level of confidence across program clusters. The Student-Newman-Keuls procedure was followed. This indicated the following groups of homogeneous program clusters: group 1 - Mechanical II, Electrical, Drafting, Mechanical I,

Construction, and Business Education; group 2 - Business Education and Services II. This did not completely clarify where the differences were located. On examination of mean educational need scores across program clusters, it appeared that the Business Education Cluster might stand alone. Hence, there existed three homogeneous groups of program clusters with respect to the level of perceived educational need. Group 1 was made up of all programs listed in Group 1 above with the exception of Business Education; Group 2 consisted of Business Education; and Group 3 consisted of Services II.

On examination of the results of one-way analysis of variance on the personal category of need scores, it was found that across program clusters there were significant differences at the .05 level of confidence. However, having followed the Student-Newman-Keuls procedure to determine which program clusters were different, no clarification resulted. Having examined the mean scores and the ninety-five percent confidence interval for those means, the following were homogeneous groups with respect to the level of perceived personal need: group 1 - Electrical, Mechanical II, Construction, Mechanical I, and Drafting; group 2 - Business Education; and group 3 - Services II.

One-way analysis of variance on the financial category of needs revealed significant differences across programs at the .05 level of confidence. The Student-Newman-Keuls posteriori test indicated the following homogeneous groups in the financial need category: group 1 - Mechanical I,

Electrical, Drafting, Mechanical II, Business Education, and Construction; and group 2 - Services II.

One-way analysis of variance on the social need category, by program cluster, revealed no significant differences at the .05 level of confidence.

In addition to the one-way analysis of variance, the multi-variate analysis of variance procedure which is provided by the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was conducted on need category scores by program cluster. Statistics from this procedure are reported in Table 13. The data from this analysis were in agreement with those of the one-way analysis with one exception. The multivariate analysis of variance indicated significant differences at the .05 level of confidence between program clusters in the social need category while the one-way procedure indicated no significant difference in this area. One possible explanation for this discrepancy is that the multivariate analysis was conducted on the total sample while the one-way analysis was conducted on a smaller sample as was described previously. The larger number of cases used in the multivariate analysis of variance may account for the significant differences across programs in the social need category being revealed. Another possible explanation is that of the high level of correlation between category scores as shown in Table 14. Because the correlation between category scores and specifically between social need and each of the other need categories is so high, the significant difference which the multivariate analysis

Table 13

Multivariate Analysis of Variance of Need
Category Scores by Program Cluster

Variable	Hypothesis Mean Square	Error Mean Square	F
Vocational Need	212.94	62.10	3.43*
Educational Need	126.54	35.38	3.58*
Personal Need	710.52	154.31	4.60*
Financial Need	58.80	20.64	2.85*
Social Need	116.10	40.36	2.88*

Note: Degrees of Freedom = 7,378

* $p < .05$

of variance revealed in the social category may be a result
of contamination from the other need categories which are
so highly correlated with the social category.

The significant level of correlation between category
scores are probably indicative of the tendency of people
who have needs in a particular category to have these needs
carry over into other categories. For example a vocational
need can quite conceivably lead to an educational, personal,
financial and/or social need.

Table 14

Pearson Correlation Matrix of Need Category
Scores of Total Student Sample

Need Category	Vocational	Educational	Personal	Financial	Social
Vocational	1.000	.832	.821	.745	.782
Educational	.832	1.000	.837	.697	.787
Personal	.821	.837	1.000	.721	.847
Financial	.745	.697	.721	1.000	.700
Social	.782	.787	.847	.700	1.000

Student Perceived Need by Need Category and School Cluster

Descriptive statistics were computed for each need cate-
gory by school cluster. These statistics are reported in
Table 15.

Vocational need category mean scores as measured by the
needs assessment instrument were considerably higher than the
significant level of forty-four percent. The mean scores
ranged from 29.0 (sixty-three percent) in School Cluster I
to 32.9 (seventy-two percent) in School Cluster IV.

Similarly, educational need category mean scores were
higher than the significant level. These means ranged from
19.5 (sixty-one percent) in School Cluster I to a high of
22.1 (sixty-nine percent) in School Cluster V. For the
personal need category, again the mean scores were higher
than the significant level for each school cluster, with a
range of 36.9 (fifty-five percent) in School Cluster I to
42.2 (sixty-three percent) in School Cluster IV. Financial
needs were also reported at a level considerably higher than
the significant level of 44% with a range from 11.4 (fifty-
four percent) in School Cluster I to 13.2 (sixty-three per-
cent) in School Cluster V. The social needs were as well
perceived by the students to be higher than the significant
level. The social mean score ranged from 15.5 (forty-eight
percent) in School Cluster I to 18.5 (fifty-eight percent) in
School Cluster IV. Figures 10, 11, 12, 13, and 14 illustrate
the distribution of the vocational, educational, personal,
financial and social percentage scores, as measured by the

Table 15

Means and Standard Deviations of Need Category Scores by School Clusters

School Cluster	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.
Sch I	62	29.0	9.4	61	19.5	7.0	62	36.9	14.1	63	11.4	5.7	63	15.5	7.2
Sch II	58	30.9	7.4	61	20.2	6.9	59	40.2	12.8	61	11.9	4.5	62	17.5	5.8
Sch III	62	30.5	5.6	62	20.5	5.4	62	39.9	12.2	62	12.8	4.5	62	15.9	6.6
Sch IV	61	32.9	6.8	62	21.6	5.4	63	42.2	11.2	63	13.0	4.5	63	18.5	6.3
Sch V	47	31.3	9.5	57	22.1	6.8	42	41.0	15.4	59	13.2	4.5	55	16.5	6.4
Total	290	30.9	8.2	303	20.7	6.2	288	40.0	13.1	308	12.4	4.8	305	16.8	6.5

Note: These statistics were calculated on a random sample of 62 respondents from each school cluster. The numbers shown for several of the school clusters are less than 62 as a result of missing values.

School Cluster

a x 75%ile   b ----- Total Sample
   x Median   Median
   x 25%ile   c ⊙   Extreme Scores
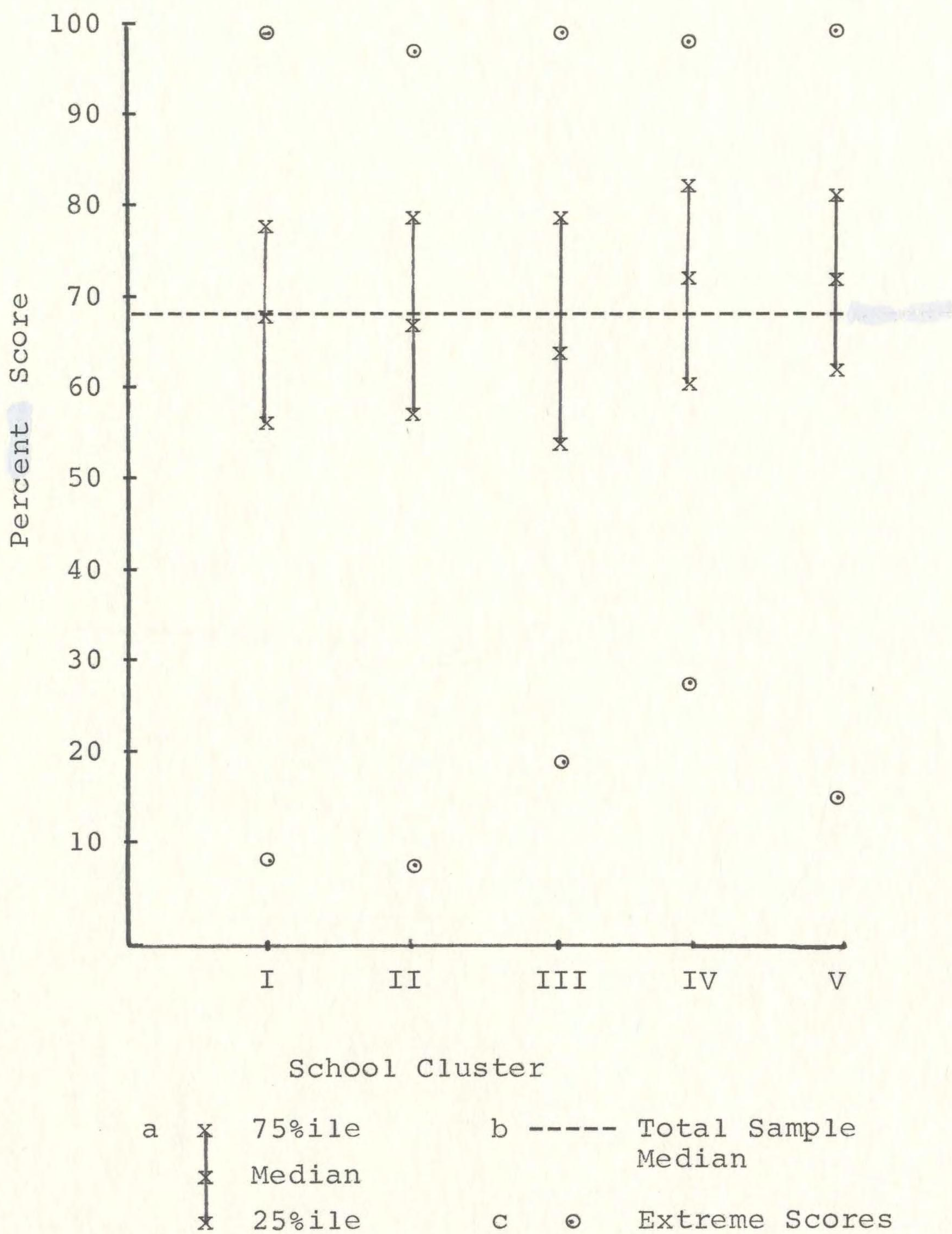
Figure 10. Distribution of vocational need scores by
            school cluster
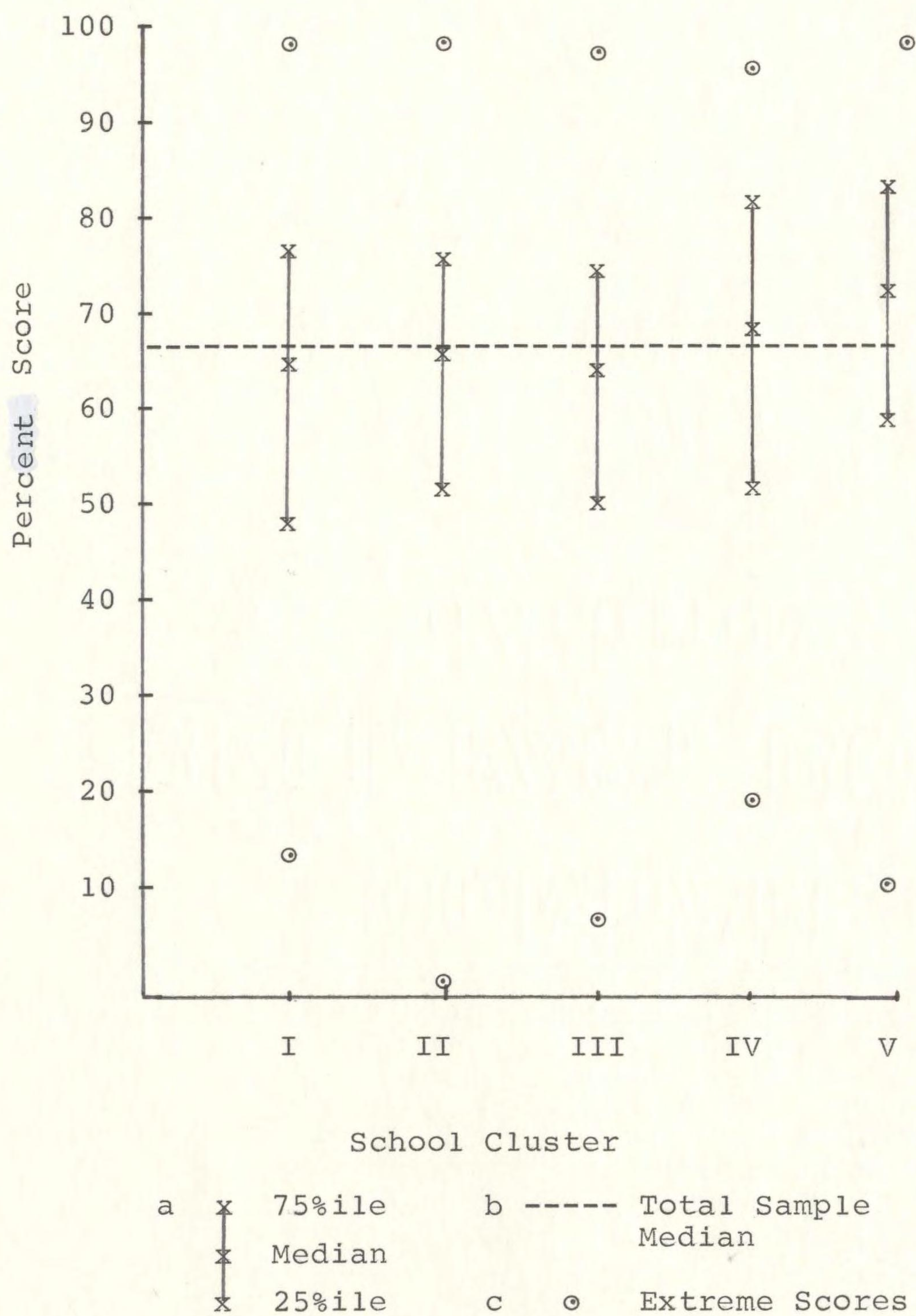
Figure 11. Distribution of educational need scores by school cluster
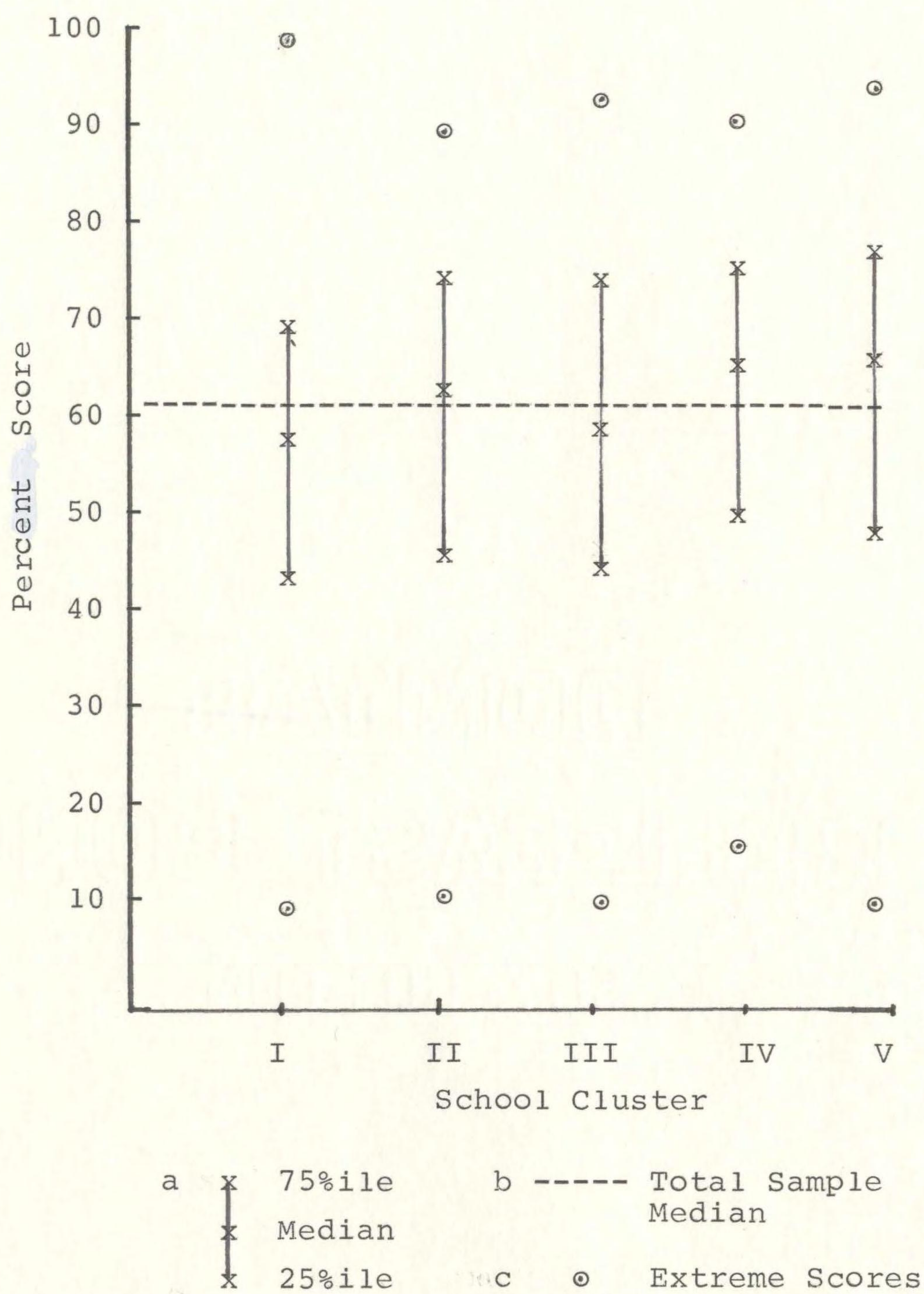
Figure 12. Distribution of personal need scores by school cluster
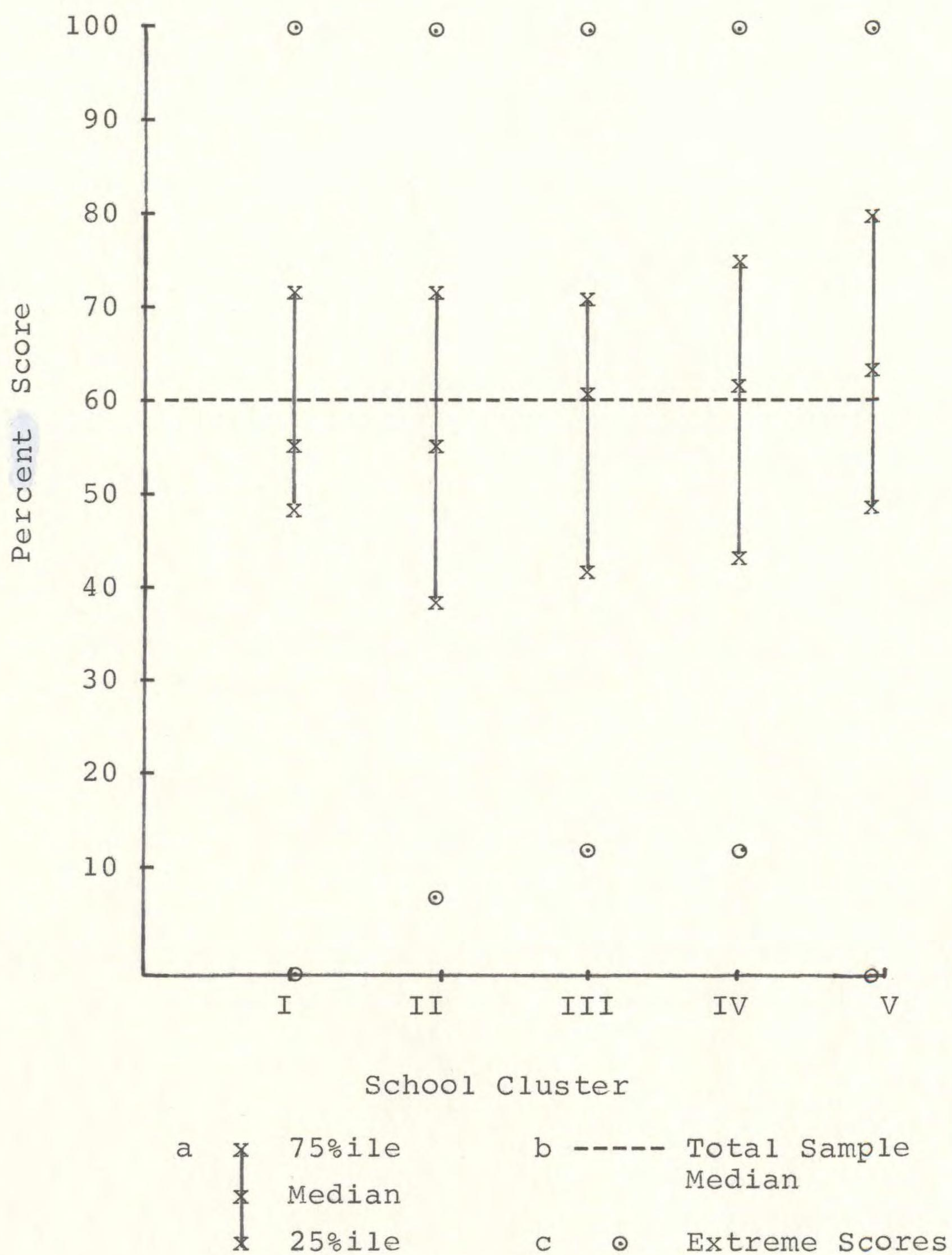
Figure 13. Distribution of financial need scores by
            school cluster
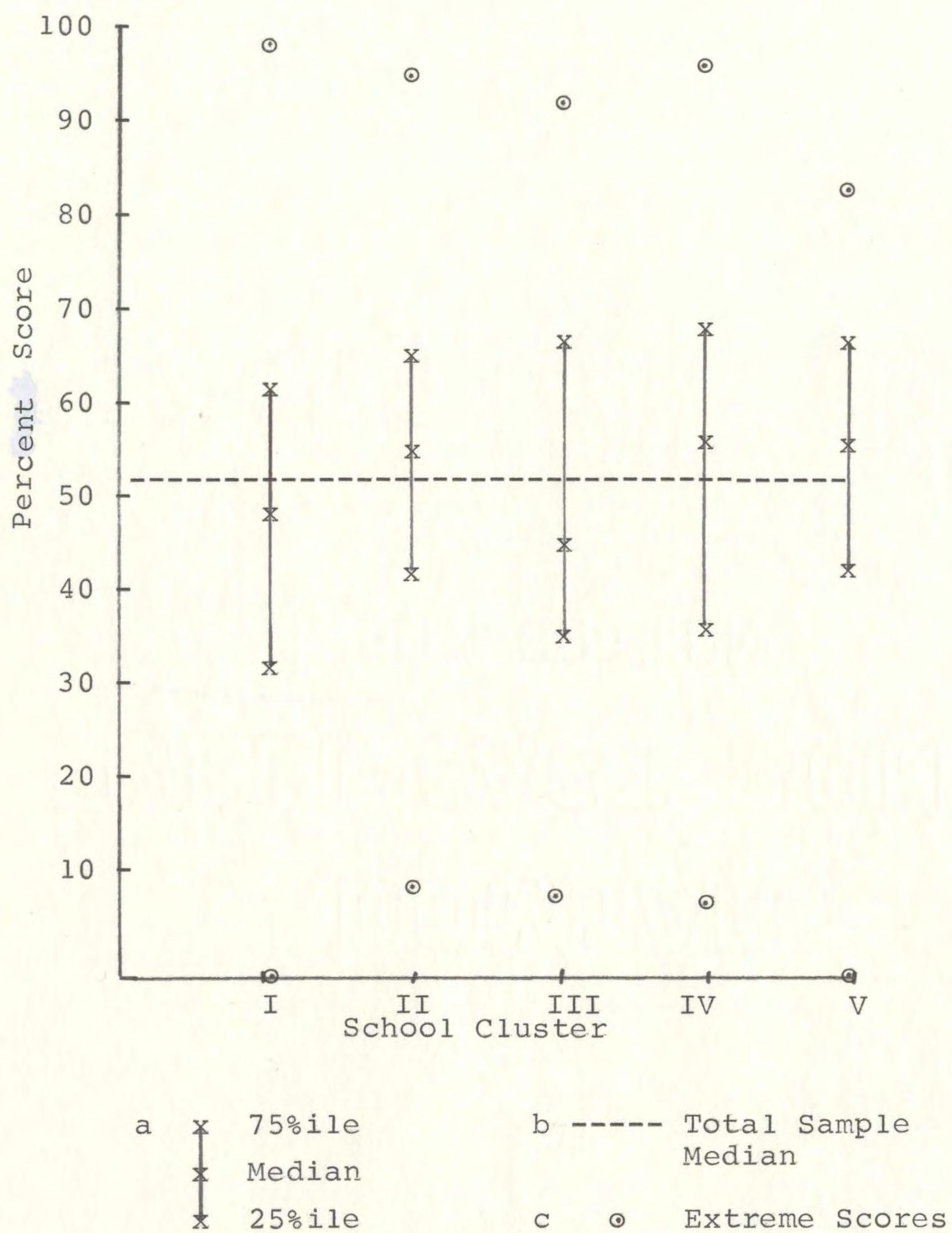
Figure 14. Distribution of social need scores by school cluster

needs assessment instrument, respectively, for each school cluster.

Although the respondents to this needs assessment instrument, from each school cluster indicated a significant level of need for services in each of the five need categories measured, one-way analysis of variance revealed no significant differences at the .05 level of confidence between school clusters for any of the need categories. It is interesting to note, however, that although there were no significant differences at the .05 level, the F probability for the social need category by school clusters was .06. Since this probability level is so close to the level of .05 which has been accepted as the criterion for this study, it raises some question as to whether or not school clusters or indeed individual schools may be a factor contributing to the level of need for guidance and counseling services in the social need category. This point will be discussed further in Chapter 5 of this report. Data from the one-way analysis of need category scores by school cluster is reported in Table 16. It should be noted at this point that the one-way analysis of variance was conducted on the scores of a sample of sixty-three cases from each school cluster. These were randomly chosen from the total student sample.

A multivariate analysis of variance procedure was also followed on need category scores by school clusters. This analysis was conducted on the total student sample as opposed to the one-way analysis which was conducted on a smaller sample of the total. However, the results of the multivariate analysis procedure were consistent with those of the one-way

Table 16

One-way Analysis of Variance of Need Category
Scores by School Cluster

Grouping	Source	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
School Cluster	Between	4	123.0	1.8	4	67.7	1.7	4	240.8	1.4	4	36.0	1.6	4	94.6	2.2
	Within	285	66.6		298	40.0		283	170.6		303	22.7		300	42.2	
	Total	289			302			287			307			304		

analysis of variance, with no significant differences at the
.05 level of confidence between school clusters for any of
the need categories. The data from the multivariate analysis
of variance is reported in Table 17.

Table 17

Multivariate Analysis of Variance of Need
Category Scores by School Cluster

Variable	Hypothesis Mean Square	Error Mean Square	F
Vocational	78.275	64.700	1.210
Educational	29.846	37.114	.804
Personal	213.372	163.906	1.302
Financial	23.343	21.309	1.095
Social	50.555	41.643	1.214

Note: Degrees of Freedom = 4,381

Brief Demographic Profile of Trade Students in
District Vocational Schools

In addition to considering the four main questions of
this study in the statistical analysis, further analysis was
done based on the following demographic characteristics of
the respondents: age, sex, marital status and place of
residence (i.e. at home, away from home).

Descriptive statistics were calculated for each need
category by each of the four characteristics. With respect
to age, there were three groupings as follows: low to twenty
years, twenty-one years to thirty years and thirty-one years
to high where low represents the youngest age and high the
highest age among the respondents. The other factors, sex,
marital status and residence were each broken into two groups
as follows: sex - female, male; marital status - single,
married; and residence - at home, away from home. The numbers
of respondents, means and standard deviations are reported in
Table 18 for each of these characteristics by need category.

With respect to age, all age groups indicated a level
of need for each category which was considerably higher than
the established significant level. Single and married stu-
dents also both had mean category scores which were above
the significant level. Female and male students reported
levels of category needs which were significantly high; and
whether students lived at home or away from home while attending
the vocational school, they reported need for guidance services

Table 18

Means and Standard Deviations of Need Category Scores
by Age, Marital Status, Sex, and Residence

Grouping	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.	N	$\overline{X}$	S.D.
Age															
Low - 20 yrs	356	30.8	8.1	414	20.1	6.3	332	40.2	12.9	413	12.2	4.5	405	16.3	6.3
21-30 yrs	122	30.2	8.0	131	20.7	6.1	103	37.5	13.5	139	11.5	4.7	133	15.9	7.0
31 - high	20	31.9	8.9	24	21.8	6.3	13	43.8	12.2	23	12.1	4.8	24	16.6	7.2
M Status															
Single	441	30.9	8.0	501	20.5	6.1	404	40.3	12.7	508	12.3	4.5	494	16.4	6.4
Married	47	29.7	8.6	54	20.3	6.4	36	36.3	15.2	53	10.7	5.0	55	15.4	7.2
Sex															
Female	241	32.8	7.8	259	22.1	5.8	217	43.9	12.4	262	13.2	4.3	255	17.7	6.4
Male	251	28.9	7.9	303	19.0	6.2	225	36.0	12.5	305	11.1	4.5	301	15.0	6.4
Residence															
At Home	332	30.7	8.0	385	20.2	6.2	297	39.8	12.8	389	11.8	4.6	381	16.1	6.5
Away from Home	146	31.0	8.5	162	20.8	6.3	135	40.2	13.5	164	12.8	4.4	162	16.5	6.6

in each category at a level considerably higher than the significant level.

One-way analysis of variance was carried out on each of these groupings in an attempt to determine if there were significant differences within these characteristic groupings for each of the need categories. Statistics from this procedure are reported in Table 19.

The one-way analysis of variance found no significant differences at the .05 level of confidence between the three age groups. However, in the personal need category the F probability was .08. This points to the possibility of differences in the personal category by age. This point is to be discussed further in Chapter 5 of this report.

With respect to sex, an analysis of variance revealed a significant differences at the .05 level of confidence between females and males for all five need categories. In each category females reported a higher mean need for services. This higher reported need may partially be accounted for by the tendency of females to be more open about reporting levels of need than males. However, since the females scored consistently significantly higher than the males in all categories, it may be concluded that the level of need for guidance and counseling services is greater for females and that females would also make more use of such services. It may also be interpreted that males would require a greater effort in terms of outreach activities on the part of guidance personnel than females.

Table 19

One-Way Analysis of Variance of Need Category Scores
by Marital Status, Sex, Residence, and Age

Grouping	Source	Vocational Need			Educational Need			Personal Need			Financial Need			Social Need		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
Marital Status	Between	1	65.9	1.0	1	3.2	0.1	1	525.3	3.1	1	125.7	6.1*	1	49.1	1.2
	Within	486	65.3		553	38.0		438	167.6		559	20.7		547	41.9	
	Total	487			554			439			560			548		
Sex	Between	1	1884.5	30.8*	1	1362.2	37.8*	1	6849.8	44.4*	1	587.0	29.5*	1	1054.1	25.9*
	Within	490	61.3		560	36.1		440	154.1		565	19.9		554	40.6	
	Total	491			561			441			566			555		
Residence	Between	1	7.5	0.1	1	37.0	1.0	1	16.1	0.1	1	109.8	5.3*	1	17.7	0.4
	Within	476	66.4		545	38.6		430	170.3		551	20.8		541	42.5	
	Total	477			546			431			552			542		
Age	Between	2	34.1	0.5	2	42.2	1.1	2	398.0	2.3	2	26.5	1.3	2	10.3	0.2
	Within	495	65.8		566	38.7		445	170.2		572	20.9		559	42.6	
	Total	497			568			447			574			561		

* $p < .05$

The one-way analysis of variance on need category scores
by marital status, revealed a significant difference at the
.05 level of confidence in the financial category. While
there were no significant differences between single and
married students at the .05 level in any of the other cate-
gories, the F probability in the personal category was .08.
This fact may be taken into consideration when a guidance
program is being planned. It might also be noted that in
each of the five need categories single students reported a
higher mean level of need than married students. However,
since with the exception of the financial category, the
differences were not significant, any decisions concerning
priority of guidance services for single and married students
should be pursued cautiously.

When residence was considered a one-way analysis of
variance, it was found that students who lived away from
home reported a significantly higher (at the .05 level) need
for guidance in the financial category than students who
resided at home. In all other need categories there were no
significant differences between students who lived at home
and those who stayed away from home, although in each need
category the mean scores for away from home students were
higher than at home students.

Summary

This chapter has presented all the statistical analy-
ses in detail. Some discussion and interpretation

was done but a more complete discussion of these results and recommendations are presented in the following chapter.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the purpose, the methodology, and the findings. Conclusions are discussed, and recommendations are made concerning the provision of guidance and counseling services in the vocational schools of Newfoundland and Labrador.

I   Summary

The Purpose

The general purpose of this study was to determine if there was a need for guidance and counseling services in the vocational schools, and if there was such a need, to determine the level of that need. It was also intended to determine if different schools or different programs were factors which might affect the level of overall perceived need and/ or the level of need within five need categories, namely vocational, educational, personal, financial and social. Another question answered was whether or not there were significant differences between need categories with respect to the level of needs reported in each category.

Instrumentation and Methodology

On reviewing the related literature it became evident

that the accepted and widely practiced method of deter-
mining levels and kinds of needs which require a guidance
and counseling service, was to conduct a needs assessment.
Time, monitary and personnel restrictions led to the
decision to restrict the needs assessment procedure to the
perceptions of the target group, the trade students of the
vocational schools of Newfoundland and Labrador. A very
important consideration in this decision was the fact that
the literature, as discussed in Chapter 2 of this report,
points to the adequacy of measuring the perceptions of a
representative sample of the target group (Downs; Perrone
et al., 1977; Silvester, 1976; Veres, 1979).

The sixteen vocational schools of the province were
grouped into five clusters based on size of community in
which each school was located and on the accessibility of
guidance related services to its students. The trade pro-
grams were grouped into eight clusters based on recom-
mendations from the Division of Technical and Vocational
Education of Newfoundland and Labrador. A proportionate
number of trade students were selected randomly by school
and program cluster for a total sample of 500 plus an extra
number to assist in an inferential study. A needs assess-
ment instrument was developed by first reviewing the
literature and existing guidance programs of institutions,
similar to our district vocational schools with respect to stu-
dent population and trade programs offered, in an attempt to com-
pile an exhaustive list of goals for such a service. This list

of goals was then studied by a group of five highly trained and experienced guidance counselors who were working in institutions very similar to the vocational schools. They recommended changes where they felt it necessary.

The validated list of goals which had been initially grouped in the five need categories listed above, were restated into questionnaire items. After the items had been arranged in a random order ignoring categories, the instrument was administered to a tryout group which was representative of the target group. This group made recommendations for change. The researcher also observed for desirability of change during the administration of the instrument. Data from this tryout were used to calculate generalizability coefficients, all of which were suggestive of a high level of generalizability for the instrument.

After the final sample had been selected, the researcher travelled to the different vocational schools and personally administered the needs assessment instrument. One exception was the school at Happy Valley, where the instrument was administered under the supervision of the school principal.

The data which was collected as a result of these administrations was then compiled and descriptive and inferential statistics calculated.

Results of the Study

The following are the major findings of this study:

1. The first question which this study sought to answer was whether or not there was a significant level of need for guidance and counseling services for and as perceived by trade students. The data compiled by this study suggests very definitely that there is an overall need for such a service. The mean score of the total sample was 120.4 out of a total possible score of 196 or a percentage score of sixty-one. More than seventy-five percent of the total sample who responded to all items on the instrument indicated an overall level of need above the significant level of forty-four percent used for this study.

2. The second question which this study attempted to answer was whether or not there were significant differences in the level of total need by school or program cluster. One-way analysis of variance showed that there were significant differences between program clusters at the .05 level but not between school clusters. The following groups of program clusters were found to be similar within groups but significantly different between groups with respect to the level of total need for guidance and counseling services: Group 1 - Construction and Mechanical II; Group 2 - Mechanical I, Drafting, Electrical, and Business Education; and Group 3 - Services II.

3. The third main research question was whether or not the mean need category scores of the total student sample differed. A series of T-tests of means showed that for the total sample there were significant differences between the mean level of need by need category. Each need category had scores which were significantly different from each other need category. The descending order of these need categories based on the mean category scores for the total sample are as follows: vocational, educational, personal, financial and social category.

4. The fourth question which this study attempted to answer was whether or not there were significant differences by school or program clusters with respect to each need category. A one-way analysis of variance for each need category by program cluster revealed significant differences at the .05 level of confidence between program clusters for each of the following need categories: vocational, educational, personal, and financial. The results of a multi-variate analysis of variance procedure were in agreement with those of the one-way analysis of variance procedure with the social need category being an exception. However, it was decided to accept the results of the one-way analysis of

variance for reasons discussed in detail in Chapter 4, that there were no significant differences between program clusters on the social need category scores. Following are a list of groups of program clusters which were similar: vocational category - group 1 - Mechanical I and Mechanical II; group 2 - Electrical, Drafting, and Construction; group 3 - Business Education; group 4 - Services II; educational category - group 1 - Mechanical II, Electrical, Drafting, Mechanical I, and Construction; group 2 - Business Education; group 3 - Services II; personal category - group 1 - Electrical, Mechanical II, Construction, Mechanical I, and Drafting; group 2 - Business Education; group 3 - Services II; and financial category - group 1 - Mechanical I, Electrical, Drafting, Mechanical II, Business Education, and Construction; group 2 - Services II.

One-way analysis of variance and multivariate analysis of variance found no difference at the .05 level of confidence between school clusters in any of the need categories.

5. In addition to providing answers to the four research questions, the available data was used to determine whether or not there were significantly different scoring patterns on each need category with respect

to the demographic characteristics, age, sex, marital status, and residence (i.e. at home, away from home).

A one-way analysis of variance by age found no significant differences at the .05 level of confidence on any of the need categories. However, the same procedure by sex found that on all five need categories females reported a significantly higher level of need than males did. This difference was significant at the .05 level of confidence. One-way analysis of variance revealed a difference which was significant at the .05 level of confidence in the financial need category for both factors, marital status and residence. In the marital status analysis it was found that single students reported needs at a higher level than married students for all need categories. With respect to residence it was found that the level of need in all need categories reported by students living away from home while attending vocational school were higher than those reported by students living at home while attending vocational school. However, it is important to note that for both marital status and residence the only need category with a difference significant at the .05 level was the financial category.

II Conclusions

This section is divided into three parts. The first part discusses conclusions related to the four research questions. Second, conclusions relating to the demographic profile of respondents are discussed. The last part of this section presents findings that indicate the direction of further research.

Level and Kind of Need as Perceived by Trade Students

Data gathered in this study points emphatically to the conclusion that there is a need for guidance and counseling services in the vocational schools of Newfoundland and Labrador. It also indicates that there is a definite difference between types of programs in terms of the level of need for those services. This points to the desirability of directing more effort in terms of services, toward students in programs with the higher levels of reported need. These findings are in agreement with the views of Moore and Miller, and Hansen and Tennyson (1975) when they argued that guidance and counseling services must be provided to post-secondary students as well as public school students.

The data also indicated a very definite difference between need categories with respect to the reported level of need. Again this points to the desirability of placing more effort in the services aimed at satisfying needs in the need categories with the highest level reported. Hence, the order of priority, beginning with the most important

need category from the point of view of level of need, is

first the vocational need category, second, the educational

need category, third, the personal need category, fourth,

the financial need category and last the social need cate-

gory. When a service is being provided, then effort, time,

materials and personnel should be allocated with this

priority list in mind. These findings are in agreement with

the findings of other studies done by Palmo and Devantier

(1976); The Bureau of Vocational, Technical, and Adult

Education of the West Virginia State Department of Education

(1979); Stewart (1979); Downs et al.; and several other

researchers discussed in Chapter 2 of this report. Those

researchers also found the need for vocational counseling

to be highest followed in the same order as above by the

other need categories. It is important to note, however,

that although the social and financial need categories were

low in the priority ranking, the level of need reported in

those categories was significant in this study as well as

those reported in the literature. This indicates, of

course, that it is very important that services be provided

to satisfy those needs as well as the needs associated with

the vocational, educational and personal need categories.

As the means and standard deviations of need category

scores by program reported in the tables in Chapter 4 indicate,

there is a significant level of need for services in all

categories for all programs. However, the significant

differences between programs for the vocational, educational,

personal, and financial need categories which were deter-
mined, indicated that it is desirable to consider the
priority ranking of program types for each need category
when allocating guidance and counseling services within
vocational schools. Such a consideration would ensure
that the services are provided where they are most
needed. Again, however, it is important to note that the
program types which are lowest on the priority list have
been shown to have significant levels of need for services
and so must be attended to, as well.

With respect to types of schools, the data from this
study lead to the conclusion that schools, at least in the
way in which they were grouped for this study, do not
influence the level of perceived need for guidance and
counseling services. Students from all school clusters
indicated high levels of need for services and none were
significantly higher than any other. This points to the
desirability of providing guidance and counseling services
to all vocational schools in this Province. Since the
vocational schools were grouped on the basis of guidance
related services which might be available to students
depending on the size of the communities in which the school
was located, these findings might be interpreted to indicate
the lack of such services in all communities in Newfoundland
and Labrador. Such an interpretation would be in agreement
with the ideas of Grewal (1980) when he stated that such
services were sadly lacking in this province.

Demographic Profile of Trade Students

Data from this study provided bases for conclusions about how need for guidance and counseling services relate to four demographic characteristics, namely age, sex, marital status and residence. This study indicates that age is not a factor which influences the level of need for services in any of the need categories. However, as with the study by Downs et al. referred to in Chapter 2 of this report, this study indicates that females have, or at least report, significantly more problems with which a counselor could help them than do males. It is interesting to note that this is true for all need categories measured in this study. This may be interpreted as an indication that females do have more problems for which guidance and counseling services could offer some help or that females are generally more open about reporting or discussing such problems. If the latter is accepted as a possibility then that leads to the conclusion that guidance personnel must put more effort into reaching potential male clients than would be needed with potential female clients. On the other hand, if the first explanation is chosen, then the guidance personnel would be expected to put emphasis on helping females. This researcher would pre-fer to take the middle road and provide the needed service to both males and females to the extent to which it could be possible.

The factors of marital status and residence were found to have a significant influence on financial needs. Single students reported a higher level of financial need than

married students. This at first doesn't appear logical since it seems that married students would have more financial commitments than single students. However, on closer examination it appears that married students have access to more sources of financial aid, namely Canada Manpower training allowances, unemployment insurance benefits, since they were more likely to have been working before entering the vocational school, and probably some savings. Single students are more likely to have just left the public school system and hence not eligible for Canada Manpower training allowance or unemployment insurance benefits, and are more unlikely to have been employed before enrolling in the vocational school, thus, also eliminating them from the benefits often available to married students.

Students living away from home while attending vocational school were found to have significantly higher need for assistance from a counselor with respect to their financial affairs than students living at home. This finding is probably an expected one since students living away from home have the added financial burden of accommodations, food, and often transportation to and from the school which are not problems for students living at home.

For both single students and students living away from home it is very important that they receive qualified assistance in finding available monies and managing their financial circumstances in the best possible way. During this researcher's contact with the vocational school

personnel, it was found that the cause of some students
dropping out was financial difficulties. This is unfortu-
nate since in most cases this probably could have been
avoided with better planning and advice for such students.
Before we go further, however, it is important that we
not overlook the fact that although married students and
students living at home did not report a need for financial
counseling at as high a level as their counterparts, they
did in fact indicate levels of such need which were signifi-
cantly high. Hence, they must also be provided the
assistance which they are requesting.

Findings Suggestive of Further Research

A one-way analysis of variance on program clusters for
the social need category indicated that there was no
significant differences between program clusters. However,
a multivariate analysis of variance on the same variables
found that there were significant differences between pro-
gram clusters on the social category. This was discussed at
some length in Chapter 4, but there remains some question as
to whether or not program clusters are a factor influencing
the level of social need for trade students. The researcher
concluded that program cluster was not a significant factor
determining the level of need in the social category.
Further research is recommended.

In the analysis of need category scores by school cluster,
it was found that school clusters did not differ significantly

on any of the need categories. However, as was noted in
Chapter 4 of this report, the F probability for the social
need category between school clusters was .06. This is
greater than the .05 level accepted for this study but is
low enough to leave some question as to whether or not
vocational schools are a factor influencing the level of
social need. Further research on this point might best be
done by considering individual schools rather than groups of
schools as was done by this study, since it appears possible
that the social needs of trade students may be higher in
some schools than in others.

With respect to the data relating to the demographic
factor of age, it was found that the differences between the
age groupings used in this study, with respect to each of
the need categories, was not significant at the levels which
were deemed acceptable. However, the F probability between
the age groups in the personal need category was .08. This
probability is sufficient to raise some question as to whether
or not students of different ages generally have significantly
different levels of personal need. Further research into this
question might be approached by using different age groupings
than those used in this study.

Another point of question as a result of the findings
of this study is whether or not single and married students
differ in the level of personal need. This study found that
there was no significant difference. However, the F

probability of .08 raises some doubts. Further research on this point is suggested.

III Recommendations

The following recommendations are offered as a possible way to improve services to trade students of the vocational schools of Newfoundland and Labrador, and to attempt to satisfy the needs and to solve the problems of trade students indicated to exist by the results of the study.

1. If problems relating to the need of trade students for vocational, educational, personal, financial and social guidance and counseling is to be tackled, guidance and counseling services must be provided. Hence, it is recommended that guidance and counseling services be provided in each of the vocational schools of Newfoundland and Labrador. Such services should be carried out by and under the supervision of a guidance counselor who has been trained at the masters level in the area of guidance and counseling, and, preferably, who has had training and experience in working with this age group, or has a high level of interest and motivation to work with such a clientele.

2. Further to, and highly related to recommendation 1,

it is recommended that prior to the assignment of
guidance counselors to individual vocational
schools, a provincial co-ordinator of guidance
and counseling services be assigned to the Office
of the Division of Technical and Vocational
Education. It is suggested that such a co-ordinator
with the assistance of a committee draw up a plan
for the provision of services on a province-wide
basis. Another very necessary initial step would
be public relations work with vocational school
administrative, supervisory, and teaching staff,
probably in the form of well planned inservice
workshops. This the researcher feels is necessary
in order to educate and solicit the understanding
and possible support of staff with respect to
guidance and counseling service. The researcher
feels that in order for such a service to make the
greatest possible contribution it must be a team
effort involving administrators, supervisors, and
instructors. Inservice training would best be
carried out under the co-ordination and planning of
a provincial co-ordinator. Such a co-ordinator
would need to be trained to a minimum of a masters
level in guidance and counseling and preferably have
several years of experience as a counselor in a
vocational or technical school.

3. It is also recommended that, both at the provincial
level and at the vocational school level, guidance
programs be based on measured needs. Such measures
should be made from administrators', supervisors',
and instructors' perceptions as well as those of
students. However, it is very important that
student perceptions be utilized since they are most
likely to indicate where help is required.

4. It is also recommended that each vocational school
guidance counselor be provided with sufficient
assistance, space and materials to do the job well.
It is also important that guidance counselors be
assigned only those duties which relate directly to
guidance and counseling.

5. If it becomes necessary, because of financial or
other restrictions, to assign guidance personnel to
only a proportion of the total number of district
vocational schools, then those assignments should
be made on the basis of measured needs. Again
measured needs would include perceptions of students
as well as those of administrators, supervisors and
teaching staff.

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APPENDICES

APPENDIX A

SURVEY OF NEEDS FOR GUIDANCE SERVICES AS PERCEIVED

BY STUDENTS IN VOCATIONAL SCHOOLS OF

NEWFOUNDLAND AND LABRADOR

CONDUCTED BY FRED BONNELL

WITH PERMISSION OF

DIVISION OF TECHNICAL AND VOCATIONAL EDUCATION

DEPARTMENT OF EDUCATION

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A1B 3X8

Please fill in the following blanks

Sex _____

Age _____

Married or single _____

If married, number of children _____

Living at home or away from home _____

Training program enrolled in _____

Name of Vocational School _____

On the following pages are a list of statements which describe
needs for information, help, awareness and skills often
expressed by students in training programs like yours. Some
statements will describe needs which are already being looked
after by your school and some statements will describe needs
which might not be looked after by your school program.
Different statements will point out concerns that are of
different levels of importance for you. Some concerns will
be more important to you than others.

Please read each item carefully and then answer the following
three questions.

	Column A	Column B
	How important is it for you to get knowledge, help or skills in this area?	To what extent would you like to have more knowledge, help or skills in this area than you are getting now?

Sample Item	Not at all important	Very Important	Not at all	To a great extent
Passing Exams	1 2 3 4 5		1 2 3 4 5	

For each question, circle the number which best describes
what you think for each of column A and B.

Remember to read each item carefully. Please wait until
you are asked to before you begin.

Need or concern

	Column A					Column B				
	How important is it for you to get knowledge, help or skills in this area?					To what extent would you like to have more knowledge, help or skills in this area than you are getting now?				
	Not at all	Average Impor- tance		Very Impor- tant		Not at all	To some extent		To a great extent	

1. Learning to decide what is most important for me and then trying to get what's most important, first.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

2. Learning to make good sound decisions.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

3. Learning what things I should do in order to help build a good working relationship with my instructors.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

4. Having help while still in high school, in choosing my vocational school program.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

5. Learning how to resolve a conflict with others in the best interest of all concerned.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

6. Learning to take part and to get along well in group activities.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

7. Learning to stand by what I believe is right while at the same time considering other points of view.

   Column A: 1 2 3 4 5   Column B: 1 2 3 4 5

	Column A			Column B		
	How important is it for you to get knowledge, help, or skills in this area?			To what extent would you like to have more knowledge, help or skills in this area than you are getting now?		
	Not at all	Average Impor- tance	Very Impor- tant	Not at all	To some extent	To a great extent

8. Learning to understand why a leader is important in any group and what qualities a good leader has.

    1   2   3   4   5   1   2   3   4   5

9. Getting on the job experience during my vocational school training.

    1   2   3   4   5   1   2   3   4   5

10. Having instructors aware and under- standing of how I am different from other students and how they can help me.

    1   2   3   4   5   1   2   3   4   5

11. Having activities available to help me adjust to this new school and having somebody who can answer some of my questions and to whom I can talk during the first few weeks.

    1   2   3   4   5   1   2   3   4   5

12. Learning to cope with strong feelings such as anger, fear, sorrow, job, and love.

    1   2   3   4   5   1   2   3   4   5

13. Developing my ability to be imaginatively creative.

    1   2   3   4   5   1   2   3   4   5

14. Learning to be able to express how I feel, easily and in a way which is accepted by others.

    1   2   3   4   5   1   2   3   4   5

	How important is it for you to get knowledge, help, or skills in this area?			To what extent would you like to have more knowledge, help or skills in this area than you are getting now?		
	Not at all	Average Impor- tance	Very Impor- tant	Not at all	To some extent	To a great extent
15. Having as much information as I can get on drugs, and somebody to help me understand that information.	1 2 3		4 5	1 2	3	4 5
16. Understanding why I should pay into income tax, pension plans, insurance plans, unemployment insurance and union fees and what I should do to make sure that I get the greatest benefit for the least cost from each.	1 2 3		4 5	1 2	3	4 5
17. Being able to overcome the problems of training and working in a job which is usually associated with the opposite sex (for example, a female being a mechanic or a male being a secretary).	1 2 3		4 5	1 2	3	4 5
18. Understanding and appreciating how in our society we are free to work in whatever job we wish or to go into business if we wish.	1 2 3		4 5	1 2	3	4 5
19. Knowing where to find financial help to pay my way through school and having somebody help me get the money.	1 2 3		4 5	1 2	3	4 5
20. Learning to write papers and reports.	1 2 3		4 5	1 2	3	4 5

	Column A					Column B				
	How important is it for you to get knowledge, help, or skills in this area?					To what extent would you like to have more knowledge, help, or skills in this area than you are now getting?				
	Not at all	Average Impor- tance	Very Impor- tant			Not at all	To some extent	To a great extent		

21. Understanding how our government systems work and learning how this system is applied in organizations in the school (for example: clubs and student union).

    1   2   3   4   5   1   2   3   4   5

22. Understanding the moral values of our society and how I fit into those values and rules.

    1   2   3   4   5   1   2   3   4   5

23. Having help from the vocational school to get a job when I finish here.

    1   2   3   4   5   1   2   3   4   5

24. Understanding how my employer and I are dependent on one another and what I should do to help my relationship with my employer become a good working relationship.

    1   2   3   4   5   1   2   3   4   5

25. Knowing what my skills, values and aptitudes are and what training and job best suits me.

    1   2   3   4   5   1   2   3   4   5

26. Learning how to look for a job, get a job and hold onto that job.

    1   2   3   4   5   1   2   3   4   5

27. Learning how to work and study in a way which uses the least amount of time but yet gets a lot done.

    1   2   3   4   5   1   2   3   4   5

	Column A	Column B
	How important is it for you to get knowledge, help, or skills in this area?	To what extent would you like to have more knowledge, help, or skills in this area than you are now getting?

	Not at all	Average Impor- tance	Very Impor- tant	Not at all	To some extent	To a great extent

28. Understanding how the course I am taking will help me do my job better when I finish school.

	1	2	3	4	5	1	2	3	4	5

29. Learning to understand and get along with my parents.

	1	2	3	4	5	1	2	3	4	5

30. Learning how my sexual feelings are linked with intimacy with another person.

	1	2	3	4	5	1	2	3	4	5

31. Developing a desire in me to do the best I can do, both in my present work and in improving myself in the future.

	1	2	3	4	5	1	2	3	4	5

32. Learning (if I have children) to become aware of children's needs, to develop good skills in raising my children, and to cope with the stress and pressure of caring for a family.

	1	2	3	4	5	1	2	3	4	5

33. Having somebody to help me straighten out my money problems (if I have any such problems).

	1	2	3	4	5	1	2	3	4	5

34. Having help finding the least expensive suitable lodging, and transportation to and from school.

|	1	2	3	4	5	1	2	3	4	5

	Column A			Column B		
	How important is it for you to get knowledge, help, or skills in this area?			To what extent would you like to have more knowledge, help or skills in this area than you are getting now?		
	Not at all	Average Impor- tance	Very Impor- tant	Not at all	To some extent	To a great extent

35. Learning to accept failure as being my responsibility and at the same time being able to learn from the failure so that I don't make the same mistakes again.

	1	2	3	4	5	1	2	3	4	5

36. Understanding why I behave the way I do in different situations.

	1	2	3	4	5	1	2	3	4	5

37. Learning to understand my weaknesses and strengths, to accept things about myself which I can't change and to feel good about myself.

	1	2	3	4	5	1	2	3	4	5

38. Learning ways to help myself get along better with my spouse (if I get married).

	1	2	3	4	5	1	2	3	4	5

39. Learning how to use my leisure time in a way which I will enjoy and which will be useful for me and other people.

	1	2	3	4	5	1	2	3	4	5

40. Knowing how to make my place of work a more comfortable and humane place to work.

	1	2	3	4	5	1	2	3	4	5

41. Learning to know when I am having problems with my school work and getting help to guide me to overcome these problems.

	1	2	3	4	5	1	2	3	4	5

	How important is it for you to get knowledge, help, or skills in this area?					To what extent would you like to have more knowledge, help or skills in this area than you are getting now?				
	Not at all	Average Impor-tance	Very Impor-tant			Not at all	To some extent	To a great extent			
42. Learning how I can prepare for and how I should behave during an interview.	1	2	3	4	5	1	2	3	4	5
43. Having help and guidance in deciding whether I should remain in my vocational school program or drop out.	1	2	3	4	5	1	2	3	4	5
44. Understanding why other people see me differently from the way I see myself.	1	2	3	4	5	1	2	3	4	5
45. Understanding how I fit into our society and what I can do to make worthwhile contributions.	1	2	3	4	5	1	2	3	4	5
46. Understanding how my choice of careers will influence the way I live my life. (For example, a doctor has different values, friends, and pass-times than a skilled labourer).										
47. Understanding why I feel upset when what I believe in is at stake.										
48. Learning to be supportive of others when it is appropriate.	1	2	3	4	5	1	2	3	4	5
49. Learning to accept and appreciate other people's suggestions and ideas as well as my own.	1	2	3	4	5	1	2	3	4	5

	Column A		Column B	
	How important is it for you to get knowledge, help, or skills in this area?		To what extent would you like to have more knowledge, help or skills in this area than you are getting now?	

	Not at all	Average Importance	Very Important	Not at all	To some extent	To a great extent
50. Learning what further training opportunities there are for me after I finish my present vocational school program.	1 2 3 4 5			1 2 3 4 5		
51. Learning to cope with anxiety and worry about examinations and other day to day school problems.	1 2 3 4 5			1 2 3 4 5		
52. Learning to be more at ease and skillful in making oral reports in front of my class or other groups of people.	1 2 3 4 5			1 2 3 4 5		
53. Understanding what kinds of things I will be able to afford to buy with the salary my training will provide when I go to work.	1 2 3 4 5			1 2 3 4 5		
54. Getting information on what job opportunities are open for me with my trade.	1 2 3 4 5			1 2 3 4 5		
55. Having help to get involved in social activities (dances, variety shows, clubs, etc.) in the vocational school.	1 2 3 4 5			1 2 3 4 5		
56. Learning and practicing good leadership skills in group activities.	1 2 3 4 5			1 2 3 4 5		

APPENDIX B

Questionnaire Items by Category

Category	Item Number
Vocational	4, 9, 17, 23, 24, 25, 26, 39 40, 42, 43, 46, 54
Educational	3, 20, 27, 28, 35, 41, 50, 51, 52
Personal	1, 2, 5, 7, 10, 11, 12, 13, 14, 15, 30, 31, 32, 36, 37, 38, 44 47, 49
Financial	16, 18, 19, 33, 34, 53
Social	6, 8, 21, 22, 29, 45, 48, 55, 56