PHARMACY STUDENT AND PRACTITIONER ATTITUDES TOWARD THE INDUSTRY

BY

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CHAPTER I

HISTORICAL BACKGROUND

Conflict between pharmacy and the pharmaceutical industry became evident in the United States during the mid 19th century. Until this time, pharmacists were proficient in transforming naturally occurring substances into finished medications. Beginning with crude drugs, pharmacists generally controlled their processing and the ultimate dispensing or sale of the resulting medication to the patient.

Even before large scale manufacturing became common, wholesalers began to manufacture products for resale by pharmacists.[1] William Procter, Jr. was among the first to protest loss of the pharmatists' manufacturing role.[2] Even before the Civil War many pharmacists lost interest in manufacturing since both time and money could be saved by

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[1]Glenn Sonnedecker, ed., "Ties Between Dispensing and Production," Kremers and Urdangs History of Pharmacy (3rd ed.; J. B. Lippencott Company, Philadelphia, 1963) pp. 109-110.

[2]William Procter, Jr., "Thoughts on Manufacturing Pharmacy...," American Journal of Pharmacy, Vol. 30, November, 1858, p. 516.

utilizing prefabricated products.[3] By the turn of the century many practitioners feared large scale pharmaceutical manufacturing threatened the traditional image of the pharmacist.

As factory-made products became more common, manufacturers began to use sales representatives to persuade physicians to prescribe medicines by brand name. Stocking and dispensing these brand name products, the pharmacist became a handler rather than a compounder of medicines. Various writers believed this practice both degraded and undermined the profession.[4]

A pharmacist stated in Pharmaceutical Era (1897) that a check of 200 of his prescription orders showed only a third specified pharmacopoeial drugs while the remainder ordered ready made products.[5] The drug manufacturing industry received new impetus following the discovery of "wonder drugs" in the late 1930's and 1940's. With these new advances in pharmacy, it no longer was possible for the

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[3]John Faber, "Remarks on Manufacturing Pharmacy," Proceedings of the American Pharmaceutical Association, Vol. 9, 1860, pp. 210-211.

[4]Please see John M. Maisch, "Note by the Editor," American Journal of Pharmacy, Vol. 46, Sept. 1, 1874, p. 414; and J. U. Lloyd, "Pharmacist and Manufacturer," Proceedings of the American Pharmaceutical Association, Vol. 35, 1887, pp. 582-588.

[5]A. S. Stites, "Pharmacy Up to Date," Pharmaceutical Era, (18:7) Aug. 12, 1897, pp. 200-201.

pharmacist efficiently to compound many of his own medicinal preparations.

Many pharmacists welcomed the resulting increase in the number of prescriptions dispensed. However, the price paid was a loss of compounding and professional involvement. The pharmacist found little time for professional involvement beyond dispensing the increased number of prescriptions and related items. Pharmacists gradually lost their professional image as manufacturers and as compounders of medication for individual patients.

Manufacturers, realizing physicians were the individuals most responsible for selecting prescription medication, geared their scientific and professional education programs toward the medical profession. Pharmacists, however, frequently received only sales and promotional literature. Nevertheless, the increased prescription volume generated by the antibiotics, steroidal hormones, antihistamines, antihypertensive agents, oral antidiabetics, oral contraceptives and antipsychotic agents fostered friendly pharmacy-industry relations.[6]

However, new conflicts developed within the drug distribution system. Pharmacists now were being educated in the physical and chemical properties of medicinals and in

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[6]John S. Ruggiero, "Industry-Pharmacy Relations-Controversy to Resolution," Medical Marketing & Media (11:9) September 1976, pp. 40-42.

the action and uses of drug products. Many young pharmacists found this new knowledge and new skills difficult to apply in their pharmacy practice.

The Kefauver hearings caused pharmacy-industry relations to deteriorate further by involving pharmacists in a conflict which they believed was caused primarily by the industry. Initially, the topic of pharmacy margins was avoided by the Senate Antimonopoly Subcommittee, apparently to avoid criticism of community pharmacists.[7] The majority report by the Subcommittee disclaimed any intent to question the "reasonableness of the retailer's margin." However, Senator Everett Dirkson challenged the majority's assumption that pharmacists' prices could be isolated from wholesale prices and attacked the Subcommittee for inciting the press to produce big headlines.[8]

The AFL-CIO Committee on Political Education distributed a leaflet to its members before the November, 1960 national election. The nationally distributed publication charged the Republican Party with an attempt to stop the drug price investigation and suppress facts uncovered by the Kefauver investigation.

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[7]"Kefauver Warns of 'Socialized Medicine' Unless Drug Industry Cuts Rx Prices," American Druggist (141:3) Feb. 8, 1960, p. 7.

[8]"Can't Isolate Retail Prices From Probe," American Druggist (141:7) April 4, 1960, p. 11.

Among the Senate Subcommittee's charges of drug industry abuses as described in the union organization's political education leaflet were:

> Aged Americans are forced to go without food to pay for exorbitantly priced drugs.
> Drug costs are so high some people are driven back into insane asylums because they cannot afford the medication that would enable them to live as normal human beings.[9]

Although not specifically directed at the pharmacy profession, bad publicity surrounding the Kefauver hearings disturbed pharmacy leaders. Austin Smith, then president of the Pharmaceutical Manufacturers Association (PMA), warned the attack on the drug industry threatened the entire system of health care. Dr. Smith stated,

> "...lopsided and distorted" newspaper headlines are creating a climate of public opinion that will make it difficult for the health field to recapture "public confidence" unless everyone involved "does his part to place the facts before the public."[10]

Pharmacists became involved directly with price allegations made by the Kefauver Committee when a federal grand jury subpoenaed 60 pharmacists, several wholesale drug firms, the Arizona Pharmaceutical Association and the Maricopa County Pharmaceutical Association. It became

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[9]"Quick Kill Held Aim of Drug Monopoly," American Druggist (142:10) Nov. 14, 1960, p. 23.

[10]"Attack on Drug Industry Perils Entire U.S. Health Care System," American Druggist (141:4) Feb. 22, 1960, p. 12.

apparent the Justice Department sought evidence of a conspiracy among pharmacy groups.

In California, the Justice Department filed a criminal indictment against the Northern California Pharmaceutical Association and a civil complaint naming San Francisco pharmacist Don Hedgpeth, the members, directors and officers of the association as co-conspirators. The major emphasis of the Association indictment was directed at the alleged illegal use of a prescription pricing schedule developed by Pharmacist Hedgpeth. Both the Northern California Association and Donald Hedgpeth were found guilty of violating the Sherman Antitrust Act by conspiring to fix prescription prices in Northern California.[11]

Many pharmacists believed the increased government scrutiny of economic issues and of pharmacist-pharmacy association relationships were, at least indirectly, the result of the industry's pricing policies and the Kefauver Hearings. It is not possible to quantify the adverse effect

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[11] "Grand Jury Calls 60 Rx Men on Prices," American Druggist (141:8) April 18, 1960, p. 19; "Will More U.S. Price Conspiracy Cases...," American Druggist (143:1) January 9, 1961, p. 8-11; "Corner Pharmacist Not on Trial; U.S. Tells California Jury; 'He Is,' Defense Holds," American Druggist (143:12) June 12, 1961, pp. 5-6; "Northern California Association and Hedgpeth are Found Guilty of Rx Price-Fixing; Professional Status Barred as Issue," American Druggist (143:13) June 26, 1961, p. 5-8; and U.S.D.C. N.D.C., S.D. (1961) Criminal No. 37653, United States of America vs. Northern California Pharmaceutical Association and Donald K. Hedgpeth, pp. 1037-1062.

these had on pharmacists' attitudes toward the industry; however, it is reasonable to believe these items exacerbated already faltering pharmacy-industry relations.

Pharmacy-industry relations were strained further when pharmaceutical firms found they could use their company name to promote successfully new products containing drugs formerly protected by other manufacturers' patents. Pharmacists saw the "me too" and "branded generic" products increasing their inventories and decreasing their professional prerogatives.

With the increasing social programs of the 1960's and 1970's, pharmacists were told what services they could supply and how much they would be reimbursed. The buying power of hospitals, large chains and government agencies placed the independent community pharmacist in an awkward position. He could not compete on price alone and was unable to bargain with third party payers on reimbursement levels.

In frustration, pharmacists sought 'the cause' of their problems. They saw the industry's support of antisubstitution laws as reducing their role as professionals and maintaining an artificially high cost to pharmacists which they were required to pass through to the consumer. Adverse publicity on the level of drug prices, wide price variation among pharmacies, legal actions against organized pharmacy and resulting consumer hostility toward pharmacy appeared to be primarily the fault of the pharmaceutical industry.

Pharmacists saw differential pricing to hospitals, clinics, physicians and government as providing an unfair competitive advantage. Some pharmacists believed samples of prescription drug products were distributed to physicians by the case, resulting in higher costs to them and lower prescription volume.

Pharmacy-industry relations deteriorated throughout the 1960's and reached a low following the 1970 APhA decision to seek repeal of state antisubstitution laws. Governmental pressure to lower the cost of health care increased criticism of the nation's drug distribution system. Criticism of either pharmacists or industry often was followed by allegations that the other was at fault.

Pharmacy-Industry Conflict Areas

Presently, a number of problems exist between pharmacists and the pharmaceutical industry. At the 1976 NARD convention several resolutions on industry problems were passed by the House of Delegates.

Pharmaceutical manufacturers were called on to:

(1) Eliminate discriminatory and multiple pricing practices that favor hospitals, governmental agencies, and other institutions which may compete with community pharmacies.

(2) Develop equitable and reasonable returned goods policies and recall procedures, as well as credit terms.

Halt the efforts of the Pharmaceutical Manufacturers Association (PMA) to encourage dissemination of prescription price information to physicians.

(3) Provide effective advance notification of all price changes, with 90-day notice to be given to state welfare agencies.

(4) Discontinue drug product sampling. Abandon the practice of selling selected Rx-legend veterinary drug products exclusively to veterinarians.

(5) Provide statements of policy on the protection of pharmacies in product liability suits.

The delegates supported legislation to require the labeling of prescription drug products with the name and address of the original manufacturer.[12]

A brief review of the literature was conducted to determine the areas in which pharmacy-industry relations reportedly are strained.

Differential and Discriminatory Pricing

Surveys have been conducted by IMS America for HEW's Maximum Allowable Cost (MAC) determination. The figures which were reported for two brands of ampicillin demonstrate wide variations in pricing. The data show some community pharmacies purchased Parke-Davis 250 mg. Amcill 100s for as

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[12]"What NARD Delegates Resolved," Drug Topics (120:20) October 15, 1976, pp. 20, 21.

little as $2.82 while others were invoiced as much as $25.00 for the same product. Price differentials on Squibb's 250 mg Principen 100s ranged from $1.61 to $25.90.[13]

Although officials at HEW state wide differentials are not limited to ampicillin products, it is not possible to ascertain the extent of the industry's differential pricing. The extent to which such differentials may encourage legal action is not known.

Harold J. Shinnick, president of the NARD, stated in his opening address to the 1974 NARD annual convention:

> Our drug system is in chaos, we know that the government, hospitals, chains, discounters and just about everybody but the independent practitioner is privy to special discounts which are not available to us. We know that some of the cost prices given to government and to hospitals and their buying groups by some of the largest and most respectable drug firms parallel the prices of the cheapest generics available to independent community pharmacies. Because of these price differentials, we can see more and more prescription medication being funneled through government and hospital facilities. It is time that the government, the consumer, the government agencies, and all the constituent parts of our pharmacy complex recognize that it is not in the interest of anyone to let this erosion of our drug distribution continue to feed on itself.[14]

At a meeting of pharmacy leaders and industry

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[13]"IMS Data Reveals Brand Manufacturers Pricing Differences," Chain Store Age/Drug Edition (53:3) March 1977, p. 95.

[14]"Drug Distribution System is in Chaos, NARD Chief Says," American Druggist (170:8) October 15, 1974, pp. 16, 19.

representatives William F. Appel, then president of the APhA, demanded that manufacturers "state publicly their actual net selling prices - product by product for specified periods of time," and demanded that the prices be "guaranteed." Chain stores often are reported to receive preferential treatment in drug product pricing. However, at the same meeting NACDS chairman Weinberger stated, "The chain drug industry has long been disturbed about the irrational pricing policies of some pharmaceutical manufacturers." Mr. Weinberger continued, "We are concerned about the drastically reduced prices offered to hospital pharmacies and equally troubled over the failure of some pharmaceutical manufacturers to offer direct buying chains the same prices that wholesalers receive."[15]

In a survey taken for Drug Topics, differential pricing was the principal complaint against pharmaceutical manufacturers.[16] Are manufacturers aware of pharmacist dislike of their pricing practices? At a question and answer period at the PMA convention in April, 1975, president C. Joseph Stetler was asked why pharmacists feel hostile to manufacturers. President Stetler replied:

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[15]"Makers' Pricing Hit by APhA NACDS Leaders," American Druggist (175:1) January, 1977, p. 41.

[16]"Who's to Blame for Controls?," Drug Topics (120:15) August 1, 1976, p. 50.

> Well, there are probably various reasons, but I think without a doubt the main reason for hostility is differential pricing. The fact that companies have a price for government, a price for hospitals, a price for retailers, in their opinion is perfectly justified, but nevertheless, retail pharmacy sees this as unfair competition, since there are outpatient dispensaries in hospitals and since government has an increasing layer of beneficiaries, they can't compete, and when they pay higher prices, they're subsidizing our sales to government and the hospitals. There is some sympathy with that. One reason why we're having an exchange with NARD at the moment is that they want to talk about that. As a trade association, antitrust laws prevent us from talking about that. And we have told them, you've got problems with our companies, talk to the companies. And they are. And some of them will be resolved.[17]

The problem of differential pricing is not new to pharmacy. In 1960, John W. Dargavel, then secretary of NARD, called for adoption of a "one-price-to-all" policy in a three page letter written to leading manufacturers.[18] Five months after secretary Dargavel's appeal, Smith Kline and French Laboratories instituted a new policy on pricing. The change made prices for prescription drug products equal to both community and hospital pharmacies. Frazer Cheston, then director of distribution for SK&F, stated:

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[17]"Differential Pricing is the Main Reason for Retail Pharmacist Hostility...," Weekly Pharmacy Reports (24:18) May 5, 1975 (pp. 2-3).

[18]"NARD 'Probe' of Drug House Discounts Seeks Adoption of 'One-Price-to-All,'" American Druggist (142:8) October 17, 1960, p. 5.

> ...retail pharmacists have long been disturbed about discrepancies between the prices they pay for drugs and the prices paid by community hospitals. A thorough long-term study of our pricing and packaging procedures has convinced us of the need for eliminating inequalities that exist.
>
> In the hospital field, the new policy applies to city and county hospitals as well as to private hospitals.[19]

Other manufacturers also have attempted to solve the differential pricing issue. Parke-Davis announced in May, 1975, they had been on a "one-price-policy" to chains, independents, physicians and private clinics for months.[20] To the casual observer it might appear the problem would soon be resolved. One might ask why the problem is so difficult to solve.

There is some evidence the companies who have tried to eliminate differential pricing have not met with the success they originally anticipated. One company which adopted a one price system reportedly conceded losing nearly 1,000 customers.[21] A follow-up marketing investigation indicated the loyalty of the balance of their customers was not related to the adoption of a uniform price policy. The

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[19]"Smith Kline and French Laboratories Drops Hospital Differential," American Druggist (143:5) March 6, 1961, p. 12.

[20]"Parke-Davis Have Been on Basic 'One-Price-Policy' to all Retail Customers," Weekly Pharmacy Reports (24:21) May 26, 1975 (p. 2).

[21]Leo McMahon, "Views: 'Price Differentials,'" Pharmacy West (88:12) Dec. 76/Jan. 77, p. 62.

competition of the marketplace has not allowed companies to act individually and the threat of legal action has prevented a collective approach to the problem.

The Portland Retail Druggists Association versus Abbott Laboratories, et al. decision by the United States Supreme Court may have a positive effect on the problem of differential pricing. The decision requires that drug products purchased at special hospital prices under the exemption from the Robinson-Patman Act contained in Section 13C be used for the hospital's "own use."[22]

The Portland Retail Druggists Association currently is pursuing the legal aspect of differential pricing. The Association is preparing to press charges in court against 12 leading pharmaceutical companies for alleged Robinson-Patman violations to nonprofit hospitals. With a group of California pharmacists, the Association has brought a Robinson-Patman suit against the Kaiser Foundation Health Plan and its affiliated organizations, charging they obtained illegal discounts on drug products. The Association is attempting to prod the Federal Trade Commission (FTC) to review evidence of Robinson-Patman violations.[23]

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[22]Robert B. Greenberg and Freda L. Mandl, "Portland Retail Druggists Association vs. Abbott Laboratories, et al., Part 2," American Journal of Hospital Pharmacy (33:7) July, 1976, p. 650.

[23]"News: Battling Oregon Group Widens Fight on Illegal Pricing," Drug Topics (121:6) March 15, 1977, p. 11.

Professional Service Representatives

In a survey conducted for American Druggist, 68.6 percent of approximately 1,500 pharmacist respondents reported they believed detailmen do a good job.[24] The remaining 31.4 percent believed detailmen performed poorly. Although most pharmacists believed the detailmen perform well, more than three of ten believed the representatives were unwelcome intruders, and many complained of high pressure sales tactics.

In evaluating the results of the survey, investigators with American Druggist believed adverse comments arose because some detailmen are inadequately or poorly trained and have created needless animosity between pharmacists and the industry. Many complaints dealt with the actions of individual detailmen, regardless of whether they reflected company policy or merely individual personal traits. These complaints included attempting to gain access to prescription order files, attempting to sell large quantity deals, distributing unsolicited samples to physicians, and poor handling of or failure to handle returns.

The American Society of Hospital Pharmacists (ASHP) officially has an unfavorable view of detailmen. The ASHP strongly opposed Senator Edward Kennedy's bill which would

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[24]Stanley Siegelman, "How Pharmacists Rate Detailmen," American Druggist (170:3) August 1, 1974, pp. 19, 56, 57.

require federal certification of detailmen.[25] The bill included a requirement that manufacturers' representatives be specially trained. The ASHP opposed the bill, declaring manufacturers' representatives are salesmen and not drug information specialists.

In a survey conducted by Smith and Roberts on what pharmacists expect of the ideal detailman, it was determined prompt handling of returns was the most important service of the representative.[26] Informing the pharmacist about special discounts and price changes and information on products being detailed to the physician received overall second and third ratings, respectively. Assistance in obtaining drugs in emergencies, providing product information and calling on a regular, convenient schedule were rated fourth, fifth, and sixth, respectively.

Pharmacists often believed they were ignored by manufacturers' representatives in favor of the physician. In a November, 1975 speech before the ASHP, society president Fred Eckel stated, "You (the drug industry) treated us like second class citizens for years. You took those doctors out and you treated them like royalty and the

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[25]"News: Detailman is a Salesman, Not a Drug Info Specialist," American Druggist (170:2) July 1, 1974, p. 34.

[26]Mickey C. Smith and Kenneth B. Roberts, "What Does the Pharmacist Want or Expect of an 'Ideal' Detailman?," Pharmacy Times (42:1) January, 1976, pp. 51-53.

poor pharmacist if he got the time of day was lucky."[27]

Eckel believed many pharmacists do not regard representatives as professionals and resent their close working relationships with physicians. This feeling of frustration could prompt some pharmacists to take a positive stand on repeal of antisubstitution laws, believing that then the representative and the physician would hold the pharmacist in higher esteem.

Several representatives present at the meeting stated pharmacists they detailed were concerned only with price and deals. One representative believed pharmacists were self-conscious about learning drug information from people they believe are merely salesmen.

High Prices

Alleged excessive profits and high prices are often given as reasons for increased governmental control in the pharmaceutical field. Although prices are not discussed in the lay press to the extent they were during the Kefauver hearings, consumer groups are vocal about the "high cost" of health care including its pharmaceutical component.

Sampling

Responding to criticism in the early 1960's,

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[27]"Existence of Battleground Between Detailmen and Pharmacists," Weekly Pharmacy Reports (24:45) November 10, 1975 (p. 3).

manufacturers imposed tighter controls on drug product samples.[28] Allegations of drug product diversion and trading samples for other items of value forced the reassessment of drug product sampling.

However, sampling is still used at the present time since manufacturers have found the practice a valuable promotional and educational tool. Appearing before Senator Kennedy's Health Subcommittee, Hoffman La Roche President Robert Clark stated his firm was forced "with great reluctance" to start sampling Bactrim for competitive reasons.[29]

Favorable Industry Activities

Not all activities or characteristics of the pharmaceutical industry are disliked by pharmacists. Many pharmacists believe the industry does a comendable job, while others cite specific activities or characteristics

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[28]For example, please see "Bristol Labs Tightens Sampling Control," American Druggist (144:3) August 7, 1961, p. 25; and "SKF Salesmen Must Sign Pledge," American Druggist (142:13) December 26, 1960, p. 20.

[29]"Sampling is Effective," Weekly Pharmacy Reports (24:28) July 14, 1975 (pp. 2-3). Roche's Bactrim is in direct competition with Burroughs-Wellcome's Septra. Between 1974 and 1975 Roche decreased sampling from 87.5 to 53.6* million units while Burroughs-Wellcome increased its sampling from 45.7 to 134.5* million units.

*Includes number of tablets or capsules computed where possible and combined with the number of sample packages for which the number of individual tablets or capsules were not provided. This includes the firms total output of all samples including the products mentioned.

they view favorably.

Continuing Education

The ASHP in October, 1976 supported the activities of the pharmaceutical industry in continuing education programs.[30] Although concern was expressed about the bias in some continuing education programs, the importance of industry's support was noted.

In response to numerous requests for audio-visual continuing education material, Eli Lilly and Company, a pioneer in continuing education aids for the health professions, announced a series of slide-tape presentations for pharmacists early in 1974.[31] Other firms recently have designed various continuing education aids for the practicing pharmacist.

Roche Laboratories, with the assistance of the executive committee of the NARD, is developing a series of "Guides to Good Pharmacy Management" for association members.[32] The series is designed to help the pharmacy practitioner cope with the expanding influence of government

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[30]"Editorial: Industry Support for Pharmacy Continuing Education," American Journal of Hospital Pharmacy (33:10) October, 1976, p. 1003.

[31]"A Flexible Continuing Education Program for Association Use," Tile & Till (60:1) Spring 1974, p. 5.

[32]"Roche Readying Series of Store Management Aids," Drug Topics (120:20) October 15, 1976, p. 20.

and private third party programs.

Smith, Kline and French Laboratories recently published a 133 page manual on pharmacy security.[33] The manual's purpose is to assist pharmacists in creating and maintaining a more secure environment for pharmacy practice.

Efforts to Improve Pharmacy-Industry Relations

Disagreement exists in the actual state of pharmacy-industry relations. In October of 1974, the Executive Vice President of the California Pharmaceutical Association told a meeting of the Western Pharmaceutical Research Group, "Industry-Pharmacy antagonism will last for years, if not decades. Price discrimination and attacks on (the) profession over product selection have created an adversary relationship."[34]

However, pharmacy-industry relations are reportedly improving. John S. Ruggiero, assistant vice president of the PMA, in a presentation at St. John's University in March 1976 stated,

> ...I am optimistic about the future. I am particularly pleased and impressed with our joint good faith efforts in the past ten months. We in industry look forward to a continuation of these joint achievements and to a strengthening of the ties between pharmacy and

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[33]Thad L. Weber, Pharmacy Security Manual, Smith, Kline and French Laboratories, Philadelphia, 1976.

[34]"Industry-Pharmacy Antagonism...," Weekly Pharmacy Reports (22:40) October 6, 1975 (p. 2).

> the pharmaceutical industry so that we may be said to be moving forward together.[35]

Causes of and Attempts to Ameliorate Conflict

Mallen, explaining conflicts in the channels of distribution, believes there are obviously many and compelling reasons for the members of distribution channels to cooperate. Sometimes, there are also reasons for conflict. A certain amount of conflict will always be present. Indeed, some conflict is a necessity of a competitive market place. However, when conflicting objectives outweigh cooperating objectives the efficient distribution of drugs will almost certainly be impeded.[36]

The points of conflict are abundant in the pharmacy literature but cooperating objectives are not often stated formally. Milton J. Henrichs, President of the Pharmaceutical Products Division of Abbott Laboratories, believes pharmacy and industry objectives are similar. He stated:

> Don't we all want:
> Safe and effective products generally available for all who require them?
> The physician's first concern to be therapeutic results rather than cost?
> Freedom of choice for the patient in selection of his physician and pharmacy?

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[35]John S. Ruggiero, "Industry-Pharmacy Relations-Controversy to Resolution," Medical Marketing & Media (11;9) September, 1976, p. 44.

[36]Bruce Mallen, "A Theory of Retailer Supplier Conflict, Control and Cooperation," Journal of Retailing (39:2) Summer, 1963, p. 32.

> A fair and reasonable return on money invested, labor expended, and risk assumed?
> Recognition of, and fair remuneration for, the extra services that we provide above and beyond the competition?
> An open competitive economic environment with minimal governmental bureaucratic intervention?[37]

Assall believes the basis of the pharmacy-industry relation problem lies in

> ...the basic interdependence between organizations that are normally independent. This interdependence must result in both cooperation and conflict; cooperation for survival, conflict because of different economic goals, and ideological motives. Where such interdependence is combined with an imbalance of power (as for example when the manufacturer controls demands largely through promotion), the potential for distribution conflict is high. A declining economic position of any one segment of the channel system will further stimulate conflict. Organizations performing poorly often attribute performance to forces beyond their control rather than to internal management and frequently blame other channel segments. A retailer may regard a manufacturer's policy as coercive in a period of decline, yet the identical policy may be dismissed as a minor irritant during prosperity.[38]

It is interesting to note independent pharmacies did not perform well during the ten year period from 1967 to 1976. Net profit (before taxes) fell from a high in 1967 of

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[37]Milton J. Henrichs, "View From the Top," American Druggist (174:6) December, 1976, pp. 42, 44.

[38]Henry Assall, "The Political Role of Trade Associations in Distributive Conflict Resolutions," Journal of Marketing (32:2) April, 1968, p. 23.

4.7 percent of sales to a low of 3.6 percent in 1976.[39]

The problems confronting pharmacy and industry are barriers to improved relations. An examination of what is being done to improve relations and what might be accomplished in the future is appropriate.

To resolve conflict between two groups, channels of communication must be established. The industry has been making a positive effort to discuss problems common to both pharmacy and industry. In August of 1975, a new top level committee meeting was held between representatives of the APhA, NARD, and PMA for the purpose of opening channels of communication.[40]

Industry leaders recognized problems existed and took positive action with the formation of the PMA Pharmacy Relations Committee on June 10, 1971. The Committee was composed of 30 individuals from PMA member companies with the expressed objectives "to improve communications with all segments of organized pharmacy and to maintain a continuing dialog on issues that are of mutual concern to both industry

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[39] The Lilly Digest 1976, Eli Lilly and Co., Indianapolis, Indiana, 1976, p. 16; and "Average Independent's Gross Margin Hit an 18-Year Low in 1976," Weekly Pharmacy Reports (26:15) April 11, 1977 (p. 4).

[40] "New Top-Level PMA Cmte. Meeting with APhA Aug. 31 & NARD," Weekly Pharmacy Reports (24:27) July 7, 1975 (p. 2); and John S. Ruggiero, "Pharmacy Relations Committee Spearheads PMA Efforts to Cooperate with Pharmacy," Pharmacy Times (40:3) March, 1974, pp. 49-52.

and pharmacy."[41]

In 1975, NARD and APhA officials expressed a desire to meet with a committee composed of industry decision makers. The problem was discussed with PMA president Joseph Stetler and, with the unanimous approval of the PMA board of directors, the Industry-Pharmacy Liason Committee was formed.[42]

Two subcommittees have been formed on National Health Insurance and Industry-Pharmacy Relations. The purpose of the subcommittee on Industry-Pharmacy Relations is to review and discuss any sensitive issues which may arise and attempt to solve them before they become serious problems.

Liason Committee members, in joint meetings with leaders of APhA and NARD, agreed to cease public bickering and to communicate on a regular basis in an attempt to develop mutual trust.[43] Work also has been done on proposed legislation which would identify the actual dosage form manufacturer on the label of all drug product commercial containers. An attempt also has been made to establish federal penalties for crimes committed in pharmacies. Other problems discussed include

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[41]John S. Ruggiero, "Industry-Pharmacy Relations-Controversy to Resolution," Medical Marketing & Media (11:9) September, 1976, p. 44.

[42]Joseph D. Williams, "Continuing Dialog is Helping Improve Relations Between Pharmacy, Industry," American Druggist (173:5) May, 1976, p. 28.

[43]Ruggiero, loc. cit.

MAC regulations, the California Central Drug Procurement Program, a possible 'third class' of drugs, antisubstitution laws and regulations, the dissemination of price information to pharmacists and physicians, drug product sampling, patient package inserts, and the report of the Millis Commission on Pharmacy Education.

New optimism has been generated by the increased dialog between pharmacy and industry. Ray Parfet, Jr., PMA's chairman, in an interview for American Druggist, stated:

> Certainly the work of PMA's Pharmacy Relations Committee and of the new Industry-Pharmacy Liason Committee, plus the individual efforts of firms and pharmacy representatives, cannot help but ameliorate some problems and increase mutual understanding between us, even on those issues which we cannot fully resolve. I believe we are on the threshold of an improved era of understanding and collaboration. As discussion of National Health Insurance continues, it is becoming increasingly obvious that our best interests lie in working together on the major public policy questions involved in that development.[44]

PMA president Stetler in a more guarded view stated, "Industry-pharmacy relations are troublesome today but they are better than they were a year or two ago."[45] A more important indicator of improved relations was that his words were spoken at an APhA meeting, the first he had

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[44]"A Chat with PMA's Chairman," American Druggist (172:4) October, 1975, p. 64.

[45]"Stetler Sees Mfg.-RPh Relations Easing," American Druggist (173:6) June, 1976, p. 38.

attended in many years.

Pharmacy-Industry Relations Studies

Although the literature is replete with articles on pharmacy-industry problems, formal attempts to quantify or evaluate pharmacists' attitudes toward the industry are difficult to locate. The author located one survey containing information about pharmacists'' attitudes toward the pharmaceutical industry. The project, conducted by the National Opinion Research Center of the University of Chicago, was primarily a public opinion poll and contained only a small amount of information on pharmacist and physician attitudes.[46]

The data for the study were collected in the summer of 1955 and are, therefore, quite dated. The cost of drug products was the only complaint toward the industry cited by pharmacists in that study. The explanations pharmacists stated they gave to patients who complained about the cost of prescription drug products rarely included mention of the manufacturer.[47] When manufacturers were mentioned it was often in terms of the high cost of manufacturing new drugs and reference to research and labor costs. From the limited

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[46]Health Information Foundation, "Public Attitudes Toward Prescription *Costs and the Drug Industry*," National Opinion Research Center, University of Chicago, October, 1955.

[47]Ibid., p. 27.

information available, comparison with this study is not possible.

In November, 1976 senior pharmacy students at the University of Wisconsin received a questionnaire from an independent research firm. The students were requested to provide information on their attitudes toward ten pharmaceutical firms listed in alphabetical order. General open-ended questions were asked to determine what the student believed enhanced or damaged their view of "some manufacturers." The potential respondents also were asked which of the 10 firms support the profession of pharmacy and were requested to rate the 10 firms in terms of new products developed through research. It was believed one of the 10 firms listed sponsored the study; however, efforts to determine the identity of the company were unsuccessful. A copy of that questionnaire is included as Appendix A.

The Study

Since little is contained in the literature on studies of pharmacists' or pharmacy students' attitudes toward the industry, this study will be exploratory in nature. An attempt will be made to determine what actions or characteristics of the industry influence the attitudes of pharmacists and pharmacy students.

Objectives of the Study

The objectives of the study are:

1. To determine if differences exist between pharmacists' and pharmacy students' attitudes toward the pharmaceutical industry.

2. To determine if pharmacists' attitudes toward the pharmaceutical industry differ by specific demographic characteristics.

3. To determine if differences exist between the activities or characteristics of the industry that are viewed favorably by pharmacy students and pharmacists.

4. To determine if differences exist between the activities or characteristics of the industry that are viewed unfavorably by pharmacy students and pharmacists.

5. To determine which manufacturers pharmacists and pharmacy students view favorably, and why.

6. To determine which manufacturers pharmacists and pharmacy students view unfavorably, and why.

CHAPTER II

METHODOLOGY

A mail questionnaire was chosen as the survey instrument for two reasons: 1) because of the variability of pharmacists' work loads, pharmacists have difficulty in scheduling interview appointments, and 2) the most efficient use of limited resources--time and money--was made by using a mail questionnaire.

Questionnaire Construction

A coverletter was designed to be as brief as possible and yet elicit a high response rate. An attempt was made to use a friendly personal tone, yet urge the reader to respond. The potential benefit of improved industry performance was cited. The coverletters were signed by the author's major professor. The combination coverletter and questionnaire were printed on the School of Pharmacy's letterhead.

The first four questions were precoded on a five point scale with an additional position for a "no opinion" response. The design was used because it was believed most pharmacists were familiar with this format. The next two questions were open ended, unaided recall questions. The

last two questions were worded in two different ways for the pretest. Questionnaire A was more structured than questionnaire B. It was determined a pretest would be used to choose the final questionnaire format on the basis of the quantity and quality of responses. Demographic data and comments were solicited at the end of the questionnaire.

The Pretest

A pretest was conducted using a convenience sample of six pharmacy graduate students and ten practicing pharmacists from north central Wisconsin. After each pretest questionnaire was completed, a short interview was conducted to determine if certain questions were ambiguous or unclear. One-half the respondents received questionnaire A (Appendix B); the other half received questionnaire B (Appendix C).

After analyzing the responses for the different questionnaires, it was decided to utilize the more structured questionnaire A. The only other change from the pretest questionnaire was the addition of an "OVER PLEASE" at the bottom of the first page (Appendix D). The main questionnaire was printed on both sides of 8½" x 11" paper so the questionnaire appeared easy to complete.

Selection of the Pharmacist Sample

A list of the names and addresses of approximately 3,000 pharmacists currently licensed to practice in

Wisconsin was obtained from the Pharmacy Examining Board. Since a sample of 300 pharmacists was desired, one of every 10 names on the list was drawn. A number between one and 10 was picked at random to serve as the starting point. After the initial random pick was made every tenth name was selected until the desired 300 were obtained.

If the pharmacist selected was known not to be practicing or had participated in the pretest, an alternate name was picked. This was accomplished by picking the name immediately above the initially selected name the first time, then the name immediately below the initial pick the second time and alternating above and below the initial pick when necessary.

Responses from pharmacists who worked for the industry or who were retired were omitted. An effort was made to insure only replies from practicing pharmacists were included in the data analysis.

The Main Survey

On January 11, 1977, the questionnaires were mailed to the 300 pharmacists drawn in the sample. The combination coverletter and questionnaire was mailed with a return self-addressed envelope with a brightly colored stamp affixed.

On February 11, 1977, the student survey was conducted. Questionnaires were distributed to all senior pharmacy students attending the Pharmacy Administration 511 lecture.

The students were instructed to ignore the demographic data except to report the sex of the respondent. The students also were requested to put in the approximate length of their certified internship experience, either zero, three or six months. The completed questionnaires were collected during the same class period.

Response Rates

Two of the 300 pharmacist questionnaires were returned as undeliverable. The usable response rate for pharmacists was 140 (47.0%) of the remaining 298 questionnaires.

The respondents are believed to be relatively representative of the population of practicing pharmacists in Wisconsin. The 1976 Board of Pharmacy Examiners Report showed the percentage of pharmacists practicing in community vs hospital pharmacy was 77.6 to 22.4 percent, respectively.[1] The respondents in this study were 83.2 percent community pharmacists and 16.8 percent hospital pharmacists.

The Examiners Report showed 87.5 and 12.5 percent of practicing pharmacists in Wisconsin were male and female, respectively. The respondents were 92.5 and 7.5 percent male and female, respectively.

Questionnaires were given to each of the 149 students attending class. One hundred forty-eight questionnaires

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[1]K. W. Marquardt, "1976 Board of Pharmacy Examiners' Report," The Wisconsin Pharmacist (45:10) October, 1976, p. 341.

were returned. One of the student questionnaires had to be eliminated because of the quality of the responses. The usable response rate for students was 147 (98.7%) of the 149 distributed questionnaires.

Classification of Open Ended Questions

The four open ended questions (numbers 5, 6, 7, and 8 in the questionnaire) were classified into 14 categories on the bases of the literature review, the pretest, and the initial responses of the main survey. A brief description will be given for each category plus examples of comments that were tabulated into the various categories.

Question Number 5 (favorable-industry)

"What three current activities or characteristics of the pharmaceutical industry do you favor most?"

1. Sampling

Responses in this category usually referred to the "decrease" or "discontinuation of sampling." Other comments favorable to sampling referred to over-the-counter drug product samples for consumers and prescription orders for "free" legend drug products.*

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*The physician writes the prescription order on a special multiple copy blank. The pharmacist dispenses the medication at no cost to the patient, keeps a copy of the prescription order for his file and submits the other to the manufacturer for reimbursement.

2. Information

Responses usually referred to drug product information supplied by the manufacturer. This included product literature written for the manufacturer or reprints of scientific journal articles or bio-equivalence data about the manufacturer's drug products.

3. Research and Development

Respondents generally referred simply to "research" or "development of new products."

4. Public Relations or Public Education

Comments placed in this category included industry activities that have a direct effect on the consumer. Public Relations and Public Education were placed in the same category since it is difficult to separate many of the activities cited by the respondents. Typical comments in this category were "layman education programs" and "patient information." Some cited "consumer advertising," or sponsoring TV specials or promotions which reflect favorably on pharmacy or the pharmaceutical industry.

5. Continuing Education

Comments in this category were differentiated from "information" (category number two) by the nature of the information received. If knowledge referred to a specific drug product, it was classified as information. If, however, the knowledge did not refer specifically to a company's product, it was classified as continuing education. Manuals

on pharmacy management or security would be considered continuing education. Nonspecific comments such as, "Continuing education programs, "education" or "education of other health professionals" also were included in this category.

6. Support of Pharmacy and Organizations

Comments placed in this category referred to industry support of pharmacy organizations and community or hospital pharmacy. Other comments included improving pharmacy's image and improving "professional attitudes."

7. Quality Control (High Quality Products)

Most responses in this category referred to high quality of drug products and emphasis on quality control. Some noted manufacturers' use of more quality control checks than are actually required.

8. Free Enterprise

Respondents referred to various aspects of the free market and industry reponse to government controls. "Lobby in Congress," "fight MAC and EAC with HEW," and "anti-socialized medicine" were specific comments received from respondents.

9. Financial Support

Comments referring to the industry's financial support of pharmacy education such as "student scholarships," "educational grants," and "aid to pharmacy education." Financial support to community pharmacy in the form of

extended credit also was noted.

10. Professional Service Representatives (PSR)

Comments were placed in this category when PSRs were mentioned favorably. Comments such as "PSRs give good product information" would be placed in this category. A response stating "good product information" would be placed in the "information" (number two) category.

Other comments in this category were "well trained and informed detailmen," "check stock for recalls," "detail the pharmacist on new products first"* and "use detailmen."

11. Return Goods Policies

Responses were placed in this category when reference was made to favorable handling of return goods by manufacturers or their agents. "Prompt" or "improving returns policies" were also mentioned.

12. Other Services

Services included in this category were those mentioned specifically but not with enough frequency to warrant their own categories. Examples include "public service products,"** "direct sales and deals," "taking care

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*Ill will is sometimes created when a PSR details physicians about a new product but does not inform pharmacists. Subsequent questions or orders from physicians on the new product put the pharmacist in an awkward position since often he is not aware of the existence of the product.

**Products that do not generate sufficient revenue to remain in the product line but are retained as a public service, e.g. Lilly's Rabies vaccine, SKF's Stoxil.

of problems with their products," "toll free number if problems arise with orders," and "better packaging."

13. Good Service

Since some responses to unaided recall questions are more specific than others, attempts to classify them result in categories that are not mutually exclusive. Good service is a general category for responses such as "good service," "fast and accurate service," "nationwide distribution system," and "product availability."

14. Miscellaneous

The categories given here are not all inclusive. Since many comments could not be classified in one of the 13 other categories, a miscellaneous category was utilized for the comments not easily classified. "Generic labeling," "equal prices," "professionalism," and "low cost medicines" are representative of the comments in this category.

Question Number 6 (unfavorable-industry)

"What three current activities or characteristics of the pharmaceutical industry do you disfavor most?"

1. Automatic Shipments

Respondents mentioned automatic shipment from manufacturers for products they would not have normally ordered. Respondents were displeased when products in automatic shipments came in larger quantities than they believed necessary. Others cited increasing inventory with

products that had to be returned at a later date.

2. Return Policies

Company policies making returning goods difficult were noted by many respondents. Also cited were instances where the company was reluctant to take return goods even though company policy stated returns would be accepted.

3. Profit Orientation

This included company policies or activities which the respondent perceived to be directed to sales or profit. Cited were "high prices," "failure to reduce prices on drugs recently off patent," "price increases without warning," "advertising and detailing only concerned with sales rather than product information," "pushing deals," and "promoting high priced patented drug products."

4. Differential Pricing

The practice of selling drug products to different classes of accounts at different prices was cited often by respondents. Comments of "inconsistent pricing," "price discrimination," and "unfair pricing" also were placed in this category.

5. Lack of Support for Pharmacy

Respondents cited lack of positive public relations by industry. Some respondents believe the industry could do more to defend pharmacy against consumer complaints of high prices. Comments included, "lack of support for the profession at legislative hearings," "failure to answer

public criticism forcefully," "neglect" of/or "indifference toward pharmacists," and "lack of a united front against government intervention."

6. Professional Service Representative

This category contains unfavorable comments about the activities or characteristics of detailmen. Representative comments include "only order takers," "high pressure," "poorly trained," "too many detailmen and women." Some additional comments were not directed at the activities of representatives but the lack of representatives. Such comments included, "never see detail man," "/companies/ reducing our contact with representatives," and "not employing enough pharmacists as representatives."

7. "Me-too" Products

Respondents noted an increase in products similar to those already on the market. Comments included "product duplication" and "copying of drug products chemically and in appearance."

8. Sampling

These comments referred to manufacturers' activities and policies for sampling drug products. Some respondents noted excessive or indiscriminate sampling, and attempts to influence the activities of physicians through the use of samples.

9. Anti-product Selection

These comments referred to manufacturers' efforts

to prevent the repeal or modification of antisubstitution laws. Respondents disliked manufacturers' actions that they believed would reduce their professional prerogatives. Comments included "brand versus generic propaganda," and "the failure of manufacturers to release clinical bioavailability data on their products."

10. Unethical Practices

This included activities or policies the respondents believed were unethical. Comments noted were, "promoting products of questionable value," "dishonest advertising," "biased product information," "degrading of a competitor," and "untruthful product reports."

11. Favoritism

These responses referred to manufacturers giving special consideration to one group at the expense of others. Comments included, "service geared to chains," "favors to M.D.'s," "more support for medical personnel than pharmacy," and "too much time detailing physicians, and not enough to pharmacists."

12. Excessive Promotion

Responses placed in this category pertain to perceived excessive promotion by pharmaceutical manufacturers. Comments received included, "insistence on the use of brand names," "overspending on promotion of products," and "excessive advertising of OTC products."

13. Other Marketing Practices

This category includes marketing practices not contained in previous categories. Included are sales of non-legend drug products to non-pharmacy outlets, high minimum quantities for direct orders, petty advertisements on television, advertising legend products, and selling drug products to dispensing physicians.

14. Miscellaneous

Comments in this category included "secrecy in disclosing manufacturer of products," "poor distribution of information to clinical pharmacists," "proliferation of generic houses," "lack of competition," "unit-of-use containers," and "the use of brand names with similar sounding names."

Question Number 7 (favorable-firm)

In this question respondents are asked, "What three firms in the industry do you regard most favorably? Why?" The 14 categories below were classified from responses to the "Why?" portion of the question.

1. Professional Service Representative

Comments in this category were favorable responses to specific firms' representatives. Comments noted were similar to those for representatives in the "favorable industry" question.

2. Distribution Policies

These comments refer to the manner in which specific firms control their product distribution. Included in "distribution policies" are references to companies' direct sales, sales through wholesalers only, policies such as minimum orders and other aspects of distribution. Comments included, "availability," "wholesaler availability," "direct ordering," and "no minimum order."

3. Public Relations and Public Education

This category contains the activities of individual companies in public relations and public education. Comments are similar to category 4 in question number 5 (favorable-industry).

4. Research and Development (R & D)

This includes the efforts of individual companies in the area of R & D. The comments are similar to those in question 5 (favorable-industury) category three.

5. Information

This category pertains to drug product information disseminated by specific manufacturers. Comments in this category are similar to those for question 5, category two.

6. Continuing Education

Comments in this category refer to the efforts of individual companies in the area of continuing education. This category contains similar comments to the category in question 5, category five.

7. Return Goods Policies

This category contains the activities and policies of individual companies. Comments are similar to those in question 5, category 11.

8. Professionalism

Respondents in this category perceived high ethical and professional standards for individual companies. Responses such as "good credibility," "high regard for the pharmacist," "integrity," and "genuine concern for all phases of the allied health professions" were typical.

9. Support Pharmacy and Organizations

This category contains comments referring to individual firms the respondents believed supported pharmacy and pharmacy organizations. Comments are similar to those in question 5, category six.

10. Good Service

Respondents believed the specific manufacturers cited provided high quality service. Descriptions in this category are similar to question 5, category 13.

11. Quality Control (High Quality Products)

Comments in this category refer to the high quality products of specific firms. Comments are similar to question 5, category seven.

12. Fair Policies

This is a general category for individual drug firms. Comments included "fair marketing practices," "fair

deals," "decreased sampling," "fair advertising, promotion and trade relations."

13. Pricing

When referring to individual companies, respondents noted favorable price and pricing schedules. Among the comments were "one price for all," "equitable prices," "good deals and prices," "lowering prices," and "competitive prices."

14. Miscellaneous

Favorable comments on specific companies not related to the other categories were placed in this miscellaneous group. Comments included "good management," "good," and "good line."

Question Number 8 (unfavorable-firm)

In this question respondents were asked, "Which three firms do you view unfavorably? Why?" The 14 categories were created from the responses to the "Why?" portion of the question.

1. Professional Service Representative

This category contains unfavorable responses about specific firms' representatives. Comments are similar to those in question 6 (unfavorable industry), category six.

2. Distribution Policies

Comments placed in this category refer to the distribution policies of specific companies which the

respondents found unfavorable. Examples included "high minimum order," "not able to buy direct," "poor distribution," "must go through wholesaler," and "poor billing practices."

3. Sampling

This category contains activities or policies of individual firms with respect to sampling drug products. Comments in this category are similar to those in question 6 (unfavorable-industry), category eight.

4. Profit Orientation

Comments in this group refer to unfavorable reactions to specific firms' policies on pricing and price increases. Comments are similar to those in question 6 (unfavorable-industry), category three.

5. Poor Service

Responses placed in this category refer to unfavorable reactions to individual firm's service. Comments included "poor service," "inadequate service," "provide no services," "no help (from company)," "product backorders," "trouble in supplying narcotics," "slow in filling orders," making mistakes on orders, and failing to forsee the demand for a new product.

6. Automatic Shipments

This category contains respondents' unfavorable reactions to individual company's policies and activities with respect to automatic shipments. Comments were similar

to those in question 6, category one.

7. Differential Pricing

This category contains unfavorable comments on individual company's pricing policies. Comments are similar to question 6, category four.

8. Return Policies

This category contains comments on unfavorable return policies of specific firms. Comments are similar to question 6, category two.

9. Favoritism

This group contains comments on perceived favoritism as practiced by specific companies. Comments are similar to those in question 6, category eleven.

10. Unethical Practices

This category contains unfavorable responses to specific firms' activities the respondents perceived as unethical. Comments are similar to those in question 6, category ten.

11. Other Marketing Practices

This is a general group containing other marketing practices of individual firms the respondents believed unfavorable. Comments were similar to those in question 6, category thirteen.

12. "Me-too" Products

This category contains unfavorable responses to an individual firm's product line with respect to product

duplication. Comments were similar to those in question 6, category seven.

13. Poor Products

This group contains responses on the product quality of specific manufacturers. Comments included "poor product quality," "product too cheap," "too many combination products," "products with questionable effectiveness," "minimal quality control," and "too many habituating preparations."

14. Miscellaneous

This general category contains unfavorable comments on individual firms not included in the previous 13 categories. Comments include "invoice problems," "out-of-the-trunk sales of antibiotics," "stagnant growth company," "lack of new products," and "poor management."

Tabulation of Data

The returned questionnaires were edited, coded, keypunched and verified by the author. The data were analyzed with the assistance of the Minitab[2] statistical computing system and the Madison Area Computing Center's Univac 1110 computer.

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[2]T. A. Ryan, B. L. Joiner and B. F. Ryan, Minitab Student Handbook (Duxbury Press, North Scituate, Mass., 1976).

Hypotheses

1. There are no differences between the attitudes of pharmacists and senior pharmacy students toward the pharmaceutical industry.
2. There are no differences between pharmacists' attitudes toward the pharmaceutical industry with respect to:

   (a) independent vs. chain practice
   (b) merchandising vs. clinic-traditional
   (c) community vs. hospital practice
   (d) urban vs. rural practice environment
   (e) years of professional practice
   (f) male vs. female pharmacists

3. There is no association between pharmacists' attitudes toward the industry and their belief in the effect of publicized criticism of the industry being detrimental to the public's image of pharmacy.
4. There is no difference between the activities or characteristics of the pharmaceutical industry that are viewed favorably by senior pharmacy students and pharmacists.
5. There is no difference between the activities or characteristics of the pharmaceutical industry that are viewed unfavorably by senior pharmacy students and pharmacists.

Limitations of the Study

1. The classification of open ended questions into categories required the author to make some assumptions and interpretations of the respondents' comments.

2. The classifications were not mutually exclusive since some responses were more specific than others. Some respondents would cite, for example, "marketing activities" while others would cite "sampling," "advertising," or "television promotion." Attempts were made by the author to be consistent as possible during this phase of the coding operation.
3. The categories were not all inclusive since a miscellaneous category was added for those responses which did not apply to the specified groups.
4. The number of responses for the open ended questions represent the frequency of responses, not respondents. Some respondents noted likes or dislikes in only one category while others cited four or more.
5. The possibility of nonresponse bias cannot be eliminated as a potential limitation of the study.
6. The responses pertaining to the pharmaceutical industry or to specific firms may change daily as the respondents interact with the industry, individual firms and their representatives. Therefore a specific company may have received more favorable or unfavorable comments because of an activity or policy change that was instituted during or immediately preceding the data collection phase of this study. However, those firms which had instituted the same change several months prior to the study may not have received the same quantity of comments.

CHAPTER III

RESULTS

Tests of hypotheses and statistical analysis of the data are presented in this chapter. Results also are tabulated and ranked when applicable.

Hypothesis 1

There are no differences between the attitudes of pharmacists and senior pharmacy students toward the pharmaceutical industry.

The chi square test (see Appendix E) was used to determine if there was a significant difference between the distribution of attitudes for the pharmacist and student groups. The test statistic failed to reject the null hypothesis at the $\alpha = 0.05$ level. The computed chi square test statistic of 6.25 was below the table value of 9.49. The response frequencies for hypothesis 1 are given in Table I (p. 51).

Hypothesis 2

There are no differences between pharmacists' attitudes toward the pharmaceutical industry with respect to:

TABLE I

RESPONDENTS' ATTITUDES TOWARD THE INDUSTRY

	Strongly Favorable		Neutral		Strongly Unfavorable	Totals
Pharmacists	7 (5.0%)	30 (21.6%)	48 (34.5%)	46 (33.1%)	8 (5.8%)	139 (100%)
Students	4 (2.9%)	21 (15.0%)	57 (40.7%)	55 (39.3%)	3 (2.1%)	140 (100%)
Totals	11 (3.9%)	51 (18.3%)	105 (37.6%)	101 (36.2%)	11 (3.9%)	279 (100%)

Percentages may not add to 100 due to rounding error.

(a) Independent versus chain practice

The chi square test was used to determine if the distribution of attitudes differed significantly from those reporting if they were associated with independent or chain pharmacies. Pharmacists were classified as chain pharmacists when the pharmacies where they practiced were part of an organization of 11 or more units.

After collapsing the categories to insure adequate cell size for the statistical analysis, the computed chi square value was 5.11 which was below the table value of 5.99. Although almost three times as many independent as chain practitioners reported unfavorable responses, the analysis failed to reject the hypothesis at the $\alpha = 0.05$ level. The response frequencies are given in Table II (p. 53).

(b) Merchandising versus clinic-traditional

The distributions of attitudes for those respondents who reported practicing in a merchandising versus a clinic-traditional was examined also with the chi square test. Since the number of respondents who reported practicing in a clinic setting was small, their responses were pooled with those practicing in traditional pharmacies.

In Table II the number of respondents is less than the usable response rate since only replies from those pharmacists who reported the various demographic data were classified and tabulated. Since some categories such as

TABLE II

ATTITUDES OF PHARMACISTS TOWARD THE INDUSTRY

	Unfavorable	Neutral	Favorable	Totals
Independent Versus Chain Practice				
Independent	29 (30.9%)	31 (33.0%)	34 (36.2%)	94 (100%)
Chain	2 (10.5%)	11 (57.9%)	6 (31.6%)	19 (100%)
Totals	31 (27.4%)	42 (37.2%)	40 (35.4%)	113 (100%)
Merchandising Versus Clinic-Traditional				
Merchandising	5 (25.0%)	8 (40.0%)	7 (35.0%)	20 (100%)
Clinic-Traditional	22 (29.3%)	26 (34.7%)	27 (36.0%)	75 (100%)
Totals	27 (28.4%)	34 (35.8%)	34 (35.8%)	95 (100%)
Community Versus Hospital				
Community	31 (27.4%)	42 (37.2%)	40 (35.4%)	113 (100%)
Hospital	6 (26.1%)	5 (21.7%)	12 (52.2%)	23 (100%)
Totals	37 (27.2%)	47 (34.6%)	52 (38.2%)	136 (100%)
Urban Versus Rural Communities				
Rural Community	11 (23.4%)	12 (25.5%)	24 (51.1%)	47 (100%)
Urban Community	26 (29.2%)	35 (39.3%)	28 (31.5%)	89 (100%)
Totals	37 (27.2%)	47 (34.6%)	52 (38.2%)	136 (100%)

TABLE II CONTINUED

	Unfavorable	Neutral	Favorable	Totals
Years of Professional Practice*				
1 to 9	12 (22.2%)	22 (40.7%)	20 (37.0%)	54 (100%)
10 to 19	8 (22.9%)	14 (40.0%)	13 (37.1%)	35 (100%)
20 years and over	3 (7.7%)	15 (38.5%)	21 (53.9%)	39 (100%)
Totals	23 (18.0%)	51 (39.8%)	54 (42.2%)	128 (100%)

Percentages may not add to 100% due to rounding error.

*Years of practice were rounded to the nearest whole number.

"Independent versus Chain Practice" and "Merchandising versus Clinic-Traditional" are not all inclusive, the total respondents in these classes also is less than the usable response rate.

The computed chi square value was found to be 0.23, well below the table value of 5.99 for two degrees of freedom at $\alpha = 0.05$. The analysis failed to reject the null hypothesis. The response frequencies are shown in Table II (p. 53).

(c) Community versus hospital practice

The rating from respondents who reported practicing in the community versus hospital environment also were examined by chi square analysis to test if attitude differences existed between the two groups. The computed chi square of 2.74 was less than the 5.99 table value for two degrees of freedom at the $\alpha = 0.05$ level. Therefore the null hypothesis cannot be rejected at the given level of significance. The observed frequencies are given in Table II (p. 53).

(d) Urban versus rural practice environment

Those respondents who stated they practiced in a community with a population of less than 10,000 were classified as practicing in a rural setting while those practicing in communities with a population of 10,000 or more were classified as practicing in an urban environment. The computed chi square of 5.17 was less than the table

value of 5.99 for two degrees of freedom at the $\alpha = 0.05$ level. Therefore the hypothesis cannot be rejected at the given level of significance. The observed frequencies are given in Table II (p. 53).

(e) Years of professional practice

Respondents' ratings were placed into three categories classified by years in practice as a registered pharmacist. Group one contained those with one to nine years of experience, group two contained responses from pharmacists who had practiced between 10 and 19 years, while group three contained those from respondents who practiced 20 years or more. The responses not reported in whole numbers were rounded to the nearest integer.

The computed chi square value was 5.14 which was less than the table value of 9.49 for four degrees of freedom at $\alpha = 0.05$. Therefore the hypothesis cannot be rejected at the given level of significance. Years of professional practice did not appear to have an effect on pharmacists' attitudes toward the pharmaceutical industry. The observed frequencies are given in Table II (p. 54).

(f) Male versus female pharmacists

Only ten of the 134 respondents who stated their sex reportedly were females. Therefore it was not possible to test for differences by sex.

Hypothesis 3

There is no association between pharmacists' attitudes toward the industry and their belief in the effect of publicized criticism of the industry being detrimental to the public's image of pharmacy.

The degree of association between the respondents' attitudes toward the industry and their belief that criticism of the industry is detrimental to pharmacy was measured by use of the Spearman Rank Correlation Coefficient (r_s). A description of the test is given in Appendix F.

Replies from respondents who reported they had "no opinion" to either of the questions were omitted for this test. The Spearman's Rank Correlation for this test was found to be $r_s = 0.066$. This value was tested for significance by using a t test statistic associated with the computed r_s. See Appendix G for a discussion of the test of significance for r_s. The computed test statistic was found to be $t^* = 0.774$ while the t value from the table was $t = 1.645$.

Therefore the hypothesis cannot be rejected at the $\alpha = 0.05$ level. No significant association was found between pharmacists' attitudes toward the industry and their belief in the effect of criticism of the industry toward pharmacy.

Hypothesis 4

There is no difference between the activities or

characteristics of the pharmaceutical industry that are viewed favorably by senior pharmacy students and pharmacists.

The chi square test was used to analyze the frequency distributions of the responses of pharmacists and pharmacy students. The frequency distributions of the 14 categories for question number 5 were tested for differences between pharmacists and pharmacy students.

The computed chi square value $x^2 = 49.87$ was higher than the table value of 22.36 at $\alpha = 0.05$ and 13 degrees of freedom. Therefore the null hypothesis can be rejected at the 95 percent confidence level.

The activities or characteristics viewed favorably by senior pharmacy students and pharmacists differ significantly in the frequency in which they occur. Information in Table III (p. 59) shows the 14 categories and the observed frequencies of responses in each category for both response groups.

In Table IV (p. 60) the same data are arranged by frequency of occurrence for both groups. The students cited research and development and continuing education programs more frequently while pharmacists mentioned such items as the Professional Service Representative, return goods policies, and good service more frequently.

TABLE III

FAVORABLE ACTIVITIES OR CHARACTERISTICS OF THE INDUSTRY

	Pharmacists	Senior Students	Total
1. Sampling	11 (3.3%)	1 (0.3%)	12 (1.9%)
2. Drug Product Information	45 (13.6%)	28 (9.3%)	73 (11.6%)
3. Research and Development	64 (19.4%)	95 (31.5%)	159 (25.2%)
4. Public Relations and Education	21 (6.4%)	21 (7.0%)	42 (6.6%)
5. Continuing Professional Education	36 (10.9%)	56 (18.5%)	92 (14.6%)
6. Support for Pharmacy and Organizations	18 (5.5%)	14 (4.6%)	32 (5.1%)
7. High Quality Products	20 (6.1%)	15 (5.0%)	35 (5.5%)
8. Support Free Enterprise	8 (2.4%)	10 (3.3%)	18 (2.8%)
9. Financial Support	7 (2.1%)	11 (3.6%)	18 (2.8%)
10. Professional Service Representative	32 (9.7%)	21 (7.0%)	53 (8.4%)
11. Return Goods Policies	21 (6.4%)	5 (1.7%)	26 (4.1%)
12. Other Services	12 (3.6%)	6 (2.0%)	18 (2.8%)
13. Good Service	17 (5.2%)	2 (0.7%)	19 (3.0%)
14. Miscellaneous	18 (5.5%)	17 (5.6%)	35 (5.5%)
Total Responses	330 (100%)	302 (100%)	632 (100%)

$x^2 = 49.87$; d.f. = 13

TABLE IV

FAVORABLE ITEMS RANKED BY FREQUENCY OF RESPONSES

Pharmacists		Students	
Comment	Frequency	Comment	Frequency
Res. & Devel.	64	Res. & Devel.	95
Drug Prod. Info.	45	Continuing Education	56
Continuing Education	36	Drug Prod. Info.	28
Prof. Service Rep.	32	Public Ed.-PR	21
Return goods policies	21	Prof. Service Rep.	21
Public Ed.-PR	21	High Quality Products	15
High Quality Products	20	Support Pharmacy	14
Support Pharmacy	18	Financial Support	11
Good Service	17	Free Enterprise	10
Other Services	12	Other Services	6
Sampling	11	Return Goods Policies	5
Free Enterprise	8	Good Service	2
Financial Support	7	Sampling	1
Miscellaneous	18	Miscellaneous	17
Total	330	Total	302

Hypothesis 5

There is no difference between the activities or characteristics of the pharmaceutical industry that are viewed unfavorably by senior pharmacy students and pharmacists.

Analysis of the data for hypothesis 5 was similar to the analysis of hypothesis 4. The frequency distributions of the unfavorable categories for pharmacists and senior pharmacy students were examined by chi square analysis.

The computed chi square value was determined to be $x^2 = 175.01$ which was much higher than the table value of 22.36 at the $\alpha = 0.05$ level with 13 degrees of freedom. Therefore the hypothesis can be rejected at the 95% confidence level.

The frequency distributions of the activities or characteristics viewed unfavorably by pharmacists and pharmacy students were found to be significantly different. Pharmacists frequently cited "differential pricing" and "me-too" products, while students mentioned "ethical practices" and "promotion" most often.

Information in Table V (p. 62) shows the 14 categories viewed unfavorably by the respondents and the corresponding frequency distributions for pharmacists and pharmacy students. In Table VI (p. 63) unfavorable categories are ranked by frequency of responses for both pharmacists and pharmacy students.

In a survey conducted for Drug Topics, pharmacists

TABLE V

UNFAVORABLE ACTIVITIES OR CHARACTERISTICS OF THE INDUSTRY

Categories	Pharmacists	Senior Students	Total
1. Automatic Shipments	8 (2.3%)	2 (0.8%)	10 (1.7%)
2. Return Policies	22 (6.5%)	2 (0.8%)	24 (4.0%)
3. Profit Orientation	30 (8.8%)	32 (12.3%)	62 (10.3%)
4. Differential Pricing	67 (19.6%)	6 (2.3%)	73 (12.1%)
5. Lack of Support for Pharmacy	29 (8.5%)	6 (2.3%)	35 (5.8%)
6. Professional Service Rep.	34 (10.0%)	45 (17.3%)	79 (13.1%)
7. "Me-too" Products	30 (8.8%)	5 (1.9%)	35 (5.8%)
8. Sampling	22 (6.5%)	6 (2.3%)	28 (4.7%)
9. Anti-Product Selection	11 (3.2%)	7 (2.7%)	18 (3.0%)
10. Unethical Practices	15 (4.4%)	59 (22.7%)	74 (12.3%)
11. Favoritism to Special Groups	18 (5.3%)	7 (2.7%)	25 (4.2%)
12. Promotion	10 (2.9%)	54 (20.8%)	64 (10.7%)
13. Other Marketing Practices	22 (6.5%)	9 (3.5%)	31 (5.2%)
14. Miscellaneous	23 (6.7%)	20 (7.7%)	43 (7.2%)
Totals	341 (100%)	260 (100%)	601 (100%)

$x^2 = 175.01$

d.f. = 13

TABLE VI

UNFAVORABLE ITEMS RANKED BY FREQUENCY OF RESPONSES

Pharmacists		Students	
Comment	Frequency	Comment	Frequency
Differential Pricing	67	Unethical Practices	59
Prof. Service Rep.	34	Promotion	54
"Me-too" Products	30	Prof. Service Rep.	45
Profit Orientation	30	Profit Orientation	32
Lack of Supp. for Pharmacists	29	Other Marketing Practices	9
Return Policies	22	Anti-Prod. Selection	7
Sampling	22	Favoritism	7
Other Marketing Practices	22	Differential Pricing	6
Favoritism	18	Lack of Supp. for Pharmacists	6
Unethical Practices	15	Sampling	6
Anti-Prod. Selection	11	"Me-too" Products	5
Promotion	10	Auto. Shipments	2
Auto. Shipments	8	Return Policies	2
Miscellaneous	23	Miscellaneous	20
Total	341	Total	260

cited differential pricing as the main complaint against pharmaceutical manufacturers.[1] Other pharmacists in the survey complained about the industry's excessive profits, price increases and the proliferation of "me-too" products.

The results ranked in Table VI demonstrate a similar result. Differential pricing was the most common complaint while "me-too" drugs and profit orientation, which includes comments on excessive profits and price increases, are among the most frequent unfavorable comments from pharmacists.

The respondents were asked to supply three favorable and three unfavorable activities or characteristics of the pharmaceutical industry. However, more or fewer responses were common. The average number of favorable responses for pharmacists was 330/139 or almost 2.4 favorable responses for each respondent while students gave 302/140 or over 2.15 responses for each respondent.

Pharmacists supplied 341/139 or over 2.45 unfavorable responses per respondent while students only mentioned 260/140, which is only about 1.86 unfavorable responses for each respondent.

Analysis of Specific Firms

In the seventh (favorable firm) and eighth (unfavorable firm) questions respondents were asked what firms in the

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[1] "Who's to Blame for Controls?," Drug Topics (120:15) August 1, 1976, p. 50.

industry they regarded most favorably and unfavorably, and why they held these attitudes. Since no firms were listed in the questionnaire, the responses were supplied by unaided recall.

Pharmacists cited 24 different companies they regarded as favorable while noting 53 firms that were viewed unfavorably.* The student respondents cited 20 favorable firms and 28 unfavorable firms.

A frequency count was made for all firms cited by respondents as favorable and unfavorable. The favorable and unfavorable frequencies for each firm were added to yield the total times each firm was mentioned. Both the pharmacist and student replies were tabulated separately.

The firms then were ranked by frequency of the total number of respondents who cited them favorably and unfavorably. Ten firms were ranked for the pharmacist group while only eight were chosen from the student responses since they cited fewer firms.

The ten firms most frequently cited by pharmacists and the eight most frequently mentioned by students are listed in Table VII (p. 66). A net score was determined for each group of firms by subtracting the unfavorable from the favorable frequency. The firms in each group then were

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*Pfizer-Roerig, CIBA-Geigy, Abbott-Ross and Lilly-Dista were each counted as one firm.

TABLE VII

COMPANIES RANKED BY TOTAL RESPONSES

Company	Favorable	Unfavorable	Total
Pharmacists			
10 Most Mentioned Companies Ranked by Total Responses			
1. Lilly	96	13	109
2. MSD	69	4	73
3. Roche	53	9	62
4. Upjohn	36	13	49
5. Parke-Davis	22	24	46
6. Squibb	9	29	38
7. Pfizer-Roerig	4	25	29
8. Abbott	20	7	27
9. Wyeth	12	10	22
10. SK&F	9	12	21
Students			
8 Most Mentioned Companies Ranked by Total Responses			
1. Lilly	97	3	100
2. Parke-Davis	34	3	37
3. Upjohn	26	0	26
4. Roche	23	2	25
5. MSD	22	1	23
6. Burroughs-Wellcome	16	3	19
7. Abbott	14	2	16
8. SK&F	6	4	10

ranked by the net favorable scores as shown in Table VIII (p. 68).

Students involved in the survey had an opportunity to visit Eli Lilly and Company about two months before the questionnaire was distributed. The visit by some of the student respondents may have resulted in a higher favorable response for this company.

The most popular firms cited by pharmacist respondents in this survey are similar to those companies noted by respondents in surveys conducted for American Druggist.[2] In a 1975 survey, pharmacists were asked with which firm they enjoyed doing business; they reported Merck, Lilly, Roche, Upjohn, Parke-Davis, Squibb and Abbott. In the 1976 survey, respondents rated Merck and Lilly highest, followed by Upjohn, Roche, Squibb and Parke-Davis. The American Druggist surveys also used unaided recall questions.

Favorable and Unfavorable Comments Received on Companies

The comments received in response to why respondents regarded firms favorably or unfavorably were ranked by

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[2]Stanley Siegelman, "Which Mfrs. Do Pharmacists Like?," American Druggist (172:5) November, 1975, p. 12; and Stanley Siegelman, "Memo to Merck and Lilly: Our Readers Like You!," American Druggist (175:1) January, 1977, p. 6.

TABLE VIII

COMPANIES RANKED BY NET FAVORABLE RESPONSES

Company	Favorable	Unfavorable	Net
Pharmacists			
10 Most Mentioned Companies Ranked by Net Favorable Response			
1. Lilly	96	13	83
2. MSD	69	4	65
3. Roche	53	9	44
4. Upjohn	36	13	23
5. Abbott	20	7	13
6. Wyeth	12	10	2
7. Parke-Davis	22	24	-2
8. SK&F	9	12	-3
9. Squibb	9	29	-20
10. Pfizer-Roerig	4	25	-21
Students			
8 Most Mentioned Companies Ranked by Net Favorable Response			
1. Lilly	97	3	94
2. Parke-Davis	34	3	31
3. Upjohn	26	0	26
4. MSD	22	1	21
5. Roche	23	2	21
6. Burroughs-Wellcome	16	3	13
7. Abbott	14	2	12
8. SK&F	6	4	2

frequency of occurrence for the pharmacist and student groups in Tables IX and X (pp. 70, 71). The fourteen categories were those classified for the seventh and eighth questions as reported in the methodology chapter.

The pharmacist group cited the detailman most frequently as the reason they view individual firms either favorably or unfavorably. A firm's representative is an important factor in how the company will be perceived by pharmacists.

In an American Druggist survey the representative was believed to have a large effect on how respondents viewed specific firms. Stanley Siegelman, Editor-in-Chief of American Druggist stated, "Much of the credit for a pharmaceutical firm's high standing with pharmacists must go to the detailman - the professional sales representative who is the embodiment of his company each time he makes a call."[3]

In a survey published in 1974, conducted for American Druggist on how pharmacists rate detailmen, pharmacists were asked which companies encourage detailmen to keep pharmacists informed of what is being detailed in their area.[4]

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[3]Stanley Siegelman, "Memo to Merck and Lilly: Our Readers Like You!," American Druggist (175:1) January, 1977, p. 6.

[4]Stanley Siegelman, "How Pharmacists Rate Detailmen," American Druggist (170:3) August 1, 1974, p. 19.

TABLE IX

FREQUENCY OF FAVORABLE COMMENTS ON INDIVIDUAL FIRMS

Rank	Pharmacists Comment	Frequency	Students Comment	Frequency
1.	Prof. Service Rep.	91	High Quality Products	65
2.	High Quality Products	79	Res. & Devel.	46
3.	Good Service	71	Continuing Education	22
4.	Professional (Ethical)	58	Drug Prod. Info.	18
5.	Return Policies	52	Public Relations & Education	15
6.	Res. & Devel.	40	Professional (Ethical)	14
7.	Support Pharmacy	37	Prof. Service Rep.	14
8.	Drug Prod. Info.	30	Support Pharmacy	12
9.	Pricing	30	Good Service	9
10.	Continuing Education	24	Return Policies	3
11.	Fair Policies	23	Pricing	2
12.	Distribution Policies	15	Fair Policies	0
13.	Public Relations & Education	10	Distribution Policies	0
14.	Miscellaneous	36	Miscellaneous	48
	Totals	596		268

TABLE X

FREQUENCY OF UNFAVORABLE COMMENTS ON INDIVIDUAL FIRMS

	Pharmacists		Students	
Rank	Comment	Frequency	Comment	Frequency
1.	Prof. Service Rep.	68	Prof. Service Rep.	9
2.	Differential Pricing	41	Profit Orientation	7
3.	Return Policies	33	Other Mktg. Practices	6
4.	Unethical Practices	31	Unethical Practices	4
5.	Distribution Policies	28	Favoritism	3
6.	Other Mktg. Practices	23	Return Policies	2
7.	Poor Service	23	Distribution Policies	2
8.	Profit Orientation	21	Poor Service	1
9.	Poor Products	16	Poor Products	1
10.	"Me-too" Products	15	"Me-too" Products	0
11.	Favoritism	14	Sampling	0
12.	Auto. Shipments	9	Auto. Shipments	0
13.	Sampling	9	Differential Pricing	0
14.	Miscellaneous	23	Miscellaneous	13
	Totals	354		48

Eli Lilly was mentioned by 66.9 percent of the pharmacists while other firms mentioned frequently were Merck 39.1 percent, Upjohn 39.0 percent, Parke-Davis 36.7 percent, Abbott 30.4 percent, Roche 30.2 percent, Squibb 29.7 percent, Wyeth 23.8 percent, and Lederle and Pfizer-Roerig with 20.6 and 19.6 percent, respectively.

When pharmacists stated why they disliked specific companies, they cited the professional service representative more than any other factor. The influence of the PSR may reflect positively or negatively on the firm he represents.

In citing specific companies they viewed favorably, both pharmacists and pharmacy students commented on high drug quality or stringent quality controls exercised by the particular firm. Both groups cited frequently the research and development efforts of certain companies.

Pharmacists frequently mentioned good service by individual companies, a professional or ethical image and support for pharmacy and its problems. Students often noted the efforts of individual companies in continuing education programs and providing drug product literature.

Differential pricing was often cited as a reason why pharmacists held unfavorable views of a given company. Since the problem of differential pricing is well known it might have been expected to be cited frequently.

Return policies also were cited often when pharmacists were asked what activities or characteristics of individual

firms they disfavored most. Perceived unethical practices also were cited frequently as a reason individual companies were disfavored.

Sampling was cited unfavorably 28 times with respect to the industry as a whole; however, when specific companies were cited it was seldom mentioned. It is possible sampling is decreasing in frequency. When thinking of general unfavorable comments, sampling is mentioned but it is not related readily to specific firms.

The frequency of total favorable plus unfavorable comments about specific companies was tabulated, yielding the total number of comments for each company. The 10 companies receiving the most comments from pharmacists and the eight receiving the most comments from students are ranked by total comments for each group in Table XI (p. 74).

The net number of favorable comments was computed by subtracting the frequency of unfavorable comments from the frequency of favorable comments for the firms as shown in Table XI. The firms then were ranked by net favorable comments as shown in Table XII (p. 75).

Industry Versus Specific Firm Comments

An examination of the tables on favorable and unfavorable comments toward the pharmaceutical industry versus the frequency of comments for specific firms shows differences in how the industry and specific firms are

TABLE XI

FIRMS RECEIVING THE MOST COMMENTS

Company	Favorable	Unfavorable	Total
	Pharmacists		
1. Lilly	160	23	183
2. MSD	109	3	112
3. Roche	88	10	98
4. Upjohn	68	11	79
5. Parke-Davis	27	27	54
6. Squibb	12	34	46
7. Abbott	32	9	41
8. Pfizer-Roerig	4	32	36
9. SK&F	16	14	30
10. Wyeth	18	11	29
	Students		
1. Lilly	103	3	106
2. Parke-Davis	37	2	39
3. Upjohn	27	0	27
4. Roche	22	2	24
5. MSD	22	1	23
6. Burroughs-Wellcome	17	3	20
7. Abbott	15	1	16
8. SK&F	5	4	9

TABLE XII

FIRMS RECEIVING THE MOST NET FAVORABLE COMMENTS

Company	Favorable	Unfavorable	Net
	Pharmacists		
1. Lilly	160	23	137
2. MSD	109	3	106
3. Roche	88	10	78
4. Upjohn	68	11	57
5. Abbott	32	9	23
6. Wyeth	18	11	7
7. SK&F	16	14	2
8. Parke-Davis	27	27	0
9. Squibb	12	34	-22
10. Pfizer-Roerig	4	32	-28
	Students		
1. Lilly	103	3	100
2. Parke-Davis	37	2	35
3. Upjohn	27	0	27
4. MSD	22	1	21
5. Roche	22	2	20
6. Abbott	15	1	14
7. Burroughs-Wellcome	17	3	14
8. SK&F	5	4	1

viewed. The industry's most favorable activity or characteristic was reported to be research and development, while the professional service representative was cited most frequently as the reason pharmacists held favorable attitudes toward individual firms. Pharmacists also favored continuing education programs and drug product information when referring to the industry, but noted high quality products and good service more frequently when considering individual firms.

Pharmacists cited differential pricing most frequently when commenting on the industry, but noted the professional service representative most often when referring to firms they disfavored. The frequency distributions of industry activities or characteristics pharmacists note as favorable or unfavorable differ from those reported when specific firms are considered.

An attempt will be made to determine if significant differences exist between the frequency distributions of comments for the industry and specific firms. Both favorable and unfavorable categories will be examined.

Two sets of nine categories each are directly comparable for both favorable and unfavorable responses. In Table XIII (p. 77) the nine categories are shown with the frequency of favorable and unfavorable comments in each category for the industry and specific firms.

The computed chi square value for favorable comments

TABLE XIII

FREQUENCY OF FAVORABLE AND UNFAVORABLE COMMENTS FOR THE INDUSTRY AND SPECIFIC FIRMS

	Industry	Firms
Favorable Comments		
Research and Development	64	40
Information	45	30
Continuing Education	36	24
Professional Service Representative	32	91
Return Policies	21	52
Public Education/PR	21	10
Product Quality	20	79
Support Pharmacy	18	37
Good Service	17	71
$x^2 = 100.12$		
Unfavorable Comments		
Differential Pricing	67	41
Professional Service Representative	34	68
"Me-too" Products	30	15
Profit Orientation	30	21
Return Policies	22	33
Sampling	22	6
Marketing Practices	22	23
Favoritism	18	14
Unethical Practices	15	31
$x^2 = 41.50$		

was 100.12, well above the table value of 15.51 at the $\alpha =$ 0.05 level of significance with eight degrees of freedom. The distributions of directly comparable favorable comments are different for the industry and individual firms.

The computed chi square for unfavorable comments was 41.50. This also is above the table value of 15.51 at $\alpha =$ 0.05 and eight degrees of freedom. The distributions of unfavorable comments are also different for the industry and individual firms.

It might be hypothesized since individual firms comprise the industry as a whole, the frequency of comments would not differ significantly. However, pharmacists attitudes do differ when commenting on the industry versus specific firms.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This chapter summarizes the findings from the pharmacist and pharmacy student survey groups. Conclusions based on the findings also are presented.

Summary

An attempt was made to determine if attitudinal differences toward the pharmaceutical industry existed between pharmacists and fifth year pharmacy students. No significant difference was found in the distributions of attitudes for the two groups.

Within the pharmacist group demographic characteristics were investigated to determine if attitude distributions differed by these characteristics. No significant differences were found between independent versus chain practice, clinic-traditional and merchandising outlets, hospital versus community practice, and urban versus rural practice environment. Years of professional practice also was found not to have a significant difference on the attitude distribution of pharmacists. Since only 10 respondents reportedly were female, a male versus female comparison could not be made.

An attempt was made to determine if an association existed between the attitudes of pharmacists toward the pharmaceutical industry and their belief in the effect of publicized criticism of the industry being detrimental to the public's image of pharmacy. The association, although positive, was found not to be statistically significant.

The activities or characteristics of the industry viewed favorably by pharmacists and pharmacy students were categorized into 14 groups. The distribution of these items which pharmacists viewed favorably was found to differ significantly from the student distribution.

The distributions of the activities or characteristics of the industry viewed unfavorably by the two groups also were investigated for differences. It was found the frequency distribution of unfavorable comments did differ significantly between the pharmacist and student groups.

The respondents were asked which firms in the industry they viewed favorably, those viewed unfavorably, and why. The 10 firms cited most often for favorable plus unfavorable reasons by pharmacists were ranked by the total times cited. The frequency of unfavorable citations was subtracted from the frequency of favorable mentions to yield a net favorable score for each of the 10 firms. The firms then were ranked by net favorable scores. The same procedure was followed for student responses. However, since the students named fewer companies, only the eight most frequently cited firms

were ranked by frequency of mention and net favorable response.

The reasons why respondents viewed individual firms favorably or unfavorably were classified into favorable and unfavorable groups containing 14 categories each. The 14 categories in each group were ranked by the frequency they were cited by the respondents.

The frequency of both favorable and unfavorable comments directed to specific firms were tabulated for both the pharmacist and student groups. The firms were ranked by the total number of comments received from the respondents. A net favorable number of comments was calculated by subtracting the frequency of unfavorable from favorable comments. The 10 and eight firms receiving the most comments from pharmacists and students, respectively, were ranked by frequency of net favorable comments.

An attempt was made to determine if favorable and unfavorable comments made about the industry differed from comments made about individual firms. The favorable categories for the industry and individual firms were examined. Nine of the 14 categories were directly comparable. The industry versus firm comparison also was made for unfavorable responses. Again, nine of the fourteen categories were found to be directly comparable.

The distribution frequencies of the nine favorable industry versus firm categories were found to be

significantly different. The unfavorable industry versus firm comparison also was found to differ significantly.

When responding favorably about the industry, both pharmacists and students frequently cited research and development, drug product information, and continuing education programs. When responding favorably about specific firms, pharmacists cited the professional service representative most frequently as the reason they viewed a firm favorably. High quality products and good service were the next most frequently cited attributes. Students cited high quality products most frequently when referring to specific firms.

Pharmacists cited differential pricing most frequently as an unfavorable activity or characteristic of the industry, while students cited unethical practices. Both pharmacist and student respondents cited the professional service representative most frequently as the reason they viewed specific firms unfavorably.

Conclusions

Since little work has been done in the area of attitudes toward the pharmaceutical industry, it was deemed advisable to examine only general attitudes and opinions. The exploratory nature of the study made the use of open ended questions necessary. The categories created from the open ended questions might be used in future studies of this

nature.

It is not known why respondents view the activities or characteristics of the industry differently than individual firms. The heterogeneity of the industry may cause comments to differ when referring to individual firms versus the industry.

Different manufacturers' distribution policies such as direct versus wholesaler only, may cause respondents to view individual firms differently than the industry. Other marketing policies such as pricing schedules, return goods, and sampling, likely also affect attitudes. The PSR, however, appears to have more influence on how pharmacists view individual firms than any other factor. Further work is needed to determine which attitudes are responsible for actions taken by pharmacists when interacting with the industry.

In a period of increasing government intervention, pharmacy-industry relations should be thoroughly examined to minimize conflicts which might result in government action detrimental to pharmacy, the pharmaceutical industry and the consuming public.

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APPENDICES

APPENDIX A

COMMERCIAL QUESTIONNAIRE TO PHARMACY STUDENTS

WINDSOR ASSOCIATES
PROFESSIONAL OPINION RESEARCH
Box 339 Scotch Plains, N.J. 07076

Dear pharmacy student:

May we have a few minutes of your time to help us with a study of pharmacy students' attitudes toward the pharmaceutical industry. Although the questionnaire is brief, it will afford you an opportunity to express some important opinions.

Since you are part of a carefully selected sample of pharmacy students, your cooperation is necessary to the successful completion of this inquiry. We would appreciate it if you would, therefore, complete this questionnaire and retun it in the enclosed envelope as soon as your schedule permits.

The opinions you express in this questionnaire will, of course, be held confidential. Your signature is not necessary.

Sincerely,

Joan Anderson

Joan Anderson
Director of Research

P.S. We realize that we cannot adequately pay you for your time. However, the attached coin might help brighten the day of the next child you happen to see.

1. Taking into account everything you may have learned or heard about each of the following pharmaceutical companies, please rate each according to how well you feel you know them.
(PLEASE CHECK ONE BOX FOR EACH COMPANY)

	Never Heard Of Them	Heard Of But Know Little About Them	Know Just A Little	Know A Fair Amount	Know Them Very Well
Abbott	( )	( )	( )	( )	( )
Ciba-Geigy	( )	( )	( )	( )	( )
Lilly	( )	( )	( )	( )	( )
Merck	( )	( )	( )	( )	( )
Pfizer	( )	( )	( )	( )	( )
Roche	( )	( )	( )	( )	( )
Schering	( )	( )	( )	( )	( )
Squibb	( )	( )	( )	( )	( )
Upjohn	( )	( )	( )	( )	( )
Wyeth	( )	( )	( )	( )	( )

2. Taking into account everything you may have learned or heard, what are your overall impressions of the companies?
(PLEASE CHECK ONE BOX FOR EACH COMPANY)

	Very Unfavorable	Mostly Unfavorable	About Half And Half	Mostly Favorable	Very Favorable	No Opinion
Abbott	( )	( )	( )	( )	( )	( )
Ciba-Geigy	( )	( )	( )	( )	( )	( )
Lilly	( )	( )	( )	( )	( )	( )
Merck	( )	( )	( )	( )	( )	( )
Pfizer	( )	( )	( )	( )	( )	( )
Roche	( )	( )	( )	( )	( )	( )
Schering	( )	( )	( )	( )	( )	( )
Squibb	( )	( )	( )	( )	( )	( )
Upjohn	( )	( )	( )	( )	( )	( )
Wyeth	( )	( )	( )	( )	( )	( )

3. What do some manufacturers do which enhances their image in your view?

_____

_____

_____

_____

4. What do some manufacturers do that would tend to damage their image in your view.

_____

_____

_____

_____

5. In your opinion, to what extent do the following companies support the profession of pharmacy?
(PLEASE CHECK ONE BOX FOR EACH COMPANY)

	Provide Strong Support	Good Support	Moderate Support	Poor Support	Does Not Support Pharmacy	No Opinion
Abbott	( )	( )	( )	( )	( )	( )
Ciba-Geigy	( )	( )	( )	( )	( )	( )
Lilly	( )	( )	( )	( )	( )	( )
Merck	( )	( )	( )	( )	( )	( )
Pfizer	( )	( )	( )	( )	( )	( )
Roche	( )	( )	( )	( )	( )	( )
Schering	( )	( )	( )	( )	( )	( )
Squibb	( )	( )	( )	( )	( )	( )
Upjohn	( )	( )	( )	( )	( )	( )
Wyeth	( )	( )	( )	( )	( )	( )

6. How would you rate the companies below in terms of new products developed through research.
(Please check one Box for each Company)

	Superior Research	Good Research	Moderate Research	Poor Research	No Research	No Opinion
Abbott	( )	( )	( )	( )	( )	( )
Ciba-Geigy	( )	( )	( )	( )	( )	( )
Lilly	( )	( )	( )	( )	( )	( )
Merck	( )	( )	( )	( )	( )	( )
Pfizer	( )	( )	( )	( )	( )	( )
Roche	( )	( )	( )	( )	( )	( )
Schering	( )	( )	( )	( )	( )	( )
Squibb	( )	( )	( )	( )	( )	( )
Upjohn	( )	( )	( )	( )	( )	( )
Wyeth	( )	( )	( )	( )	( )	( )

7. What year will you graduate from Pharmacy School?

( ) 1976
( ) 1977
( ) 1978
( ) 1979

Thank you for your help!

APPENDIX B

STRUCTURED PRELIMINARY QUESTIONNAIRE A

CENTER FOR HEALTH SCIENCES
UNIVERSITY OF WISCONSIN-MADISON
MADISON, WISCONSIN 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

January 1976

Dear Colleague:

You are in a unique position in the health care team because you interact daily with other health professionals, patients, consumers and representatives of the pharmaceutical industry. Your attitudes toward the industry will be useful in determining how well it performs its job as well as potential areas for improvement

Your reply is important since you are part of a limited sample. Please complete and mail this short questionnaire at your early convenience. Your help will be greatly appreciated.

Sincerely,

R. W. Hammel, Professor
of Pharmacy Administration

1. How do you rate the <u>overall performance</u> of the U.S. pharmaceutical industry?

Excellent Performance				Poor Performance	No Opinion
5	4	3	2	1	0

2. What is your personal <u>attitude</u> toward the industry?

Strongly Favorable				Strongly Unfavorable	No Opinion
5	4	3	2	1	0

3. In your opinion, to what extent does the pharmaceutical industry support pharmacy?

Provides strong Support				Does Not Support Pharmacy	No Opinion
5	4	3	2	1	0

4. Legislative, consumer group, and other publicized criticism of the pharmaceutical industry is detrimental to the public's image of pharmacy.

Strongly Agree				Strongly Disagree	No Opinion
5	4	3	2	1	0

5. What three activities or characteristics of the pharmaceutical industry do you favor most?

1. _____

2. _____

3. _____

6. What three activities or characteristics of the pharmaceutical industry do you disfavor most?

1. _____

2. _____

3. _____

7. What three firms in the industry do you regard most favorably?

1. _____ Why? _____

2. _____ Why? _____

3. _____ Why? _____

8. What three firms in the industry do you view unfavorably?

1. _____ Why? _____

2. _____ Why? _____

3. _____ Why? _____

9. Please check the response that best describes your present practice environment.

(a) Type of practice:
__independent
__chain (11 or more units)
__hospital
__other _____ (please specify)
___not presently practicing pharmacy

(b) If community pharmacy (independent or chain)
__clinic
__merchandising
__traditional

(c) Size of community in which you practice:

___under 10,000 ___10,000 and over

(d) Sex: ___male ___female

10. How many years have you practiced as a registered pharmacist?____

Comments:

APPENDIX C

UNSTRUCTURED PRELIMINARY QUESTIONNAIRE B

CENTER FOR HEALTH SCIENCES
UNIVERSITY OF WISCONSIN-MADISON
MADISON, WISCONSIN 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

January 1976

Dear Colleague:

You are in a unique position in the health care team because you interact daily with other health professionals, patients, consumers and representatives of the pharmaceutical industry. Your attitudes toward the industry will be useful in determining how well it performs its job as well as potential areas for improvement.

Your reply is important since you are part of a limited sample. Please complete and mail this short questionnaire at your early convenience. Your help will be greatly appreciated.

Sincerely,

R. W. Hammel, Professor
of Pharmacy Administration

1. How do you rate the <u>overall performance</u> of the U.S. pharmaceutical industry?

Excellent Performance				Poor Performance	No Opinion
5	4	3	2	1	0

2. What is your personal <u>attitude</u> toward the industry?

Strongly Favorable				Strongly Unfavorable	No Opinion
5	4	3	2	1	0

3. In your opinion, to what extent does the pharmaceutical industry support pharmacy?

Provides strong Support				Does Not Support Pharmacy	No Opinion
5	4	3	2	1	0

4. Legislative, consumer group, and other publicized criticism of the pharmaceutical industry is detrimental to the public's image of pharmacy.

Strongly Agree				Strongly Disagree	No Opinion
5	4	3	2	1	0

5. What three activities or characteristics of the pharmaceutical industry do you favor most?

1. _____

2. _____

3. _____

6. What three activities or characteristics of the pharmaceutical industry do you disfavor most?

1. _____

2. _____

3. _____

7. What firm(s), if any, do you regard most favorably? Why?

_____

_____

_____

8. What firm(s) if any, do you view unfavorably? Why?

_____

_____

_____

_____

9. Please check the response that best describes your present practice environment.

(a) Type of practice:

___independent
___chain (11 or more units)
___hospital
___other_____(please specify)

(b) If community pharmacy (independent or chain)

__clinic
__merchandising
__traditional

(c) Size of community in which you practice:

__under 10,000 __10,000 and over

(d) Sex: __male __female

10. How many years have you practiced as a registered pharmacist?____

Comments:

THANK YOU FOR YOUR HELP!

APPENDIX D

STUDY QUESTIONNAIRE

CENTER FOR HEALTH SCIENCES
UNIVERSITY OF WISCONSIN-MADISON
MADISON, WISCONSIN 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

January 1977

Dear Colleague:

You are in a unique position in the health care team because you interact daily with other health professionals, patients, consumers, and representatives of the pharmaceutical industry. Your attitudes toward the industry will be useful in determining how well it performs its job as well as potential areas for improvement.

Your reply is important since you are part of a limited sample. Please complete and mail this short questionnaire at your early convenience. Your help will be greatly appreciated.

Sincerely,

R. W. Hammel, Professor
of Pharmacy Administration

1. How do you rate the overall performance of the U.S. pharmaceutical industry?

Excellent Performance				Poor Performance	No Opinion
5	4	3	2	1	0

2. What is your personal attitude toward the industry?

Strongly Favorable				Strongly Unfavorable	No Opinion
5	4	3	2	1	0

3. In your opinion, to what extent does the pharmaceutical industry support pharmacy?

Provides Strong Support				Does Not Support Pharmacy	No Opinion
5	4	3	2	1	0

4. Legislative, consumer group, and other publicized criticism of the pharmaceutical industry is detrimental to the public's image of pharmacy.

Strongly Agree				Strongly Disagree	No Opinion
5	4	3	2	1	0

(OVER PLEASE)

5. What three current activities or characteristics of the pharmaceutical industry do you favor most?

1. _____

2. _____

3. _____

6. What three current activities or characteristics of the pharmaceutical industry do you disfavor most?

1. _____

2. _____

3. _____

7. What three firms in the industry do you regard most favorably?

1. _____ Why? _____

2. _____ Why? _____

3. _____ Why? _____

8. What three firms in the industry do you view unfavorably?

1. _____ Why? _____

2. _____ Why? _____

3. _____ Why? _____

9. Please check the response that best describes your present practice environment.

(a) Type of practice:
__independent
__chain (11 or more units)
__hospital
__other _____ (please specify)
__not presently practicing pharmacy

(b) If community pharmacy (independent or chain)
__clinic
__merchandising
__traditional

(c) Size of community in which you practice:

__under 10,000 __10,000 and over

(d) Sex: __male __female

10. How many years have you practiced as a registered pharmacist? _____

Comments:

APPENDIX E

THE CHI SQUARE (X^2) TEST

The Chi Square test was used to determine if groups differ with respect to the relative frequencies with which group responses fall into different categories. The test is:

$$X^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

where O_{ij} = observed number of cases categorized in the i^{th} row of the j^{th} column and

E_{ij} = number of cases expected under the null hypothesis to be categorized in the i^{th} row of the j^{th} column.

The double summation ($\Sigma\ \Sigma$) directs one to sum over all cells.

The degrees of freedom are determined by

$d.f. = (r - 1)(k - 1)$ where

r = the number of rows

k = the number of columns

In testing hypothesis 1:

	Unfavorable		Neutral		Favorable	Total
Pharmacists	7	30	48	46	8	139
Students	4	21	57	55	3	140
Totals	11	51	105	101	11	279

1. The difference between the observed and expected frequencies are calculated for each cell.

2. The difference is squared and divided by the expected frequency.

3. The quotents are summed from each cell.

$$.42 + .83 + .36 + .37 + 1.16$$
$$.42 + .82 + .35 + .37 + 1.15$$
$$X^2 = 6.25$$

$$d.f. = (2 - 1)(5 - 1) = 4$$

The Table value at $\alpha = 0.05$ is 9.49.

Since the calculated 6.25 is less than the table value of 9.49, the test is not significant.

See Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (McGraw-Hill, New York, 1956), pp. 104-110.

APPENDIX F

SPEARMAN RANK CORRELATION

The Spearman Rank Correlation Coefficient (r_s) or rho was used since the data were ordinal in nature. Rho is related to the Pearson r commonly used with interval or ratio data.

The Pearson r is given by

$$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2 \quad \Sigma Y^2}}$$

where $X = X - \bar{X}$

and $Y = Y - \bar{Y}$

Sums are taken over all N values in the sample. When the X's and Y's are ranked then:

$$r = r_s$$

The data were first ranked by the Minitab program and the Pearson r computed yielding rho or r_s.

See Sidney Siegel, op. cit., pp. 202-210.

APPENDIX G

SIGNIFICANCE DETERMINATION OF r_s

The test for determining the significance of r_s is given by:

$$t = r_s \left(\frac{N - 2}{1 - r_s^2} \right)$$

when N is 10 or larger.

$$r_s = 0.066$$

$$N = 139$$

$$t^* = 0.066 \left(\frac{139 - 2}{1 - (0.066)^2} \right) = 0.774$$

from the table at the $\alpha = 0.05$ level

$$t = 1.645$$

$$t^* < t$$

Therefore the test is not significant at the $\alpha = 0.05$ level.

See Sidney Siegel, op. cit., pp. 210-212.