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ABSTRACT

Characteristics of competition from an institutional perspective were studied, based on a 1983 field study of the management and performance of four-year institutions. Attention was directed to three concerns: the similarity of competing institutions; the extent to which enrollment competition is structured by characteristics such as institutional type, control, selectivity, geographic region, and program emphasis; and how well institutional perceptions of competitors match prospective students' interests in colleges. Questionnaires were also completed by 269 institutions, representing 81 percent of the larger field study sample. Overall, it was found that focal institutions perceived their competitors as being larger, more selective, more likely to be public, and offering higher level degrees than they. Of 1,295 competing institutions identified by 252 focal organizations, 39.5 percent of the competitors were of the same institutional type as the selecting focal institutions. Competition was highest for major doctoral institutions and lowest for specialty institutions. In addition, focal institutions identified competitors of the same size about 50 percent of the time. Additional findings, comparisons with other student choice studies, and future research needs are also discussed. (SW)

CHARACTERISTICS OF ENROLLMENT COMPETITION IN HIGHER EDUCATION

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CHARACTERISTICS OF ENROLLMENT COMPETITION IN HIGHER EDUCATION

Competition among colleges and universities is a much neglected topic in higher education. Administrators have treated competition as undesirable; something done in industry, not in higher education. This perspective may have sufficed in the 1950s and 1960s, when aggregate institutional enrollments grew at a rapid pace. But today, when the size of the traditional college-age population is shrinking, understanding the structure and dynamics of competition among colleges and universities becomes important. The heart of the issue is who will survive and prosper during the 1980s; and who will fail.

Most of the sparse literature related to competition for enrollments in higher education focuses on student choice and the market segmentation model (Litten, 1979; Rowse and Wing, 1982; Tierney, 1983; Zemsky, Shaman, and Berberick, 1980; Zemsky and Oedel, 1983). All the studies to date have used student choice data--either student requests for score reports to institutions from college entrance examinations or students' reports of where they have actually sent applications. The most comprehensive and probably the most important of these studies was conducted by Zemsky and Oedel (1983). The brief review that follows focuses on their findings.

Zemsky and Oedel (1983) conducted an analysis of student choice and the structure of enrollment competition in the New England, South, and Middle States' geographic regions, using students' requests for score reports to institutions from the Scholastic Aptitude Test (SAT). The market segmentation model formed the theoretical basis for the study. According to the model, a market can be defined as consisting of distinct segments, which are defined geographically and by the types

of services provided for different groups of consumers. Each segment is served by a set of similar institutions that compete for enrollments, but little competition occurs across segments. As Zemsky and Oedel (1983: 8) note, "for the most part, public institutions compete with public institutions, private institutions with private institutions, small Catholic colleges with other small Catholic colleges, highly selective institutions, and community colleges with other low-cost, locally supported, two-year educational programs."

Focusing primarily on data for the New England region, Zemsky and Oedel segmented the enrollment market into four geographic levels: the local, in-state, regional, and national markets. They also divided the institutional population into groups on the basis of institutional type and control. The institutional classification system used in their study is shown in Table 1. One institutional type, the "linking colleges and universities" classification shown in the private/other four-year category warrants further comment, since it is unique to the Zemsky and Oedel classification system. These institutions were seen as providing a linkage between the public and private sectors by competing with both public and private institutions for enrollments. As their results revealed, these institutions often had religious affiliations or were urban institutions.

In order to determine the structure of enrollment competition among these various types of institutions within the different geographical market segments, Zemsky and Oedel analyzed the sets of institutions to which students sent SAT score reports. In effect, they identified networks of competing institutions linked through the

communality of students' interests. The results of their analysis can be summarized as follows:

> Local markets involve only a few institutions, all in intense competition with one another. These competitive patterns, unlike those in the other three geographic segments, regularly cross boundaries of institutional sector and type. Public flagships, for example, often compete directly with privat_ standard colleges as well as with state colleges and community colleges. In-state market structures, however, tend to be layered, the public and private competition sets operating independently of one another. These markets are dominated by public institutions: at the core is the in-state public flagship, which overlaps with other campuses or branches of the state university system and with the state's public colleges. The private sector of most in-state markets consists of two components: a relatively small group of private selective institutions and a group of private standard colleges that includes Catholic and urban institutions within the state. Regional markets also have two centers, but the division between public and private is less sharp, for the four linking institutions bridge the gap between public institutions and private standard colleges. The nation's leading private institutions, however, function as a second independent competition set. Finally, in the national market segment these selective private institutions move to the forefront, their entwined competition forming what looks like a complex ball of yarn (Zemsky and Oedel, 1983: 56-7).

Zemsky and Oedel also found that students' socio-economic attributes were strongly correlated with the structure of institutional competition. Generally, the higher family income, the presence of college-educated parents, the existence of post-baccalaureate aspirations, and the higher individuals' SAT scores, the more likely that potential students would be attracted to regional or national institutions. Moreover, their data showed that student choices are fairly homogeneous. Prospective students tended to be interested in one or another of the types of institutions within the competitive

hierarchy, but did not commonly exhibit interest in institutions across the hierarchy. Thus, Zemsky and Oedel concluded that there was a high degree of compartmentalization in student interest among institutions, and that the layering of enrollment competition is primarily a socio-economic layering.

The purpose of the Organizational Studies Division research on enrollment competition is to bring an institutional perspective to bear on the structure and dynamics of competition among colleges and universities. Unlike earlier studies, this research focuses on the perceptions within institutions as to whom their competitors are, as opposed to using data on prospective students' interests in colleges and universities. This report describes the characteristics of competition from an institutional perspective, and addresses three basic questions:

1. How similar are the characteristics of competing institutions with those of the focal institutions that identify them as competitors?

2. To what extent do different characteristics, such as institutional type, control, selectivity, and so on, structure enrollment competition?

3. Finally, how well does information on enrollment competition from an institutional perspective match that derived from a student choice perspective?

The information derived from this study will guide future research that examines the dynamics of institutional competition and their implications for institutional success and failure. That research is described briefly at the end of this report.

METHODOLOGY

Sample and Data Base

Data identifying competing institutions were collected during a 1983 Organizational Studies Division field study of the management and performance of four-year institutions. As part of that study, a supplemental questionnaire was sent to the institutional research officers at 334 participating institutions. The supplemental questionnaire asked these individuals to identify up to eight competing institutions. Useable responses were returned by institutional research officers from 269 institutions, representing 81 percent of the larger study sample. A total of 1,296 competing institutions were mentioned, for an average of 4.8 competitors identified by each focal institution.

Data on the size, control, type, state and geographic region, and program emphasis of the focal and competing institutions were assembled from the Higher Education General Information Survey (HEGIS). Data on institutional selectivity were obtained from the Higher Educational Research Institute (Astin and Henson, 1977). Tables 2 through 7 present the univariate distributions for the focal and for the identified competing institutions.

RESULTS

Sample Characteristics

1. Institutional Type. Table 2 provides information on the distributions of focal and competing institutions by institutional type. Type was defined using the five broad categories of the NCHEMS institutional classification system (Makowski and Wulfsberg, 1981). As can be seen in the left column of Table 2, almost half the focal

institutions consisted of general baccalaureate schools, while another third of the sample was composed of comprehensive institutions. Nine percent of the sample consisted of major doctoral institutions with the remaining seven percent being specialty schools.

The right column of Table 2 displays the distribution of 1295 competing institutions by institutional type. The distribution of identified competitors shows a substantially large proportion of major doctoral institutions, and proportionately fewer other types of four-year institutions, being cited as competitors. Seven percent of the cited competitors were two-year institutions.

2. Enrollment Size. Table 3 provides the distributions of focal and competing institutions by enrollment size, as defined using full-time equivalent (FTE) students. About half the focal institutions had FTE enrollments of more than 2,500 students. One-quarter of the focal institutions had enrollments of less than 1,000 FTE students, and approximately another quarter of the sample had enrollments between 1,001 and 2,500 FTE students. In contrast, a much larger proportion of the identified competitors had enrollments of over 2,500 FTE students.

3. Institutional Control. Table 4 shows the distribution of focal and competing institutions by control. Approximately 75 percent of the focal sample was equally divided between public institutions and institutions with religious affiliations. One-quarter of the sample consisted of independent institutions. In contrast, half of the identified competitors were public institutions, with the remaining half being divided between independent and religiously-affiliated institutions.

4. Selectivity. Table 5 presents the distribution for focal and competing institutions by selectivity. This table shows that the majority of focal institutions had average incoming freshman SAT scores of less than 950. Approximately 27 percent of the focal group had SAT scores between 951 and 1100, and 12 percent reported scores above 1100. In contrast, the selectivity scores for competing institutions were skewed more towards the higher selectivity categories. Proportionately more institutions were classified as being medium or highly selective institutions.

5. Geographic Region. The distributions of focal and competing institutions by geographic region are shown in Table 6. These distributions provide a fair approximation of the geographic dispersion of the population of college and universities as a whole. The distributions of the focal and competing groups also are similar.

6. Program Emphasis. Program emphasis was defined on the basis of the distribution of earned degrees across the academic and professional program areas. Following Zammuto (1984), institutions awarding more than 80 percent of their degrees in academic areas, as defined by the National Center for Education Statistics, were classified as having a liberal arts and science program emphasis. Institutions awarding more than 80 percent of their degrees in professional areas were classified as having a professional program emphasis. Institutions with comprehensive programs were those awarding between 20 and 80 percent of their degrees in academic areas, with the remainder awarded in professional areas.

The distributions shown in Table 7 revealed that the majority of institutions in both the focal and competing groups had a comprehensive

program emphasis. Less than 10 percent of the institutions in these two groups had a liberal arts and science program emphasis, and approximately 20 percent of both groups had a professional program emphasis. In terms of the college and university population as a whole, comprehensive institutions are somewhat overrepresented in the sample, while institutions with a professional program emphasis are somewhat underrepresented. In part, this is due to the absence of two-year institutions in the focal sample, many of which have a professional or vocational program orientation.

Overall, these distributions indicate that focal institutions perceive their competitors as being larger, more selective, more likely to be public, and offering higher level degrees than themselves. The next section looks at this information more closely in the form of bivariate distributions.

Bivariate Distributions

The bivariate distributions of focal and competing institutions on selected institutional characteristics allows for a closer examination of the degree to which competing institutions are similar, and where variations exist among different institutional characteristics. Figures 1 through 5 present the bivariate distributions for focal institutions and the competitors they selected by type, size, control, selectivity, and program emphasis. Distributions by state and georgraphic region are then examined in Table 7.

1. Institutional Type. Figure 1 presents the distribution of types of competing institutions by the type of focal institutions selecting them. Overall, of 1295 competing institutions identified by 252 focal organizations, 39.5 percent of the competitors were of the

same institutional type as of the selecting focal institutions. Within type competition was highest for major doctoral institutions (70.2%), and lowest for specialty institutions (17.0%). Focal institutions tended to identify similar institutions as competitors as well as selecting institutions located above them in the institutional hierarchy. For example, general baccalaureate institutions identified other general baccalaureate institutions as their primary competitors, followed by comprehensive institutions, and then by major doctoral institutions. Similarly, comprehensive institutions identified other comprehensive institutions as their primary competitor group and major doctoral institutions as the secondary competitor group. Major doctoral institutions, highest level institutional type in the hierarchy, identified other major doctoral institutions as their primary competitors; relatively small percentages of institutions lower in the hierarchy were identified as competitors. Specialty schools are an unusual case in that they focus primarily on professional education. The data indicate that their two major competing groups were comprehensive and major doctoral institutions, which are the institutional types also offering significant professional programs.

The data on competitor type by focal institution type can be summarized as follows: The proportionately largest group identified by each type of focal institution were other institutions of the same type. The preponderance of the remaining identified competitors were primarily of other types located higher in the institutional hierarchy. Focal institutions identified relatively few competitors lower in the institutional hierarchy. A potential explanation is that competitors located in a lower position in the hierarchy may compete with the focal

institution within a local market, since that was where Zemsky and Oedel found the greatest heterogeneity in the types among competitors.

2. Enrollment Size. Figure 2 shows the distribution of the size of identified competitors by size of the focal institutions selecting them. Overall, focal institutions identified competitors of the same size 50.6 percent of the time. The distribution of competitors by focal institution size is rather clear cut. Focal institutions of all sizes reported that the majority of their competitors were large institutions. Moreover, the larger the focal institution, the more likely that it would identify institutions of the same or larger size as competitors. There also were distinct differences between institutions of different sizes and the number of competitors reported. On the average, small institutions reported two competing institutions, medium institutions -- 3.6 competing schools, and large institutions -- 7.1 competing schools.

3. Institutional Control. Figure 3 displays the bivariate distribution for the control of selected competitors by the control of the focal institutions. Overall, 59.2 percent of the identified competitors had the same type of institutional control as the focal institutions selecting them. The results show that this homogeneity varies somewhat. Public institutions were the most homogeneous group, selecting other public institutions as competitors 83 percent of the time. Similarly, independent institutions selected other independent institutions as competitors over half the the time, with the remaining selections split between public and religiously-affiliated institutions.

The distribution for religiously-affiliated institutions presents a different picture. While other religiously-affiliated institutions were selected as competitors 41.3 percent of the time, public institutions also were identified as competitors 39.0 percent of the time. What this suggests, in light of Zemsky and Oedel's research, is that religiously-affiliated institutions link the public and private sectors of higher education together by competing with both public and private institutions for enrollments.

4. Selectivity. Figure 4 reports the bivariate distribution of selectivity of the identified competitors by the selectivity of the focal institutions. Overall, 60.4 percent of the competitors had the same level of selectivity as the focal institutions choosing them. Within category selections were the most pronounced for the high selectivity (79.7%) and the low selectivity (62.7%) institutions. Medium selectivity institutions also chose other medium selectivity institutions (45.8%) more than they chose low (32.1%) or high selectivity institutions (22.1%), but the overall distribution of selected schools was more balanced. In short, low selectivity schools compete with low and medium selectivity institutions, while high selectivity institutions compete with high and medium selectivity institutions. Medium selectivity institutions find themselves competing with institutions of all levels of selectivity. The results also revealed that, on the average, the higher the selectivity of the focal institution, the more competitors it identified: low selectivity institutions identified an average of 5.0 competitors, medium selectivity institutions -- 5.2 competitors, and higher selectivity institutions -- 5.5 competitors.

5. Program Emphasis. Figure 5 presents the distribution of the program emphases of competing institutions by the program emphases of the focal institutions. Overall, 64.3 percent of the cited competitors had the same program emphasis as the focal institutions selecting them. As can be seen, little competition was reported between liberal arts schools and professional schools. Both types of schools saw themselves as competing with other schools having the same program emphasis, and with comprehensive institutions that offered both liberal arts and science programs and professional programs. In contrast, comprehensive institutions saw their major enrollment competitors as being other comprehensive institutions, and selected relatively few liberal arts or professional institutions. The average number of competitors cited by the focal groups varied in the following manner: liberal arts -- 5.1 mentions, comprehensive -- 4.4 mentions, and professional institutions -- 4.2 mentions.

6. State and Geographic Region. Table 7 shows the extent to which selected competitors were within the same state and region of the focal institution selecting them. It must be kept in mind that the results shown in the table are sample-specific, and cannot be generalized as being representative of the population. The sample for the 1983 field study was restricted to institutions with FTE enrollments of less than 20,000 students and which had the effect of eliminating many institutions that compete for students nationally.

The table shows that 73.5 percent of the competing institutions were located within the same state as the focal institutions that selected them. When the analysis is moved to the level of geographic region, the results show that 87.6 percent of the competitors

identified by the local institutions were within the same region. The implication is that competition among most institutions is geographically bound, and is a function of distance and locale.

Summary

If these various institutional attributes are viewed as filters through which to view institutional competition, they can be ranked by the extent to which homogeneity existed among the selected competitors and the focal institutions. This ordering is presented in Table 8. The two geographic variables, region (87.6%) and state (73.5%), exhibit the highest degree of homogeneity between focal and selected competing institutions. Program emphasis has the next highest degree of homogeneity between the focal and competing institutions (64.3%), reflecting the fact that liberal arts and professional schools rarely cited each other as competitors, and institutions with comprehensive programs primarily selected other comprehensive schools as competitors. The results for the selectivity variable, having the next most homogeneous distribution (60.4%), followed the same type of pattern. High and low selectivity institutions rarely chose each other as competitors. Most of the competition was within type, with the exception of medium selectivity institutions, which cited both high and low selectivity institutions as competitors.

With respect to institutional control (59.2%), fifth ranked in terms of homogenity of focal and competing institutions, public institutions competed mainly with other public institutions, while independent institutions usually chose other independent institutions as competitors. In contrast, religiously-affiliated institutions exhibited fairly heterogenous choice sets, selecting public

institutions and other religiously-affiliated institutions in about the same proportions. Institutional size (50.6%) ranked sixth in terms of homogeneity. The distribution showed that most focal schools identified large institutions as their major competitors. Generally, the direction of selection was upward, with small institutions choosing medium and large institutions as primary competitors, medium institutions selecting large institutions, and large institutions citing other large institutions. Institutional type (39.5%) was the least homogeneous institutional attribute for the selection of competitors. Most institutions chose similar institutions as the proportionately largest group within their sets of competitors. And, other seelcted competitors were generally located higher in the institutional hierarchy.

DISCUSSION

Comparison with Student Choice Studies

These results show a number of discernable regularities in the pattern of the selection of competing institutions by focal institutions. Overall, these patterns conform to the findings from studies of student choice in terms of geographic proximity, selectivity, institutional type, and control. As was reported by Zemsky and Oedel (1983), Tierney (1983), and Rowse and Wing (1982), geographic proximity appears to be the most important factor in determining the composition of competing networks of institutions. As interpreted by student choice studies, georgraphic proximity is seen as the major factor in students' selection of institutions. From an institutional perspective, geographic proximity appears to be the most

important factor for determining which institutions are identified by focal institutions as their competitors for enrollments.

Student choice studies generally report that institutional selectivity is a major stratification variable within the market segmentation model. For example, Tierney (1983) refers to selectivity as representing the "wealth" of an institution, a factor that serves to differentiate among institutions. Zemsky and Oedel (1983) found that selectivity was a major characteristic related to the stratification of market segments, where selectivity was positively related to the scope of the geographic enrollment market in which an institution participated. Student choice studies also report that competing networks are typically composed of institutions with the same level of selectivity, a finding consistent with the results of this study.

Zemsky and Oedel (1983) reported that institutional control appeared to be a factor in determining the composition of competing networks. As noted in an earlier quote on page 2, Zemsky and Oedel saw like institutions competing with the exception of linking institutions, which crossed lines of institutional control by competing with both public and private institutions for enrollments. The results from this study using an institutional perspective closely follow Zemsky and Oedel's findings. Public institutions reported that they competed, largely, with other public institutions. Independent institutions indicated that most of their competitors were other private institutions. And, as was suggested by Zemsky and Oedel, religiously-affiliated institutions appeared to serve a linking function within the higher education system by competing with both public and private institutions for enrollments.

Finally, student choice studies have also reported that institutional type is a stratification factor within enrollment markets. Both Zemsky and Oedel (1983) and Rowse and Wing (1982) reported that institutions of the same type tended to cluster together. The findings from this study mirrored this expected homogeneity to a large extent. Similar institutions were chosen proportionately more often as competitors than dissimilar institutions. The interesting difference in these findings was that the institutions of different types selected as competitors were usually located higher in the institutional hierarchy than the institutions making the selections.

The enrollment size and program emphasis variables included in this study have not been explicitly examined in research on student choice. The findings show that these variables add new information about institutional competition. With respect to enrollment size, the findings revealed that institutions of all sizes saw the majority of their competitors as being large institutions. This finding is not surprising when considered in light of distribution of aggregate enrollments in four-year institutions by institutional size (National Center for Educational Statistics, 1981: 16). In Fall, 1979, approximately 42 percent of all four-year institutions had enrollments of under 1,000 students, but these small institutions accounted for only 4.8 percent of the total enrollments in four-year institutions. Medium-sized institutions, with enrollments between 1,000 and 2,499 students, accounted for 25 percent of the population of four-year institutions, but only for 10.8 percent of the aggregate enrollments. Large institutions, with enrollments of 2,500 or more students, accounted for only 23 percent of the institutional population but

enrolled 84.4 percent of the students attending four-year colleges. It's also important to note the differences in the number of competitors identified by schools of different size. Large institutions identified an average of 7.1 competing institutions; small institutions identified an average of two.

Taken together, these findings on enrollment size suggest that large colleges and universities may serve as the hub of networks of competing institutions. For example, two smaller schools, which do not identify each other as competitors, can be linking together in a competitive network through a larger institution that they both identify as a competitor. In this sense, large institutions may play an important role in structuring competition among colleges and universities.

The findings concerning program emphasis suggest a set of dynamics similar to that discussed for enrollment size. Institutions with liberal arts and sciences programs tended to identify institutions with a similar program emphasis as being competitors as well as comprehensive institutions that had both academic and professional programs. Institutions with professional programs generally identified other institutions with professional programs as competitors as well as comprehensive institutions with both professional and academic programs. Little mention was made of liberal arts institutic professional institutions, and vice versa. Within this context, i appears that comprehensive institutions may play a linking role within competing networks by providing indirect linkages between schools that would not view themselves as direct competitors. Taken together with the data on enrollment size, these findings suggest that competition

for student enrollments in higher education may be more densely interconnected than portrayed by studies of student choice. An important question that needs to be explored is what affect these secondary connections have on institutional enrollment dynamics.

Future Research

While this descriptive analysis of institutional competition for student enrollments is suggestive, it does not provide a clear or definitive picture of the dynamics of enrollment competition in higher education. First the variables in this report were examined independently of each other. Analyses are needed that examine the influence of the variables simultaneously. This will allow for the development of models of the types of competing networks that operate within the higher education system.

Second, finer-grained measures of geographic proximity are needed. If distance is the major factor in student choice as has been indicated by a number of studies (Zemsky and Oedel, 1983; Tierney, 1983; Rowse and Wing, 1982), then it is important to determine more precisely how it affects the structure of competition. The Organizational Studies Division is currently developing a technique based on longitude and latitude coordinates that will allow for estimation of the distance between colleges and universities in terms of miles, which will provide a more precise measure of proximity than state or region.

Third, studies of student choice and institutional competition have neglected important contextual variables, such as the population density within a recruiting area, the degree to which an enrollment market is saturated, economic conditions, socioeconomic characteristics of the population living within a recruiting area, and so on. We are

currently attempting to fill this gap by adding population and economic information to the data base in a form amenable to examination of the effects of environmental conditions on the dynamics of enrollment competition.

Finally, we think this type of research will help develop an understanding of why some institutions gain enrollments while others lose them. Analyses will be conducted that attempt to determine how changes in the enrollments of competing institutions affect the enrollments of focal institutions. Viewed in conjuction with information on the characteristics of enrollment competition, it may be possible to empirically identify the types of institutions that are most and least vulnerable to enrollment decline as competition for enrollments increases during the 1980s.

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Table 1

Institutional Classification System from Zemsky and Oedel (1983)

	Public	Private
Flagship Institutions	In-State major research universities	Major research universities
	Out-of-state major research universities	
Other Four-Year Institutions	State colleges	Selective colleges and universities
	Flagship university campuses	Standard colleges and universities
		Linking colleges and universities
Two-Year Institutions	Community or junior colleges	Junior colleges
	Technical or vocational colleges	Technical or vocational colleges

Source: R. Zemsky and P. Oedel. The Structure of College Choice. New York: College Entrance Examination Board, 1983, p. 48.

Table 2

Distributions of Focal and Competing Institutions by Type

Institutional Type	Focal Institutions		Competing Institutions	
	N	Percent	N	Percent
Major Doctoral	25	9.3	403	31.1
Comprehensive	97	36.1	402	30.0
General Baccalaureate	129	47.9	340	26.3
Speciality	18	6.7	59	4.6
Two-Year	-0-	0.0	91	7.0
Totals	269	100.0	1,295	99.0

Table 3

Distributions of Focal and Competing Institutions by Enrollment Size

	Focal Institutions		Competing Institutions	
Enrollment Size	N	Percent	N	Percent
Small (≤ 1000 FTE)	69	25.7	136	10.6
Medium (1001-2500 FTE)	77	28.6	279	21.7
Large (> 2500 FTE)	123	45.7	872	67.8
Totals	269	100.0	1,287	99.1

Table 4

Distributions of Focal and Competing Institutions by Control

Institutional Control	Focal Institutions		Competing Institutions	
	N	Percent	N	Percent
Public	101	37.5	650	50.2
Independent	64	23.8	332	25.6
Religious-Affiliation	104	38.7	313	24.2
Totals	269	100.0	1,295	100.0

Table 5

Distributions of Focal and Competing Institutions by Selectivity

Selectivity	Focal Institutions		Competing Institutions	
	N	Percent	N	Percent
Low (≤ 950 SAT)	148	61.2	606	47.3
Medium (951-1100 SAT)	65	26.8	438	34.2
High (> 1100 SAT)	29	12.0	237	18.5
Totals	242	100.0	1,281	100.0

Table 6

Distributions of Focal and Competing Institutions by Program Emphasis

	Focal Institutions		Competing Institutions	
Program Emphasis	N	Percent	N	Percent
Liberal Arts and Science	20	7.4	102	8.5
Comprehensive	190	71.0	851	70.7
Professional	59	21.6	251	20.8
Totals	269	100.0	1,204	100.0

Table 7

Selected

Percent of Competitors Within-State and Within-Region of Focal Institutions

Focal Institution STATE	Percent Competitors WITHIN STATE	Percent Competitors WITHIN REGION
COLORADO	100.0	100.0
FLORIDA	100.0	100.0
HAWAII	100.0	100.0
MONTANA	100.0	100.0
UTAH	100.0	100.0
NEW JERSEY	94.1	100.0
NORTH DAKOTA	90.9	100.0
MISSISSIPPI	89.5	100.0
ALABAMA	88.9	100.0
WEST VIRGINIA	87.5	91.7
LOUISIANA	87.0	95.7
TEXAS	86.8	92.3
WASHINGTON	84.8	100.0
MISSOURI	84.4	90.6
CALIFORNIA	84.1	88.4
ILLINOIS	83.8	94.6
WISCONSIN	83.3	83.3
KENTUCKY	83.3	86.7
MICHIGAN	83.3	86.7
PENNSYLVANIA	81.3	85.4
NEW YORK	80.2	87.5
ARKANSAS	80.0	93.3
MINNESOTA	79.4	85.3
OKLAHOMA	78.6	78.6
TENNESSEE	77.8	100.0
IOWA	77.8	96.3
MARYLAND	76.5	88.2
NORTH CAROLINA	75.0	100.0
SOUTH CAROLINA	73.7	94.7
MASSACHUSETTS	72.5	90.2
KANSAS	71.0	96.8
OHIO	67.7	69.4
RHODE ISLAND	60.0	100.0
OREGON	58.8	73.5
GEORGIA	55.6	88.9
INDIANA	54.5	68.2
NEBRASKA	51.7	65.5
MAINE	50.0	50.0
NEW HAMPSHIRE	45.0	100.0
SOUTH DAKOTA	42.9	76.2

Focal Institution WITHIN STATE	Percent Competitors WITHIN REGION	Percent Competitors STATE
CONNECTICUT	36.7	93.3
VIRGINIA	32.0	56.0
VERMONT	26.5	93.1
ALASKA	12.5	75.0
WASHINGTON D.C.	13.3	46.7

Total within-State choices = 73.5%

Total within-region choices = 87.6%

Table 8

Homogeneity of Competition by Selected Institutional Attributes

Attribute	Percent Competitors Selected Within Categories
Region	87.6
State	73.5
Program Emphasis	64.3
Selectivity	60.4
Control	59.2
Size	50.6
Type	39.6

Figure 1

Type of Competing Institutions by Focal Institution Type

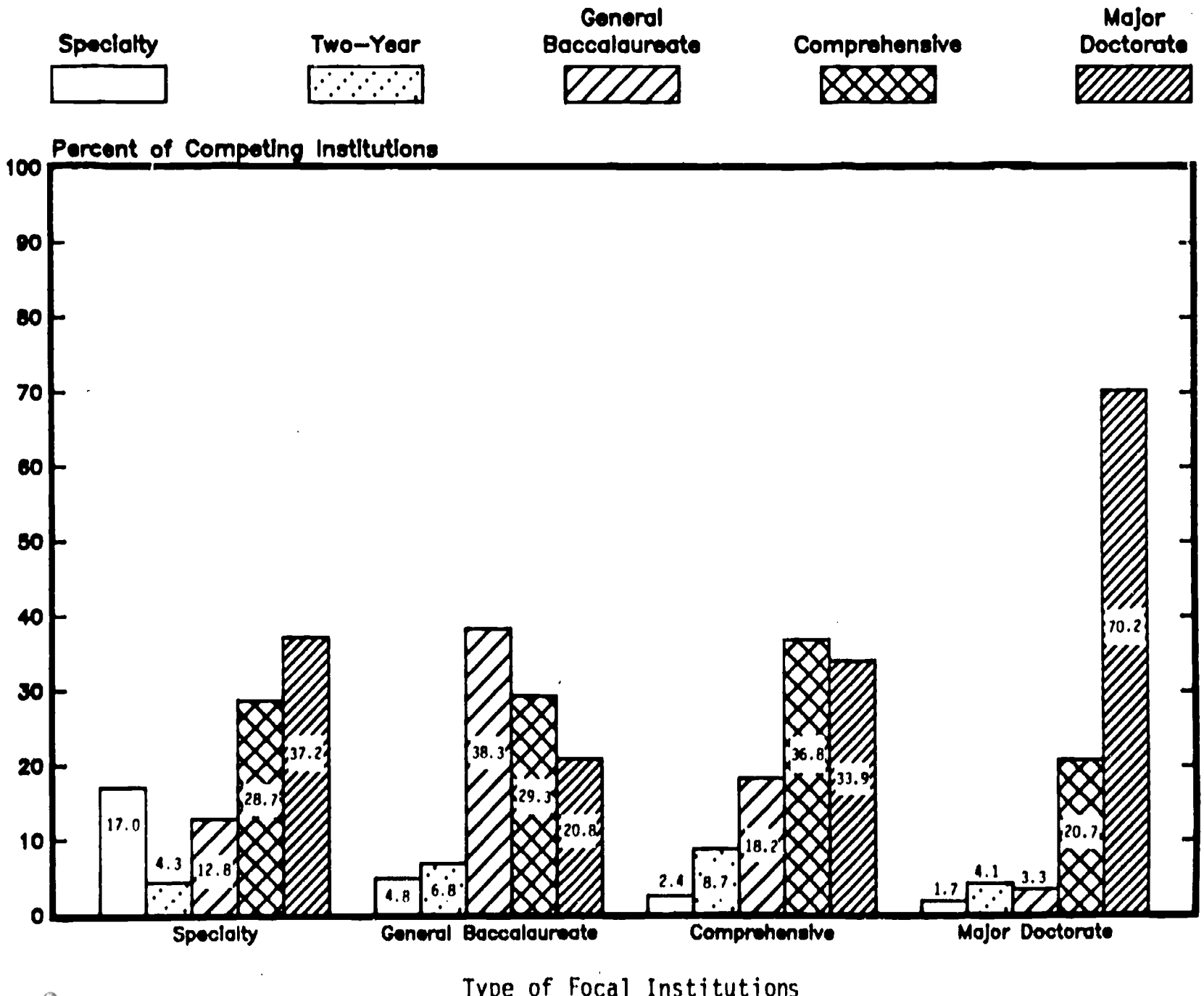

Figure 2

Size of Competing Institutions by Focal Institution Size

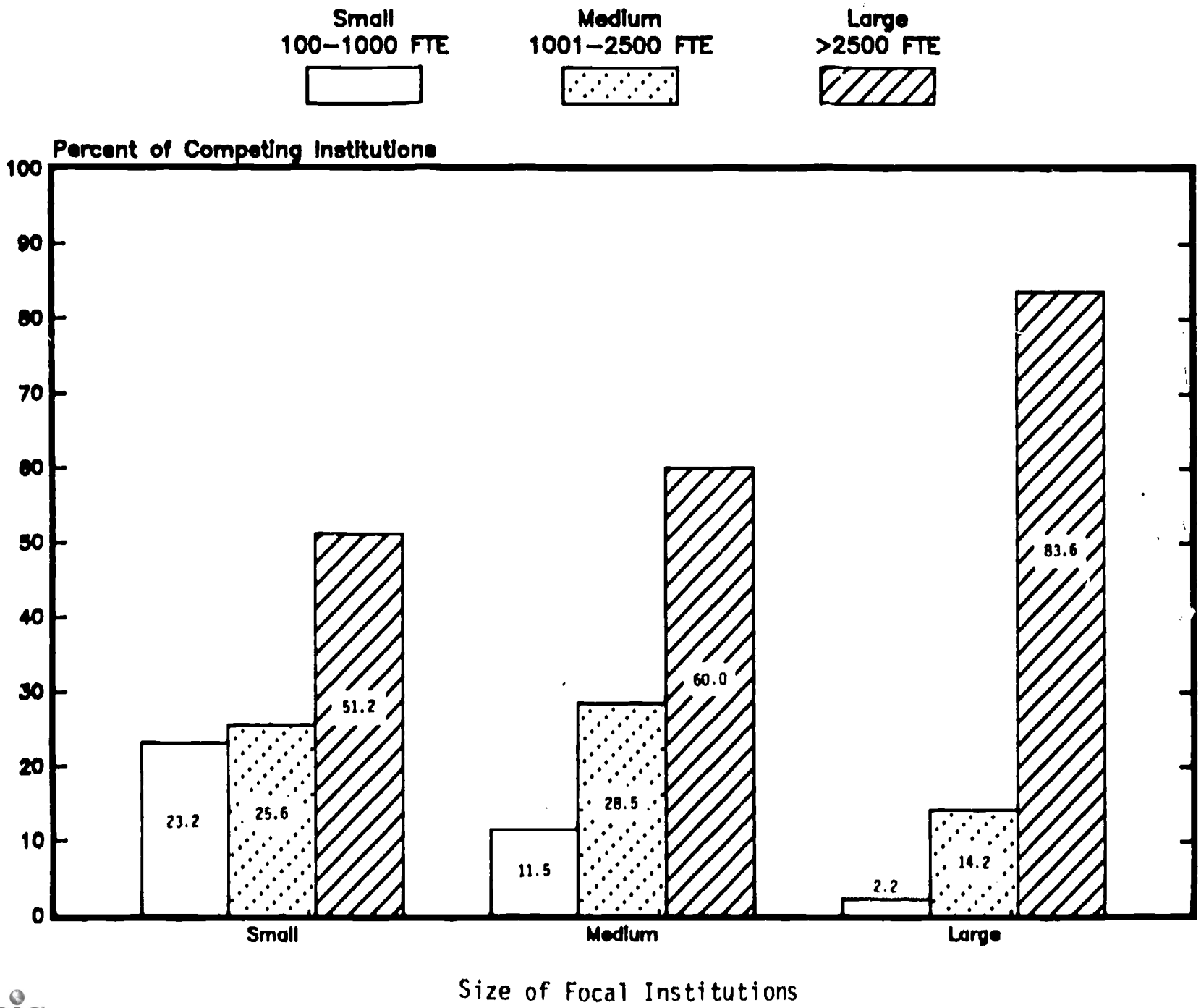

Figure 3

Control of Competing Institutions by Focal Institution Control

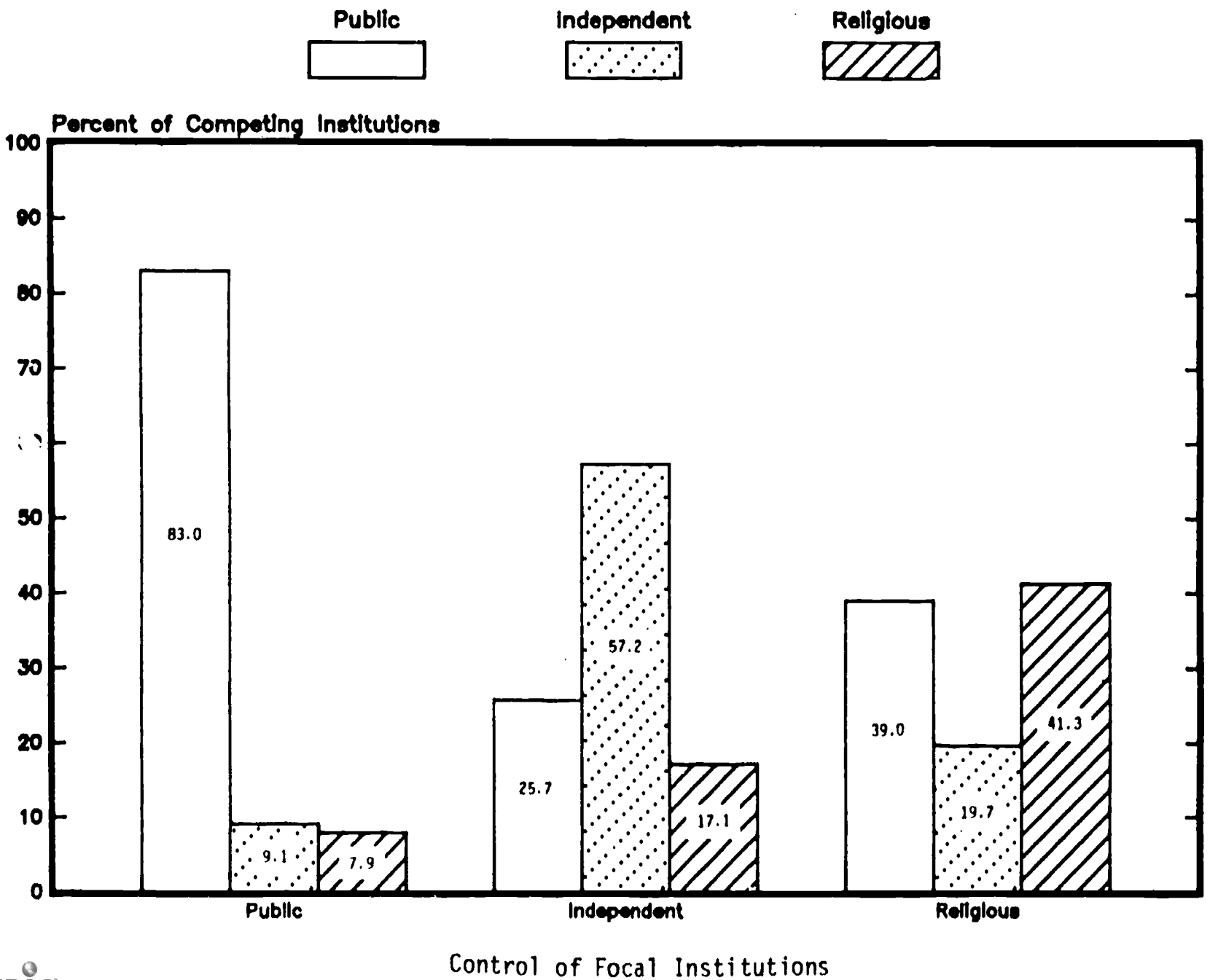

Figure 4

Selectivity of Competing Institutions by Focal Institution Selectivity

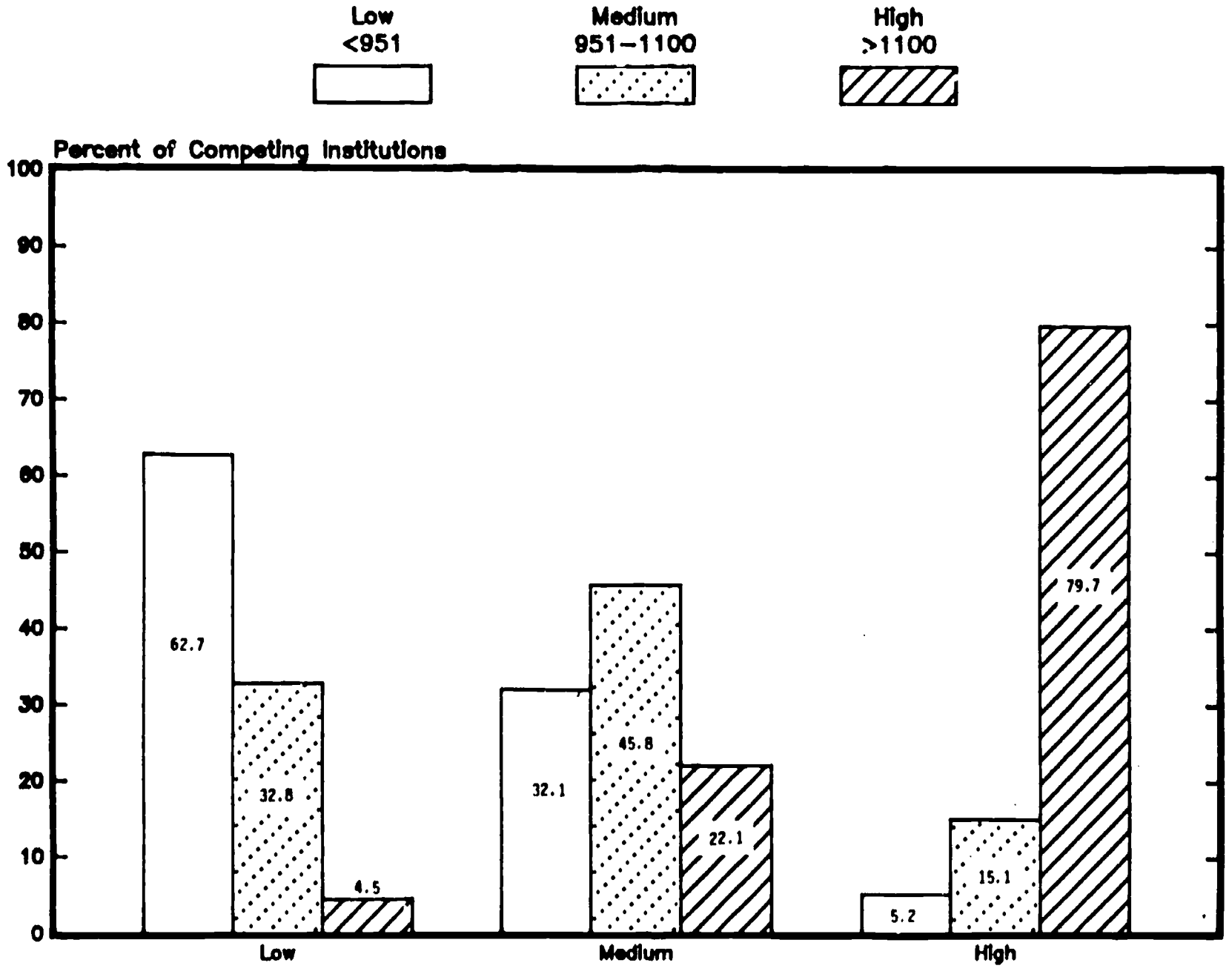

Figure 5

Program Emphasis of Competing Institutions by Focal Institution Program Emphasis