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CUSTOMER SATISFACTION BY INDUSTRY
AMONG DEMOGRAPHIC AND SOCIOECONOMIC GROUPS

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American Customer
Satisfaction Index™

Customer Satisfaction by Industry Among Demographic and Socioeconomic Groups

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**CUSTOMER SATISFACTION BY INDUSTRY
AMONG DEMOGRAPHIC AND SOCIOECONOMIC GROUPS**

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Abstract

American customers are more satisfied with manufactured products than with services; more pleased with services from the private sector than with those from the public sector. While these patterns may not surprise--it is clearly easier to maintain quality control for products than for services--what is surprising is the consistency of patterns of differences in customer satisfaction shown by the new Customer Satisfaction Index (ACSI)¹ across socioeconomic and demographic groups, irrespective of the industry about which customers report.

There is a negative relationship between customer satisfaction and socioeconomic status. Customers more able to pay for quality are more critical of the quality received--or quality/value tradeoffs--from their purchases than customers who, from economic necessity, buy lower priced products. Three statistically significant demographic differences in customer satisfaction hold across 40 measured industries: (1) Women are consistently more satisfied than men; (2) Satisfaction rises with age; (3) Satisfaction declines as socioeconomic status rises. Racially and ethnically, while Asians are less satisfied than other groups, and African Americans marginally the most satisfied, when education level is controlled, these differences disappear.

¹ The American Customer Satisfaction Index (ACSI) is co-sponsored by the American Society for Quality Control and the University of Michigan Business School. It was released for the first time in October 1994 as a new economic indicator of quality as perceived by customers, and is being updated quarterly.

Introduction

In 1990, Yi² did an extensive review of the fast expanding published work on consumer satisfaction research. He identified major foci of consumer satisfaction research, as of 1990, citing articles on:

- Definitions of consumer satisfaction
- Measurement of consumer satisfaction
- Reliability and validity of measures
- Factor structure of consumer satisfaction
- Antecedents of consumer satisfaction
- Studies of product performance
- Theories about consumer satisfaction
- Consumer responses to satisfaction/dissatisfaction
- Company reactions to consumer complaints
- Consequences of consumer satisfaction
- Issues in the consequences of consumer satisfaction

Search of the literature finds major bodies of research on the measures of customer satisfaction, including questions and models, for example, Miller (1977);³ Westbrook

² Yi, Youjae (1990), "A Critical Review of Consumer Satisfaction," in *Review of Marketing 1990*, Valerie A. Zeithaml ed., (Chicago: American Marketing Association), 68-123.

³ Miller, John A. (1977), "Studying Satisfaction, Modifying Models, Eliciting Expectations, Posing Problems and Making Meaningful Measurements," in *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, H. Keith Hund, ed. (Cambridge, MA: Marketing Science Institute), 72-91.

(1980),⁴ Parasuraman, Berry, and Zeithaml (1985),⁵ (1986),⁶ Anderson and Fornell (1992),⁷ Schmalensee (1994),⁸ Gleason, Devlin, and Brown (1994);⁹ relationships of customer satisfaction to market share, profitability, and productivity, Edelman (1993),¹⁰ Anderson, Fornell and Lehmann (1994) ,¹¹ and post purchase behavior, Oliver (1982).¹² There are many studies of customer expectations and the confirmation or disconfirmation of these, such as Swan and Trawick (1980),¹³ Prakash (1984),¹⁴ Moore and Shuptrine (1984),¹⁵ Parsuramen, Berry, and Zeithaml (1990),¹⁶ Taes (1993).¹⁷ There has been work on comparing customer satisfaction across individuals, product categories, and industries, Johnson and Fornell (1991),¹⁸ Johnson (1994),¹⁹ and, related to this, the

⁴ Westbrook, Robert A. (1980), "A Rating Scale for Measuring Product/Service Satisfaction," *Journal of Marketing*, 44 (Fall), 68-72

⁵ Parasuraman, A., Leonard L. Berry and Valarie A. Zeithaml (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49 (Fall), 41-50.

⁶ _____, _____, (1986), *SERVQUAL, A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, (Cambridge, MA: Marketing Science Institute).

⁷ Anderson, Eugene W. and Claes Fornell (1992) "A Customer Satisfaction Research Prospectus," in R. Oliver and R. Rust, eds., *Frontiers in Marketing* (Newbury Park, CA: Sage Publications).

⁸ Schmalensee, Diane (1994), "Finding the Perfect Scale," *Marketing Research*, 6, 4, 24-27.

⁹ Gleason, Terry C., Susan J. Devlin, and Marbue Brown (1994), "In Search of the Optimum Scale," *Marketing Research*, 6, 4, 28-33.

¹⁰ Edelman, David C. (1993), "Satisfaction Is Nice, But Share Pays," *Marketing Management* 2, 1, 8-11.

¹¹ Anderson, Eugene W., Claes Fornell, and Donald R. Lehmann (1994), "Customer Satisfaction, Market Share, and Profitability; Findings from Sweden," *Journal of Marketing* , 58, 3 (July), 53-66.

¹² Oliver, Richard L. and Robert A. Westbrook (1982), "The Factor Structure of Satisfaction and Related Postpurchase Behavior," in *New Findings in Consumer Satisfaction and Complaining*, . Ralph L. Day and H. Keith Hund, eds. (Bloomington, IN: Indiana University), 11-14.

¹³ Swan, John E. and I. Frederick Trawick (1980), "Satisfaction Related to Predictive vs. Desired Expectations," in *Refining Concepts and Measure of Consumer Satisfaction and Complaining Behavior*, H. Keith Hunt and Ralph L. Day, eds. (Bloomington, IN: Indiana University), 7-12.

¹⁴ Prakash, Ved (1984), "Validity and Reliability of the Confirmation of Expectations Paradigm as a Determinant of Consumer Satisfaction," *Journal of the Academy of Marketing Sciences*, 12 (Fall), 63-76.

¹⁵ Moore, Ellen M. and F. Kelly Shuptrine (1984), "Disconfirmation Effects on Consumer Decision Making Processes," *Advances in Consumer Research*, Vol. 11, Thomas C. Kinnear, ed. (Ann Arbor, MI: Association for Consumer Research), 299-304.

¹⁶ Parasuraman, A., Leonard L. Berry, and Valarie A. Zeithaml (1990), *An Empirical Examination of Relationships in an Extended Service Quality Model*. (Cambridge, MA: Marketing Science Institute.)

¹⁷ Taes, R. Kenneth (1993), "Expectations, Performance Evaluation, and Consumers' Perceptions of Quality," *Journal of Marketing*, 57 (October), 18-34.

¹⁸ Johnson, Michael D. and Claes Fornell (1991), "A Framework for Comparing Customer Satisfaction Across Individuals and Product Categories," *Journal of Economic Psychology*, 12, 2 (Fall), 267-286.

development of national cross-industry indices, Fornell (1992)²⁰ and National Quality Research Center, University of Michigan Business School (1994).²¹ The research and publication--the cited articles are examples, not exhaustive of what has appeared--have come from the fields of marketing, organizational management, consumer research, economics, and economic psychology.

Considering the volume of research, and the growth in the customer satisfaction orientation of companies, non-profits, and--more recently--government organizations, the literature is surprisingly sparse on the "who" of customer satisfaction. Are there characteristics of individuals which make them more or less likely to be satisfied with the goods and services they purchase and use? Given that much of the consumer satisfaction research comes from the discipline of marketing, where the power of market segmentation has long been recognized, it is surprising how little appears in the published literature about differences between market segments defined by demographic characteristics. Such research undoubtedly exists. Most likely, the best research on individual customer characteristics, and the characteristics of market segments, lies within individual companies' proprietary research. Nearly all manufacturing and service firms today--and, increasingly, non-profit and government organizations as well--recognize that satisfying and retaining customers is essential to their long term survival and profitability. Poor

¹⁹ Johnson, Michael D. (1994), "Comparability in Customer Satisfaction Surveys: Products, Services, and Government Agencies," to appear in *New Directions in Statistical Methodology* (Washington, DC: Office of Management and Budget)

²⁰ Fornell, Claes (1992), "A National Customer Satisfaction Barometer: The Swedish Experience," *Journal of Marketing*, 56 (January), 1-18.

²¹ National Quality Research Center, University of Michigan Business School (1994), *American Customer Satisfaction Index: Methodology Report* (Milwaukee: American Society for Quality Control).

quality products and sloppy service are out; high quality and satisfying customers so that they feel they receive both quality and value for the prices they pay are in. This means monitoring customer satisfaction and using it as feedback for making improvements are now embedded in the cultures of most successful organizations.

A search of major journals since Yi published his review of the field,²² finds only an occasional article about a demographically-defined consumer group, Doyle (1990).²³

The American Customer Satisfaction Index (ACSI): Econometric Model and Survey Data for Input to the Model

There now exists a resource for examining the differences among customers of different industries by their demographic and socioeconomic characteristics. It is the database of 45,906 respondents qualified as recent customers of the goods and services produced by 200 companies with major market shares in 40 industries and seven sectors (1-digit Standard Industrial Code classification) of the U.S. economy. The database is the input to modeling of the American Customer Satisfaction Index released in October 1994.²⁴ The 200 companies, including seven government agencies and a number of foreign-owned companies with large market shares in several of the industries, offer over

²² Author's literature search for the years 1993-1995 of: *Journal of Marketing*, *Journal of Market Research*, *Journal of Consumer Marketing*, *Journal of Consumer Research*, *Marketing Research*, *Marketing Management*, and even the very focused *Journal of Consumer Satisfaction, Dissatisfaction and Complaint Behavior*.

²³ Doyle, Mona (1990) "Consumer Dissatisfaction in Growing Senior Markets," *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 3, 48-55.

²⁴ The ACSI is being updated quarterly with new data for two sectors per quarter so that, on a rolling basis, the database is replaced annually. This paper treats only data from the October 1994 baseline ACSI. Survey interviews were collected by Market Strategies, Inc., Southfield, Michigan.

14,000 brands which were collapsed to 3,914 brand names for linking customers with companies in the survey. These companies--nearly all of which are in the Fortune 500²⁵-- have combined sales which total over 40% of the Gross Domestic Product (GDP). The ACSI is co-sponsored by the University of Michigan Business School and the American Society for Quality Control, with partial funding from corporate sponsors. Choice of companies for which customer satisfaction is measured is independent of corporate sponsorship.

ACSI models customer satisfaction using an econometric model first developed for the Swedish Customer Satisfaction Barometer, launched in 1989.²⁶ The model (Figure 1) uses multiple questions from a survey of customers to model antecedents of customer satisfaction--customer expectations, customer perceptions of quality, and customer price/value perceptions--and links these to customer satisfaction, modeled using three questions. Customer satisfaction, in turn, is linked to the consequences of customer satisfaction--customer complaints and customer loyalty, the latter measured by repurchase likelihood and price tolerance questions. The model utilizes 17 questions in all, none of which are demographic characteristics. However, because of research interest in demographic differences, eight demographic questions are asked of each respondent, and two geographic characteristics-- metropolitan area and the media-relevant Area of Dominant Influence (ADI)--are coded from sample information.

²⁵ "The Fortune 500: The Largest U.S. Industrial and Service Corporations," *Fortune*, May 15, 1995.

²⁶ Fornell (1992), *Ibid.*

Respondents for the baseline ACSI in 1994 were screened from 48 replicate national random-digit-dial samples totaling 210,000 telephone households in the continental United States. Of these, 134,353 households were ineligible as business numbers, disconnects, computer/FAX/car phones, no response to four contacts, or the randomly selected adult, age 18-84, did not qualify as a customer for any of the 10 categories of goods and services for which he/she was screened. The large number of replicate samples was to assure nationally representative samples for each of the 40 industries, as they were added to the screening process once measurement of the first 10 was completed, and to assure national representativeness of the sample for each of 200 companies.²⁷

The analyses reported here use the demographic characteristics of 42,149 respondents, plus the variable ACSI, or customer satisfaction, modeled by measuring overall satisfaction, confirmation or disconfirmation of expectations, and comparison of the purchased product or service to an ideal one.. Because of the size of the respondent base, all differences reported are statistically significant at the .01 level.

Findings

The National ACSI

Although individual questions are answered on 1-10 scales, the modeling converts variables in the model to 0-100 scales. The first national American Customer Satisfaction

²⁷ National Quality Research Center, University of Michigan School of Business (1994), *Ibid.*

Index from the baseline 1994 study, representing seven sectors of the economy , is 74.5²⁸. (Figure 2). This is a weighted average based on averaging individual ACSI scores of a company's customers to obtain the company average; weighting the company average by its sales in its industry to obtain the industry average; weighting industry sales by sales within the economic sector to obtain the sector average; and, finally, weighting each sector average by the percentage that sector contributes to the GDP to obtain the national ACSI.

This weighting by company and industry sales is not relevant when examining differences among customers by demographic groups. Unweighted, customer scores are somewhat higher, an average 77.7 for the 42,149 customers used for this analysis. This is the baseline, national, unweighted ACSI with which to compare various segments.

ACSIs by Economic Sectors

The seven sectors of the economy are compared on customer average ACSIs against the rounded baseline average of 78 (Figure 3). Clearly, manufactured goods exceed customer satisfaction indices for other sectors, with non-durables scoring an average 82 and durables 81. By comparison, private sector services--shown in Figure 3 as transportation/communications/utilities, retail, finance/insurance, and services--have ACSIs of 73-76, with the lowest of these for retail companies. Government services, including the U.S. Postal Service which falls in the transportation/communications/utilities

²⁸ Standard error for both the unweighted and weighted national ACSI is plus or minus 0.2 at the 95% confidence level.

sector rather than under government, average 66--significantly lower than private sector services

Differences by Sex

Irrespective of the economic sector measured, female customers show markedly higher satisfaction with their experiences as customers than male customers do (Figure 4). This suggests that companies selling predominantly to men cannot expect to show the same levels of satisfaction as those selling predominantly to women.

The sex differences in customer satisfaction hold across all 40 industries, as examples of satisfaction with companies producing manufactured goods show (Figure 5). Whether automobiles, apparel, processed foods, or soaps/detergents and other personal care products, women make more positive judgments of their satisfaction with these goods than men do.

The same is true in judgments of companies in service industries. Differences of two to five points on the ACSI 0-100 scale persist in women rating their customer experience with discount stores, fast food restaurants, scheduled airline service, or even local police services higher than men do (Figure 6). Whether male or female, residents of the suburbs of metropolitan areas are somewhat more satisfied with local police service than residents of the central cities of metropolitan areas are.

Differences by Age

Knowing that women are more satisfied with what they buy than men are, are there differences in customer satisfaction by age? The answer is “yes” for both sexes (Figure 7). The age difference versus customer satisfaction (ACSI) is not a straight linear relationship. Whether male or female, customers age 35-54 have only marginally higher satisfaction levels than younger adults, ages 18-34. Satisfaction jumps markedly at age 55 and over. Customers born before 1940, who grew up during the depression and World War II era and have longer experience as consumers, demonstrate more satisfaction with the goods and services they buy today than younger customers do. Perhaps, they are making judgments from different standards for comparison of quality and value than younger customers are.

Differences by Socioeconomic Status

A variable for classifying individuals as lower, middle, or higher socioeconomic status was created by combining the two variables, income and education (Figure 8). This variable proves to be a significant delineator of customer satisfaction, irrespective of whether the customer is rating his/her satisfaction with manufactured goods, retail, transportation/communication/utilities, financial/insurance or other services. As socioeconomic level increases, customer satisfaction declines (Figure 9). This seems counterintuitive, assuming that more affluent customer are able to buy higher quality goods than less affluent ones can. Socioeconomic differences are somewhat less pronounced in satisfaction with government services than for goods and services provided

by the private sector. Government delivers services which receive lower satisfaction ratings, but are perceived more equally by all socioeconomic groups.

Clearly value for the price plays some role in judgments of satisfaction with quality, as do customer expectations, which tend to be rational in customers receiving what they expect.²⁹ Look at how customers of various department and discount stores rate the stores which serve them (Figure 10). At both the upper and lower ends of the socioeconomic scale, customers place discount stores higher on the satisfaction index than department stores. This could explain why the discount category has been growing much faster than department stores among general merchandise stores. Customers in the middle level of the socioeconomic scale are equally satisfied with both department and discount stores.

Correlations between ACSIs for all sectors of the economy (except government) and either education or income are significant, but not large. Combining education and income into socioeconomic status shows more differences in ratings than either variable alone does.

²⁹ Johnson, Michael D, Eugene Anderson and Claes Fornell (1995), "Rational and Adaptive Performance Expectations in a Customer Satisfaction Framework," *Journal of Consumer Research*, 21 (March):

Correlations of ACSI With Education and Income Levels		
Sector	r for education³⁰	r for income³¹
Manufacturing/nondurables	-.14	-.11
Manufacturing/durables	-.08	-.05
Transportation/communications/utilities	-.18	-.15
Retail	-.17	-.15
Finance/real estate/insurance	-.15	-.15
Services	-.10	-.08
Government	-.05	-.04

Differences by Race/Ethnicity

Whites, Blacks, and Hispanics have very similar ACSI levels across all measured companies (Figure 11). However, Asians show significantly less satisfaction with the goods and services of these companies. The higher satisfaction among Blacks is statistically significant, but is only one point on the 0-100 ACSI scale above the ACSIs of Whites and Hispanics. Are Asians truly different or is the difference caused by education level? Asians in the United States have overall higher education levels than other groups: 40% have graduated from college compared to 22% of Whites, 11% of Blacks, and 5% of Hispanics, Figure 12 shows ACSIs for the four racial/ethnic groups for

³⁰ p=.000 except for government p=.07

³¹ p=.000 except for government p=.19

manufacturing/durables with education controlled. Asian college graduates are the critical customers with lower ACSIs. Asians with only a high school education are actually more satisfied than others. Figure 13 illustrates racial/ethnic differences in satisfaction for the retail sector with education controlled. The retail sector is the private sector with the lowest ACSI. There are no consistent patterns of racial/ethnic differences.

Summary

Companies and organizations striving to satisfy customers need to be aware that there are patterns of difference in customer satisfaction that cut across all sectors of the economy and most industries. Most companies compete by providing goods and services for particular market segments. An increasing number of companies are tying employee compensation, at least in part, to customer satisfaction ratings. In doing so, it is important to recognize that companies, brands, and employees face very different challenges in achieving customer satisfaction, according to “who” the customers in their market segments are. In summary:

Women customers are more satisfied than men.

Satisfaction rises with age, particularly at age 55 and over.

Satisfaction declines as socioeconomic status rises:

- * Education
- * Income

Racial/ethnic groups have similar levels of satisfaction, when education levels are controlled.

Customer satisfaction by type of products or services ranks, from high to low, for:

- * Manufactured goods
- * Private sector services
- * Public sector services.

ACSI Model

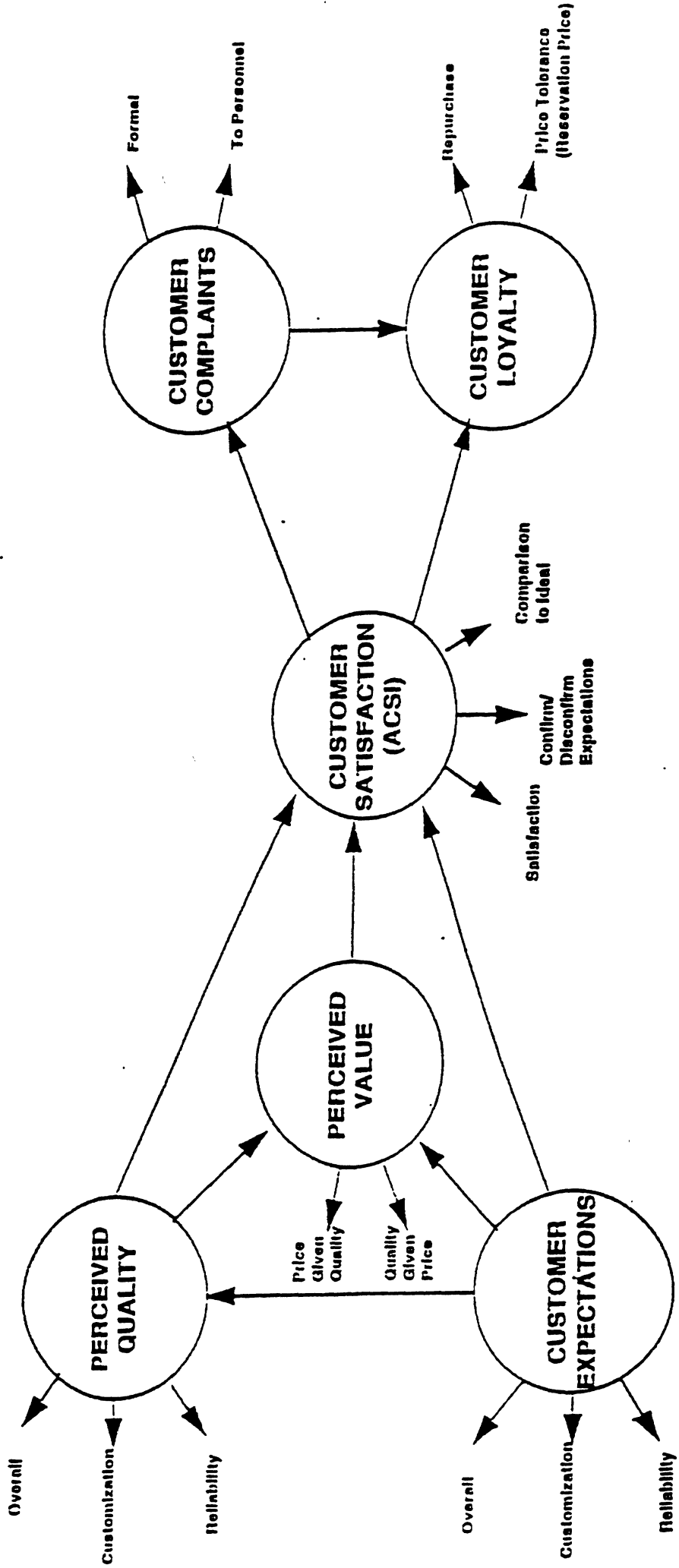


Figure 6



Figure 2 National ACSI 1994 Baseline

74.5 Customer scores averaged for
each company weighted by:

Company Sales

Industry Sales

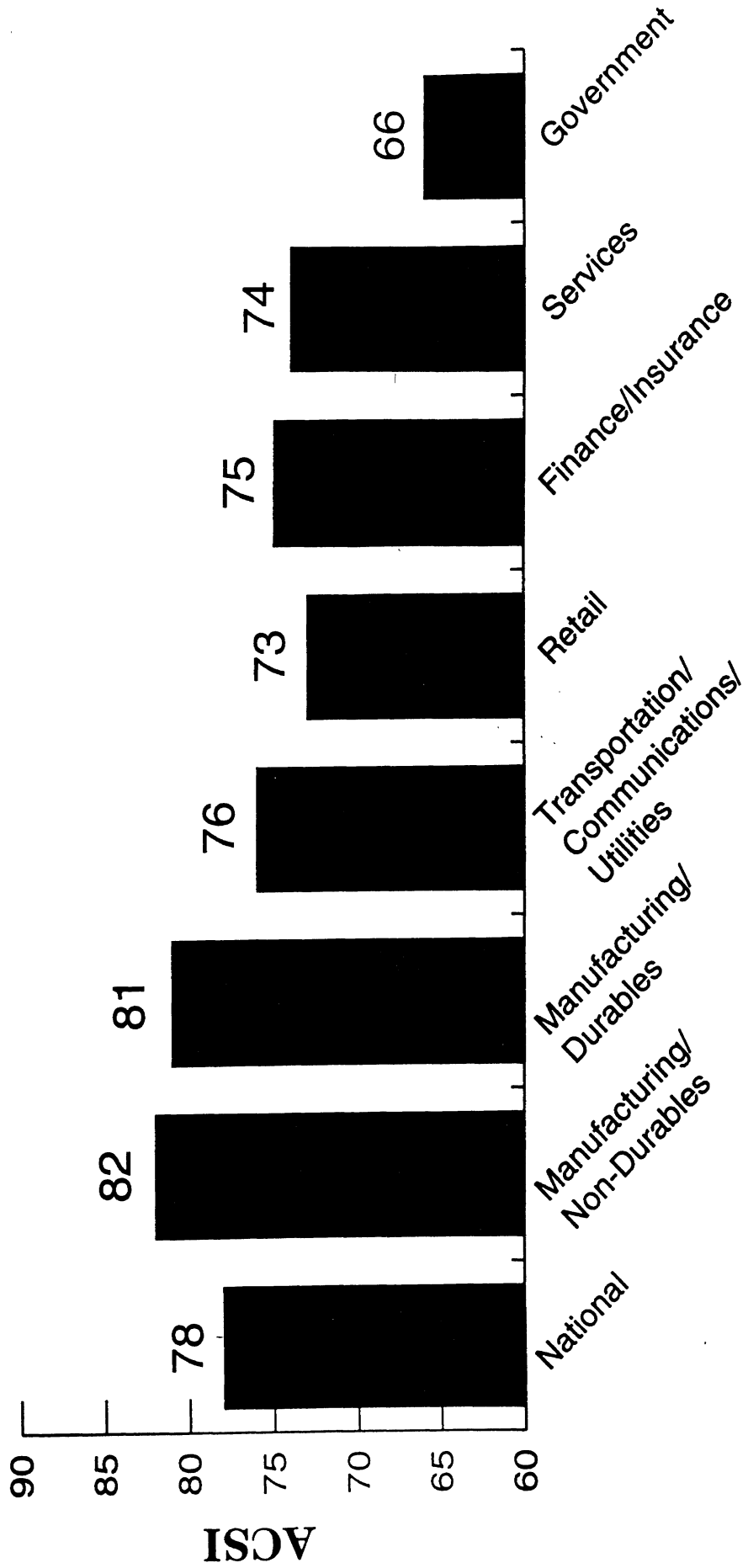
Economic Sector % of GDP

77.7 Customer scores averaged for
42,149 customers



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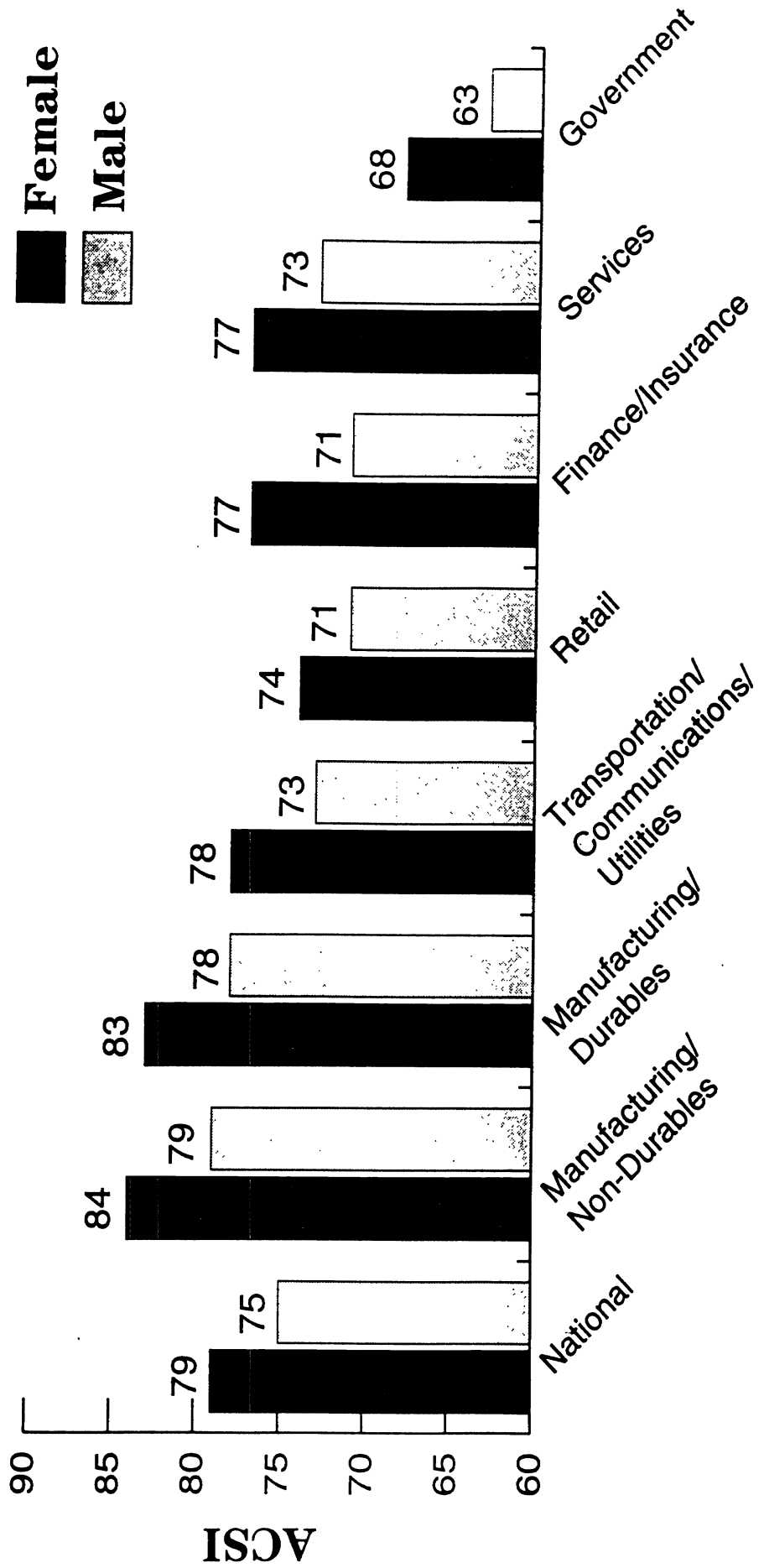
Figure 3
Customers' Average ACSIs
Economic Sectors 1994





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Figure 4
Customers' Average ACSIs by Sex
Economic Sectors 1994

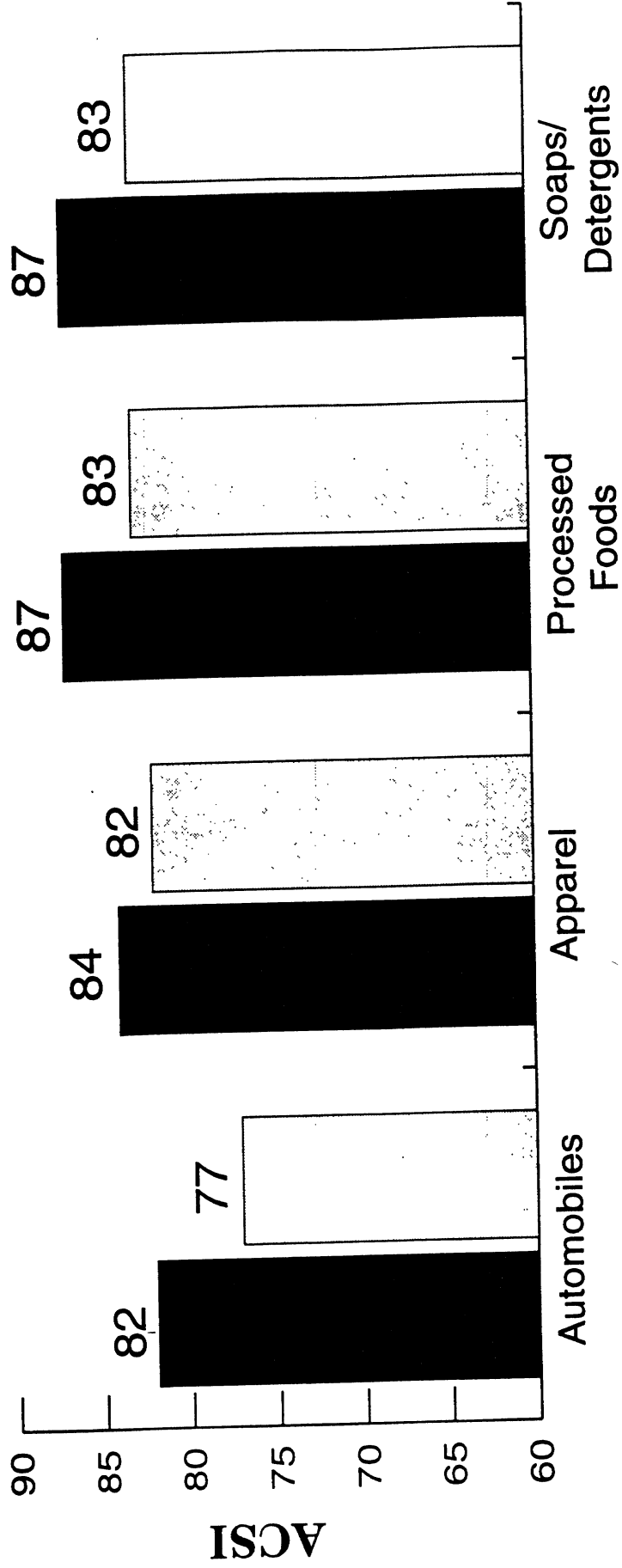




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Figure 5
Customers' Average ACSIs by Sex
Selected Manufacturing Industries 1994

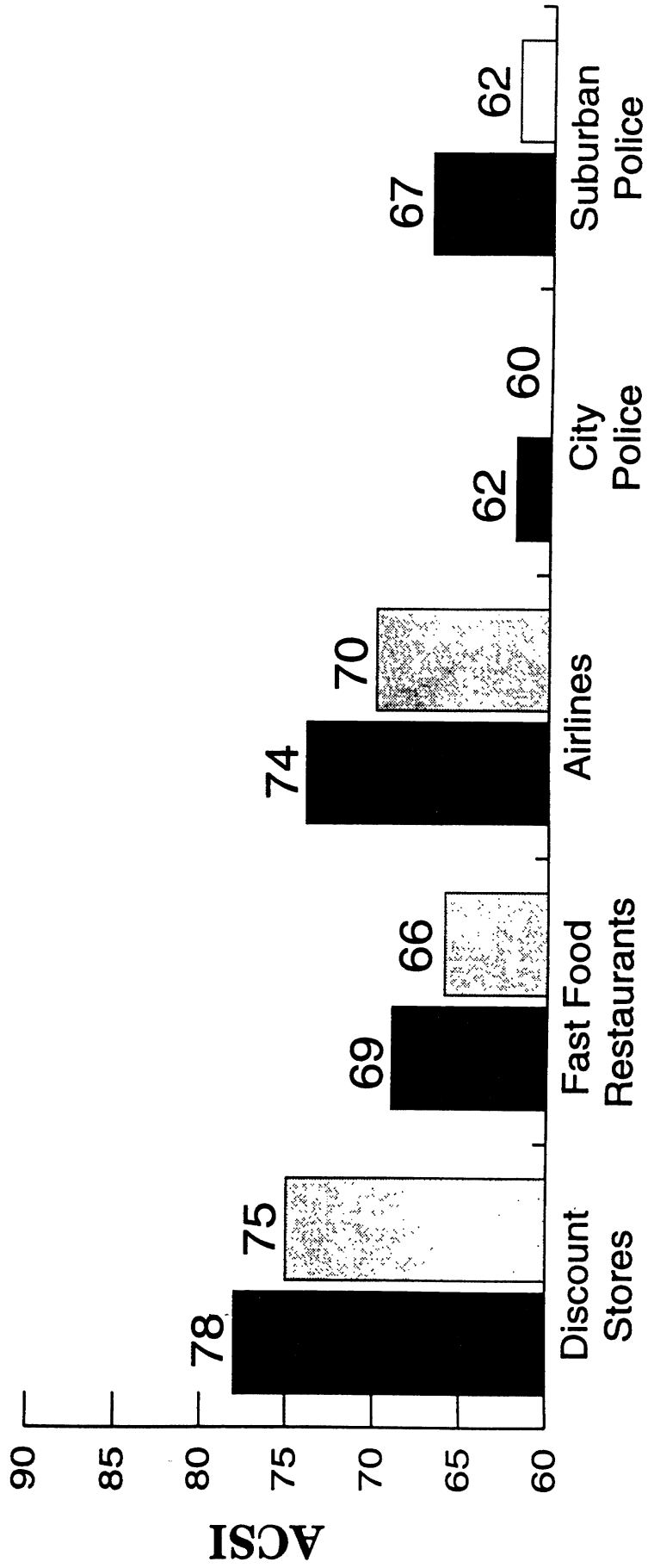
Women
Men





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Figure 6 Customers' Average ACSIs by Sex Selected Service Industries 1994





American Customer Satisfaction Index™

Figure 7

Customers' Average ACSIs by Sex and Age National 1994

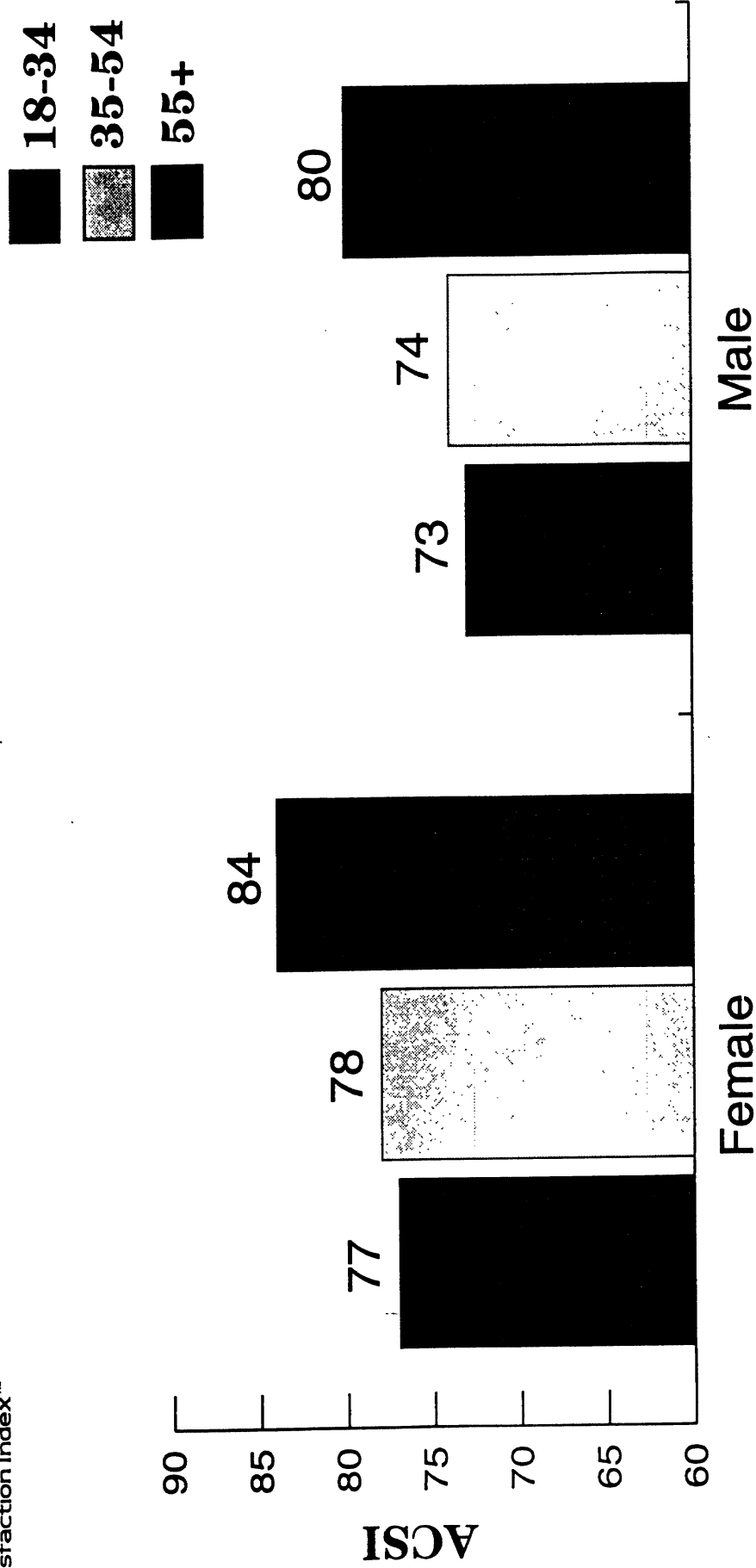




Figure 8
Socioeconomic Status

American Customer Satisfaction Index™

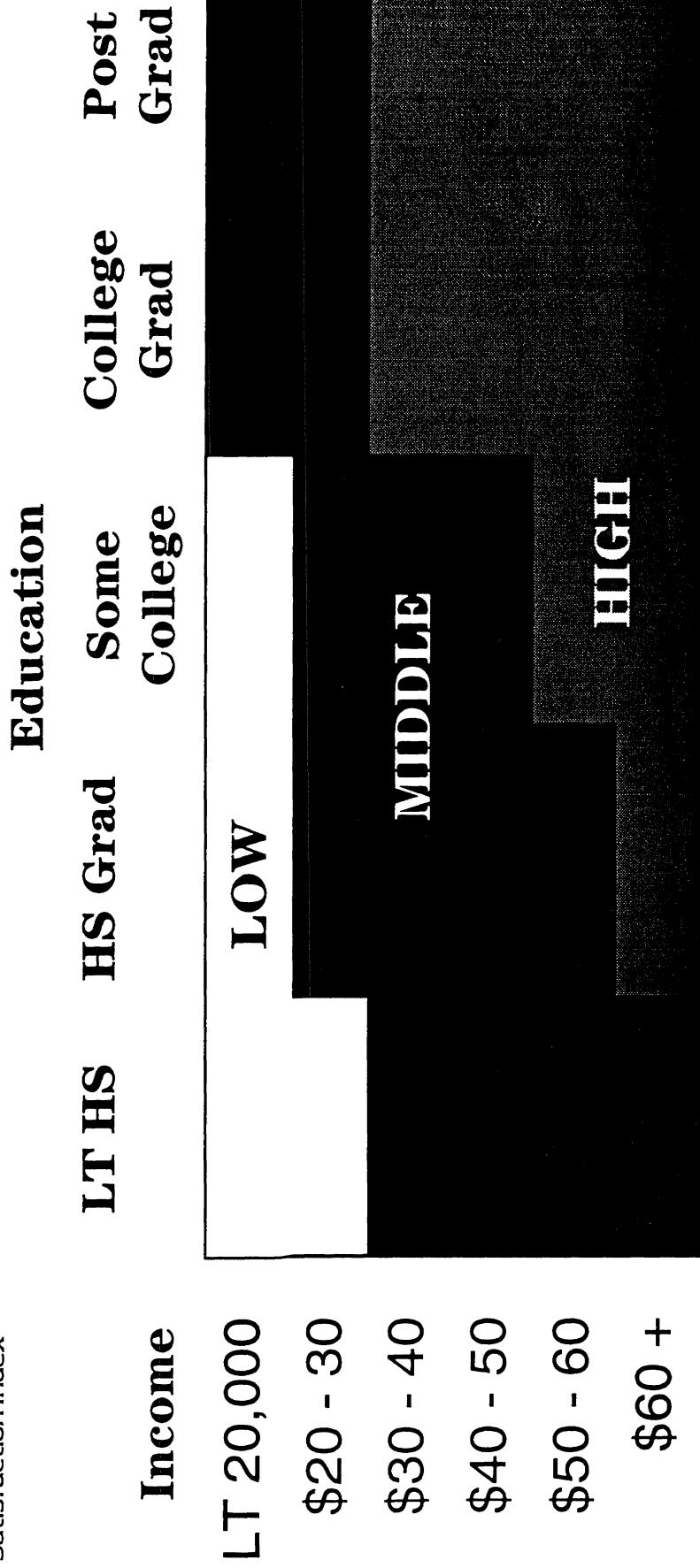




Figure 9
Customers' Average ACSIs
by Socioeconomic Status
Economic Sectors 1994

SES

Lower

Medium

Higher

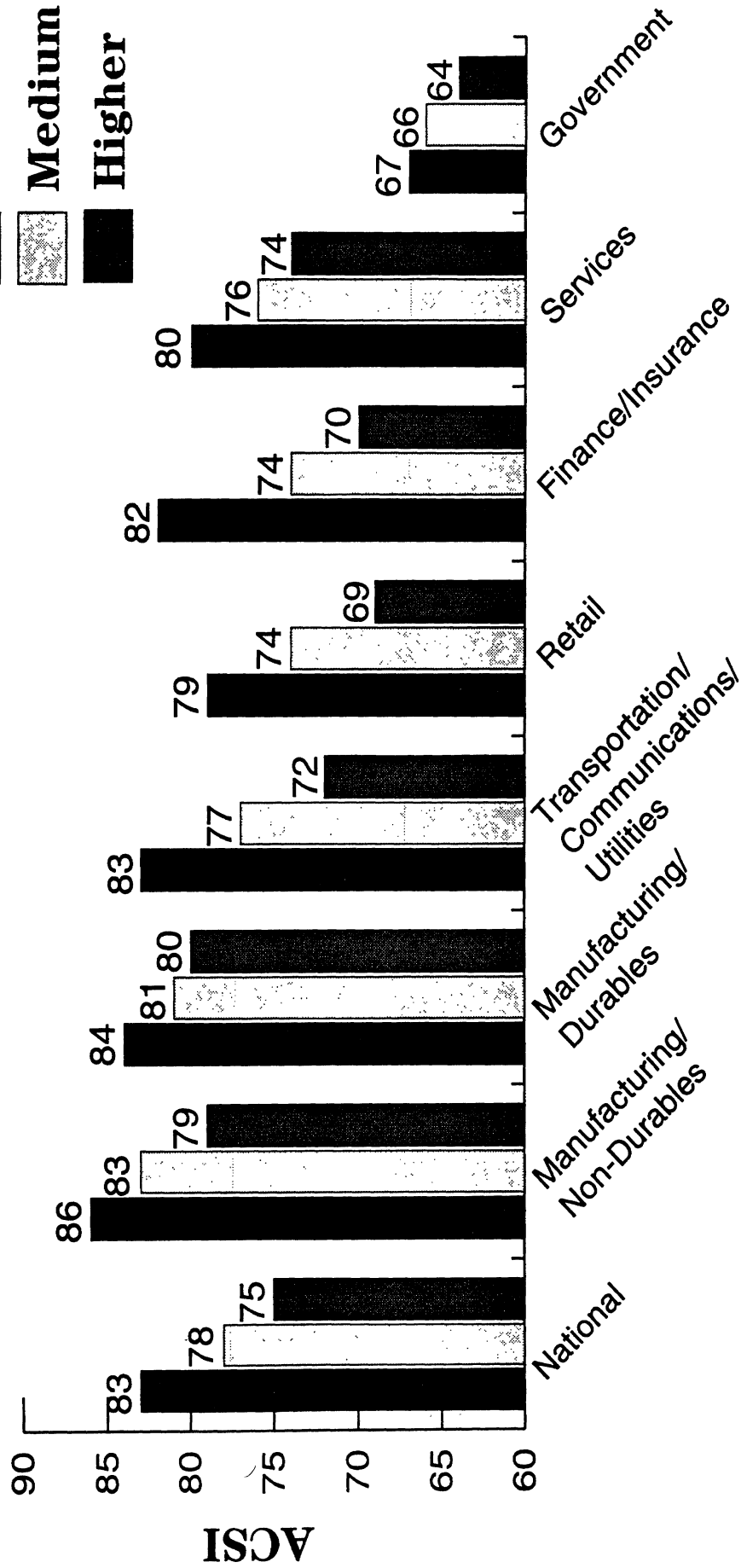
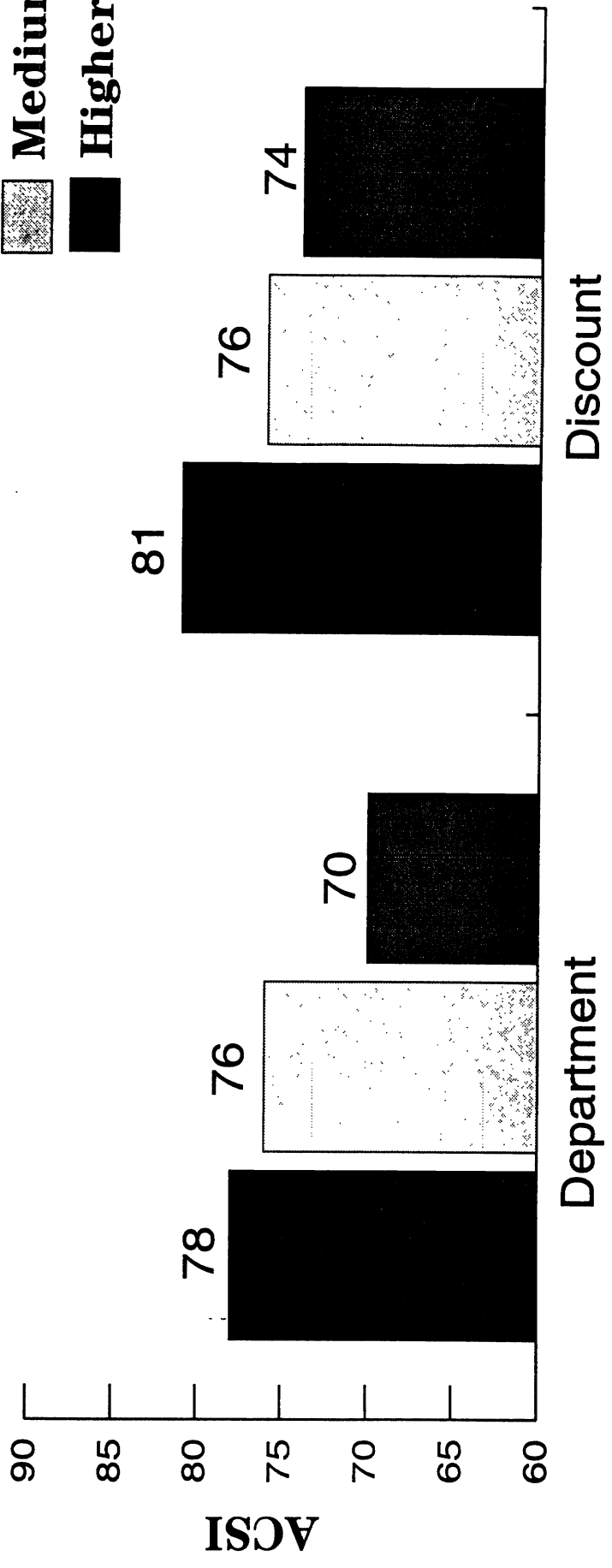




Figure 10
Customers' Average ACSIs
by Socioeconomic Status
Department & Discount
Stores 1994

SES

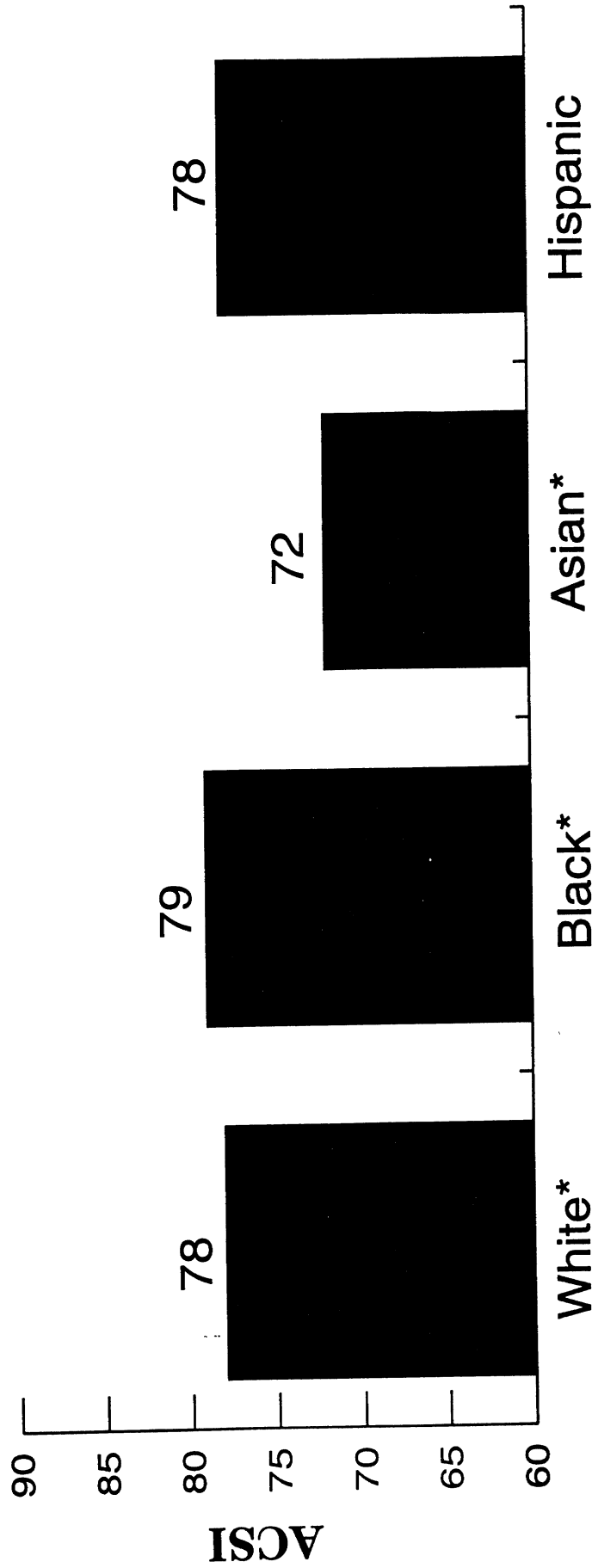
- Lower**
- Medium**
- Higher**





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Figure 11
Customers' Average ACSIs
by Race/Ethnicity
National 1994



* Not Hispanic

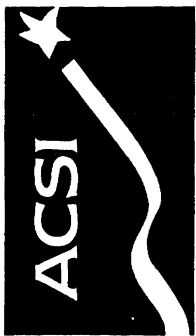
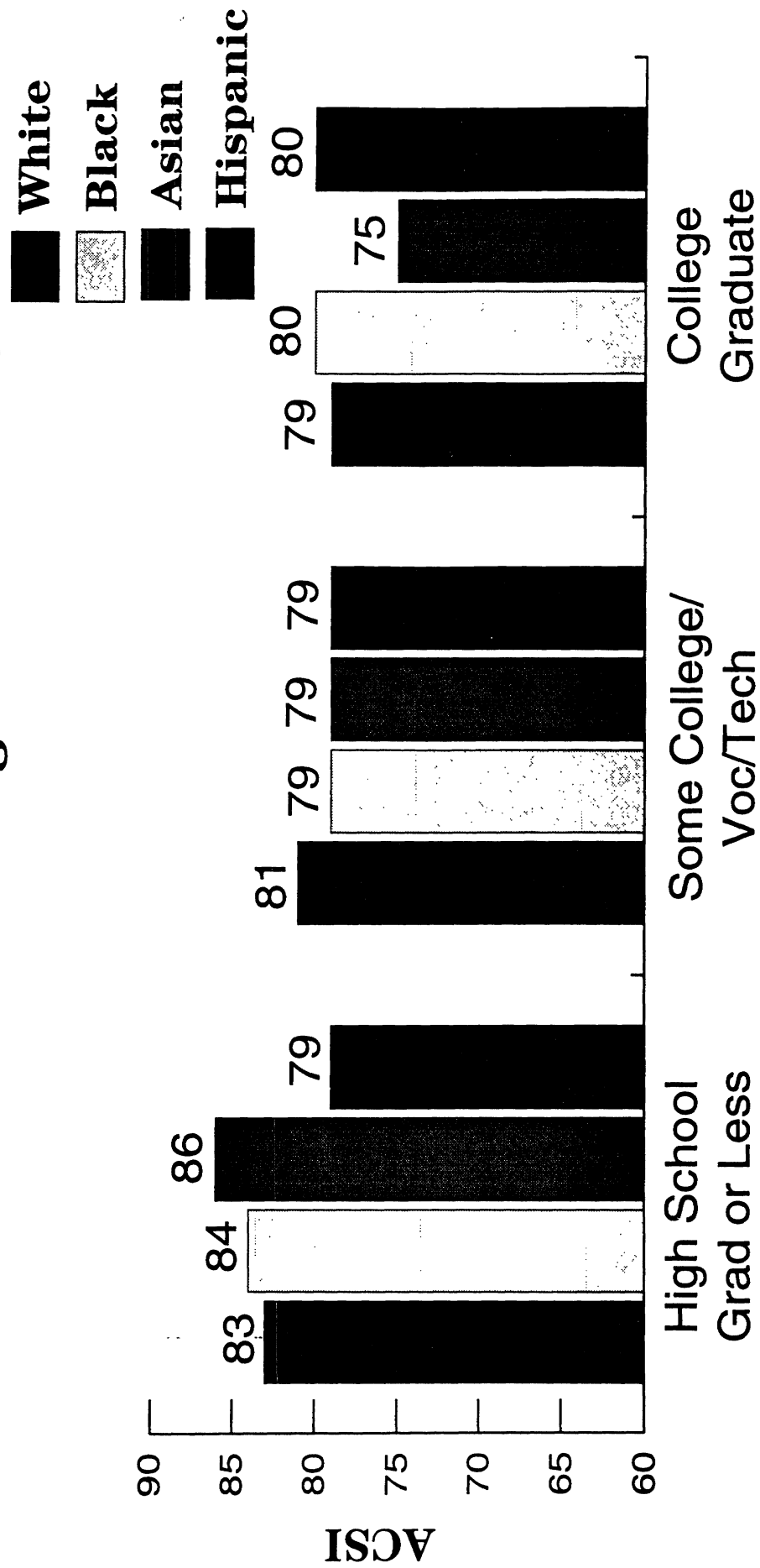


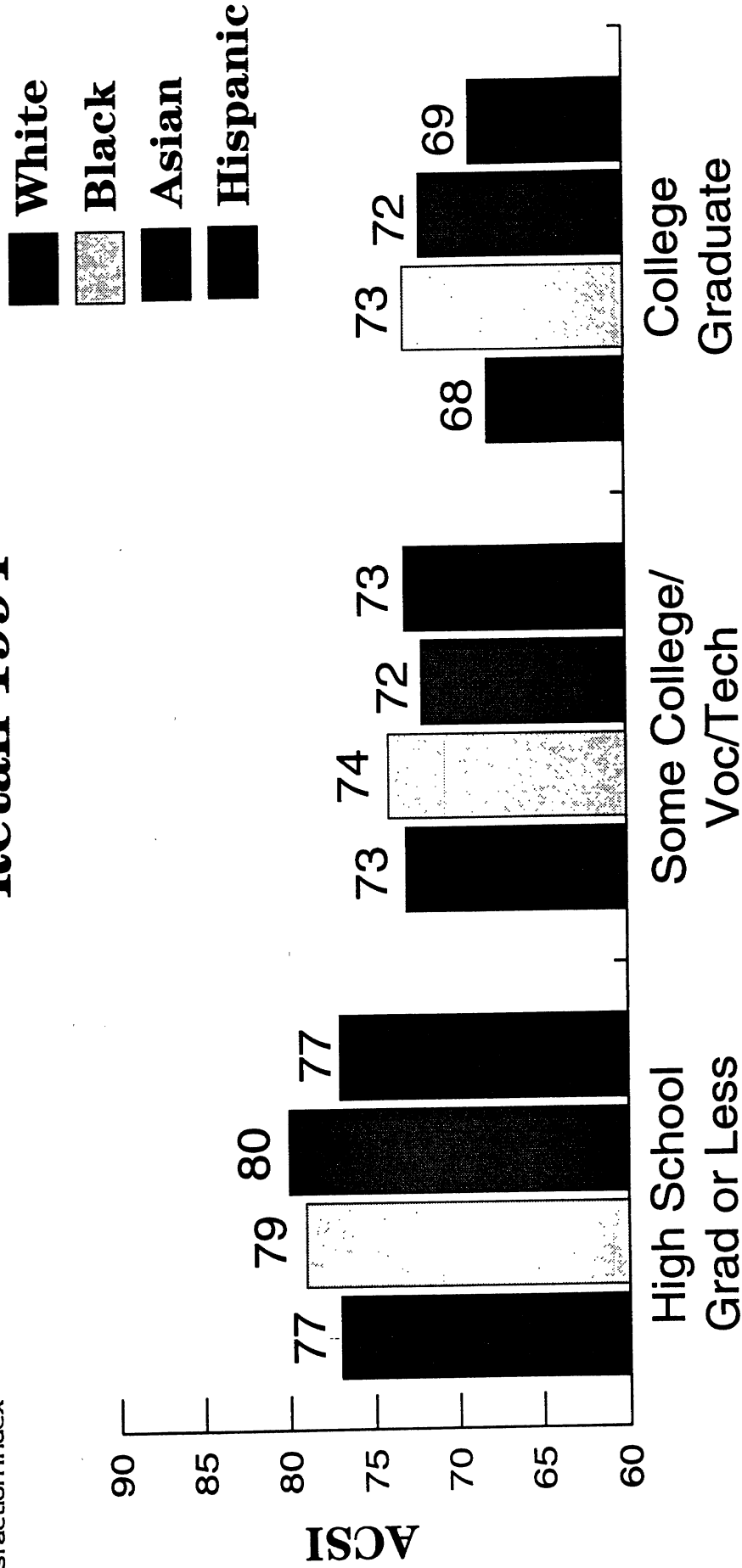
Figure 12
Customers' Average ACSIs
by Race/Ethnicity by Education Levels
Manufacturing/Durables 1994





American Customer Satisfaction Index™

Figure 13
Customers' Average ACSIs
by Race/Ethnicity by Education Levels
Retail 1994





Summary Findings American Customer Satisfaction Index (ACSI)

Women are more satisfied than men

Satisfaction rises with age, particularly at age 55+

Satisfaction declines as socioeconomic status rises

- Education
- Income

Racial/ethnic groups have similar levels of satisfaction, when education levels are controlled



American Customer
Satisfaction Index™

Within Every Demographic and Socioeconomic Group

Customer satisfaction ranks, high to low

Manufactured Products

Private Sector Services

Public Sector Services