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The articles contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

As editors, we intend to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

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A CONCEPTUAL SCHEME FOR CONSUMER PERCEPTIONS OF PRODUCT QUALITY, VALUE, AND PRICE

M. J. Alhabeeb, University of Massachusetts

ABSTRACT

Drawing on evidence from both theoretical and empirical research, this paper delineates a conceptual scheme of the product quality, purchase value, and price, especially as perceived by consumers. The paper also characterizes the underlying logic and dynamics of the conceptual model and lays out a paradigm that pulls these constructs together, defines their relations, and weighs their significance as they lie at the heart of the consumer decision-making and consumer satisfaction.

INTRODUCTION

Assessment of product quality and purchase value is a central issue, not only in the consumer decision-making and the outcome of his overall satisfaction, but also in the producer decision-making and his marketing strategy. The notions of quality and value take a particularly special emphasis when they are juxtaposed against the price that a consumer is able to pay, and which a producer is willing to accept. Product quality, as perceived by a consumer may not be equal or similar to the quality that is perceived by a producer, and both of these perceptions may not be similar or close to the real quality that can be objectively measured and critically verified. In fact, empirical research has shown that there has been a little correlation between consumer's perception of product quality and the objective quality of the same product (Lichtenstein & Burton, 1989). According to Dawar (1999), it is the type of the product that more likely determines the discrepancies in the context and extent of the correlation between the two concepts of the quality. He clearly distinguishes between degrees of correlations depending on the nature of the products. For example, search products are those for which the quality can be determined by, and throughout search such as the case of clothing and personal care. Experience products are those for which the quality is only discernible through consumption such as the case of movies and restaurants, and credence products are those for which the quality is not discernible even after consumption such as the case of automobile repair or surgery. When assessing product quality, general consumers are more likely to depend on extrinsic cues, especially in light of their inability or unwillingness to address or examine the intrinsic cues.

THE QUALITY CONSTRUCT

Product quality, in a broad sense, is defined as "superiority or excellence" of a product (Zeithaml, 1991; Dawar, 1999). Two major problems can be reported on this definition: The first is that this definition neglects the fact that a product's state of quality has a wide range of degrees, starting from "poor and unacceptable" and ending with "superior". The second problem is the inherent element of subjectivity which can determine where, within that wide range, the quality of a product lies, and how it is oriented. Consumers and producers naturally have different views on the quality of a certain product, and so do different individuals within each of these groups. Morgan (1985) states that there is a "quality-perception gap" between manufacturers and consumers, and cites a Fortune national survey on the state of product quality in the United States. In this survey, sixty percent of the CEOs of the largest companies believed that "quality is better today" while an almost equal percent of consumers (59%) believed that "quality is declining and will continue to decline"

Holbrook and Corfman (1985) declare that the term quality has, in everyday marketing language, meant "high in quality" or "good", and they recognize that such an oversimplification is due to "promotional uses that convey approval in an extremely imprecise way" (p.32). They propose to examine the concept of quality by "probing beneath this pleasant patina". Their examination requires the considerations of three dimensions: The first is the implicit/explicit dimension of quality where the distinction becomes between the quality as an embodied essence or a characteristic of a product and the quality as a key aspect of interest. The second dimension is the Mechanistic/humanistic where the objective measure is differentiated from the subjective measure of quality. The third is the conceptual/operational dimension where the distinction becomes between the concept in a purely theoretical analysis versus what arises in the context of the measurable quality, which employs repeatable and interpersonally valid observations to guide a more practical action. Utilizing these three dimensions, Holbrook and Corfman (1985) devise a cross-sectional scheme to illustrate the multi-dimensional concept of quality (Table 1).

Objective quality, according to Zeithaml (1991) refers to the measurable and verifiable superiority on some predetermined ideal standard while perceived quality is the consumer's judgment or his global assessment (Dawar, 1999) about the superiority or excellence of that product. Perceived quality, in this sense, appears to be a highly subjective and relativistic concept, the value and extent of which would vary according to the judging subjects and identities. Product quality, as universally perceived by consumers, constitutes three major elements, the intrinsic cues, extrinsic cues, and the joint cues between the intrinsic and extrinsic (Olson & Jacoby, 1972; Olson, 1977). The intrinsic cues are those characteristics which are inherent to the physical composition of the product, and those which cannot be altered without first changing the nature of the product. Consuming a product is inextricably tied to the consumption of its intrinsic characteristic for they are the sources of the consumer's utility.

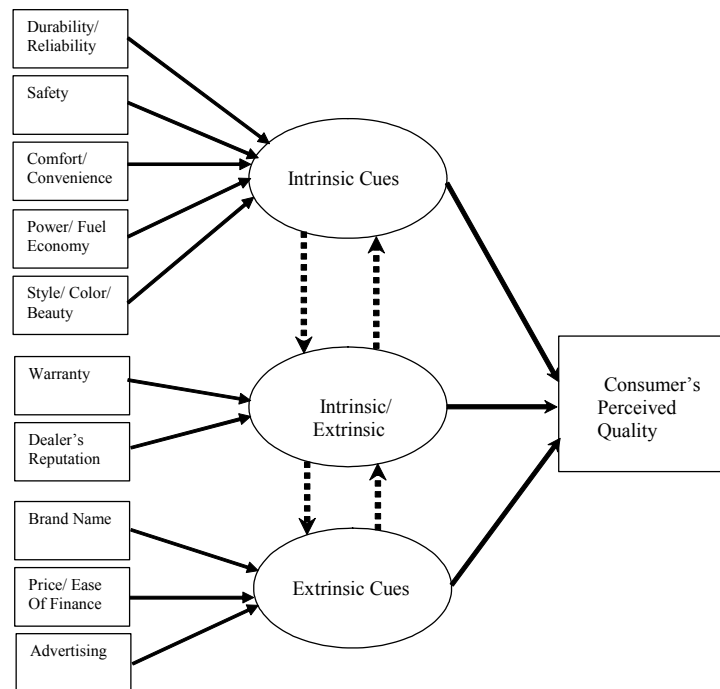
Table 1: Taxonomy of the Quality Concept.

Product Quality		Implicit	Explicit
Mechanistic	Conceptual	Production <ul style="list-style-type: none"> Product design is guided primarily by considerations of technological innovativeness and engineering sophistication This view is parallel to the Neoclassical economic theory of value 	Reliability and Durability <ul style="list-style-type: none"> Consumer's ordinary view Consumer Reports' approach for quality evaluation
	Operational	Value Analysis <ul style="list-style-type: none"> Emphasis is on production cost and performance of the product's essential function 	Quality Control <ul style="list-style-type: none"> Procedural process to define, measure and improve reliability, minimize defects, and lower rejection rates. Involves the design of appropriate sampling techniques, specification of control limits, and counting of defective rejects Requires collective action and participative involvement
Humanistic	Conceptual	Microeconomic Approach <ul style="list-style-type: none"> Qualitative factors ignored Human (social) value overlooked 	Properties and Characteristics <ul style="list-style-type: none"> Philosophical approach Perceived and relative concepts
	Operational	Macroeconomic Approach <ul style="list-style-type: none"> Conventional measures ignores humanistic perspectives (example: The measurements of GNP and Per Capita income) 	Multi-attributes / Multi-cues <ul style="list-style-type: none"> Operational feature-based analysis Straightforward rating scales

Source: Holbrook, M.B. & K.P. Corfman (1985). Quality and value in the consumption experience: Phaedrus rides again. In Jacoby, J. & J.C. Olson (Eds.). *Perceived Quality*, Lexington Books.

Figure 1 shows that such intrinsic cues for an automobile would be the durability and reliability, safety features, comfort and convenience, power and fuel economy, and style and beauty. The extrinsic cues are those factors which are external to the product. They are not part of the product's physical composition but they are important elements within the "augmented product", the wider circle of the closely related factors. Changes in the extrinsic cues are not contingent upon changing the physical nature of the product (Dawar, 1999; Zeithaml, 1991). For an automobile, the extrinsic cues would be the price, ease of finance, brand name, and the extent and effectiveness of advertising. Other affecting cues are those which can be cross-listed under intrinsic and extrinsic. For example, a good product warranty may be viewed as intrinsic cue when it is produced due to the manufacturers' confidence in the goodness of their product. Such a warranty would be a blank check for standing behind a solid product. On the other hand, a good warranty may not reflect anything about the product itself but only to be a tool of an aggressive marketing strategy and effective advertising campaign. In this sense, it would be considered an extrinsic cue. A combination of the outcomes of the three types of cues would map out the consumer's perception of the quality of a certain product.

Figure 1. Elements of Quality of an Automobile as Perceived by Consumers.

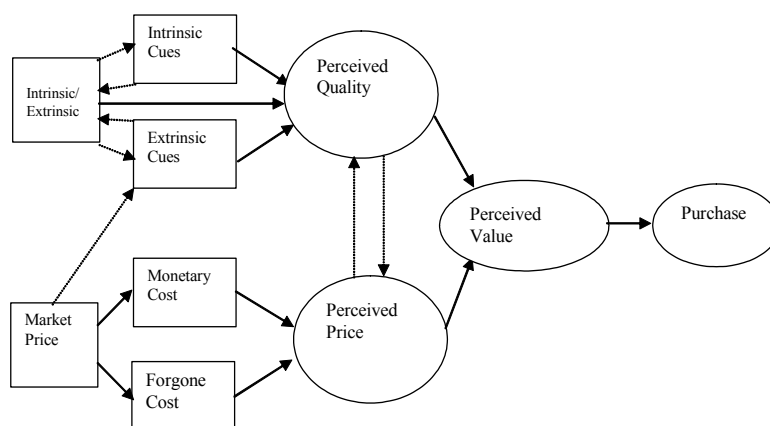


THE PRICE AND PURCHASE VALUE CONSTRUCTS

The price which consumers pay for purchases is, technically, what they give up or sacrifice, measured in a monetary term, to get the desired goods and services (Ahtola, 1984; Monroe &

Krishnan, 1985; Chapman, 1986; Mazumdar, 1986; Zeithaml, 1991). Since market price is objectively and collectively determined by the equilibrium of market forces, individual consumers may or may not agree with that general and standard assessment of the market at any point in time, and for any specific product. Perceived price, therefore, becomes the consumer's own judgment of the magnitude of sacrifice and its worthiness in comparison to what would be gained. It becomes, in other words, market price as encoded by the consumer (Jacoby & Olson, 1977; Zeithaml, 1991). As illustrated in Figure 2, consumers perceive the price of a product from two perspectives, as a monetary cost in terms of the dollar amount paid, and as an opportunity cost measured by the forgone alternative in terms of what that dollar amount could buy. It is noteworthy to say here that consumers may not always be knowledgeable or keen in their comparison when they encode prices in a day-to-day basis. They just do it in ways that are meaningful to them (Zeithaml, 1983, 1991; Dickson & Sawyer, 1985).

Figure 2. The Relationships Between Perceived Quality, Perceived Value, and Perceived Price as the Purchase Decision is Made.



Previous research on the relationship between price and perceived quality have not been conclusive. Rao and Monroe (1989) believe that methodological issues such as type of research design and control of price manipulation can provide some explanation for the inconsistent findings in previous studies. Zeithaml (1991) states that the use of price as an indicator of quality depends on three major categories of factors:

Informational: When other cues than the price, whether intrinsic or extrinsic are clear and readily accessible, consumers would more likely rely on these cues than on price to infer quality. **Individual:** There is a great variation in how much consumers know, to what extent, and what cost they are willing to know more on what they buy. Obviously, lack of awareness and lower levels of consumer knowledge about prices, products and market would not make it possible for consumers to use price as a signal for quality.

Product-related factors: When the nature of a product does not allow a great deal of variation across brand names such as salt or sugar, consumers would be less likely to depend on price as an

indicator of quality. On the contrary, they may do so when they buy products the quality of which vary significantly across brand names such as telephones or DVDs.

Hauser and Urban (1986) believed that product value is a relative concept of consumer utility. They specifically stated that utility obtained per dollar paid is what describes the consumer purchase value. Similarly, Sawyer and Dickson (1984) defined value as a ratio of attributes weighted by their evaluations divided by price weighted by its evaluation. Questioning consumers on what the term "value" meant to them, Zeithaml (1991) collected a wide variety of consumer perceptions, from the simply stated as "value is just a low price", to a more personal and idiosyncratic view as in "value is whatever I want for the price I pay". The author, however, believed that despite the diversity in the views of consumers, value can still be captured in one inclusive definition which states "perceived value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (p.42).

Conceptualization of constructs such as the perceived quality, value and price, and tracing their original and development, and addressing the consequences of the relationship between what consumers perceive against the complexity they face in the market place may have significant implications. Such implications may help define the nature and approach of the effective marketing strategies in addition to the potential benefits for the general consumers through a well designed and better balanced consumer education programs.

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THE 'BRAND HALO' EFFECT ON DURABLE GOODS PRICES: BRAND RELIABILITY AND THE USED CAR MARKET

Stephen C. Betts, William Paterson University
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ABSTRACT

Prices of new durable goods are largely determined by manufacturers who control the supply and influence the demand for their products. A brand has value to a manufacturer by increasing the demand for the products within the brand. Prices for used goods, however, are primarily determined by the market. In this paper the influence of brand on the price of used goods is examined. Specifically, a 'brand halo' effect is proposed, in which perceptions of a brand's overall attributes affect pricing beyond the effect of the specific qualities of a particular product within the brand. This 'brand halo' effect is then explored in the used car market. It is found that used car prices are affected by both the reliability of a particular car model and the reliability associated with a brand overall.

INTRODUCTION

The value that the brand plays to both, manufacturers and consumers have been the subject of great interest to both researchers and practitioners (Keller, 1998; Del Rio, Vazquez & Iglesias, 2001). In this paper we explore the influence of brand on the price of used durable goods. Whereas the price on a new durable product is often established as part of overall strategy by an oligopolistic manufacturer powerful enough to influence the price on the market, the prices on used models are often established on a secondary market of individual transactions among consumers selling to other consumers. We examine how the brand of the product influences perceptions of value related characteristics and therefore affects prices.

A 'brand halo' effect model is proposed, where the brand affects price 'overshadowing' the attributes of the product itself. The model is applied to used cars. The particular characteristic important to consumer evaluation of the used car (Brucks, 2000; Hogarty, 1975) is the car's reliability. While an individual vehicle's reliability may not be clear at the moment of purchase, the reliability history for the model (measured based on the number of repairs reported by the owners of such model) is available.

In this paper, the reliability associated with the brand overall is shown to influence used car prices beyond the effect of the reliability history of a specific model.

MARKETS, PRICING AND DURABLE GOODS

The structure of an industry determines the type of competition and market that will exist for that industry's products and services. The classifications of monopoly, oligopoly, or competition are well known and accepted. A monopoly controls the market, in as they control the supply and therefore price of the product or service. Oligopolistic players influence the demand and affect the price. Under competition, none of the players can affect the price. From here it follows, that studying prices set in a monopoly or oligopolistic market reveals the dynamics of firm and industry strategy and choices, whereas studying competitive markets reflect the market conditions.

In our study we concentrate on durable goods. Durable goods are goods that retain value over multiple uses (Kotler, 1997). Within this classification there are large expensive items produced by a limited number of manufacturers, such as appliances, machine tools, and automobiles. For these goods the high initial cost and retained value allows for a resale market. Although a consumer can choose between new and used models of these goods, the marketplace for used and new models differ considerably (Murray & Sarantis, 1999). The new goods are sold in retail establishments and the prices generally are determined jointly by the manufacturers and retailers. In this regard the new durable goods market can be considered oligopolistic competition. The market for used goods, however, has many individual buyers and sellers. When a large proportion of such transactions are done among the consumers directly, then there are no dominant players and the market is close to competition. Unlike in oligopolistic situations, under pure market competition none of the players can affect the price.

THE BRAND

A brand is an identifiable trademark name/ symbol, etc. under which the product is offered to the market (Keller, 1998). The value of a brand is twofold insofar as both the producers and the consumers seem to derive some benefit for themselves from the branding of products (Keller, 2001, 1998; Del Rio et. al., 2001). To the consumers, a brand offers reduction in risk and cognitive efforts involved into making a purchase, as well as other benefits. To the producer, brand offers some degree of guaranteed and profitable demand for production.

A brand plays various roles to the consumers, including being a signal of quality and attribute levels, and establishing trust (Keller, 1998). Brand image helps the consumer to navigate through the product universe, providing valuable mental shortcuts (Keller, 1998). The brand thus can represent a valuable asset to the producer, which quantitatively and qualitatively changes the demand for the branded product. A strong brand may bring price premiums for the product. As such, the brand participates in creating the firm's wealth on a par with other assets (Keller, 2001, 1998; Del Rio et. al., 2001).

Trying to capitalize on the established brands and avoid the expense of launching new ones, manufacturers often introduce a brand extension, which is a different product under the same brand name. In such a case, the product would have the "parental brand" name (for example, Maytag) coupled with its own "sub-brand" name (for example, Gemini Ranges).

THE 'BRAND HALO' EFFECT

Consumers' evaluation of the different brand attributes might be conditioned by their overall impression regarding the brand (Del Rio et. al., 2001). Such influence of the overall impression of the brand name is part to what is known as consumer-based brand equity (Keller, 1993; 1998), which is defined as "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993, p. 2).

Individual's evaluations of specific attributes of an object are prone to a systematic error, where the general evaluation of the object (or some attributes of it) colors the evaluation of other attributes (Thorndike, 1920). This tendency was noted almost a century ago and has been referred to as a halo effect, a term originally used by Edward Thorndike (Thorndike, 1920) in his study of results of various employee surveys done in the beginning of the XX century. Such a halo effect is usually seen in non-independence of multi-attribute judgments beyond what is warranted by the objective interrelationships among the attributes (Leuthesser, Kohli & Harich, 1995) and linked to the gestalt theory (Del Rio et. al., 2001).

The halo effect can be combined with the notion of consumer-based brand equity to form a 'brand halo' effect. In the case of a 'brand halo', an individual would evaluate a product based on the level of some attribute generally associated with the brand. This evaluation would supplement or replace the evaluation based on the actual level of the attribute present in the specific model being evaluated.

THE USED CAR MARKET

In order to test the 'brand halo' effect it is necessary to examine the market for a specific durable good. Automobiles are an appropriate class of goods. Cars play a large role in everyday life. Cars are durable, relatively expensive and do not lend themselves to easy determination of quality by observation (Nichols & Fournier, 1999), somewhat necessitating increased reliance on reputation and brand name by the consumers.

Car manufacturers are oligopolies (Mertens & Ginsburgh, 1985). For example, in 1999, 78.7 % of all light vehicles (cars) produced in the USA have been produced by just 4 manufacturers, the top one, General Motors Corporation, producing 37.1% (Infoplease, 2002). Car resale (used car) market, on the other hand, is largely a competition market, where individual consumers sell their used cars to other consumers either themselves or through dealerships, neither individual sellers nor buyers being able to significantly affect the price. New cars' market adjusts primarily based on the regulation of supply; manufacturers set prices as part to their overall strategy. The used car market adjusts through prices (Murray & Sarantis, 1999).

New cars and used cars also differ in that there is an additional utility derived by the consumers from the newness itself, regardless of other features (Murray & Sarantis, 1999). Partial explanation of this additional utility lies in the added uncertainty regarding the condition of the used vehicle that prior ownership introduces (adverse selection/ moral hazard problems).

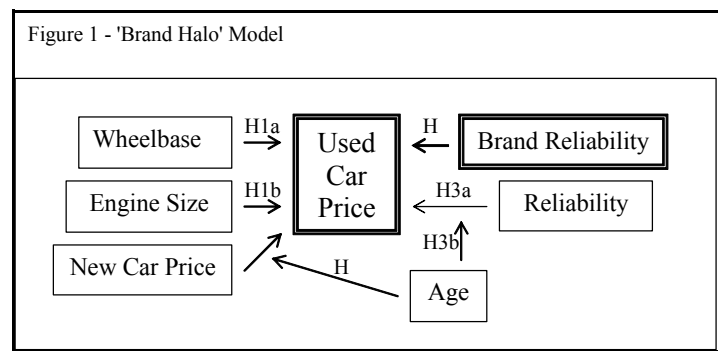
The "core function" of a car is providing transportation. This core function is at the foundation of the utility that consumers derive from automobiles. However, there is a set of

additional benefits that increase the value of a vehicle, notably, how pleasurable and socially prestigious it is while serving its basic function (Murray & Sarantis, 1999).

The features/improvements of new cars have been shown to influence the prices of older (used) models (Purohit, 1992). Needless to say, the attributes of the used cars do not change due to improvements incorporated into newer models. However, general perception of brand A as a higher quality brand because of its better new models may take place; so the older models of this new and improved brand A might be also perceived as higher quality if the consumer relies on the brand name outside of the rest of the attributes. Similar effect has been observed when prices on used cars differing in brand name but essentially identical otherwise ("twin cars") differed (Sullivan, 1998).

The predominant brand hierarchy in the automobile industry is a parent brand with several sub-brands. The parental brand is traditionally referred to as the 'make' (ex. Toyota) and the sub-brand as the 'model' (ex. Corolla). In the automobile industry, it is exceedingly rare to find a brand with only a single make associated with it.

The wealth of publicly available information related to cars, on both, their product-related attributes and prices, makes cars an especially attractive target for research. Publications such as the "Consumer Reports," "Edmunds' Guide to New Car Prices", etc., detailing such information, have been widely circulated for many decades, and the advancement of the Internet brought with it a great number of car-related information services available at the click of a mouse. In particular, consumers may be reasonably assumed as having knowledge of and access to such information.



HYPOTHESES

There has been considerable research on which quality dimensions influence consumers evaluation of durable goods (Brucks, Zeithaml & Naylor, 2000; Garvin, 1987; Hogarty, 1975). Objective characteristics of a product are considered influencing consumer's evaluation of the product's worth not directly, but as the inputs to the underlying quality dimensions, benefits of the product (as opposed to its attributes). Among the sets of such dimensions offered are comfort, durability, economy, maneuverability, performance, safety, and style (Hogarty, 1975); ease of use, versatility, durability, serviceability, performance, and prestige (Brucks, et. al., 2000), conformance,

features, durability, serviceability, performance, reliability, perceived quality (image) and aesthetics (Garvin, 1987). However, at least in the car market, benefits may be directly linked to a combination of attributes (Hogarty, 1975). Leaving an explicit treatise of the underlying dimensions for future explorations, we concentrate on directly observable attributes.

The model includes several factors shown to be strong influences on the price of used cars. The model from which the hypotheses are developed is shown as Figure 1 with the hypothesized relationships indicated. In order to test the brand halo effect, the model also needs to include a characteristic which influences the price of the good, is measurable, and varies from year to year and model to model within the brand. Reliability is the chosen characteristic. Reliability is a measure of the consistency with which the car serves its core purpose.

Consumer perceptions of the value of used models are influenced by the prices of newer models on the market (Purohit, 1992). Specifically, researchers using economic approaches often consider a used car's price as recovering part of the new car price for its seller (Murray & Sarantis, 1999). According to such logic, more expensive new cars would produce more expensive used cars. Additionally, the expected useful life of a car, and therefore its value, decreases with age. Therefore:

Hypothesis 1: The price of used cars will be positively related to the price of the equivalent model new car moderated by the age of the used car.

The notion that bigger and more powerful new cars can be expected to be priced higher than smaller and less powerful ones is consistent with most people's expectations and has been supported by research. The size of the car is related to comfort and cargo capacity, both performance-related parts of the perceived quality, and therefore value, of the car (Brucks, et. al., 2000). The size of the car has also been found to be considered an indication of luxury (Hogarty, 1975). Power and engine size are other performance-related factors that consumers use in determining the value of a car (Edmunds, 2002).

Length, power/weight ratio and engine size were among the set of variables shown to predict new car prices in a test of a model based on the assumption that the price is a function of observable technical characteristics (Mertens & Ginsburgh, 1985). The study was conducted in five countries of the European Community (Belgium, France, Germany, Italy, and the United Kingdom) with no significant differences in the results across countries. Although this cross country study examined only new cars (Mertens & Ginsburgh, 1985), other researchers do not differentiate between the new and used markets (Brucks et. al., 2000; Hogarty, 1975), implying that the relationships hold in both new and used durable goods markets. Therefore:

Hypothesis 2a: The price of used cars will be positively related to their wheelbase.

Hypothesis 2b: The price of used cars will be positively related to their engine size.

Reliability is an important characteristic of a durable good and a car in particular, indicating how long and consistent the product is going to serve its function and how many repairs it will need. It is one of the many benefits comprising the customer's utility functions which reflect on the prices the customers are willing to pay (Brucks et al., 2000; Garvin, 1987; Hogarty, 1975) and building up the customer-based brand equity (Keller, 2001). The lower the reliability, the more money, aggravation and effort the customer will have to expend dealing with the product, and the shorter the product's useful life. Therefore:

Hypothesis 3a: The price of used cars will be positively related to their reliability.

Reliability, however, is generally expected to decline as the car ages (Consumer Reports, 2002), as parts get worn out. (So if two cars of different year of manufacturing have the same reliability, the older one is a better, more reliable car.) This expectation can be coupled with the notion that the useful life of the car (durability) also declines with age. Therefore:

Hypothesis 3b: The price of used cars will be negatively related to their reliability moderated by the age of the used car.

The 'brand halo' effect is expected to apply to reliability. Consumers will be willing to pay more for cars whose brand (make) enjoys a general reputation of being more reliable, above and beyond what the reliability of the individual model for a given year. Conversely, cars whose brand (make) is considered less reliable will be discounted on the market relative to their own reliability. Therefore:

Hypothesis 4: The price of used cars will be positively related to the average reliability for all cars in their brand.

METHODS

Information on passenger cars of 17 makes (parental brands) from 1993 to 1999 was obtained from Kelley Blue Book (Kelley, 2002), Consumer Reports (2001), and Edmunds (2002). The particular brands chosen represent a variety of countries of origin and price ranges. The dependent variable, price of used cars, was "private-party price" as reported by Kelley Blue Book (Kelley, 2002). These prices are provided by Kelley based on the national average over a large sample of asking prices and imply a car in a good condition, with average for the model options and with average for the year mileage. Two independent variables, wheelbase and engine size, are also as reported in Kelley.

There are many different indicators related to the car size (exterior width, length, height, wheel base, ground clearance, etc.; interior dimensions such as head room, leg room, rear head room etc.), all of which has shown consistently high correlation in a series of unrelated analyses. Wheelbase was thus chosen to be an indicator of size.

The price of a new vehicle produced in 2001 comparable to the used vehicle was as reported by Edmunds (2002). In several instances, Consumer Reports and edmunds.com have been reporting essentially the same vehicle of the same make being marketed under a new model name (for example, Acura RL is referred to as the new name of Acura Legend, and the two vehicles are reviewed as one list); when this was the case, the price of the new model name was used (for example, price of Acura RL for every Acura Legend). In several instances, a vehicle was no longer produced and another vehicle with similar attributes was considered its "replacement" by the Consumer Reports. In that case, the price of a new 2001 "replacement" model was used for the older model.

The age of the used car was transformed by taking inverse of the natural logarithm of the age to reflect the diminishing effect of increasing age on price.

For each car, reliability rating on 14 "trouble spots" was then obtained from the Consumer Reports (2001). These ratings are based on the number of problems related to each "problem spot" between April 1999 and March 2000 reported by the respondents to the 2000 Annual Questionnaire conducted by the Consumers' Union (which publishes Consumer reports). These responses form a true continuous, ratio scale (Nunnally, 1967) variable, which has been subsequently transformed by the Consumers' Union for reporting in the Consumer Reports as follows: 2.0% or less becomes a 5, 2.0% to 5.0% a 4, 5.0% to 9.3% a 3, 9.3 % to 14.8 % a 2, and more than 14.8 % a 1 (Consumer's Union actually uses its own special symbols, such a red donut-shaped figure rating for the highest reliability, a black circle for the lowest, etc., which have been recoded into numbers for use in the analysis). The resulting variables can be treated as interval scale variables. These 14 reliability ratings of various "problem spots" were combined to create a reliability scale with an alpha reliability of 0.927 (Chronbach, 1951). Brand reliability was computed as the average reliability of all the passenger cars for a specific brand, across all the models and years of cars within that brand.

A series of nested linear regression models corresponding to our hypotheses was fitted to the data. The models have been compared from step to step by means of a partial F-test to only include the statistically significant variables while testing the hypotheses.

ANALYSIS AND RESULTS

The interrelationships among the variables can be found in Table 1. Reliability and brand reliability are correlated at 0.483.

Partial F-test for nested models (Neter, Kutner, Nachtsheim & Wasserman, 1996) has been employed to test whether adding variables according to our hypotheses statistically significantly improved the model fit. The test involves the ratio of the change in the coefficient of determination to the change in degrees of freedom scaled by the ratio of the coefficient of determination of the full model [subtracted from 1] to its degrees of freedom. Table 2 contains the results of this test as new

model blocks corresponding to our hypotheses sets were added (in a cumulative fashion: second step consists of model blocks 1 and 2, corresponding to hypotheses sets through 2; fourth step, accordingly, model blocks 1 through 4 corresponding to hypotheses through set 4). As is obvious from Table 2, addition of each block of variables has significantly improved the model fit. R-square has improved from 0.78 to 0.87, and every model is highly statistically significant.

Table 1: Correlation coefficients and descriptive statistics.

		Mean	SD	1	2	3	4	5	6
1	Used Car Price	\$10,675	\$6,820						
2	Engine size, l	3.11	1.1	0.321					
3	Wheelbase, inch	106.7	5.1	0.188	0.549				
4	Price new/ Age	16,972	10,788	0.886	0.359	0.339			
5	Reliability	51.79	10.4	0.472	-0.163	-0.084	0.470		
6	Reliability/ Age	39.39	23.3	0.519	-0.030	0.012	0.671	0.800	
7	Brand reliability	51.79	5.0	0.220	-0.348	-0.282	0.062	0.483	0.206

N=376, $p < .001$ for $r > 0.167$, $p < 0.01$ for $r > 0.132$, $p < 0.05$ for $r > 0.101$, $p < 0.1$ for $r > 0.085$, where r is the correlation coefficient

Table 2: Partial F-test

Model	Block	Related Hypotheses	R-square
1	set 1	0.785	
2	set 2	0.805	18.338 ***
3	set 3	0.861	75.068 ***
4	set 4	0.867	17.819 ***

*** $p < 0.001$

Based on the results of the partial F-test (see Table 2), the full set of variables, corresponding to hypotheses 1-4 has been selected. Table 3 displays the results of the full regression model fitted to the data. All the coefficients were statistically significant.

Table 3: Regression Coefficients.

Unstandardized Coefficients		Standardized			
	Beta	Std. Error	Beta	t-value	VIF
(Constant)	10166	3718.932	2.734***		
New Price/Age	0.668	0.020	1.057	34.144***	2.67
Wheelbase	-225.123	31.308	-0.170	-7.191***	1.55
Engine Size	644.513	161.355	0.101	3.994***	1.77
Reliability	168.225	24.734	0.258	6.801***	4.00
Reliability/Age	-120.857	12.029	-0.412	-10.047***	4.69
Brand Reliability	139.583	33.067	0.103	4.221***	1.66

*** p<0.001

All of the hypotheses except 2a (wheelbase) were supported. Wheelbase, while statistically significant, has a sign opposite to the one hypothesized. To explore possible explanation to this phenomenon, the relationship between new price and the independent variables from hypotheses set 1 were tested. Regression of new price on wheelbase and engine has yielded an R-square of 0.325, and standardized coefficients of 0.338 for wheelbase and 0.309 engine size, both statistically significant at 0.001 level. Variance Inflation Factor (VIF) is below the cutoff point of 10, indicating some mild but acceptable multicollinearity (Neter, et al., 1996).

DISCUSSION

We have shown that there is a brand reliability effect beyond the effect of the specific reliability of the individual model of used car. The brand reliability considered here was an objective measure based on the reliability of the individual models in different years within the same brand. This result strongly supports the notion of a 'brand halo' effect in the used automobile market.

One of our hypothesized relationships, wheelbase and the price of the used car in the presence of other variables have been opposite in sign to the actual relationship. Further examination of relationship between variables suggests that the price of the car when new is positively associated with wheelbase (and engine size), which gets discounted when entering the used price. Apparently, in the new car price there is a premium for the physical size of the car, which gets immediately discounted when the car gets resold on the used car market. However, there's no equivalent discount for the engine. Indeed, there is a premium paid for the engine on the used car market. To sum up, in the used car market the performance-related aspect associated with engine is enhanced and the car size aspect is diminished. Additionally, such a differential impact of the engine and car sizes may

be connected to the underlying heterogeneity of buyers. For example, younger customers, who often have to buy a used vehicle due to their limited financial resources, might put a premium on the engine (the power), while shying away from "your father's" larger vehicle. By the same token, the customers putting a premium on size of the car might also have a tendency to buy new vehicles.

Limitations associated with the sample and data sources are that it is limited to the used car industry, the variables are pooled national averages and thus do not reflect the impact of geographic location, reliability ratings exclude inherently subjective characteristics (such as, for example, subjective perception of car quality not connected to actual reported ratings), and the representativeness may be questioned (Curry & Riesz, 1988). The prices reported by Kelley's Blue Book are not the actual transaction, but asking prices, in other words, the price that the buyer posted as the amount of money the car was worth (Kelley's, 2002). It is also not known to what extent consumers consult these sources for information about used cars.

Directions for further research include extending the research to other attributes and goods. Once these relationships are uncovered, the extent or degree of the halo effect can be addressed. To investigate the underlying mechanism of the halo effect, explicit consideration of the perceptual processes and dimensions of benefits can be modeled via structural equations involving interdependencies among latent variables.

One specific issue that warrants special attention is that the weight given to the make (parental brand) vs. model (sub-brand) varies from manufacturer to manufacturer. For example, Ford and Toyota on one hand have highly personalized model names such as Escort, Taurus, Corolla, etc. whereas Mercedes-Benz and BMW simply designate the make by a number, like "3 series", "600" etc. It may be that these strategies influence the importance of the make relative to that of model and therefore affect the impact of the brand halo effect..

Another issue that arises is that manufacturers have learned to encourage consumers' disposing of the durable goods earlier than what the product's durability would allow by introducing newer models often. In the car industry, each year the same basic model undergoes at least stylistic changes (Consumer Reports, 2002). Prior research indicates that if the changes are found desirable by the customers, the older versions may depreciate at a higher rate; and if the changes are undesirable, the depreciation may decrease (Purohit, 1992). Our research provides a counter argument by indicating that an improvement changes the overall impression of the brand and 'pulls' the value of cars without the improvement up. Further research is necessary to reconcile these findings.

The primary implications for practitioners are that there are brand effects associated with specific characteristics. This finding reinforces the existing recommendations that brand extension can be used to signal characteristics of the product (Keller, 1998), while highlighting a particular objective characteristic (reliability). However, brand managers need to be aware of the potential 'pull' of the 'brand halo' effect. Perceptions of a high end product may be pulled down or those of a low end product may be pulled up by this perceptual halo. It is also possible that an inaccurate brand perception regarding an attribute may cause biased perceptions of an individual model.

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BUYER PERCEPTIONS OF RELATIONSHIP IMPORTANCE AND RELATIONSHIP QUALITY IN DETERMINING WHETHER RELATIONSHIPS CONTINUE

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ABSTRACT

This paper presents a conceptual framework that considers the buyer's perceptions of the roles of relationship importance and relationship quality in determining the likelihood of continued interaction between buyers and suppliers. It is hypothesized that both relationship importance and relationship quality positively influence the likelihood of continued interaction between buyers and suppliers. It is also hypothesized that relationship importance moderates the effect of relationship quality on the likelihood of continued interaction between buyers and suppliers. This paper also presents empirical results based on a mail survey of buyers on their perceptions of their relationship with one supplier. The results support the hypotheses. Implications of the results for managers are also presented.

INTRODUCTION

One of the key objectives of relationship marketing is to develop and maintain relationships with buyers where the emphasis switches from attracting new customers to retaining current customers (Morgan & Hunt, 1994; Evans & Laskin, 1994; Dwyer, Shurr & Oh, 1987; Selnes, 1998). It is therefore important to understand what influences buyers to stay in relationships with their sellers or suppliers. Relationship quality has been shown to have an effect on the likelihood of continued interactions occurring between buyer and seller (Crosby, Evans & Cowles, 1990; Hennig-Thurau & Klee, 1997), however, it is possible that the importance of the relationship moderates the role of relationship quality in determining the probability of additional contact occurring between buyer and seller. This outcome may be particularly true when the seller's product or service is crucial to the buyer's business. In such a situation, the buyer may be basing his/her firm's entire livelihood on the relationship with the supplier and the importance of the relationship may prevail over the quality of relationship, especially if the quality is poor, in determining whether or not to continue the relationship (Frasier, 1983). Importance may also work in conjunction with relationship quality. For example, it is highly probable that a buyer who has a good relationship with an important supplier would want to maintain the relationship (Walker, Churchill & Ford, 1977; McQuiston, 1989). Understanding the roles of relationships importance and relationship

quality can be useful for suppliers who want to develop their relationship marketing strategies to strengthen and maintain their existing buyer/supplier relationships

This study addresses the following research questions: What is the role of relationship importance in determining the likelihood of continued interaction between buyer and seller? What is the role of relationship quality in determining the likelihood of continued interaction between buyer and seller? Is the role of relationship quality in determining the likelihood of continued interaction moderated by the importance of the relationship between buyer and seller? As previously mentioned, relationship quality has been shown to influence the likelihood of continued interaction (Crosby, Evans & Cowles, 1990). This research adds the relationship importance dimension to determine if the importance of the relationship moderates the role of relationship quality in determining the likelihood of continued interaction between exchange partners.

In today's business climate it is increasingly important for businesses to develop and maintain enduring relationships with customers (Naude & Buttle, 2000; Henning-Thurau, Gwinner & Gremler, 2002). The quality of the relationship and the importance of a relationship to the firm's business may influence the firm's decision whether to continue in a relationship. This study models the role of relationship importance and relationship quality in determining the likelihood of continued interaction by asking buyers to rate the likelihood that they would continue to work with a particular supplier in the future.

LITERATURE REVIEW

The ultimate goal of relationship marketing efforts is to build up a loyal customer base that will grow and strengthen over time. When companies can establish relationships with their customers they can learn more about what their customers want and need and tailor their product development and marketing strategies to those customers' needs (Levitt, 1986). These relationships are more likely to be successful and enduring if the quality of the relationship is strong. Relationship quality can be influenced by the handled risk associated with the product, communication, the seller's customer orientation, supplier/salesperson expertise, mutual goals, and relationship benefits (Parsons, 2002). Relationships also increase the level of functional interdependence between buyer and seller and are often viewed as a way to obtain competitive advantage in the market (Spekman & Johnston, 1986).

According to Levitt (1986) relationships between customers and salespeople often intensify after a sale has been made. Relationships between customers and salespeople are like marriages and the ability of exchange partners to manage their interactions will influence the quality and duration of the relationship (Perrien, Filiatrault & Ricard, 1993). The salesperson must work to continually know what the buyer wants and to determine how to provide that to the buyer. Essentially the salesperson takes on the role of relationship manager once a relationship begins.

Ford (1980) addresses the continuity factor in buyer seller interaction by suggesting that companies pursue relationships to benefit from reduced costs and increased revenues. According to Gronroos (1990) relationship marketing is carried out by a mutual exchange and fulfillment of promises between buyers and sellers. Sellers give promises concerning the goods and services

(specifications, transportation, financing terms, etc.) while both buyers and sellers make promises regarding their commitment to the relationship. Buyers demand quality products while sellers demand customer satisfaction and loyalty from their relationships (Evans & Laskin, 1994). In order for the relationship to be maintained, promises must be kept on both sides.

Entering into relationships may also have some negative consequences. Buyers may choose not to take advantage of better exchange opportunities because they are committed and loyal to their current suppliers (Han, Wilson & Dant, 1993). They may not be willing to forego the benefits they receive from an existing relationship even if they could reduce their operating costs by choosing another supplier. Buyers may also become too dependent on suppliers especially if the supplier provides a product or service that is critical to the buying firm's business operation (Han, Wilson & Dant, 1993).

Morgan and Hunt (1994) developed the Commitment and Trust Theory of Relationship Marketing that proposes that relationship commitment and trust are central to successful relationship marketing because they lead directly to cooperative behaviors that are conducive to relationship marketing success. Relationship commitment implies a desire to work to maintain ongoing relationships with one's exchange partners and trust between exchange partners implies that one's partner believes in the other partner's reliability and integrity.

Ford (1980) proposed that the development of buyer seller relationships was a process influenced by a) the experience of the companies involved, b) the reduction of uncertainty associated with being in the relationship, c) the strengthening of actual and perceived commitment to the relationship, and d) the adaptations made to accommodate the other company, and e) the savings and investment associated with being in the relationship. Different phases of the relationship development process will be characterized by different levels of these variables. Dwyer, Schurr and Oh (1987) also developed a framework for studying relationships between buyers and sellers that treats sales transactions as continuous, rather than as discrete one time occurrences. In their framework, relationship building is seen as a five phase process, awareness, exploration, expansion, commitment, and dissolution, where mutual dependence increases as the relationship develops and then decreases when the relationship is dissolved. Selnes (1998) proposes that relationships evolve as a result of a series of decisions that buyers make as they enter, decide whether to continue, or decide to build on a relationship.

The key to these relationship development models is the recognition that relationships require effort to be developed and maintained and that some factors may be important at some stages of a relationship and unimportant at other stages of a relationship. These relationship development models suggest that it is important to recognize what stage a relationship is at in order to most effectively maintain it. Relationship quality should therefore be higher when both parties understand the type of behavior that is most appropriate for the current stage of the relationship. Relationship quality can be strengthened by making sure that all parties involved are satisfied and can be trusted (Crosby, Evans & Cowles, 1990; Naude & Buttle, 2000).

Based on the recognition of the importance of relationships between exchange partners, research exists that examines the effects of relationship marketing efforts on perceptions of the sales process, the salesperson, and evaluations of the product or service. Crosby and Stephens (1987) considered the role of relationship marketing in the life insurance industry primarily focusing on its

effect on prices and customer satisfaction. They argued that relationship marketing activities enhance service value and ultimately customer retention. They also cautioned that relationship marketing efforts are not substitutes for offering strong, current products and related services. In another life insurance study, Marshall, Palmer and Weisbart (1979) found that policy owners that had an individual that they considered to be their own personal agent were likely to receive better service than those who did not. This implies that having a relationship with a sales agent increases the probability of receiving quality service.

Buyers have expectations about their relationships and low expectations may be the results of relational problems, while high expectations may be the result of favorable relationships (Kellerman, 1987). Relationship quality has been shown to have a positive effect on these expectations (Crosby, Evans & Cowles, 1990; Hess, Ganesan & Klein, 2003). Buyer perceptions of relationship quality will be higher for suppliers who do an effective job of meeting expectations and performing various functions for the buyer especially when the supplier can easily be replaced (Walter et. al., 2003). Weitz (1981) suggests that the type of relationship between buyer and seller influences the likelihood of continued interaction. Ping (2003) suggests that giving customers a voice, reducing the attractiveness of alternative suppliers, and increasing the level of investment in a relationship as antecedents of satisfaction are important to relationship maintenance.

While type may be used to describe the quality of a relationship, type may also be described as the importance of a relationship to a firm. Frazier (1983) suggests that the likelihood of continued interaction will be high when the relationship is crucial to the firm's livelihood. The importance of a relationship to a buyer can be influenced by the amount of after sale service involved with the product, the availability of substitutes, performance risk, and the cost associated with terminating the relationship (Parsons, 2001). Buyers who have high expectations about their relationship with a supplier and who depend heavily on a supplier for their business operations should be more motivated to maintain a relationship and therefore, the likelihood of continued interaction should also be high. While Frazier (1983) does not speculate about the converse, it seems reasonable to believe that likelihood of continued interaction may be lower when the relationship is not as important.

HYPOTHESES

The likelihood of continued interaction construct refers to the buyer's expectations for the relationship to continue in the future that may be based on either the importance of the relationship or the quality of the relationship. These expectations may be based on either the importance of the relationship or the quality of the relationship. As previously mentioned relationship quality has been shown to influence this construct (Crosby, Evans & Cowles, 1990) and should therefore also influence it in this study. This study adds the relationship importance dimension to determine if relationship importance has an effect on the likelihood of continued interaction and if relationship importance moderates the effects of relationship quality. Based on the literature review the following hypotheses were developed and tested.

H1:	Relationship importance is positively related to the likelihood of continued interaction.
H2:	Relationship quality is positively related to the likelihood of continued interaction.
H3:	Relationship importance moderates the relationship between relationship quality and the likelihood of continued interaction.

METHODOLOGY

This research involved surveying purchasing agents and buyers by mail regarding their relationships with their suppliers. Suppliers were defined as manufacturers who provide the buyer's firm with parts, service or equipment, service providers such as accountants and cleaning services, wholesalers who sell goods to organizations, or companies who sell raw materials or other production inputs. Each respondent evaluated their firm's relationships with one of their suppliers or service providers. Respondents were asked to evaluate their relationships using the level of relationship importance and the level of relationship quality as a priori qualifying factors. The goal was to have a representative sample of different levels of relationship quality and relationship importance.

The sample was taken using a mailing list of companies drawn from the National Association of Purchasing Management membership list. This list was generated using SIC codes to categorize the data. Names on this list were involved in the purchasing function in their respective firms. A random sampling method was used to select 2,000 names from a master list of 5,000 names using a computer driven random number generator. Industries included on the list are: Fabricated Metal, Machinery, Electrical/Electronic, Transportation Equipment, Miscellaneous Manufacturing and Health Services.

A cover letter addressing the primary objectives of the research was included with each survey. The letter explained how each buyer was selected to participate in this study and it emphasized the importance of each potential respondent's response to the study. The letter also informed respondents their responses would remain confidential. Also included with each survey was a postage-paid business reply envelope to facilitate the return of the completed survey to the researcher. This guaranteed that the survey would only cost the respondent anything their time.

SURVEY RESPONSE RATE

A total sample of 368 surveys was obtained which represents an 18.4% overall response rate. The highest response rates for the separate versions were for Version C - Not Good, Important Relationship (21.2%) and Version A - Good, Important Relationship (19.2%). The lowest response rates were for Version B - Good Not Important Relationship (18.4%) and Version D - Not Good, Not Important Relationship (14.8%). One potential explanation for the lower rates for the not important relationships (Versions C and D) may be that firms do not need to keep relationships that

are not important, especially those that are not good. One survey was returned uncompleted with a note saying that all of their company's relationships with their suppliers were important and that those relationships that were not so good were discontinued. It was hard to measure any non-response bias as all surveys were returned anonymously. However, surveys were sent out in eight waves and similar response rates were received for each version with each wave. Only a small percentage (1.25%) were returned or deemed unusable (0.60%) indicating that the mailing list was accurate and up to date.

RESULTS

Means for each variable were calculated for the total sample and for each of the four versions. Calculating the means provides a way to compare each of the variables across each of the four versions of the survey. Table 1 presents variable means and standard deviations for the total sample and for each version.

For relationship importance, Versions A (3.79) and C (3.40) had the highest means while Version D (2.80) had the lowest mean. It is expected that respondents who described important relationships (A and C) would have higher means on importance than those who described relationships that were not important (B and D).

The mean for relationship quality was highest for Versions A (3.63), and B (3.55) and lowest for Version C (2.67) and D (2.74). It is expected that those who completed surveys discussing good relationships would have higher means for relationship quality than those who completed surveys discussing relationships that were not so good.

The mean for likelihood for continued interaction was highest for those who described relationships that were good - Version A (4.01) and Version B (3.72). It is expected that those having positive relationships would want to continue them. The lowest mean value was for Version D (2.88) in line with expectations.

Version	Relationship Type	Relationship Importance			Relationship Quality			Likelihood of Continued Interaction		
		N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
All		363	3.35	0.97	363	3.16	0.78	357	3.48	0.97
A	Good/Important	95	3.79	0.79	93	3.63	0.44	94	4.01	0.65
B	Good/Not Important	90	3.30	0.09	81	3.55	0.46	86	3.72	0.76
C	Not Good/Important	104	3.40	0.89	95	2.67	0.78	103	3.23	0.95
D	Not Good/Not Important	74	2.80	1.04	68	2.74	0.81	74	2.88	1.11

Linear regression was used to test the hypotheses. Hypotheses 1 and 2 were tested by including both relationship importance and relationship quality in the model. Both variables were significant at the $p < 0.0001$ level and the model accounted for 44.22% of the variance in likelihood of continued interaction (See Table 2 - Regression for Relationship Quality and Relationship Importance). This suggests the better a relationship is and the more important a relationship is, the more likely it is to continue.

Dependent Variable:	Likelihood for Continued Interaction			
R ² :	0.4422			
Adjusted R ² :	0.4388			
F:	128.036			
Prob. > F:	0.0001			
# of Observations:	326			
Tested Construct	Hypothesized Relationship	B	Std. Error	Prob.> t
Intercept		0.5235	0.1948	0.0076
H1	Positive	0.2316	0.0446	0.0001*
H2	Positive	0.6919	0.0535	0.0001*
* = Hypothesis confirmed				

Relationship quality and relationship importance were both found to be significant determinants of the likelihood of continued interaction. This indicates that both should be factors play a role for the buyer in determining whether a relationship with a supplier will continue. These results may suggest that it was easier for respondents to differentiate between good and not so good relationships than between important and not important relationships. People may not think of their relationships in terms of importance, but the results of the regression suggest that importance adds to the explanation of the likelihood of continued interaction.

Both H1 and H2 can be confirmed which suggests that both relationship quality and relationship importance determine whether or not a relationship between a buyer and supplier is likely to continue in the future. However, in order to test Hypothesis 3 regarding whether relationship importance moderates the effect of relationship quality in determining whether or not a relationship is likely to continue, a regression model with an interaction term was tested (See Table

3 - Regression for Relationship Quality and Relationship Importance with an Interaction Term). This interaction term was the product of relationship quality and relationship importance.

Dependent Variable:	Likelihood of Continued Interaction			
R ² :	0.4652			
Adjusted R ² :	0.4599			
F:	87.864			
Prob. > F:	0.0001			
# of Observations:	306			
Tested Construct	Hypothesized Relationship	B	Std. Error	Prob. > t
Intercept		-0.8672	0.5699	0.1291
H1	Positive	0.6457	0.1693	0.0002
H2	Positive	1.1562	0.1835	0.0001
H3	Positive	-0.1357	0.0525	0.0102 *
* = Hypothesis confirmed				

Results indicate that this interaction term is significant and negative. This suggests that as the importance of the relationship increases the effect of relationship quality in determining the likelihood of continued interaction is reduced. Relationships that are important to the firm are more likely to continue even if the quality of the relationship is not as good. H3 can be confirmed and both H1 and H2 continue to be confirmed even when the interaction term is present.

DISCUSSION

As predicted relationship quality was significant in determining the likelihood of continued interaction. As perceptions of relationship quality increased the more likely the relationship was to continue. Higher levels of relationship quality suggest that buyers trust their suppliers and are satisfied with their performance. Those who had good relationships had higher means on both relationship quality and likelihood of continued interaction. This study supports prior research relating relationship quality to the likelihood of continued interaction (Crosby, Evans & Cowles, 1990). Also, as hypothesized, when relationship importance is high, the relationship is more likely to continue. This suggests that the importance of the relationship should make a difference in

determining whether or not a relationship will continue in the future and adds to the existing literature on relationship continuity.

The results of the regression analysis with the interaction term suggest that the effect of relationship quality on determining whether or not a relationship is likely to continue is reduced when the importance of the relationship increases. This suggests that even relationships that are not so good may still continue for longer than expected if the relationship is important enough for the buyer's firm to maintain. This claim is supported by the fact that the means for Version C (not good relationship, relationship important) are higher for both the independent and the dependent variables than the means for Version D (not good relationship, relationship not important). Even relationships that are good may be slightly less likely to continue if the relationship is not perceived to be very important. This is evidenced by the fact that the overall means for Version B (good relationships, relationship not important) are lower than the overall means for Version A (good relationships, relationship important). While relationship importance did not account for as much of the variance in the likelihood of continued interaction as relationship quality, the addition of relationship importance to the regression model improved its explanatory power. Buyers may stay with suppliers even if the relationship is not very good if the relationship is important enough to the firm's business. Suppliers should avoid taking advantage of buyers who are primarily dependent on them for a particular product because the threat of competition is always present and new competitors may emerge in the market place. As soon as buyers can switch they will likely do so.

This study set out to investigate three primary research questions. The results from this study suggest that sales managers should pay attention to maintaining the quality of their relationships with their customers and try to evaluate how important the relationship is from the buyer's perspective. Better quality relationships are more likely to continue and in today's market place having a good quality relationship can be a competitive advantage as prior research mentioned in the literature review suggests. The results also suggest that suppliers should monitor relationship importance to determine whether or not a relationship is likely to continue. This can be accomplished by paying attention to situational factors, such as the level and quality of service and the availability of competitors in the marketplace, and inherent risk factors, such as the amount of risk involved and the cost of terminating a relationship. Buyers are less likely to stay in relationships that are not good and not important to them that suggests that suppliers should try to maintain the quality of their relationships and make the buyers feel that having a relationship with their company is important to them.

LIMITATIONS

While there are many interesting findings from this study, there are a few limitations that need to be addressed. The response for Version D (not good relationship, relationship not important) was relatively lower than the response rate for the other three versions of the survey. This suggests that it may be harder for buyers to distinguish between important and not important relationships, especially when the relationship is not so good. Perhaps they do not think of their relationships with their suppliers in terms of them being important or not important. Also, if there are other options

available, as was the case here for both versions C and D that described relationships that were not important, a poor relationship is more likely to be dropped. Also, given the increased emphasis on relationships and the need to develop strategic alliances, it appears that fewer firms continued to work with suppliers with whom they did not have a good relationship and did not think it was important to have a relationship.

Respondents only described their relationship with one supplier and therefore it is hard to get a sense of whether or not the relationships they described are typical of all of the relationships their firms have with their suppliers. However, there does seem to be a wide variety of types of suppliers represented in the sample.

DIRECTIONS FOR FUTURE RESEARCH

This study focused on the issues related to relationships from the buyer's perspective only. However, because relationships involve more than one person it also important to look at the issues studied here from the salesperson's perspective. What do salespeople think makes a good relationship or how do they determine when a relationship is important? Given that the highest response rate in this study was for buyers who did not have good relationships with their suppliers, it appears that salespeople need to work on their relationship development skills. Looking at the salesperson's side of the story might provide further insight into why relationships between buyers and sellers are not always good and may suggest additional ways to improve them.

This study examined many important issues associated with relationship development and maintenance in an industrial business to business setting. Recently, however, relationship marketing has been promoted as a useful way to reach consumers as well. It would be interesting to investigate consumer perceptions of buyer seller relationships. One important issue seems to be whether consumers think that they have relationships with the retailers or companies from whom they buy goods and services and if factors such as commitment, frequency of contact and relationship importance are relevant.

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EATING DISORDERS AND ADVERTISING EFFECTS: AN EXPLORATION

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ABSTRACT

The purpose of this manuscript is to describe a study designed to furnish insights into various relationships between advertising and anorexia nervosa and bulimia among university students. The inquiry measured self image and ideal self image and correlated these assessments to the occurrence of the eating disturbances and to measures of advertising and merchandising. The results led to a number of recommendations for marketers who choose to assist in preventing and abating eating disorders.

INTRODUCTION

Marketing and consumer researchers have devoted considerable effort in search of serviceable answers for pressing societal difficulties (Porter & Kramer, 2002; Christie, Fisher, Kozup, & Smith, 2001; Wagner & Hansen, 2002; Murphy, 1998). A significant proportion of this endeavor has applied conventional research methodologies to macro-level questions (Rentschler & Wood, 2001; Karande, Rao, & Singhapakdi, 2002). Another field of concentration for researchers has been micro-issues facing organizations with societal goals. Hibbert, Piacentini and Al Dajani (2003), for instance have examined volunteer motivation for participation in community-based food cooperatives. Carrigan and Attalla (2001) and Sen and Bhattacharya (2001) have focused on whether or not customers care about ethical behavior and socially-responsible actions to the degree that they significantly affect their purchasing behavior. In a somewhat similar study, Miles and Covin (2000) considered the relationship between environmental marketing and reputational, competitive, and financial advantages accruing to the firm.

A considerable number of research endeavors have concentrated on the effects of advertising and other promotion vehicles on phenomena that are related to social responsibility (Bloch & Richins, 1992). Kreth (2000), for instance, has examined the degree to which marketers exercise social responsibility in making advertised health claims for dietary supplements (Pechmann, Zhao, Goldberg, & Reibling, 2003) have conducted research to assist in identifying effective message themes to be used in antismoking advertisements for adolescents. Peterson (2002) considered the extent and degree of favorableness of the depiction of African American Childrens' activities in television commercials. Odekerken-Schroder, De Wulf, and Hofstee (2002) have examined the extent to which gender stereotyping in advertising is related to the incidence of masculinity in the culture of various countries.

A social responsibility issue which marketing and consumer behavior researchers have largely disregarded is the widespread existence of eating disorders among young people, especially

females. Research indicates that this is a major social problem (Hoskins, 2002; Johnson & Larson, 1982). Large numbers of individuals have fallen prey to anorexia nervosa and bulimia. Research estimates vary, but generally they suggest that nearly twenty percent of the individuals in the 17-20 age grouping are victims of the two eating disorders, while other age groupings possess smaller percentages (Steiger, Bruce, & Israel, 2003; Jacobson, 1985). Increasingly, larger numbers of college, high school, middle school, and even elementary school students are becoming victims (Schur, Sanders, & Steiner, 2000). The largest proportion, however, falls in the college-age female category (Schwitzer, Bergholz, & Terri, 1998). The effects on the emotional, physical, and mental health of these individuals and their families have been considerable (DiConsiglio, 2000).

Research has been undertaken in recent periods on the underlying conditions, causes, main victims, and potential cures for these disorders. Social pressure to be thin has emerged as a potential causal factor (Stice, Maxfield, & Wells, 2003). Other studies have uncovered social dependency, need for approval, and fear of rejection as influences (Hayaki, Friedman, Whisman, Delinsky, & Brownell, 2003). Significant correlations between volume of exercise, vegetarianism, low esteem, and stress, on the one hand, and the two eating disorders, on the other, have been found (McLean & Barr, 2003). In addition, studies have revealed an association between perfectionism motives and anorexia/bulimia (Sutandar-Pinnock, Woodside, Carter, Olmsted, & Kaplan, 2003). There is some evidence that body image distress is a factor (Devlin & Zhu, 2001). Eating disturbances are as common among Hispanic and African Americans as they are with Caucasians (Walcott, Pratt, & Patel, 2003). Further, numerous female collegiate athletes are subject to these disturbances (Beals, & Manore, 2002).

Exposure to outside influence appears to be a possible contributor to the two afflictions. The amount of television viewing is such a factor (Kennedy, 2000). Another is readership of health, sports, and fitness magazines, where young people are able to make social comparisons and develop what they feel are critical body image perceptions (Botta, 2003). Further, there is a demonstrated and significant relationship is between the two disturbances and exposure to advertising (Zucker, Harrell, Miner, Kathi, & Abigail, 2002).

Overall, the studies suggest that the two eating disorders are most common among the white middle and upper classes. Numerous victims are overachievers who excel in academics, sports, and other activities. Many are overactive and are heavily involved in recreational, work, and social activities. In turn, a large number have obsessive and low esteem personality traits, are subject to considerable stress, have negative images of their bodies, and are perfectionist in their appearance and performance. Many anorexics and bulimics are well-groomed, attractive, and independent, and have achieved professional success. They tend to be avid readers of health and fitness magazines and are heavily exposed to the media, especially television.

The bulk of the studies relating to eating disorders have emanated from the medical and social science literature (Botta, 2003). Researchers in consumer behavior and marketing have not addressed this problem in depth. However, it would appear that there is need for studies emanating from these disciplines. It would be useful, for instance, to examine the degree of influence on the formation and maintenance of eating disorders that is brought about through advertising. Specifically, could use of emaciated models in advertising create desires for body images and in turn lead to bulimia and anorexia? Do advertisers portray ideal self physical images that are not realistic

for most young women and children? Answers to questions such as these could be of value to those who seek prevention and treatment of the eating disturbances. The study set forth here was undertaken to furnish insights into these issues.

RESEARCH OBJECTIVES

The broad aim of the research was to furnish insights for advertisers, advertising agencies, governmental authorities, and other parties who have a vested interest in constraining potential advertising influences on eating disorders. Three specific objectives flow from this aim. These are:

1. To appraise the self images and ideal self images of college juniors and seniors who are experiencing anorexia nervosa and bulimia and to compare these with those who are not experiencing these disorders.

Self image is a meaningful variable for study since the “heavy” or “thin” self image held by individuals is closely related to the probability that they will contract an eating disorder (Botta, 2003).

2. To compare gauges of promotion exposure, shopping exposure, weight consciousness, and the effect of advertising on the desire to be thin between the two groups.

This objective could be useful in producing insights on the effect of advertising and merchandising efforts on the development of eating disorders.

3. Employing the self image and ideal self image measures, to suggest guidelines to advertisers and other parties who are motivated to reduce possible advertising effects on the incidence and maintenance of eating disorders.

NULL HYPOTHESES TESTED

The present research was conducted in a manner which permitted testing of the following null hypotheses:

H1: There is not a significant difference in (a) magazine advertising exposure, (b) television advertising exposure, and (c) clothing shopping exposure between (a) college students who are victims of anorexia and bulimia and (b) students who are not victims.
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Research suggests that victims of the eating disorders tend to be heavy magazine readers, especially for health and fitness magazines (Thomsen, Weber, & Brown, 2001; Botta, 2003). Further, there is evidence that victims are heavy viewers of television and television advertisements (Kennedy, 2000). In addition, studies indicate that victims spend considerable time shopping for clothing (Leon, Carroll, Chernyk, & Finn, 1984). Thus, there is theoretical support for the alternative hypotheses.

H2: There is not a significant difference in the reinforcement by advertisements of the desire to be thin between the two groups.

Some studies have found that the popular media place substantial emphasis on thinness as an ideal of feminine beauty (Owen, & Laurel-Seller, 2000). Further, high risk subjects—those who are more likely to develop eating disorders—are more vulnerable to advertisements which glorify thinness than are those who are less likely to become victims (Zucker, Harrell, Miner, Kathi, & Abigail, 2001; Toro, Salamero, & Martinez, 1994).

H3: There is not a significant difference in concern with personal appearance between the two groups.

Past research has suggested that individuals with eating disorders are more likely than those without these disorders to be highly concerned with their personal appearance (McLean & Barr, 2003). They are more likely, for instance, to become depressed when they are exposed to videos stressing ideal personal appearance than are those without eating disorders (Heinberg & Thompson, 1995). These findings suggest a relationship between anorexia and bulimia, on the one hand, and concern with personal appearance, on the other.

H4: There is not a significant difference between the self images of the two groups.

Self images exert an important impact on behavior. In this regard, various studies suggest that members of the two groups possess divergent self images. Those with the eating disorders, for instance, tend to possess a higher degree of body image distress (Devlin & Zhu, 2001). Further, they tend to experience lower self esteem (McLean & Barr, 2003). In general, preadolescent girls show lower body liking and higher body dissatisfaction than boys (Roncolato, Huon & Braganza, 1998). These differences could account for some of the incidence of anorexia and bulimia.

H5: There is not a significant difference between the ideal self images of the two groups.

Some research suggests that those with eating disorders possess ideal self images that are based more on degree of thinness than is the case for those without these disturbances. (Thomsen, Weber, & Brown, 2001; Neumark-Sztainer, 1996). In fact, those with the disorders often have conceptions of body image that is nothing short of perfectionism (Sutander-Pinnock, Woodside, Carter, Olmsted, & Kaplan, 2003). Hence, it is possible that ideal self image may be related to anorexia and bulimia.

H6: The gaps between the self image and the ideal self images are not greater for those with eating disorders than those without these disorders.

If this hypothesis is rejected, there is reason for advertisers to reject themes, appeals, and other copy that might create gaps between the two types of self image. When consumers perceive these voids, there is a strong probability that they will experience anxiety and attitude change toward body image. Studies have revealed that the gaps between the two groups may be significant (Posavac & Posavac, 2002; Myers, & Biocca, 1992).

The hypotheses set forth above relate to the aforementioned objectives of the study. The subsequent section describes the manner in which the hypotheses were assessed.

THE RESEARCH STUDY

Cover letters and questionnaires were forwarded to a random sample of 50 marketing professors who were listed in the American Marketing Association membership roster. Each professor received thirty questionnaires and a request to ask their students to complete these and return them to the instructor. A total of 39 professors participated in the study, generating a sample size of 1,073 complete and otherwise usable questionnaires. (Some instructors did not obtain questionnaires from all thirty students. Others requested additional questionnaires so that an entire class could participate in the study). After they had secured the completed questionnaires, the instructors mailed them to the researcher. The sample was made up of 67.5% business majors and 32.5% non-business majors. As to class ranking, 33.8% were juniors, 49.1% seniors, 11.6% sophomores, and 5.5% freshmen.

The questionnaires requested that students specify (a) if they were experiencing bulimia, (b) if yes, how many purges did they carry out in an average week, (c) if they were experiencing anorexia nervosa, (d) if yes, an estimate of how many calories they consumed on an average day. Definitions of bulimia and anorexia nervosa were provided in the questionnaire.

The students were informed that they should not reveal their identities and that the questionnaires would be held in strict confidence, in order to minimize possible bias on the requested self-reports of the incidence of these disorders. The students were also requested to respond to fifty bipolar adjective scale to assess their self images and again to the same scales to assess their ideal self images. The adjective pairs were chosen and validated in a pretest study using the procedures developed by Brinton (1961) employing an initial list of 220 adjective pairs selected from Osgood, Suci, and Tannenbaum (1957). The same adjective pairs were used in a previous study of eating disorders (Peterson, 1987).

Subsequent portions of the questionnaire asked the students various questions relating to their exposure to elements of the marketing mix and their attitudes and related variables. The respondents were asked (a) how many hours per week they watched television, (b) how many magazines they read per week, as measures of advertising exposure, (c) how many times per week they shopped for clothing, as a measure of shopping exposure to items related to personal appearance, (d) if they believed that the advertisements they perceived created an image of desire to be thin, to the extent that they attempted to control their weight. This was a measure of the impact of advertisements on attitudes and behavior. and (e) the degree to which they were concerned with their personal appearance.

THE RESEARCH RESULTS

Table One presents the percentages of response to the questions asking if the students were experiencing anorexia nervosa or bulimia. It is apparent that 5.9% had bulimia, 3.6% had anorexia, and 2.1% had both. The proportions for eating disorders are approximately six percent larger than those produced by a similar study of university students in a 1987 study (Peterson, 1987), signaling a possible increase in the incidence of the disturbances since the earlier time period.

Student Condition	Number	Percent of Total
Have bulimia only	63	5.9%
Have anorexia only	39	3.6
Have both bulimia and anorexia	22	2.1
Do not have either	949	88.4
Total	1,073	100.0%

Of those students citing bulimia as a condition, the mean number of purges per week was 5.1. This is slightly higher than the results of earlier research into this eating disorder (Chiodo & Latimer, 1983; Peterson, 1987). In turn, students in the sample with anorexia reported a mean number of 917 calories consumed per average day. This figure is slightly lower than that set forth in earlier studies (Duddle, 1973). While exact caloric needs vary, depending upon factors such as weight, age, and level of physical activity, 917 is well-below the amount required to maintain physical health.

The questionnaire requested the sample members to indicate how many magazines they read in an average week. The mean for the eating disorder group was 1.7 and for the non-disorder group 1.5. The differences were not significant at the .05 level, according to a *t* test. Hence, null hypothesis 1A is supported by the findings.

The subjects were asked how many hours per week they watched television, on the average. Those with eating disorders produced a mean of 9.7, while those without an eating disorder generated a mean of 9.3. The differences between the two means are not significant, according to a *t* test at the .05 level. It appears that exposure to this advertising medium is not related to the incidence of the two disorders. The results provide support for null hypothesis 1B. The mean figures for hypotheses 1A and 1B do not support the concept that exposure to advertising may contribute to eating disorders.

The respondents were requested to specify how frequently they shopped for clothing during an average week. This was designed to measure exposure to merchandising efforts. The mean for the disorder group was .6 and for the non-disorder group .4. The difference is not significant at the .05 level, according to a *t* test, which supports null hypothesis 1C.

The subjects were asked “Do you believe that the ads you see and hear create strong images of the desirability of being thin, thereby inducing you to keep weight down?” Ninety percent of those with eating disorders answered “yes” to this question, while only sixty one percent of those without eating disorders responded in the affirmative. The difference is statistically significant at the .05 level, according to a *t* test. These results do not support null hypothesis 2.

It appears that those with eating disorders are not more exposed to television and magazine advertisements than those without the disorders, but that they respond in a more robust manner. These findings suggest that cutting back on the volumes of advertising would not necessarily be effective in combating bulimia and anorexia, but making the ads less suggestive of the desirability of being thin might.

The questionnaire asked the subjects how concerned they were about their personal appearance. Table Two sets forth the results. A *Chi Square* test for homogeneity suggests that the two samples were drawn from different populations, with a *Chi Square* value of 12.97, which is significant at the .05 level. Further, the weighted mean of those with eating disorders (weighing “Very concerned” as 3, “concerned” as 2, and “neutral” as 1) produces a mean of 2.7 for those with eating disorders and 2.1 for those without eating disorders. These means are significantly different at the .05 level, according to a *t* test. The results lead to a rejection of null hypothesis three. This suggests that anxiety regarding personal appearance, raised through advertisements, could be much more persuasive among the former than among the latter group.

Student Condition	Very Concerned	Concerned	Neutral
Eating disorders	71.4%	26.2%	2.4%
Without eating disorders	43.8%	23.7%	32.5%

Table Three presents the mean self image scores of the students with and without eating disorders on bipolar adjectives scales, where the first scale has a weight of one (very important) and the last a weight of seven (not very important). Those adjective pairs which showed significant differences between the two groups, according to a *t* test at the .05 level are labeled with an asterisk. Based upon the differences it is possible to construct a profile of how eating disorder victims in the sample differed from those without disorders on the various self image components. Generally, those with eating disorders perceive themselves as more intelligent, mature, grateful, compulsive, nervous, persevering, painstaking, easily jealous, neurotic, hurried, secretive, dissatisfied, and successful than those without the disorders. As there is a large number of significant differences, null hypothesis four cannot be accepted.

Table Three: Self Image Scale Means for Students With and Without Eating Disorders		
Adjective Pair	Students with an Eating disorder	Students without an Eating disorder
Boastful-modest	5.1	4.9
Assertive-submissive	4.3	4.2
Conceited-not conceited	5.0	5.2
Intelligent-stupid*	2.7	3.2
Clear thinking-confused	2.3	2.3
Independent-dependent *	2.1	2.7
Reliable-undependable	1.7	1.5
Mature-immature*	2.2	2.8
Impulsive-deliberate*	1.9	2.6
Hypochondriacal-not hypochondriacal	5.8	5.5
Nervous*-calm	3.7	4.3
Thankless-grateful*	6.1	5.6
Hostile-friendly	5.9	5.8
Blame mistakes others-blame mistakes me	4.5	4.7
Inflexible-adaptable to change	5.8	5.6
Hardhearted-softhearted	5.4	5.5
Unrealistic-practical	5.8	5.5
Quitting-persevering*	5.4	4.8
Painstaking*-slipshod	2.3	3.0
Thoughtful-not thoughtful	2.5	2.1
Wide interests-narrow interests	2.2	2.1
Easily jealous-not easily jealous*	2.7	3.4
Self pitying-not self pitying	4.6	4.6
Timid-adventurous	5.7	5.9
Optimistic-pessimistic	2.8	2.5
Enthusiastic-apatetic	3.1	3.0
Neurotic-not neurotic*	3.3	3.9
Fickle-loyal	5.8	5.6
Dishonest-honest	6.0	6.0
Hurried-not hurried*	2.7	3.4

Adjective Pair	Students with an Eating disorder	Students without an Eating disorder
Secretive-frank*	4.1	4.8
Emotional-unemotional	2.8	2.7
Dissatisfied-content*	3.0	3.6
Energetic-not energetic	3.4	3.5
Self confident-self distrustful	4.2	3.9
Suspicious-trusting	6.3	6.1
Impatient-patient	4.7	4.5
Alert-absent minded	2.5	2.5
Quick-slow	1.3	1.4
Sociable-shy	2.5	2.5
Wasteful-thrifty	5.9	6.2
Sophisticated-simple*	3.0	3.5
Graceful-awkward	1.9	1.7
Bad-good	6.8	6.9
Usual-unusual	4.1	3.8
Worthless-valuable	6.7	6.7
Important-unimportant	6.0	6.0
Unsuccessful-successful*	6.1	5.3
Sick-healthy	5.7	5.6
Weak-strong	4.7	4.6

*Statistically significant difference between items in the two columns according to a *t* test at the .05 level of significance

Table Four presents the ideal self image means for the two groups. Those with eating disorders pose their ideal self images as more assertive, intelligent, independent, friendly, persevering, thoughtful, hurried, quick, sophisticated, valuable, important, and successful than do those without an eating disorder. On the other hand, those without eating disorders were more likely to hold an ideal self image which emphasized modesty, maturity, blame others, soft hearted, adventuresomeness, not-neurotic, content, patient, and good. Since there are a large number of significant differences, null hypothesis five cannot be supported.

Table Four: Ideal Self Image Scale Means for Students With and Without Eating Disorders		
Adjective Pair	Students with an Eating disorder	Students without an Eating disorder
Boastful-modest*	5.0	5.6
Assertive-submissive*	4.1	4.6
Conceited-not conceited	4.9	4.7
Intelligent-stupid*	2.2	2.7
Clear thinking-confused	1.7	1.7
Independent-dependent *	2.5	3.2
Reliable-undependable	2.3	2.3
Mature-immature *	2.6	2.1
Impulsive-deliberate	3.6	3.5
Hypochondriacal-not hypochondriacal	5.6	5.5
Nervous-calm *	3.7	3.1
Thankless-grateful*	5.5	5.0
Hostile-friendly*	6.2	5.5
Blame mistakes others-blame mistakes me*	5.6	5.1
Inflexible-adaptable to change	4.8	4.7
Hardhearted-softhearted*	2.9	3.5
Unrealistic-practical	5.5	5.6
Quitting-persevering *	5.8	5.1
Painstaking -slipshod	2.2	2.4
Thoughtful-not thoughtful *	2.1	2.7
Wide interests-narrow interests	3.6	3.6
Easily jealous-not easily jealous	3.4	3.5
Self pitying-not self pitying	4.7	4.5
Timid-adventurous*	5.9	5.2
Optimistic-pessimistic	3.5	3.6
Enthusiastic-apatetic	3.0	3.2
Neurotic-not neurotic*	3.0	3.9
Fickle-loyal	5.7	5.7
Dishonest-honest	5.5	5.6
Hurried-not hurried *	2.1	3.1

Adjective Pair	Students with an Eating disorder	Students without an Eating disorder
Secretive-frank	4.5	4.5
Emotional-unemotional	3.2	3.5
Dissatisfied-content*	3.5	4.1
Energetic-not energetic	4.3	4.1
Self confident-self distrustful	4.7	4.2
Suspicious-trusting	6.0	6.0
Impatient-patient *	3.8	4.5
Alert-absent minded *	1.9	2.7
Quick-slow*	1.5	2.0
Sociable-shy	2.3	2.6
Wasteful-thrifty	5.4	5.3
Sophisticated-simple*	2.4	3.4
Graceful-awkward	1.7	1.6
Bad-good*	5.4	6.2
Usual-unusual	3.3	3.5
Worthless-valuable*	6.5	6.0
Important-unimportant*	2.2	2.8
Unsuccessful-successful*	5.8	5.1
Sick-healthy	5.5	5.6
Weak-strong	4.9	5.1

*Statistically significant difference between items in the two columns according to a *t* test at the .05 level of significance

The results set forth above give the impression that there may be substantial differences between the components of the self image and ideal self image between the two groups. This suggests that they might respond in a different manner to advertising appeals, themes, formats, illustrations, and featured products. The differences in the self images and ideal self images also furnish opportunities for targeting consumers who do not have eating disturbances and avoiding those who do, in advertising messages. If advertisers focus their promotions on those whose self images conform to the no-disorder configuration presented in the table and avoid the disorder configuration for products and services which suggest the desirability of slimness, the probability of encouraging eating disorders may be mitigated.

The analysis included a comparison of the respondents' self image and ideal self image scores, in order to identify gaps between these two variables—identifying self image dimensions

which were subject to variety or uncertainty. Consumers can be expected to respond rigorously to advertising appeals which relate to components of the self image that differ substantially from the ideal self image (Devlin & Zhu, 2001). Anxiety often arises when the self image and ideal self image vary to a large degree. One whose self image is “impatient”, for instance, but whose ideal self image is “patient” may respond strongly to a promotion portraying very thin members of the same gender who are depicted as being patient. Thus, responsible marketers might choose to avoid undue emphasis on the nervousness dimension of those depicted in their promotions and instead concentrate on other components that are less likely to arouse anxiety.

Table Five presents self image and ideal self image mean scores for those with and those without eating disturbances. It also sets forth the difference between each self image and ideal self image mean score for each bipolar adjective scale. Those differences (or “D” scores) measure the gap between actual and ideal self images. Responsible advertisers are well advised to avoid themes and appeals for variables with high D scores and employing those with low D scores, in order to combat advertising-induced anxiety about slimness and weight control.

Adjective Pair	Students with an eating disorder			Students without an eating disorder		
	Self image	Ideal self	D Score	Self image	Ideal self	D Score
Boastful-modest*	5.1	5.0	.1	4.9	5.6	.7
Assertive-submissive	4.3	4.1	.2	4.2	4.6	.4
Conceited- not conceited*	5.0	4.9	.1	5.2	4.7	.5
Intelligent-stupid	2.7	2.2	.5	3.2	2.7	.5
Clear thinking- confused	2.3	1.7	.6	2.3	1.7	.6
Independent- dependent	2.1	2.5	.4	2.7	3.2	.5
Reliable- undependable	1.7	2.3	.6	1.5	2.3	.8
Mature-immature	2.2	2.6	.6	2.8	2.1	.7
Impulsive- deliberate*	1.9	3.6	1.7	2.6	3.5	.9
Hypochondriacal- not hypochondriacal	5.8	5.6	.2	5.5	5.5	.0
Nervous-calm	3.7	3.7	.0	4.3	3.1	1.2
Thankless-grateful	6.1	5.5	.6	5.6	5.0	.6
Hostile-friendly*	5.9	6.2	.3	5.8	5.5	.2
Blame mistakes others- blame mistakes me*	4.5	5.6	1.1	4.7	5.1	.4
Inflexible-adaptable to change*	5.8	4.8	1.0	5.6	4.7	.6
Hardhearted- softhearted*	5.4	2.9	2.5	5.5	3.5	2.0
Unrealistic-practical	5.8	5.5	.3	5.5	5.6	.1

Table Five: Self and Ideal Self Images and Gaps Between the Two

Adjective Pair	Students with an eating disorder			Students without an eating disorder		
	Self image	Ideal self	D Score	Self image	Ideal self	D Score
Quitting-persevering	5.4	5.8	.3	4.8	5.1	.3
Painstaking - slipshod*	2.3	2.2	.1	3.0	2.4	.6
Thoughtful- not thoughtful	2.5	2.1	.4	2.1	2.7	.6
Wide interests- narrow interests	2.2	3.6	1.4	2.1	3.6	1.5
Easily jealous- not easily jealous*	2.7	3.4	.7	3.4	3.5	.1
Self pitying- not self pitying	4.6	4.7	.1	4.6	4.5	.1
Timid-adventurous	5.7	5.9	.2	5.9	5.2	.7
Optimistic- pessimistic	2.8	3.5	.7	2.5	3.6	1.1
Enthusiastic- apathetic	3.1	3.0	.1	3.0	3.2	.2
Neurotic- not neurotic	3.3	3.0	.3	3.9	3.9	.0
Fickle-loyal	5.8	5.7	.1	5.6	5.7	.1
Dishonest-honest	6.0	5.5	.5	6.0	5.6	.4
Hurried-not hurried	2.7	2.1	.6	3.4	3.1	.3
Secretive-frank	4.1	4.5	.4	4.8	4.5	.3
Emotional- unemotional*	2.8	3.5	.7	3.5	3.5	.0
Dissatisfied-content	3.0	3.5	.5	3.6	4.1	.5
Energetic- not energetic	3.4	4.1	.7	3.5	4.1	.6
Self confident- self distrustful	4.2	4.7	.5	3.9	4.2	.3
Suspicious-trusting	6.3	6.0	.3	6.1	6.0	.1
Impatient-patient *	4.7	3.8	.9	4.5	4.5	.0
Alert-absent minded *	2.5	1.9	.6	2.5	2.7	.2
Quick-slow*	2.5	1.5	1.0	1.4	2.0	.6
Sociable-shy	2.5	2.3	.2	2.5	2.6	.1
Wasteful-thrifty*	5.9	5.4	.5	6.2	5.3	.9
Sophisticated- simple*	3.0	2.4	.6	3.5	3.4	.1
Graceful-awkward	1.9	1.7	.2	1.7	1.6	.1
Bad-good*	6.8	5.4	1.4	6.9	6.2	.7
Usual-unusual*	4.1	3.3	.8	3.8	3.5	.3
Worthless-valuable	6.7	6.5	.2	6.7	6.0	.7
Important- unimportant *	6.0	2.2	3.8	6.0	2.8	3.2

Table Five: Self and Ideal Self Images and Gaps Between the Two

Adjective Pair	Students with an eating disorder			Students without an eating disorder		
	Self image	Ideal self	D Score	Self image	Ideal self	D Score
Unsuccessful- successful	6.1	5.8	.3	5.3	5.1	.2
Sick-healthy	5.7	5.5	.2	5.6	5.6	.0
Weak-strong	4.7	4.9	.2	4.6	5.1	.5

*Statistically significant difference between D scores according to a *t* test at the .05 level of significance

Various pairs of adjectives generated mean D scores for the eating disorder group that were significantly larger than the corresponding values for the non-eating disorder category, according to *t* tests at the .05 level. These were impulsive-deliberate, blame mistakes others-blame mistakes me, inflexible-adaptable to change, hardhearted-softhearted, easily jealous-not easily jealous, emotional- unemotional, impatient-patient, alert-absent minded, quick-slow, sophisticated-simple, bad-good, usual-unusual, and important-unimportant. On the other hand, the non-eating disorder group produced significantly larger D scores for boastful-modest, conceited-not conceited, painstaking-slipshod, and wasteful-thrifty. Overall, the eating disorder group had thirteen significantly larger values, while the eating disorder group generated four. These results do not support the sixth null hypothesis. The eating disorder group shows considerably more significant differences between self image dimensions and ideal self image dimensions. In accordance with the discussion presented earlier, when advertisers stress appeals in their advertisements that are related to adjective pairs with high D scores, there is a strong possibility that individuals may react in a manner that promotes eating disorders.

DISCUSSION

The purpose of this paper was to set forth the outcomes of an inquiry into eating disorders among university students. The study indicated that advertisements that carry positive images of slimness can exert a strong influence on students. Those who are victims of bulimia and anorexia possess different self image and ideal self images than those who are not victims. The study revealed various differences between self images and ideal self images which may be related to the incidence of the eating disorders, providing signals to advertisers who desire to mitigate negative influences on these eating disturbances.

This study does not, of course, prove that advertising is the sole, or even one of the more important contributors to eating disorders. Numerous other influents, such as primary and secondary reference groups, celebrities, and non-advertising messages carried in the mass media could exert a significant impact (Anonymous, 2000). Nevertheless, there is evidence that some advertising efforts have a role and should be scrutinized for possible negative effects.

There are some limitations to the study. The findings are largely based upon self reports where the subjects indicated such things as whether or not they suffer from an eating disorder and the effect of advertising on their behavior. Self reports can be biased, although assurances of

anonymity in the data collection process were used to minimize possible bias. The sample of those with anorexia and bulimia was not large. However, the sample was sufficient to provide statistically significant results. Further, the subjects were students enrolled in marketing classes at various universities, and the results may not be generalizable to other populations. However, college students are among the more likely groups to become victims of the disorders, and the marketing classes attracted students from various majors within and out of the colleges of business administration, furnishing a relatively heterogeneous sample composition.

IMPLICATIONS

The study described in this paper poses implications for socially responsible advertisers. They are well-advised to avoid advertising themes, messages, and appeals which the study revealed as potentially dangerous for consumer welfare. Individuals with eating disorders appear to have anxieties which probably should not be aroused from a social responsibility perspective.

Further, there are implications for researchers. Further examination of the relationship of advertising and other promotion methods to eating disorders is merited, as a means of furnishing insights which could be useful to advertisers. In addition, the results of the study could be replicated, employing different respondents, as at the high school and younger levels, where anorexia and bulimia are relatively commonplace. Further, investigations could be carried out into the receptiveness of advertisers to modify their campaigns and individual advertisements as a means of helping in abating bulimia and anorexia.

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AN EXPLORATORY STUDY OF THE IMPACT OF FAMILY & TECHNOLOGY ISSUES ON SALES CAREERS WITH A FOCUS ON GENDER DIFFERENCES

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ABSTRACT

The first purpose of this exploratory study was to add to the body of knowledge related to work-family conflict (WFC), particularly in the area of the impact of family members' health issues on careers. The second purpose was to address the impact of information technology security issues on salespeople's lives and careers. The authors designed and distributed a survey on work-family conflict and technology issues to 35 salespeople they knew. Items from two previously-developed scales were borrowed, and new items and questions were created. An overview of the responses to the questions is provided. The focus then shifts to identifying any significant gender differences. Significant differences were found for gender with regard to percentage of time spent on certain sales-related tasks, for several WFC questions relating to self-image and loss of productivity, and effect of parent's health on career plans. Limitations, tentative conclusions and suggestions for future research are then provided.

INTRODUCTION

A discussion of the effect of aging parents on professional careers took place at a conference in the fall of 2003 among several colleagues. This discussion prompted the researchers to explore the impact of family-related issues (schedule flexibility, care giving responsibility and technology) on salespeople's ongoing professional development and careers. A review of the literature revealed the connection of family-related issues, and to a lesser extent, technology issues, to the larger issues of work and family conflict and role conflict and ambiguity. Adams (1998) summarized the dilemma faced by many sales and marketing employees and managers:

"Which will it be, Jennifer's ballet recital or the client dinner? The anniversary celebration or the manager's conference? Missed opportunities on one end can mean loss of client trust, aborted promotions, or worse, termination. Short shrift on the other side can translate to marital conflicts, domestic discord, alienated children" (p. 61).

LITERATURE REVIEW

The psychology, organizational behavior, human resource management, and family sciences literature is full of studies on the impact of work and family conflict on employee productivity, job satisfaction, job loyalty, marital happiness, and physical and mental health, among other attitudinal, physiological, and behavioral consequences. Work-family conflict has been established by prior research to be bi-directional; i.e., it involves two types of conflict, work obligations interfering with family life (work-family conflict, WFC) and family life interfering with work duties (family-work conflict, FWC)(Marchese, Bassham & Ryan, 2002, 145, 146).

One of the leading contributors to the body of knowledge on work-family conflict (WFC) has been management professor Jeffrey Greenhaus of Drexel University. Greenhaus and Beutell (1985) identified three key types of WFC in their review of existing literature: time-based conflict (e.g., hours worked per week, schedule flexibility, child care demands); strain-based conflict (e.g., tension, depression, irritability, family roles expectations); and behavior-based conflict (role expectations). Prior research by Greenhaus and others identified the importance of studying gender differences in WFC, especially when both husband and wife are employed (see, e.g., Burke, Weir & DuWors, 1979; Cinamon & Rich, 2002; Greenhaus & Powell, 2003; Jansen et al., 2003; Kim & Ling, 2001; Martins, Eddleston & Veiga, 2002; Parasuraman et al., 1989; Parasuraman & Simmers, 2001; Senecal, Vallerand & Guay, 2001).

One area of the work-family literature that has received more attention lately is that of the impact of caregiver arrangements and related issues on employees' attitudes and behavior (e.g., see Kossek's work, including Kossek & Ozeki, 1998). To some extent, more research seems to have been done on child care than on elder care. The research on child care, however, has been more from the perspective of measuring the impact of providing assistance (e.g., child care centers) on reducing WFC (see Marchese, Bassham & Ryan, 2002, p. 147). Gerstel and Gallagher (1993, p. 606) found a significant relationship between the caregiver's level of depression and the degree to which care giving ("kinkeeping") was perceived to interfere with work. Jansen et al. (2003) found that having to care for a chronically sick child or other family member at home was a significant risk factor for WFC for men but not for women. Marks (1998) studied the impact of caring for disabled children, parents and spouses on the psychological well-being of men and women in Wisconsin. She found that women suffered more psychological distress from care giving. However, while being a caregiver generated more WFC than not being a caregiver, there were no significant gender differences in terms of increased WFC. Kossek, Colquitt and Noe (2001) conducted an extensive examination of care giving decisions and work performance and found that "managing elder care interacts with variables to influence employee outcomes more negatively than does managing child care, especially when caregiving is at home or by a family member" (p. 40). Personal resources, health and age are postulated to affect how much influence aging parents have on family decision making (Watson, Srisupandit & Tung, 2002).

Research on WFC has reached the selling/sales management literature, with a number of factors being studied, including work environment and mental health (Borg & Kristensen, 1999), salesforce culture, role conflict and turnover (Jackson, Tax & Barnes, 1994), coping strategies and WFC (Nonis & Sager, 2003), and turnover intentions (Good, Page & Young, 1996; Good, Sisler &

Gentry, 1988; Netemeyer, Brashear-Alejandro & Boles, 2004). Boles, Wood and Johnson (2003) focused research on the interrelationships of WFC and role conflict with multiple dimensions of job satisfaction, paying particular attention to gender differences. In fact, they did find gender differences with WFC: women realize more satisfaction with work, coworkers and company policies when WFC is reduced, whereas men realize more satisfaction with pay, supervisors, promotion and policies when WFC is reduced (Boles, Wood & Johnson, 2003, p. 109).

Little research was found in terms of the influence of technology on salespeople's careers and role conflict (e.g. see Boles & Sunoo, 1998; Prewitt, 1998). Salesperson technophobia was found to be related to age and education level of salespeople and was a contributing factor to increased role stress (Rich, 2000). Since the terrorism attacks on September 11, 2001, and given the subsequent passage of the Patriot Act, the authors decided to investigate attitudes toward computer security issues both at home and in the sales office.

Based on the literature review and the anecdotal experiences of the authors, the purpose of the study was two-fold: first, to add to the body of knowledge regarding the impact of family members' health issues on salespeople's careers; second, to assess the impact of information technology security issues on salespeople's lives.

METHODOLOGY

A questionnaire was originally designed in November 2003 and subsequently pretested on students in an upper-level Marketing class at a southern regional university. As a result of the pretest, wording on the two use of technology questions was changed from "use computers" to a broader, less confusing, "use any kind of technology". For the three questions regarding how far respondents lived from family members, the response categories were changed from region of the state to distance in miles (less than 20, less than 60, less than 100, or greater than or equal to 100). The final version of the questionnaire contained 28 numbered questions, with three of the numbered questions containing a total of 33 Likert-type statements. The first set of questions on the final questionnaire addressed the following topics: length of employment with current employer, travel expectations of job, extent of travel, hour worked per week, work schedule flexibility, use of technology at work and at home for work purposes, online work assessment, and percentage of time spent on sales tasks (selling, meetings, paperwork, etc.).

A search of the three volumes of the Marketing Scales Handbook yielded two scales that appeared to be appropriate for the authors' assessment of family-related issues. Chonko and Burnett (1983) developed a 27-item scale that measured role conflict (Bruner & Hensel, 1998). One segment (four items) from Chonko and Burnett's scale was used in our study; this segment represented Factor 3: Family and addressed time spent working, socializing (with customers and other salespeople), and traveling. Responses were measured on a five-point scale ranging from "Complete agreement" to "No agreement."

Good, Page and Young (1996) used a 13-item scale adapted from Fournier (1981) to measure work and family conflict (as noted in Bruner, James & Hensel, 2001). The items addressed self-image and esteem, impact on productivity, spousal career conflict, and contentment with current city. A five-point Likert-type scale was used to measure responses, ranging from "Strongly

disagree" to "Agree strongly," with "Not applicable" as the fifth scale point. Since specific questions that measured the impact of family members' health on one's sales career could not be found, four questions were added to the work and family conflict scale: health of spouse/significant other, health of parents or spouse's parents, health of children, and anticipation of career move/change due to health issues in next five years.

A search of the literature did not reveal any scales that were up-to-date and relevant to current technology issues (security, training, viruses, and computer usage). Therefore the authors developed a 12-item Likert-type scale, using the same five-point scale that was used by Good, Page and Young (1996), to measure work and family conflict possibly stemming from technology-related issues.

The final series of questions dealt with demographics, including gender, age, marital status, number of children, state of residence, and education, computer usage (number at home, Internet access), and family information (parents living, distance from parents, distance from children, and primary caregiver).

A cover letter was prepared according to university Institutional Review Board guidelines. The questionnaire and cover letter were combined to produce a booklet format and printed at a local office supply store.

A convenience sample was used in this exploratory study. Surveys were distributed by hand and through e-mail to 35 salespeople known by the researchers. All 35 surveys were completed during December 2003 and used in this exploratory study. The surveys were edited, coded and inputted into ABstat™ as a database. The data was cleaned, and then frequencies, descriptive statistics, and both parametric and nonparametric statistics were calculated.

RESULTS

Twenty (57.1%) of the 35 survey participants were women. Twelve (34.3%) of the respondents were between the ages of 35 and 44 and ten (28.6%) were between the ages of 45 and 54. Twenty-five (73.5%) were married. Thirty-three participants reported having one computer at home, while two marked that they had two computers at home. All but one person had Internet access from home. Of those 34 with Internet access at home, 16 (47.1%) used a dial-up modem while 13 (38.2%) used DSL to access the web. Thirteen (37.1%) of the 35 respondents have earned an undergraduate degree, while another seven (20%) have earned a graduate degree. Just over half (51.4%) indicated that both parents were still alive, while 25.7% indicated that only one parent was still living. Nineteen (70.4%) out of 27 who answered the question reported that they lived less than 20 miles from their parents. Ten (41.67%) out of 24 who responded to the question reported that they lived less than 20 miles from their spouse's parents. Thirty participants (85.7%) said they have children; of these, 43.3% have two children and 30% have one child. Thirteen (44.8%) of the 29 who answered reported that they have one child under the age of 18, while another ten (34.5%) have two children under 18 years of age. Twenty-two (73.3%) of the thirty parents indicated that they lived less than 20 miles from their children. With regard to being the primary caregiver for parents, only one out of the 35 participants reported that they had that responsibility. All of the respondents lived in one southern state.

For a deeper profile of the respondents, crosstabulations and chi-square tests were run on the demographic variables. Readers are cautioned that many of the significant relationships to be reported here and in later sections suffered from cell size problems, due to the small sample size of this exploratory study. To eliminate some cell size problems, the initial age categories were combined to form three, under 35, 35 to 44, and 45 and older.

As would be expected, age and marital status were significantly related to having children or not. Those under the age of 35 tended to not have any children ($p < .001$) and those who were married or divorced/separated tended to have children ($p < .0001$). Younger respondents tended to be single/never married, while those 35 or older tended to be married or divorced/separated ($p < .05$). Those with some undergraduate or some graduate coursework done tended to use a dial-up modem to access the Internet, whereas those with a graduate degree tended to use DSL ($p < .10$). No other significant differences were found at the $\alpha = .10$ level.

Descriptive statistics for ratio and interval scale-based questions are provided in Table 1 and briefly discussed in this section, along with frequencies from categorical questions. The respondents have been with their present employers an average of 65.26 months (or almost five and a half years). Over three-fourths of the salespeople (27/35; 77.1%) are required to travel as part of their jobs. Twelve people (44.4%) indicated that they had to travel two to three times a week, while another eight people (29.6%) had to travel on a weekly basis. Of the 27 who indicated that they had to travel, 15 (55.6%) said that their travel did not require an overnight stay. Respondents averaged 52.57 hours of work per week, with four people reporting 70 hours a week as their workload. Just over half of the salespeople (18/35; 51.4%) indicated that they had a flexible work schedule. Most (97.1%) reported daily usage of any kind of technology (computers, registers, etc.) at work; meanwhile, nine (25.7%) reported using technology at home for work monthly versus six (17.1%) who used it daily at home. A third of the respondents (12/35; 34.3%) rarely or never used technology at home for work purposes. Most of the salespeople (31/34; 91.2%) indicated that their use of the Internet for work is more than it was a year ago; only three people said their Internet work usage had remained the same.

Variable	Mean	Standard Deviation	Median	Mode	n
Length of employment (months)	65.26	50.01	54	24, 36, 60	35
Hours worked per week	52.57	10.39	50	40	35
Time spent selling (%)	35.14	10.25	30	30	35
Time spent in meetings (%)	10.00	5.82	10	5	35
Time spent traveling (%)	9.57	8.08	10	10	35
Time spent entertaining (%)	5.86	4.62	5	5	35
Time spent on sales follow-up (%)	16.14	6.54	15	10, 20	35
Time spent on professional development (%)	8.57	5.23	10	5	35

Table 1: Descriptive Statistics

Variable	Mean	Standard Deviation	Median	Mode	n
Time spent on paperwork (%)	15.00	8.66	10	10	35
Agreement on time spent working*	1.91	0.89	2	2	35
Time spent socializing with customers	1.91	0.89	2	2	35
Time spent socializing with other salespeople	1.80	0.80	2	2	35
Agreement on time spent traveling	1.86	0.97	2	1	35
Able to do things as well as others#	3.49	0.51	3	3	35
Personal concerns reduce productivity	2.34	0.77	2	3	35
Family has resources to meet desired lifestyle	2.82	0.64	3	3	33
Spouse's job/career conflicts with mine	2.15	0.53	2	2	27
I certainly feel useless at times	1.71	0.71	2	2	35
Family problems cause loss of time at work	2.33	0.69	2	3	33
Inclined to feel like I'm a failure	1.51	0.66	1	1	35
Nervous/tense/frustrated when I get home	2.11	0.76	2	2	35
Take a positive attitude toward myself	3.23	0.49	3	3	35
I am satisfied with myself	3.32	0.48	3	3	34
Spouse is content with his/her work status	3.11	0.42	3	3	27
I'm content with spouse's work status	3.04	0.44	3	3	27
I'm content with city in which I live	2.82	0.80	3	2	34
Spouse's health has affected my career plans	1.70	0.61	2	2	27
Kid's health affected my career plans	1.60	0.50	2	2	30
Parents' health affected my career plans	1.56	0.50	2	2	32
Make career move due to family health	1.63	0.56	2	2	30

*For the next four statements, 1=complete agreement and 5=no agreement.

#For the remaining statements, 1=strongly disagree and 4=agree strongly; 5=not applicable (dropped from analysis).

Respondents were then asked to allocate 100% of their time in a typical week among seven sales-related tasks. The descriptive statistics are found in Table 1. Only one person marked the "other" task category (15% allocated to it). Using the means, the tasks were ranked from most time spent to least time spent (see Table 2).

Variable	Mean	Standard Deviation	Median	Mode	n
Using computers is more important in job#	3.74	0.44	4	4	35
Required to login using password at work	3.74	0.44	4	4	35
Required to login when accessing from home	3.74	0.45	4	4	35
Spouse uses home computer for work	1.96	0.60	2	2	26
Family uses computer for non-work activities	3.00	0.61	3	3	28
Time on computer takes away from family	2.33	0.55	2	2	30
Company is overly concerned about security	3.14	0.49	3	3	35
I'm concerned about work computer security	2.86	0.60	3	3	35
I'm concerned about home computer security	2.89	0.58	3	3	35
Company provides adequate training	3.09	0.45	3	3	35
Careful to ensure work anti-virus is up-to-date	2.86	0.60	3	3	35
Careful to ensure home anti-virus is up-to-date	2.83	0.57	3	3	35

#For the remaining statements, 1=strongly disagree and 4=agree strongly; 5=not applicable (dropped from analysis).

Selling (planning, calling, prospecting, presentations)	35.14%
Sales follow-up (customer service, training)	16.14
Paperwork (loan processing, phone calls, etc.)	15.00
Meetings/conferences	10.00
Travel	09.57
Professional development/training	08.57
Entertaining	05.86

Respondents were then presented with the questions borrowed from the scales mentioned in the Methodology section, plus the set of questions on technology issues developed by the authors. Before proceeding to the scale-based questions, respondents were given the following definition:

For this next section of questions, "family" refers not just to your spouse or significant other, but also to your children, your parents and/or in-laws, and any other significant people that would make up your "extended" family.

The first four questions dealt with time spent on four activities: working, socializing with customers, socializing with other salespeople, and traveling (see Chonko & Burnett, 1983). The rating scale ranged from 1 (complete agreement) to 5 (no agreement) between the respondent and his/her family. Means ranged from 1.80 for time spent socializing with other salespeople to 1.91 for time spent working and time spent socializing with customers (see Table 1). Respondents felt there was very much agreement between them and family members on how they spent their time in these four areas.

As stated earlier, 13 WFC questions (Good, Page & Young, 1996) and four health-related questions developed by the authors were measured on a five-point scale, where 1 = Strongly disagree, 4 = Agree strongly, and 5 = Not applicable. For purposes of analysis, any "5" score was dropped, leaving a four-point scale. As seen in Table 1, respondents tended to agree with positive self-related statements (able to do things, take a positive attitude, satisfied with myself) and spousal career statements (spouse content with his/her job, I'm content with spouse's job). Salespeople tended to disagree with negative self-related statements (feel useless, feel like a failure), work-home conflict statements (spouse's career conflicts with mine, feel tense when get home), and all four health-related career-impact statements (health issues affecting career plans). There were some points of indecision, however. Respondents were torn between agreement and disagreement over: personal concerns reduce my productivity at work; family has resources to meet desired lifestyle; family problems cause loss of time at work; and contentment with city they live in.

Finally, with regard to the technology issues (see Table 1), respondents tended to agree or agree strongly with these issues: using computers is more important in my job today; have to login with a password at work; have to use a password when logging in to the company's computer system from home; family members use the home computer for non-work activities; company is overly concerned about computer security; I'm concerned about computer security at work and at home; company gave me adequate computer training; and being careful about having anti-virus software up-to-date both at work and at home. Participants tended to disagree with: my spouse uses the home computer for work and time spend on computer takes away from family time.

Given the scope of the exploratory research undertaken, the authors decided to focus on significant differences by gender in this paper. Crosstabulations and chi-square tests were conducted on the categorical work-related questions. Even with the relatively balanced split between men and women in the sample, there exist potential cell size problems for some of the analyses. For the scale-based questions, the t test for two independent samples was selected over the Mann-Whitney U test, though there is the risk of violation of the homogeneity of variance assumption and the sample sizes varied above and below 30 (see Sheskin 1997, pp. 153 and 181). Since we did not hypothesize any directional differences, two-tailed probabilities were used.

A significant difference for gender with regard to travel necessitating an overnight stay was found. Male salespeople tended to be required by their travels to stay overnight, whereas women salespeople were not ($\chi^2 = 4.4524, p < .05$). No other significant differences were found by gender

for travel-related, technology-use, length of employment, and hours worked questions. Three significant differences were discovered for percentage of time spent in various sales-related tasks. Men tended to spend more time on the selling task than women did (38.67% vs. 32.5%, $t = 1.8197$, $p < .10$). Female salespeople tended to spend more time on professional development (10% vs. 6.67%, $t = -1.942$, $p < .10$) and paperwork tasks (17.25% vs. 12%, $t = -1.8356$, $p < .10$).

No significant differences by gender were found for the four questions on family and salesperson agreement on time spent on various activities. Seven significant differences were identified with regard to the 13 WFC questions. Women salespeople tended to be indecisive regarding the statement, "Personal concerns reduce my productivity at work," whereas men tended to disagree with the statement (mean = 2.55 vs. 2.067 for men, $t = -1.9222$, $p < .10$). Female participants also were indecisive about "Family problems cause loss of time at work for me" (2.526 vs. 2.071, $t = -1.945$, $p < .10$). Women tended to disagree less about "My spouse's job or career conflicts with mine" (2.294 vs. 1.90, $t = -1.9501$, $p < .10$), "All in all, I am inclined to feel that I am a failure" (1.7 vs. 1.267, $t = -2.011$, $p < .10$), and "I am nervous, tense, or frustrated when I get home from work" (2.35 vs. 1.80, $t = -2.2468$, $p < .05$). Men were more in agreement about these statements than were women: "I take a positive attitude toward myself" (3.4 vs. 3.1, $t = 1.8548$, $p < .10$) and "On the whole, I am satisfied with myself" (3.5 vs. 3.2, $t = 1.8815$, $p < .10$).

Analysis of the four health-related questions yielded two significant differences by gender. Men tended to strongly disagree with the following two statements, whereas women tended to disagree: "The health of my parents or my spouse's/significant other's parents has affected my career plans" (1.357 vs. 1.722, $t = -2.148$, $p < .05$) and "I anticipate having to make a career move or change in the next five years due to the health of a family member (spouse, child, parent)" (1.417 vs. 1.778, $t = -1.81$, $p < .10$). No significant differences by gender were found for the technology-related questions.

LIMITATIONS OF THE STUDY

There are several limitations that need to be addressed first. The pretest was done with students, not salespeople. Though these students may end up being salespeople, this is still a weakness of the study. The analyses were limited by the small sample size of 35 (or fewer, depending on variable and analytical method). The sample is not a representative sample, since it was a convenience sample and also drawn from a small region of the United States. The study also is affected by the use of borrowed scales and the appropriateness of added items (see Engelland, Alford & Taylor, 2001 for cautions in such use). In hindsight, the 10-item sales activity classification taxonomy developed by Moncrief (1986) should, perhaps, have been used instead of the sales tasks developed by the authors. The scale items also need to be carefully examined through factor analysis and reliability analysis.

CONCLUSIONS

The conclusions we make are more speculations, given the exploratory nature of this study. A possible explanation for men spending more time on the selling task is that they see a clearer

connection between their sales and their salaries, whereas women focus on relationships, and part of that is doing what is important to the organization (like paperwork). With regard to the work-family conflict questions, it appears that women are still more likely to worry about family concerns, even while at work. The role of women as traditional caregivers appears to be coming through in the findings discussed earlier. Men and women seem to have similar perceptions regarding the technology issues. Given the heightened security awareness in the U.S., both may be reluctant to express disagreement with computer security and privacy issues.

FUTURE RESEARCH

A larger sample size is needed to test whether or not these significant differences between men and women will be maintained, expanded, or minimized. A wider geographic range of participants is also warranted. The scales need to be tested and further refined by other researchers. A factor analysis of the scales, followed by reliability assessment, is the next step for the authors. More data is also being gathered by the authors as one of several next steps in this vein of research.

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CRITICAL ACCLAIM AND THE BOX OFFICE PERFORMANCE OF NEW FILM RELEASES

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ABSTRACT

This paper examines the determinants of box office revenue in the motion picture industry. The sample consists of 362 films released during 2001-2002. Regression results indicate the primary determinants of box office earnings are critic reviews, award nominations, sequels, Motion Picture Association of America rating, and release exposure. A nonparametric Kruskal-Wallis test is employed to compare box office performance on ten different levels of critical acclaim. The results imply that critic approval of forty percent or higher are essential for most motion pictures to enjoy box office success.

INTRODUCTION

The movie industry earns over eight billion dollars annually at the domestic box office and employs over 580,000 people in the areas of film production & services, theaters, and home video. A single movie can be the difference between millions of dollars of profits or losses for a studio in a given year (Simonoff & Sparrow, 2000). Film audiences make hits or flops and they do it, not by revealing preferences they already have, but by discovering what they like (DeVany & Walls, 1996). When they see a movie they like, they make a discovery and they tell their friends about it. Film critics can be viewed as friends that initially view movies for fans and play an integral role in the information cascade that generates a hit. The recent admission of using fabricated film reviews by Sony Pictures, 20th Century Fox, Artisan Entertainment, and Universal Pictures provides anecdotal evidence that industry executives believe that reviews and testimonials have an impact at the box office. In the most extreme case, Sony Pictures admitted to marketing fraud in 2001 by using an imaginary film critic to promote two new releases.

The purpose of this research is to analyze the motion picture industry with a focus on how box office performance is impacted by film reviewers, film classification (sequel, rating, and genre), and industry awards. This paper is divided into four sections. First, a survey of the related literature is discussed. This is followed by an empirical evaluation of the determinants of box office performance for 362 films released during 2001-2002. The third section applies a nonparametric technique in order to compare box office performance by film critic review classifications. The final section offers concluding remarks.

SURVEY OF THE LITERATURE

Many researchers have developed models that explore the potential determinants of motion picture box office performance. One area of interest has been the role of the critic. The impact of the critic has been approached many ways yielding different results, although the majority of studies find that critics play a significant role on the success or failure of a film. Eliashberg and Shugan (1997) divide the critic into two roles, the influencer and the predictor. The influencer is a role where the critic will influence the box office results of a movie based on his or her review of the movie. Eliashberg and Shugan's results suggest that critics do have the ability to manipulate box office revenues based on their review of a movie. The predictor is a role where the critic, based on the review, predicts the success of a movie but the review will not necessarily have an impact on how well the movie performs at the box office. Eliashberg and Shugan show that the predictor role is possible but does not have the same statistical evidence as the influencer role.

Litman (1983) was the first to develop a multiple regression model in an attempt to predict the financial success of films. The original independent variables in the landmark work include movie genre (science fiction, drama, action-adventure, comedy, and musical), MPA rating (G, PG, R and X), superstar in the cast, production costs, release company (major or independent), Academy Awards (nominations and winning in a major category), and release date (Christmas, Easter, summer). Litman's model provides evidence that the independent variables for production costs, critics' ratings, science fiction genre, major distributor, Christmas release, Academy Award nomination, and winning an Academy Award are all significant determinants of the success of a theatrical movie. Litman and Kohl (1989) and Litman and Ahn (1998) have replicated and expanded the initial work of Litman (1983).

Reinstein and Snyder (2000) focus on the critics Siskel and Ebert and how their reviews impact box office success. The authors report that the correlation between good movie reviews and high demand might be false due to unknown quality measurements. In order to circumvent the proposed false correlation Reinstein and Snyder apply a "differences in differences" approach that yields a conclusion that positive reviews have a surprisingly large and positive impact on box office revenue. Reinstein and Snyder also report that their results show that the power to influence consumer demand does not necessarily lie in the entire critic population, but may lie in the hands of a few critics.

Wallace, Seigerman, and Holbrook (1993) employ a sample of 1,687 movies released from 1956 through 1988 to investigate the relationships between movies box office success and critic ratings. They find a poorly rated movie will actually lose money for every positive review it receives while a highly rated movie will continue to gain money for every positive review it receives. Wallace, Seigerman, and Holbrook (1993, p. 11) interpret these findings by saying that "it appears that a bad movie has something to gain by being as trashy as possible. ... [For] a good movie, it apparently pays to strive for even greater excellence." Ravid (1999) has also looked at movie reviews as a source of projecting higher revenues. He concludes that the more reviews a film receive, positive or negative, the higher revenues it will obtain.

Although much research has shown that the critic is a positive indicator of box office success others have shown that the critic plays a much less important role. Levene (1992) surveyed students

at the University of Pennsylvania and concludes from her 208 useable surveys that positive critic reviews ranked tenth, behind plot, subject, and word-of-mouth on a list of factors that influence the decision to watch a film. Levene's study reveals that theatre trailers and television advertising were the two most important determinants. Faber and O'Guinn (1984) conclude that film advertising, word-of-mouth and critics' reviews are not important compared to the effect that movie previews and movie excerpts have on the movie going public. Wyatt and Badger (1984) find that negative or positive reviews have little effect on the interest of an individual to see a movie over a mixed review or seeing no review. Further research by Wyatt and Badger (1987) conclude that positive reviews and reviews that contain no evaluative adjectives, which they called non-reviews, are deemed more interesting than a review that was negative or mixed. More recently, Wyatt and Badger (1990) report that reviews containing high information content about a movie raise more interest in a film than a positive review.

Research has shown a seasonal pattern in movie releases and box office performance. Litman (1983) reports that the most important time for a movie release is during the Christmas season. Sochay (1994) counters this with evidence that the summer months are the optimal time of year to release a motion picture. Sochay, referencing Litman (1983), explains his conflicting results are due to competition during the peak times. Sochay adds that the successful season will shift from the summer to Christmas in different years due to film distributors avoiding strong competition. Radas and Shugan (1998) developed a model that captures the seasonality of the motion picture industry and apply it to the release of thirty-one movies. The authors find that the length of a movie release on average is not longer during the peak season but peak season movies typically perform better at the box office. Einav (2001) investigates seasonality in underlying demand for movies and seasonal variation in the quality of movies. He finds that peak periods are in the summer months and the Christmas season because distributors think that is when the public wants to see movies and when the best movies are released. He recommends that distributors could make more money by releasing "higher quality" movies during non-peak times because the movie quality will build the audience and there will be less competition than at peak times.

Film ratings passed down from the Motion Picture Association of America (MPAA) may also influence box office performance. Many film companies fight for a better rating, often re-shooting or re-editing scenes multiple times in order to get their preferred rating, most often being PG or PG-13 because these ratings exclude virtually no one from seeing the movie. Sawhney and Eliashberg (1996) develop a model where the customer's decision-making process on whether to see a movie can be broken into a two-step approach, time-to-decide and time-to-act. The results of their study show that movies with an MPAA rating of restricted (rated R) perform worse at the box office than movies without a restricted rating. The analysis shows that restricted rated movies have a higher time-to-act but have longer time-to-decide periods than family movies. Ravid (1999) provides evidence from a linear regression model that G and PG rated films have a positive impact on the financial success of a film. Litman (1983) on the other hand, finds that film ratings are not a significant predictor of financial success. Austin (1984) and Austin and Gordon (1987) also look at film ratings in an attempt to find a correlation between ratings and movie attendance but find no significant relationship.

Anast (1967) was the first to look at film genre and how it relates to film attendance. His results show that action-adventure films produce a negative correlation with film attendance while films containing violence and eroticism had a positive correlation. Litman (1983) shows that the only significant movie genre is science fiction. Sawnhey and Eliashberg (1996) use their two-step approach and find that the drama genre has a slower time-to-act parameter while action movies result in a faster time-to-decide than other movie genres. Neelamegham and Chinatagunta (1999) employ a Bayesian model to predict movie attendance domestically and internationally. They find that across countries the thriller genre is the most popular, while romance genre was the least popular.

Awards are important to every industry but few industries experience financial compensation from an award more than the motion picture industry. Litman (1983) shows that an Academy Award nomination in the categories of best actor, best actress, and best picture is worth \$7.34 million, while winning a major category Academy Award is worth over \$16 million to a motion picture. Smith and Smith (1986) point out that the power of the Academy Award explanatory variable in models explaining patterns in movie rentals will change over time as the effects of different Academy Awards could cause both positive and negative financial results to a movie in different time periods. Nelson, Donihue, Waldman, and Wheaton (2001) estimate that an Academy Award nomination in a major category could add as much as \$4.8 million to box office revenue, while a victory can add up to \$12 million. The authors find strong evidence toward the industry practice of delaying film releases until late in the year as it improves the chances of receiving nominations and monetary rewards. Dodds and Holbrook (1988) look at the impact of an Academy Award after the nominations have been announced and after the award ceremony. The authors find that a nomination for best actor is worth about \$6.5 million, best actress is worth \$7 million and best picture is worth \$7.9 million. After the award ceremony the best actor award is worth \$8.3 million, best picture is worth \$27 million, and best actress award is not statistically significant. Simonoff and Sparrow (2000) find that for a movie opening on less than ten screens an Academy Award nomination will increase the movies expected gross close to 250% more than it would have grossed if it had not received the nomination. For movies opening on more than ten screens, an Academy Award nomination will increase the movies gross by nearly 30%.

DETERMINANTS OF BOX OFFICE REVENUE

Predicting the performance of new feature films is widely regarded as a difficult endeavor. Each film has a dual nature, in that it is both an artistic statement and a commercial product (Sochay, 1994). Knowing what factors and conditions affect the performance of theatrical movies is of great value for the eight billion dollar a year industry. Many studies have attempted to estimate the determinants of box office performance by employing empirical models to a limited number of high profile features. The approach of this study is unique because the data set is derived from a cross section of all movies released in the years 2001 and 2002 that opened in twenty-five or more theatres or eventually reached an audience at one hundred theaters or more. Less than fifty movies in the universal sample for 2001-2002 did not meet the criteria of opening in twenty-five or more theatres or reaching one hundred or more theaters. A total of 362 motion pictures are in the final sample.

The primary source of data for this study is the Rotten Tomatoes website (rottentomatoes.com). The website is a unique rating system that summarizes positive or negative reviews of accredited film critics into an easy to use total percentage that is aggregated for each motion picture. In addition to providing a system of aggregate reviews, the website also contains information pertaining to revenue, release date, movie rating, genre, and number of screens featuring a film each week of release.

The empirical model employed to investigate the determinants of box office performance for this study is specified below as:

$$\text{REVENUE}_i = B_0 + B_1\text{CRITIC}_i + B_2\text{HOLIDAY}_i + B_3\text{ADULT}_i + B_4\text{SEQUEL}_i + B_5\text{ACTION}_i + B_6\text{CHILDREN}_i + B_7\text{AWARD}_i + B_8\text{RELEASE}_i u_i,$$

where REVENUE is domestic gross box office earnings, CRITIC is the percent approval rating for a film by an agglomeration of film critics, HOLIDAY is a categorical variable representing movie releases around a major holiday (Memorial Day, Independence Day, Thanksgiving, Christmas, and New Year's), ADULT is a categorical variable for movies with a restricted rating (Rated R), SEQUEL is a categorical variable for movies that are derived from a previously released film, ACTION is a categorical variable for movies in the genre of action/adventure, CHILDREN is a categorical variable for movies in the genre of children's movie, AWARDS is the number of Academy Award nominations a film receives, and RELEASE is the number of theaters showing the film during the week of wide release. Variables controlling for production and promotion cost are not included in the model because of limited availability for all movies in an encompassing study such as this. Several alternative model specifications were considered including control variables for independent films, presence of an established star actor or director, winning an Academy Award, and new release competition. Inclusion of these variables into the model affected the standard errors of the coefficients but not the value of the remaining coefficients or they suffer from excessive multicollinearity with variables included in the model. For these reasons they are not included in the final model.

The estimated empirical relationship between the explanatory variables and domestic box office revenue is presented in Table 1. Two model specifications are presented. The first is a parsimonious linear specification offering easy to interpret coefficients. The second employs a semi-log form correcting for obvious outliers that exist in the sample because of box office blockbusters. The linear model explains sixty percent of the variance in box office earnings, while the semi-log model explains seventy percent. None of the independent variables have a correlation higher than 0.41, suggesting that excessive multicollinearity is not a problem in the analysis. Six of the eight independent variables in the linear model and five of the eight variables in the semi-log model are statistically significant.

The first variable in the model is the percent approval rating for a film by a leading group of movie critics (CRITIC). Conventional wisdom suggest that critical reviews are extremely important to the popularity of movies, especially in the early stages of a release before word-of-mouth reaction can take over. Good reviews are expected to stir curiosity and identify quality, while poor reviews are expected to limit the interest of the influential early adopters. More

practically speaking, the advertising agency will select favorable excerpts from reviews and incorporate them in its media campaign to give the impression of critical acclaim (Litman, 1983). The creation of a fake movie critic (David Manning) to positively review releases from Sony Pictures implies that industry insiders believe the movie critic is important to box office success. Consistent with the literature, Table 1 shows the CRITIC variable is positive and statistically significant in both model specifications. The coefficient in the linear model implies that a ten percent increase in critic approval of a motion picture will add over \$7.8 million to box office revenue. The result demonstrates the power of the critics in the marketplace, although this interpretation is somewhat tempered by the possibility that critics are simply measuring the differential effects of quality.

Variable	Linear Model Coefficient (t-statistic)	Semi-log Model Coefficient (t-statistic)
Intercept	-50,345,787.28 (-7.14)*	14.206 (99.11)*
CRITIC	781,326.60 (9.08)*	0.016 (9.05)*
HOLIDAY	-6,410,606.51 (-1.24)	-0.060 (-0.570)
ADULT	-14,238,356.89 (-3.17)*	-0.193 (-2.11)*
SEQUEL	36,139,023.04 (5.41)*	0.261 (2.01)*
ACTION	16,132,507.91 (2.84)*	0.022 (0.19)
CHILDREN	1,005,250.44 (0.14)	-0.406 (-2.80)*
AWARD	11,087,889.43 (8.17)*	0.204 (7.39)*
RELEASE	29,534.67 (13.93)*	0.001 (24.21)*
Adj. R-square	0.6001	0.7071
F-value	67.68*	109.95*

Notes: *p<.05 and n = 362.

The release date of a motion picture is widely regarded as an important decision. The distribution of movie attendance is not uniform throughout the year but believed to be bunched around major holidays. The HOLIDAY variable in this study controls for movies released within 10 days of Memorial Day, Independence Day, Thanksgiving, Christmas, and the New Year's holiday. Surprisingly, the HOLIDAY variable is negative in both model specifications. The Christmas and New Years holiday season is widely recognized as the most active time of year followed by the summer season with peaks around Memorial Day and Independence Day. This unanticipated result is tempered by the observation that the coefficient is not statistically significant in either model. One possible explanation for the unanticipated result is that several blockbuster movies released during the research timeframe opened a few weeks before the traditional holiday season. More than thirty motions pictures in the research sample released outside the holiday season earned \$100 million or more in domestic revenue. The list includes Spider-Man (\$404 million, May 3rd release), Monsters Inc. (\$256 million, November 2nd), My Big Fat Greek Wedding (\$241 million, April 19th release), and Signs (228 Million, August 2nd release). Many films appears to have strategically been released at a time that would avoid direct competition with obvious blockbusters like the Lord of the Ring movies, Star Wars Episode 2, and Men in Black 2. The negative coefficient on the HOLIDAY variable might also be explained by the CRITIC variable correcting for quality assuming the Einav (2001) proposition that holiday releases perform better at the box office because studios offer higher quality during peak times of the year.

Another element considered to factor into the box office performance of a film is the rating assigned by the Motion Picture Association of America. The motion picture industry established the code as a means of giving advance information to parents and others about the theme and treatment of films. This voluntary code was adopted to prevent stringent forms of governmental controls. There are four possible ratings given to films in the research sample-G (general audiences), PG (parental guidance suggested), PG-13 (possibly unsuitable for children less than 13 years of age), and R (restricted; children not admitted unless accompanied by an adult). The conventional wisdom is that family product sells, while an adult theme or treatment has a limited customer base because of age restrictions preventing access to the lucrative teenage market. This hypothesis is verified by the negative and statistically significant coefficient associated with the ADULT variable in both model specifications. The linear model specification has a negative coefficient larger than \$12 million dollars. Based on the empirical results it is not surprising that today many motion picture companies push the envelope at the PG-13 rating but edit content as needed to avoid the restricted rating. Of the top twenty films released in 2002, not one was rated R. The Eminem movie 8 Mile was the top grossing R rated movie, just missing the top twenty at number twenty-one grossing \$117 million. The movie sequel has been around for many years but the 2001-2002 years are truly dominated at the box office by the sequel. A total of forty-one sequels are offered, with sixteen breaking the \$100 million mark at the box office. Despite a copious amount of research on the determinants of box office performance, few authors have included a categorical variable for sequel. The primary reason the motion picture industry produces the sequel is because of the perceived existence of an audience for a sequel to a popular film. There are no guarantees in the motion picture industry but the positive relationship between moviegoers and a specific storyline and characters is as close as it gets. The SEQUEL variable is defined in this study

as a movie derived from previous released material (e.g., sequel, prequel, or remake). Table 1 indicates that the variable has a positive and statistically significant impact on box office revenue. The linear specification yields a coefficient approximately equal to \$36 million. The success of the sequel in the research sample includes several blockbusters like Lord of the Rings 2 (grossing \$339 million), Star Wars Episode 2 (grossing \$310 million), Harry Potter 2 (grossing \$262 million), Rush Hour 2 (grossing \$226 million), Goldmember (grossing \$213 million), and The Mummy Returns (grossing \$202 million). Even sequels that performed well below expectations like Crocodile Dundee in LA (grossing \$26 million), Friday After Next (grossing \$33 million), and Star Trek: Nemesis (grossing \$43 million), appear to have a limited audience that prevents the sequel from being a complete box office disaster. The sequel appears to be a major player in the current world of motion pictures and should clearly be included as a determinant of box office performance in future research.

One commonly used, yet rarely found to be significant contributor to box office success is the content category (Litman, 1983; Litman & Kohl, 1989; Sochay, 1994). Two variables are used to control for content or type of genre in this study. They are ACTION and CHILDREN. The variables are included in the model based on the general observation that action movies like Lord of the Rings (parts one and two grossing \$313 and \$339 million, respectively) and children's movies like Shrek (grossing \$268 million) are some of the most successful motion pictures in the research sample. The empirical results indicate that action movies pack a punch but children's films are becoming ubiquitous. The action genre is positive in both model specifications and statistically significant in the linear model with a coefficient slightly over \$16 million. The success of blockbusters like Harry Potter and Monsters Inc. makes it somewhat surprising to find that in both model specifications the CHILDREN variable is negative. The 2001-2002 sample contains over forty children's movies. Although it is clear that some of the highest grossing films are derived from the children's genre it also appears that the market is saturated with many box office failures.

The independent variable AWARD measures the number of Academy Award nominations garnered by a motion picture. Fifty-seven of the films in the research sample received one or more academy award nominations, lead by the movie Chicago with thirteen total nominations. It is widely believed that films that receive an Oscar nomination possess what Rosen (1981) describes as the elusive quality of box office appeal, the ability to attract an audience and generate a large volume of transactions. An Oscar nomination serves as a signaling device, indicating which films are viewed by industry experts as being worthy of recognition. According to the model, an Academy Award nomination is worth approximately \$11 million dollars per nomination. Given the financial return to Academy Award nominations, it is not surprising that each of the major distributors spend a large amount on advertising and campaigning effort in order to court the favor of members of the Academy. It should be noted that an alternative specification employing a variable controlling for winning an Oscar was explored by the authors but found to be statistically insignificant.

The final variable in Table 1 is RELEASE. Previous research shows a close correlations between a movies' financial success and the number of screens on which the movie is shown during its initial launch (Einav, 2001). The opening weekend of a movie release typically accounts for twenty-five percent of the total domestic box office gross (Simonoff & Sparrow, 2000). Obviously, a movie must be available in numerous markets in order to achieve box office success. In addition,

the RELEASE variable is highly correlated (negative correlation of .76) with movies released by independent film companies, resulting in a deletion of the independent film variable from the model in order to avoid excessive multicollinearity. The results from Table 1 show that the RELEASE variable is positive and statistically significant in both the linear and semi-log model specifications. Hence, movies with a wide release have a greater propensity for box office success. The success can easily be explained by the fact that a wide release has an easier time finding an audience and is probably a product of one of the major motion picture studios with access to proper marketing channels and box office movie stars like Tom Cruise and Julia Roberts.

THE IMPACT OF FILM CRITICS ON THE BOX OFFICE

The previous section provided empirical evidence that film critics have a significant impact on box office performance in the motion picture industry. In this section we compare box office performance by film critic classification. Specifically, the 362 films in the 2001-2002 sample are classified based on the percent of film critics with a positive review of the movie. The ten film critic review classifications are based on ten unit intervals starting with 0-9 and ending with 90-99. Table 2 provides a summary of film critic review classification, sample size, and box office revenue. For example, fifty-one films earned a positive critical rating in the 70-79 percent range at an average box office performance of over \$54 million. The statistical methodology incorporates a nonparametric approach to comparing the box office performance of movies by critic review classifications. The methodology provides the advantage of being a rank order analysis that is not sensitive to extreme outliers created by blockbuster films. The Kruskal-Wallis test is employed because it offers the most powerful test statistic in a completely randomized design without assuming a normal distribution. The Kruskal-Wallis test is designed to be sensitive against differences among means in the k populations and is extremely useful when the alternative hypothesis is that the k populations do not have identical means. The Kruskal-Wallis test is used in this study to test the null hypothesis that the k box office performances is derived from an identical distribution function regardless of film critic review classification. For a complete description of the Kruskal-Wallis test see Conover (1980). The specific equations used in the calculations are as follows:

$$(1) N = \sum_i n_i \text{ with } i = 1 \text{ to } k$$

$$(2) R_i = \sum_j R(X_{ij}) \text{ with } j = 1 \text{ to } n_i$$

$$(3) R_j = \sum_i O_{ij} R_i \text{ with } i = 1 \text{ to } c$$

$$(4) S^2 = [1/(N-1)] [\sum_i t_i R_i^2 - N(N+1)^2/4] \text{ with } i = 1 \text{ to } c$$

$$(5) T = (1/S^2) [\sum_i (R_i^2/n_i) - N(N+1)^2/4] \text{ with } i = 1 \text{ to } k$$

$$(6) |(R_i/n_i) - (R_j/n_j)| > t_{1-\alpha/2} [S^2(N-1-T)/(N-k)]^{1/2} [(1/n_i) + (1/n_j)]^{1/2}$$

where R is defined as the variable rank and N is the total number of observations. The first three equations are used to find average ranks. Equation (4) is used to calculate the sample variance, while equation (5) represents the test statistic. If, and only if, the null hypothesis is rejected, equation (6) is employed to determine multiple comparisons of box office performance across the various critic classifications.

The empirical approach yields a T-value of 28.86 (p-value = .0001), indicating a significant difference in box office performance across film critic review classification. Assuming an alpha level of .05, the empirical results from equation 6 indicate that the mean box office performance for movies with a positive critical rating of 80-89 percent was significantly greater than any other category. The second highest mean grouping is derived from movies with positive critical rating of 40-49 percent, 50-59 percent, 60-69 percent, 70-70 percent, and 90-99 percent. The third highest mean grouping is derived from movies with positive critical rating of 20-29 percent and 30-39 percent. The fourth and fifth mean groupings are derived from positive critical ratings of 10-19 percent and 0-9 percent, respectively.

The results provide further evidence that film reviews are highly related to box office performance. Movies earning critical acclaim at a level of 80-89 percent approval appear to profit from the information cascade put forth by the positive word-of-mouth. High-profile movies in the sample with approval ratings of 80-89 percent or more include *Road to Perdition* (82 rating, grossing \$104 million), *Spider-Man* (88 rating, grossing \$404 million), and *Chicago* (87 rating, grossing \$187 million). In addition, negative reviews can be viewed as box office poison. High-profile movies with low critical ratings include *Pluto Nash* (6 rating, grossing \$4 million), *Original Sin* (13 rating, grossing \$16 million), and *Analyze That* (29 rating, \$32 million). Of course, there are exceptions to the rule and some movies with critical praise like *Adaptation* (91 rating, grossing \$21 million) and *Monsters Ball* (84 rating, grossing \$31 million) struggle at the box office while others films panned by the critics like *Tomb Raider* (18 rating, grossing \$131 million) and *Pearl Harbor* (24 rating, grossing \$198 million) find box office gold. The few exceptions aside, critical affirmation at a rate of 40 percent or higher is statistically correlated with box office success. Studios and distributors with negative critical reviews appear to be served well by cutting their losses with a limited advertising campaign and following an expeditious path to home video.

It should be noted that although this section shows that critical praise is highly correlated with box office performance, the role of the film critic might be more of a predictor than an agent that influences movie revenues. If the film critic is a predictor then she is merely a leading indicator with no significant influence on actual box office revenue (Eliashberg & Shugan, 1997). From this perspective, critics merely represent their audiences; they predict ultimate success but have little influence. Although reviews themselves could influence some moviegoers, the reviews primarily produce valuable predictive information about the ultimate success or failure of a film based on quality. On the other hand, a critic could be an opinion leader or influencer (Weiman, 1991). An opinion leader or influencer is a person who is regarded by other people as having expertise and knowledge on a particular subject. Under this perspective, early critics' reviews can make or break a motion picture opening. Many studios and distributors assume critics are influencers and attempt to persuade critics to be favorable. Ultimately, the film critic probably plays a dual role of both predictor and influencer.

Percent of Film Critics with Positive Review	Sample Size	Box Office Revenue	Equation 6 mean groupings*
0-9	24	\$12,084,000	5
10-19	41	\$26,880,829	4
20-29	41	\$38,446,927	3
30-39	32	\$44,591,219	3
40-49	43	\$52,211,456	2
50-59	33	\$53,917,636	2
60-69	30	\$49,314,767	2
70-79	51	\$54,375,059	2
80-89	31	\$75,148,581	1
90-99	27	\$60,373,111	2
Total	362	\$46,099,482	

*Five different mean groupings are derived from equation 6 (alpha-level of .05), where 1 is the highest and 5 is the lowest box-office revenue.

CONCLUSION

Nobody knows with any certainty what makes a hit movie. Employing a multiple regression statistical model, many variables commonly believed to impact the box office success of movies are evaluated in this study. One of the more interesting results is the positive and statistically significant impact positive critical acclaim and an Academy Award nomination has on box office success. A ten percent increase in critic approval adds approximately \$7.8 million to box office revenue, while an Academy Award nomination is valued at \$11 million dollars per nomination. Movie sequels, the action genre, and the number of theaters showing the film during wide release all have a positive impact on box office performance. Adult content movies with a restricted rating and the children's genre appear to have a negative impact on box office performance for the 2001-2002 research sample. The penalty associated with a restricted rating is more than \$14 million. The role of the critic is further explored by a nonparametric Kruskal-Wallis test that corrects for outliers generated by blockbuster movies. The analysis compares box office performance on ten different levels of critical acclaim. The results imply that critic approval of forty percent or higher are needed for most motion pictures to enjoy box office success. Critical approval of eighty to eighty-nine percent is revealed to correlate with the greatest probability of box office success. One avenue for future

research is to expand financial success beyond the role of box office performance by including additional revenues generated from the selling of movie to cable and television networks, from the video and DVD sales and rental markets, and from the international box office.

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THE FAMILY DECISION-MAKING PROCESS: A REVIEW OF SIGNIFICANT CONSUMER SATISFACTION/DISSATISFACTION MODELS

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ABSTRACT

This paper discusses various models and theories in the family decision-making process concerning consumer satisfaction/dissatisfaction. This is of great importance because it is very possible that there may be some form of interaction between the satisfaction process and the decision-making context. The literature on family decision-making is also reviewed.

INTRODUCTION

Decision-making is a critical part of modern family life (Scanzoni & Szinovacz, 1980). It is also a central construct in models of consumer behavior (Engel, Kollat & Blackwell, 1968; Sheth, 1974; Howard & Sheth, 1969). Engel and Blackwell (1982) note that

A problem exists for consumer researchers because although most purchase decisions are family decisions, most research about consumer behavior has been conducted with individuals. It hardly should be expected that an individual's attitudes, intentions, and other variables will always coincide or even be correlated very highly with those of the family. Yet most of the research literature implicitly makes such an assumption (p. 174).

Despite its apparent importance, couple decision-making has remained a relatively under-researched area in the marketing literature. In the area of decision-making, researchers concentrate mainly on individual decision-making (Davis, 1976). A major reason for this emphasis on individual rather than on family decision-making may be the belief that the family is generally a poor decision-making unit (Wright, 1974; Aldous, 1971; French & Raven, 1959).

Researchers have advanced many reasons to explain why the family tends to be a poor decision-making unit. Wright (1974), for example, noted that families tend to have lower decision-making ability than other types of organizations because, when compared to the environment that exists in other types of organizations, family decisions tend to take place in less than ideal environmental conditions. Aldous (1971) suggests that families tend to make poor

decisions because they try to avoid submitting the problem to rigorous analysis or getting involved in discussions which will result in tension-evoking situations. In other cases, poor quality decisions may result from basing family roles on cultural norms rather than expertise (French & Raven, 1959). While these arguments seem plausible, some researchers have argued that these same characteristics enhance family decision-making (Kelly, 1979). In this respect, the maintenance needs of the family encourage cooperative behavior. Davis (1976) notes that the conclusion that the family is a poor decision-making unit may be the result of family studies which tend to focus on isolated problems instead of treating a problem as one of several interrelated problems that the family faces at the same time.

The interrelatedness of several problems can cause ineffective decision-making because the husband's and wife's definition or perception of a problem can be very different when the problem of concern happens to be related to other problems (Davis, 1976). A poor family decision, or no decision at all, may result because the spouses do not view the problem from the same perspective. Further, the solution advanced by one spouse may have some effect upon the other spouse. Davis (1976) found that family members usually have very different perceptions of the same problem and solutions to those problems.

PERSPECTIVES IN FAMILY DECISION-MAKING

Four major theoretical models guide most of the research into the family decision-making process: 1. resource theory, 2. social exchange theory, 3. role theory, and 4. the process-oriented model.

1. *Resource theory*. The beginning of formal research into family decision-making can be traced to the work of Herbst (1952). Much of the early research in family decision-making, however, relied on the resource theory model advanced by Blood and Wolfe (1960). Resource theory posits that the relative power which a spouse wields in the family decision-making process varies directly with the socio-economic resources contributed by that spouse, rather than being based on traditional patriarchal ideas. While a number of studies have supported this view (Kandel & Lesser, 1972; Weeks, 1973), some researchers have found that increases in the economic resources of husbands resulted either in no increase in his power or in a decrease in his power (Scanzoni, 1979a).

In attempting to understand the relationship between resource contribution and power within the family, Rodman (1967, 1972) formulated the normative resource theory as an extension of the resource theory. In his model, Rodman (1972) asserts that marital power is affected not only by the resource contribution of the parties in the marital dyad, but also by cultural norms which define marital power. A study by Burr et al. (1977), however, contradicts Rodman's hypothesis. This study indicates that resources are strongly related to power when norms related to authority are more patriarchal than egalitarian.

Hill (1981) notes that there are three major domains of power which are relevant to organizing concepts related to family relationships. The first domain is related to the resource that an individual contributes since that affects the ability to exercise power in a given decision-making situation. The second domain is related to the power processes and focuses on the interaction of

family members at various stages in the decision-making process. The third domain is related to power outcomes and focuses upon who makes the final decisions and who wins the discussion or the argument.

McDonald (1980) asserts that power relationships have implications for the presence or absence of conflict in families. He argues that differences in power may suppress conflict situations and so may help shape the family system. From this perspective, Arnett (1987) argues that there is a relationship between power and the marital patterns and roles that the spouses adopt. Deal (1984) asserts that differences in the power wielded by the partners may result in the stronger party taking advantage of the weaker party. This in turn affects the degree to which family decisions can be negotiated.

2. *Social exchange theory.* McDonald (1980) asserts that the social exchange theory has become the framework most often used to assess family power and decision-making. Scanzoni and Szinovacz (1980) argue that decision-making may be viewed as problem solving or conflict resolution. Exchange theory assumes that people are actors as well as reactors who make decisions and initiate action rather than being passive reactors to environmental stimuli. Further, people act in a manner which will maximize rewards and minimize costs. Scanzoni (1979b) notes that the concept of maximum joint profit is relevant to family decision-making because the actors are usually willing to negotiate in order to arrive at decisions that are for the good of the group.

Scanzoni (1979a) observes that reciprocity, as it relates to decision-making, is also an important aspect of exchange theory. Since complete repayment is not possible in social exchanges, members look to feelings of gratitude in contributing to the maintenance and stability of the family unit. This trust, or the confidence that some form of reward will be forthcoming from others, is an important aspect of the family decision-making process. Kingsbury (1983) notes that trust can lead to the emergence of non-legitimate power if a family member uses force to get others to act in a certain manner.

3. *Role theory.* Role theory has also been used to explain family decision-making processes. Scanzoni and Szinovacz (1980) note that traditionally based family decision-making tends to be structured. There are accepted roles in the family and family members know and accept these roles. Because everyone within the family knows what is expected of them there is little or no need for negotiation in the decision-making process.

Scanzoni (1979a) asserts that gender roles may be measured along a continuum from traditional to modern. With traditional roles, the interest of the husband is of greatest importance; children come second, and the interest of the wife is left for last. Within this framework, husbands hold legitimate power and decision-making is mainly husband dominated. With modern roles, the lines of family power are not as clearly defined and family decisions are negotiable. Scanzoni (1983) notes that in families where both the husband and the wife have a preference for modern gender roles, all decisions are negotiable.

4. *The process-oriented model.* Arguing for the inclusion of interactive observational procedures and self-reporting or behavioral measures for examining the complex family decision-making process, researchers have developed a social psychological or process-oriented model of family decision-making which is useful in studying family power relationships because it does not focus only on decision outcomes (Scanzoni & Polonko, 1980; Scanzoni & Szinovacz,

1980; Scanzoni, 1983). This model analyzes the family decision-making process and also examines the changing nature of sex roles and its inherent effect upon family decision-making. Unlike previous models, this model focuses upon joint decision-making and considers the husband-wife dyad as the unit of analysis. However, individual data is used to determine if the "within couples" or the "within individual" data contribute more toward the prediction of the decision-making process and its outcomes.

The process-oriented model or the social psychological approach to decision-making was an outgrowth of the subjective utility theory developed by Blalock and Wilkin (1979). Subjective utility theory brings together the important elements from symbolic interaction, social exchange, and social conflict theories. The approach holds that social arrangements are a function of subjective preferences and the decision-making processes. In joint decision-making, the parties are aware that individual preferences cannot be satisfied without simultaneously taking the other person's preferences into account (Scanzoni & Szinovacz, 1980).

Strauss (1978) notes that this perspective is influenced by three elements: the context, the process, and the outcome. The context is the tangible and intangible resources, attitudes, and history which couples bring to the decision-making process. The process phase of the approach is the interaction or give-and-take which occurs between the couple. Scanzoni and Polonko (1980) note that the contextual factors exert an ongoing influence that affects the decision outcome. The outcome represents the behavior of the organization or dyad (Scanzoni, 1983).

In summarizing the major steps in the model, Kingsbury (1983) states

... first the cyclic and developmental sequences of the process of decision-making are dissected and identified into units. Second, the units are scrutinized to determine connected events. The third step is to view the units in developmental terms. A fourth step involves the unity of the developmental and cyclical processes. The identification of outcome flowing from process represents a fifth step. The sixth and final step integrates past decision making history with current processes and outcomes (p. 37).

Hill and Scanzoni (1982) assert that the process-oriented model is applicable to a wide range of topics related to family decision-making. For example, Hill (1981) used the model to study the decision-making behaviors of couples who received training in communication skills and couples who had not had such training. Kingsbury (1983) used the model to assess the decision-making and power relationships of dual-career families. In a refinement of the model, Scanzoni (1983) examined the degree to which sex role preferences are changing and the relative effect which such changes are having on the decision-making process. Similar studies have also been conducted by Arnett (1987) and Scanzoni and Arnett (1987).

Although no data about the reliability and validity of the model have been reported, Hill (1981) claims that the model is conceptually and theoretically valid because it is formulated from several respected theoretical perspectives such as systems theory, symbolic interaction theory, and social exchange theory. The model has also received some empirical support in various studies (Arnett, 1987; Scanzoni & Arnett, 1987; Kingsbury, 1983; Hill & Scanzoni, 1982; Hill, 1981).

POWER AND FAMILY DECISION-MAKING

Defining family power is complicated because researchers have not agreed on a common definition of power. Olson and Cromwell (1975) note that power is viewed as being similar to terms such as influence, control, authority, assertiveness, and dominance. In the realm of family decision-making, power relations are very ambiguous and the exertion of power takes place in very subtle ways. Much of the ambiguity in defining power stems from the multi-dimensional nature of the construct.

Olson and Cromwell (1975) discussed three domains of family power. The first domain, the basis of family power, consists mainly of the resources which a family member contributes to the association. This is thought to increase that member's ability to exercise control within the relationship. French and Raven (1959) also identified referent power, expert power, informational power, reward power, and coercive power as five other bases from which a person can derive power.

The second domain, family power processes, focuses on the interaction between and among the family members. It includes processes occurring during family discussions and involves the degree to which individuals attempt to influence or control decision outcomes through assertiveness. The third domain, family power outcomes, focuses on who actually makes the decision or who wins the argument. While the domain of family power has been widely researched, the family power process has been relatively neglected because researchers find it easier to collect data on decision outcomes than on decision processes (Min, 1983).

TYPOLGY OF FAMILY POWER

Excluding the influence of children, family power may be classified according to the relative influence of the spouses. Herbst (1952) suggested four categories: husband dominant, wife dominant, autonomic or independent, and syncratic or joint decision-making. This typology has simplified family power dynamics and was introduced into the marketing literature by Davis (1976) and Davis and Rigaux (1974).

According to Davis and Rigaux (1974), family decisions could be viewed along a continuum that defines the relative power or influence of the spouses. They used role-structure to categorize family decisions into the following classes:

- | | |
|----|--|
| 1) | <i>Autonomic</i> --equal number of decisions are made by each spouse, but each decision is individually made by one spouse or the other. |
| 2) | <i>Husband dominant</i> --husband makes the decisions with little or no input from the wife. |
| 3) | <i>Wife dominant</i> --wife makes the decisions with little or no input from the husband. |
| 4) | <i>Syncratic</i> --most decisions are made jointly with input from both husband and wife. |

In a similar study, Wilkes (1975) used five categories to classify family decision-making: husband alone, husband more than wife, husband and wife the same, wife more than husband, and wife alone. For both spouses, he found that there was relatively little correlation among the different phases in the decision-making process.

While the approach continues to be widely used, it is not without criticism. Douglas and Wind (1978) note that there may not always be an association between family power and decision roles. Decision-making patterns may reflect spousal interest, involvement, or time constraints rather than spousal power or family power structure. Further, it is not certain that one type of family power, exhibited in one situation, is transferable to other types of decisions. In supporting this point, Coombs and Fernandez (1978) argue that decision-making on personal issues, such as fertility, are not synonymous with decision-making on impersonal issues. If a power distribution does not exhibit a consistent pattern over various decisions it is useless to try and find some general authority pattern in the family.

Another criticism of the approach is that most typology studies in family power focus on the outcomes of a decision rather than on the decision processes. Data on the outcomes of a decision do not provide much insight into the dynamics of the decision-making process taking place within the family. Further, the approach is based upon self-report, usually taking data from only one spouse. This approach is open to distortions since many studies report a substantial amount of disagreement between the perceptions of husband and wife. It is very likely, therefore, that the data represents a perceived power distribution rather than an actual power distribution.

DECISION DOMAINS

Sociologists are yet to agree about the sources of family power. Of all the studies on this issue, the Blood and Wolfe (1960) study is the most widely known. They reported that spousal influence in the decision-making process is affected by the degree of power attributed to a particular spouse. This power may be derived from traditional roles, type of employment and resource contribution to the family, education and technical capability, and family rules.

The bases of power tended to vary over different decision domains. Raven, Centers and Rodrigues (1975) found that wives tended to perceive their husbands as having expert power. Husbands viewed their wives as relying mainly on referent power. They also found that some demographic variables were related to family power. Expert power was perceived to decrease with age while referent power increased with age. Higher educational levels were found to be positively associated with expert power while coercive and reward power increased with lower education or social class. Persons with authoritarian personalities tended to attribute referent power to their spouse. They also did not view their spouse as having any legitimate power. Finally, family reporting reliance upon coercive power as the main basis of power tended to report that the marriage was less satisfying than families that reported reliance upon equalitarian bases of power. While the results of the Raven et al. (1975) study cannot be generalized to populations beyond the sample, it illustrates that bases of family power are functions of many variables.

Blood and Wolfe (1960) reported that husbands tended to have more power than the wife in decisions related to the husband's job and the automobile. Wives tended to have more power than

their husbands in decisions related to the wife's work and the food. The authors reported that all other decisions were joint decisions. Davis (1971, 1976) asserts that spousal power is not constant over phases of decision-making and that there is a great amount of variability in husband-wife involvement across products, across specific decisions, across decision stages, and across families. However, he found that families showed a strong tendency to rely upon joint decision-making. He also found that the decision was generally a mutual one when the product purchased was a non-durable good. This was generally true regardless of whether the husband or the wife made the actual purchase. For durable goods, such as a house, furniture, and automobiles, the tendency toward reliance on joint decision was even more apparent. Each spouse tended to concentrate on different features or attributes and phases of the decision-making.

ROLE SPECIALIZATION AND ROLE CONVERGENCE IN FAMILY DECISIONS

The welfare and survival of the family, as a group, depends upon the degree to which it is able to perform the tasks that make it possible to cope with the external environment and maintain the social relationship among group members (Thibaut & Kelley, 1959). In the area of family study, Parsons and Bales (1955) suggest that the "husband-father" generally fills the role of task specialist while the "wife-mother" fills the role of the social and emotional specialist.

This traditional characterization of family roles has been widely criticized. For example, Leik (1963) argues that unlike in secondary groups, people are likely to converge their roles in their family life. The role specialization found in ad hoc groups cannot be applied to the family (Levinger, 1964). Within the family, both spouses are in the habit of filling both roles at different points in time because family life requires a degree of reciprocation between the partners. Therefore, Levinger suggests that task performance is specialized while social-emotional behavior is mutual decided by the spouses.

STRATEGIES IN FAMILY DECISION-MAKING

Families tend to use two models in their decision-making (Davis, 1976). In the first model, the consensus model, family members agree about goals. In the second model, the accommodation model, family members disagree about goals.

In the consensus model, family members can choose from among three strategies: role structure, budgets, and problem solving. Role structure strategy is employed to the extent that family members allow one family member to make some types of decisions without interference because they accept that family member as a specialist in an area of activity. When the family members use rules as an impersonal arbitrator in the decision-making process then the budget strategy is being employed. Budget strategy tends to focus attention on the rules and so avoid family hostility (Blood & Wolfe, 1960). Consensus about goals leads to family problem solving behavior instead of reliance on the individuals or rules.

In the accommodation model, family members can choose between two strategies: persuasion and bargaining. With a persuasion strategy, someone in the family tries to force other family members to make a decision that they would not usually make. On the other hand,

bargaining leads to willing agreement in the decision-making. With this strategy both parties tend to gain.

Broderick (1975) asserts that families rely on three strategies in arriving at decisions. The first strategy, the "zero-sum" interaction strategy, there is a "winner" and a "loser" because one party imposes his will upon other family members. Broderick notes that this type of family interaction may be used in conflict situations.

Second, spouses may use family rules and rule enforcement to guide their interaction. Three types of rules are used to govern the family interaction. The first rule is related to the distribution or allocation of family resources, whether economic or otherwise. The second rule is related to the assignment of authority for various types of decisions. The third rule is related to the degree to which unresolved issues could be negotiated. Spouses make use of "principled interaction" as a way of arriving at decisions. According to this perspective, the spouses are morally mature, adhere to the principle of fairness, and are committed to the welfare of the other spouse.

Broderick (1975) notes that the use of the zero-sum strategy tends to maximize resistance and resentment within the family. The use of the rule and rule enforcement strategy tends to maximize compliance and minimize conflict, resistance, and resentment. The use of the principled interaction strategy differs from the other two strategies in that no one has the responsibility of governing other family members. Because this strategy is based upon internalized principles that enable each person to be self-governed, family interaction is governed by a few guiding principles rather than by a large number of rules.

METHODOLOGICAL CONSIDERATIONS

The beginning of formal research into family decision-making can be traced to the work of Herbst (1952). However, it is the work of Blood and Wolfe (1960) which has had the most profound methodological impact. They introduced a procedure, the "final say" approach, in which researchers generally rely upon a single respondent for gathering data about family decision-making and the attitudes and relative influences of the spouses. This tendency has been widely used, mainly for the convenience that it affords. Traditionally, wives could be found at home, and much larger samples could be obtained if they were used as respondents.

In recent years, however, researchers have questioned the adequacy of the research methodology utilized in studies related to family decision-making. In discussing this issue, Hill and Scanzoni (1982) argue that the measurement of decision processes has become important in theoretical and substantive considerations. Scanzoni (1983) notes that the "final say" approach has survived mainly because it is relatively easy to use and researchers have not presented and demonstrated an alternative approach that is scientifically and practically superior.

Research has indicated that husbands and wives do not always agree in their responses to questions related to a given decision. For example, Davis (1970) found that the perceptions of the spouses tended toward agreement when aggregated. However, there was little agreement between the spouses with regard to their individual roles in a given decision. This was viewed as an indication that the extent of role consensus within families was relatively low. In a later study,

Davis (1971) again found that the responses of the spouses were very similar when compared on an aggregate level. Their responses, however, were quite dissimilar when compared within the family. Davis and Rigaux (1974) found that increased specificity in the decision domains and decision phases tended to increase the degree of agreement between the spouses. Similarly, Wilkes (1975) found that role consensus improved when the decision was divided into several phases. He suggests that researchers look at the different phases of the decision process rather than focus only on the outcome of the decision.

Hill et al. (1981) note that there exist two different types of spousal agreement or disagreement which have implications for empirical research. In the area of agreement or family consensus, researchers need to focus upon either attitudinal similarity or perceptual similarity between the spouses. Failure to distinguish between these two types of consensus has been a major problem in family research. In the area of disagreement, researchers should focus on directional and non-directional disagreement. Directional disagreement occurs when the difference between the responses is always in the same direction from couple to couple. Non-directional disagreement occurs when the difference between the responses from couples varies in direction from couple to couple. Hill et al. (1981) indicate that this distinction has methodological implications. Some measures, like the t-test, are directional while others, such as the intra-couple correlation, are non-directional. Because the t-test cannot detect non-directional disagreement and an intra-couple correlation ignores directional disagreement, neither method, by itself, is suitable for measuring couple disagreement. Therefore, they suggest that both techniques should be used to check for both types of disagreement.

A number of researchers have conducted studies related to family power and the decision-making process. Traditionally, researchers viewed marital decision-making as an indicator of marital power (Blood & Wolfe, 1960; Michel, 1967; Safilios & Rothschild, 1976). Critics, however, have argued that these studies are methodologically inadequate. McDonald (1980) outlines some areas of methodological concern to researchers. The first issue is related to the comparison of unequal decision-making and power phenomena.

In discussing this issue, Price (1976) notes that in determining the relative power of the spouses, researchers often apply equal weights to all decisions that resulted in a final decision-making score. However, Kingsbury (1983) found that weighted and unweighted scores had relatively little effect on the decision-making scores for the spouses.

The second issue is the need for researchers to focus on measurement techniques for power process instead of reliance on decision-making outcomes. Most of the studies in family decision-making have relied exclusively on self-report data gathered using the Blood and Wolfe (1960) "final say" technique. Olson (1981) notes that very few studies utilize behavioral methods in their data gathering.

The third issue deals with whether the wife's responses alone are adequate indicators of family responses. Most of the studies related to family decision-making and power have relied on the responses gathered from wives. A number of researchers, however, have found disagreements/discrepancies in the responses given by husbands and wives. The general belief is that administering instruments to only one spouse ignores the reality that family decision-making is a joint enterprise (Safilios-Rothschild, 1969; Hill & Scanzoni, 1982).

CONSUMER SATISFACTION AND THE JOINT DECISION-MAKING PROCESS

Generally, researchers have not addressed the issue of CS/D and joint or syncratic decision-making. Engel and Blackwell (1982) note that most consumer behavior models focus on individual decision-making processes. Sheth (1974) has attempted to resolve this problem by proposing a model of family buying. His model culminated with either autonomous or joint decisions which can lead to individual or family consumption. However, the model does not indicate the relationship between the three possible consumption patterns and the CS/D process.

SUMMARY OF THE LITERATURE ON THE FAMILY DECISION-MAKING PROCESS

Decision-making, a central construct in models of individual consumer behavior, is an important part of family life. However, despite its importance, it has not received as much attention as individual decision-making. Generally, researchers tend to focus more on individual decision-making because of the belief that the family is a poor decision-making unit.

Past research in the area of family decision-making has used a number of theoretical models: resource theory, social exchange theory, role theory, and the process-oriented model. Resource theory posits that, within the family, the relative power of each spouse varies with the socio-economic resources contributed by that spouse. The social exchange theory is most often used to assess family power and decision making. This theory assumes that people act in a manner which will maximize benefits to them. Role theory focuses on the traditional versus modern gender roles of the spouses to explain the relative power in the family. Traditional roles give more power to the husband; the children are second, and the wife is last. Modern roles are not clearly defined according to gender and all decisions are negotiable. Unlike the other approaches, the process-oriented model does not focus only on decision outcomes. Instead, it analyzes the family decision-making process in conjunction with the effect of changing sex roles.

Davis and Rigaux (1974) note that family decisions can be classified according to who makes the decision and how the decision is made. The typology of family decision, excluding children, include husband dominant, wife dominant, autonomic, and syncratic decisions. A major criticism of this typology is that it focuses upon the outcome of a decision rather than on the decision process.

Generally, families tend to use two models in their decision-making. In the first model, the consensus model, family members agree about goals and then arrive at a decision by way of role structure, budgets/rules, or problem solving strategies. Consensus about goals leads to family problem solving behavior instead of reliance on the individuals or rules. In the second model, the accommodation model, family members disagree about goals and choose between persuasion and bargaining to arrive at a decision. If a decision cannot be reached, or if one family member tries to impose a decision, conflict is likely to develop and no one wins.

In studying the family as a unit of analysis, researchers have questioned the adequacy of using one spouse to report on the family decision-making process because husbands and wives do not always agree in their responses to questions related to a given decision. The general belief is

that administering instruments to only one spouse ignores the reality that family decision-making is a joint enterprise. Researchers have not addressed the issue of consumer satisfaction with a joint decision.

CONCLUSION

The notion of consumer satisfaction is viewed as resulting from the consumer's post usage evaluation of a product's performance. It is linked to the consumer's expectation. Of the four types of expectation, predictive expectation is the most widely tested. The most common conceptualization of disconfirmation is perceived disconfirmation of predictive expectations. In measuring satisfaction, researchers have also opted for multi-item additive scales rather than single-item scales. Currently, much attention is being given to issues of reliability and validity assessment.

Of the various models advanced to explain consumer satisfaction, the disconfirmation of expectations paradigm has received the most widespread acceptance among researchers. This model assumes that consumer expectations create a standard or frame of reference against which consumers compare product performance. Accordingly, satisfaction is the outcome of confirmation or positive disconfirmation and dissatisfaction is the result of negative disconfirmation. Researchers now include the disconfirmation of expectations variable as a mediating concept in the satisfaction process rather than attempting to provide a direct link between expectation and satisfaction. While satisfaction has been defined in a number of different ways, researchers generally agree that it is a multi-dimensional rather than a uni-dimensional construct.

Decision-making is a central construct in models of consumer behavior. It is also an important part of the family life. However, despite the apparent importance of family decision-making, researchers have not focused much on this area. Two main reasons may be advanced to explain the continued focus on individual decision-making. First, the cost of conducting joint or family decision-making research far exceeds the cost associated with conducting individual studies. Second, the family as a unit of analysis, is considered to be a poor decision-making unit.

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ANTECEDENTS AND CONSEQUENCES OF STUDENT SATISFACTION WITH UNIVERSITY SERVICES: A LONGITUDINAL ANALYSIS

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ABSTRACT

A common understanding among businesses is that a satisfied customer engages in positive word-of-mouth communication that affects the bottomline of the business. It has been shown in various research that word-of-mouth recommendations from past students constitute a major source of influence on students' university choice. In spite of its importance, little work has been done to address student satisfaction issues in the higher education sector. This paper develops a model of student satisfaction with university services using three major theories of consumer satisfaction: expectancy-disconfirmation, equity, and attribution.

Keywords: Higher education, satisfaction, attitude, causal analysis, longitudinal study

INTRODUCTION

Consumer satisfaction continues to attract the attention of researchers and practitioners in disciplines such as psychology and marketing. This is not surprising since a number of studies have shown a moderate to strong relationship between the construct and consumer loyalty or repeat purchasing behaviour (Szymanski & Henard, 2001; Taylor & Cronin, 1994; Oliver, 1998). A higher education institution, like any other business institution, needs to satisfy its clients in order to survive in the business. It has been shown in various research (for example, Athiyaman, 1997; Oliver, 1998; Swan & Oliver, 1989; Taylor & Cronin, 1994), that a satisfied customer engages in positive word-of-mouth communication that affects the bottomline of the business. The core service of a higher education institution: teaching, is intangible dominant (McDougall & Snetsinger, 1990). Intangibility, the lack of physical evidence for a service, forces a consumer to rely on sources of information such as word-of-mouth recommendations to arrive at purchase decisions (Webster, 1991). Specifically, a prospective student comes to know about a higher education institution and forms expectations about the quality of service she would receive from the institution, from others who have attended and/or are attending the institution, parents, friends, relatives, etc. Other sources of information such as institutional advertisements and university guides will also impact on university choice, but it has been shown in various research (for example, Cook & Zallocco, 1983; Razzouk, Johar & Voigt, 1985), that word-of-mouth recommendations from family and friends constitute a major source of influence on students' university choice.

In spite of its importance, little work has been done to address student satisfaction issues in the higher education sector. The major objective of this research is to develop a conceptual model of consumer satisfaction for the higher education sector.

LITERATURE REVIEW

Many theories have been used to understand the process through which consumers form satisfaction judgements. The theories can be broadly classified under three groups: expectancy-disconfirmation, equity and attribution.

The Expectancy-disconfirmation paradigm

The expectancy disconfirmation theory suggests that consumers form satisfaction judgements by evaluating actual product performance against their prepurchase expectations about the product. Anderson (1973) identified four psychological theories that can be used to explain the impact of expectancy on satisfaction: assimilation, contrast, generalised negativity, and assimilation-contrast. Briefly, assimilation theory posits that one reduces psychological discomfort caused by unconfirmed expectancy by changing one's perceptions to bring it more into line with expectations. According to contrast theory, the contrast between expectations and outcome will cause the consumer to exaggerate or magnify the disparity. On the other hand, generalised negativity suggests that any disconfirmation of an expected result will be perceived as less satisfying than if the expectancy had been confirmed. Finally, the assimilation-contrast theory posits that product performance differing slightly from one's expectations tends to result in movement of perceptions toward expectations (assimilation) whereas large variances from expectations tend to be magnified (contrast).

In an effort to reduce the conflicting explanations of consumer satisfaction judgements, Oliver (1980a, 1980b) suggested that Helson's adaptation level theory be used to explain and predict consumer satisfaction with products. Briefly, consumers form expectations about a product based on their experience with the product or a similar product, word-of-mouth recommendations, manufacturer's advertising, etc. This expectation serves as an anchor for subsequent postpurchase evaluation. A comparison between the expectation and actual consumption experience will result in satisfaction if performance exceeds expectations or dissatisfaction if performance perceptions fall below expectations. This model has withstood several empirical examinations (Bearden & Teel, 1983; Cadotte, Woodruff & Jenkins, 1987).

Equity theory conceptualisation of consumer satisfaction

This theory is built upon the argument that a "man's rewards in exchange with others should be proportional to his investments." (Oliver & Swan, 1989a, p. 23). In other words, the equity concept suggests that the ratio of outcomes to inputs should be constant across participants in an exchange. As applied to consumer satisfaction research, satisfaction is thought to exist when the consumer believes that his outcomes to input ratio is equal to that of the exchange person (for example, salesman). In the handful of studies that have examined the effect of equity on consumer

satisfaction, equity appears to have a moderate effect on consumer satisfaction and postpurchase communication behaviour (Oliver & Swan, 1989b).

Attribution theory conceptualisation of consumer satisfaction

The attribution dimension employed in consumer satisfaction research is the "locus of causality" concept (Folkes, 1988). It is based on the proposition that a consumer who attributes the cause of a "good" purchase to internal factors (for example, his own ability or effort) will exhibit higher satisfaction than a consumer who attributes a good purchase to external causes (for example, salesperson's recommendation). Oliver and DeSabro (1988) manipulated this construct in an experiment. Although their results supported the proposition that internal attributions are related to satisfaction, this effect was weak. Clearly additional work is required in this area to uncover the relationship between attribution and satisfaction. The conceptual model proposed in this research is a step in this direction.

A MODEL FOR HIGHER EDUCATION

The literature review above shows, that most of the studies assume that the processes by which consumers form satisfaction judgements are applicable for services. This author could locate only a few studies that have explicitly addressed consumer satisfaction with services (Hill, 1988; Jayanti & Jackson, 1991). A decade ago, Jayanti and Jackson (1991) attempted to identify an appropriate model of consumer satisfaction with services. Specifically, they tested three models: the expectation and disconfirmation model with an additional "perceived performance" variable, the performance-only model, that is, consumer's perceived performance of service, and an individual difference model. The individual difference model had the following additive functional form:

$$\text{Consumer satisfaction} = f(\text{involvement, perceived risk, innovation})$$

Based on empirical tests, the authors declared the individual differences model as the best predictor of consumer satisfaction with services; the disconfirmation model emerged as the second-best model. However, a careful review of their results suggests that the low reliability of the disconfirmation construct (coefficient $\alpha = 0.52$) could have contributed to the rejection of the disconfirmation model. Clearly, further research is required to confirm the research results.

The Model

Figure 1 shows a conceptual model of student's satisfaction with higher education services. It could be called a "mixed" model comprising the expectation-disconfirmation paradigm, attribution theory, and the "involvement" construct. Note that the conceptualisation brings together the different explanations of consumer satisfaction that can be found in the extant literature into a single theoretical framework. The key elements of the model are: (1) an *a priori* basis of evaluation (expectation), (2) comparison of perceived performance with expectation (disconfirmation), (3) an

independent evaluation of performance: that is, the use of perceived performance as an input for the satisfaction judgement in addition to its use in the disconfirmation judgement, (4) cognitive perceptions of involvement, and locus of causality, (5) satisfaction judgement, and (6) postgraduation responses of attitude toward the university, and word-of-mouth recommendations. Table 1 lists the conceptual definitions.

Figure 1. A Model of Student Satisfaction with Higher Education Services

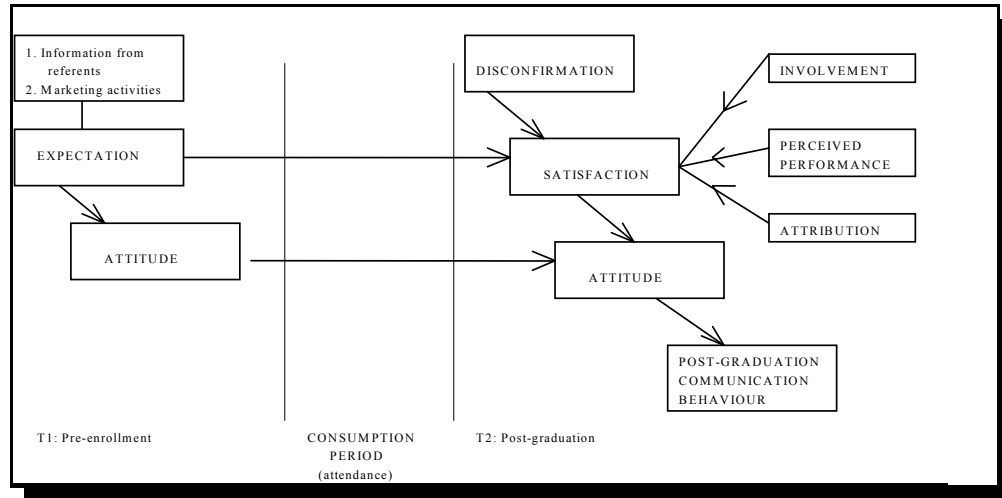


Table 1. Conceptual Definitions	
Construct	Conceptual Definition
Attitude towards the university	Consumer's overall evaluation about the goodness or badness of the university.
Beliefs	Subjective probability that an object "b" (for example, a specific product) is associated with another object (i), characteristic, attribute, value or goal. In other words, associations or linkages that people establish between the attitude object and various attributes. Prepurchase beliefs about a product or service are called <u>expectations</u> and postconsumption beliefs, <u>performance</u> .
Subjective disconfirmation	A consumer's judgement (a type of belief) about the direction and magnitude of discrepancy between what she expected of a product and how it performed. This judgement can either be on a per-attribute basis or the object as a whole (object focus).
Involvement	A person's perceived relevance of the object based on inherent needs, values, and interests.
Attributions	Causal inferences (a type of belief) about product successes or failures either on a per-attribute basis or the product as a whole (object focus). These inferences can be internal (ie., attributed to oneself) or external (attributed to others). Internal causes are attributed either to ability and/or effort. External causes to luck and/or task difficulty.
Satisfaction	A transaction specific, short-term, overall attitude.

Constructs and relationships

An expectation is the perceived likelihood or belief that higher education will lead to particular outcomes. Information processing theory suggests that expectations are formed based on factors such as direct experience with the stimulus, exposure to marketing activities, and communication from social referents (Seth, Mittal & Newman, 2000). Within the higher education settings, Razzouk, Johar and Voigt (1985) argue that communication from social referents is the major determinant of expectations and thus pre-enrolment attitude. This leads to the hypothesis:

H₁: Expectations will have a direct, positive influence on pre-enrolment attitude.

Anderson (1973) posits that expectations directly affect consumer satisfaction. Specifically, Anderson's consistency theory suggests that an unconfirmed or over-confirmed expectancy creates a psychological discomfort for the consumer because the outcome contradicts the original hypothesis. If there is a disparity either way between expectations and perceived product performance, the consumer attempts to reduce her mental discomfort by adjusting her perceptions to match that of expectations. As applied to satisfaction judgements, this theory predicts higher levels of satisfaction for high expectation groups when actual performance is lower. Stated in equation form, consumer satisfaction = f(Expectations). Thus:

H₂: Expectation will have a direct positive effect on satisfaction

As noted earlier, expectations are compared against perceived performance in order to arrive at consumer satisfaction judgement. This comparison – technically, disconfirmation of expectations, is expected to affect student satisfaction directly. According to Yi (1993), disconfirmation is relevant for products with high experience and/or credence properties such as higher education. This leads to the hypothesis:

H₃: Disconfirmation will have a direct, positive effect on satisfaction.

The Churchill and Surprenant (1982) study shows that the performance variable is relevant in explaining consumer satisfaction with difficult to evaluate products. The core service of a higher education institution, teaching, is high in experience attributes. Thus:

H₄: Perceived product performance will have a direct, positive impact on student satisfaction.

Zaichkowsky (1985, p. 342) defines involvement as, "A person's perceived relevance of the object based on inherent needs, values, and interests." The concept is relevant for student satisfaction, since it is logical to expect a highly involved student - a student who shows interest in her studies - to "assimilate" most dissatisfactory experiences. Thus, involvement is predicted to be positively related to satisfaction, with high involvement students being more satisfied with their education compared to their less involved counterparts.

H₅: Involvement will have a direct, positive effect on satisfaction.

It was mentioned earlier, that the "locus of control" concept could be an important determinant of consumer satisfaction. Specifically, a consumer who attributes the cause of a good purchase decision to herself will exhibit a higher level of satisfaction than a consumer who attributes the product success to external factors (Folkes, 1988). As applied to higher education, a student who attributes her success in a course to herself (for example, her hard work) might express a higher level of satisfaction than a student who attributes her success to external causes (for example, an easy program). Since locus of control is bipolar with internal/external dimension (Rotter, 1971), it is hypothesised that:

H₆: Attribution will have a direct, positive effect on satisfaction

The revised postgraduation attitude can be viewed as a function of preenrollment attitude and student satisfaction. As shown by Bearden and Teel (1983), and Swan and Oliver (1989), the revised attitude will impact on student's postgraduation communication behaviour.

H₇: Pre-enrolment attitude will have direct positive effect on post-graduation attitude.

H₈: Satisfaction will have a direct, positive effect on postgraduation attitude.

H₉: Post-graduation attitude will have a direct, positive effect on post-graduation communication behaviour.

METHOD

Sample and procedure

The conceptual model was tested from data collected longitudinally using survey research. Specifically, students enrolled at a medium size university in Australia were contacted at three different points in time: before enrolment, during attendance, and on graduation. For the first wave, a systematic-random sampling procedure was employed to choose every 3rd name from a list of 4500 new, enrolling students. The questionnaire and postage-paid envelope were mailed to 1500 students. In all, 953 surveys were completed providing a first-wave response rate of 64%. For the continuing student survey, only respondents to the first wave were contacted. The contact was made exactly one year after enrolment. Twenty-four questionnaires were returned as undeliverable, and 435 surveys were returned completed for a response rate of 47%. Finally, 241 graduating students, or 55% of the second-wave respondents, completed the third survey (see Table 2 for a profile of the respondents).

Scales and Indices

Measurement of expectations

Expectations in consumer satisfaction have been defined as the perceived likelihood that a product possesses a certain attribute, or will lead to a particular outcome (Oliver, 1980b). Thus, expectations are belief probabilities of attribute occurrence. At least three different conceptualisations of expectation have been reported in the literature: expectations concerning the focal brand or brand expectation, experience-based expectation, and product based expectation (Cadotte, Woodruff & Jenkins, 1987). As the name implies, focal brand expectation concerns a specific brand. Experience-based expectation is based on consumer's prior experience with her most preferred brand, or a popular brand, or last-purchased brand. Note that experience-based expectation could correspond to focal brand expectation. Finally, product-based expectation is the average performance a consumer believes is typical of a product. While it is difficult to pronounce that one type of conceptualisation is better, it could be said that brand expectation is suitable for products with a high proportion of search attributes. This is based on the assumption that consumers are aware of the attributes of brands with a high proportion of search qualities. Experience-based expectation and product-based expectation are suitable for products with a high proportion of experience and credence attributes such as higher education. For the purposes of this research, product-based expectation was assessed. Specifically, new students were asked to express their beliefs about eight "core", and "support services" of the university. The attributes, elicited from discussions with potential students and the literature, were: emphasis on teaching students well, class sizes, difficulty of subject content, student workload, availability of staff for student consultation, library services, computing facilities, and recreational facilities. Subjects stated their views on what the university will be like using a three-step scale with the anchors: "less than I would expect at another university", "equal to that which I would expect at another university", and "greater than

I would expect at another university". The scores of each attribute were summed to obtain the expectation measure.

Measurement of pre-enrolment and post-graduation attitude

Attitude toward the university was assessed using three seven-point semantic differential scales: pleasant/unpleasant, good/bad, and wise/unwise. The measures appeared on both the new students and the graduating students surveys.

Measurement of disconfirmation

Disconfirmation was measured with a 5 point, "subjective disconfirmation" scale with the "better than expected" - "worse than expected" label (Oliver, 1980b; Bearden et al. 1983; Cadotte et al. 1987; Westbrook 1987). The eight expectation items stated above were used. Some researchers suggest the "subtractive disconfirmation" approach to measuring disconfirmation (example, LaTour & Peat, 1979): that is, the algebraic difference between product performance score and a comparison-standard score, be used as a measure of disconfirmation. However, the explanatory power of subjective disconfirmation on satisfaction is far greater than the explanatory power of subtractive disconfirmation on satisfaction (Tse & Wilton, 1988).

The satisfaction construct

Subjects evaluated their satisfaction with the following services provided by the university: library services, computing facilities, recreational facilities, student administration, academic advising, external studies, catering services, health services, university preschool, bookstore, guidance and counselling, reading/writing skills improvement, grievance procedures, financial assistance, student employment, career planning, job placement, and on-campus accommodation. Since not all students would have had used all the services, a four-step scale that included "awareness" anchors was used to measure satisfaction. Specifically, the scale anchors were: "I did not know about this service", "I knew about this service but did not use it", "I used this service and was not satisfied with it", and "I used this service and was satisfied with it". For each subject, an attribute-specific index of satisfaction was computed. The index was the proportion of satisfactory services to total satisfactory/dissatisfactory services experienced by the subject. The closer is the index to 1, the higher is the satisfaction of the subject with the services.

The perceived performance construct.

Perceived performance with the core and support services of the university was assessed using the same 18 items that were used to assess the satisfaction construct. A five-step, very superior/very inferior rating scale was used. The responses to the items were summed to obtain a measure of perceived performance with the university services.

Measurement of involvement

A sub-scale from the McQuarrie and Munson's (1991) revised RPII measure was used. Specifically, a five-item semantic differential that captures the "personal relevance" of university education to the student was employed. The items were: importance, concern, relevance, means a lot, and matters to me. Geluch and Longfellow (1992) have demonstrated the validity of the instrument for use in goods, and service industries.

Measurement of attribution.

A proxy measure was employed. As mentioned earlier, a hard working student is likely to attribute her graduation or success in higher education to herself. This in turn is will result in student assimilating most, if not all, dissatisfactory experiences. To tap into this kind of reasoning, a difference-score measure was utilised. Briefly, both the new student survey and the graduating students survey requested respondents to state the number of hours per week outside of lectures and other formal classes that will be/was necessary for successful completion of the program. For instance, if 10 hours of study was predicted and in reality the student had to spend 20 hours of study, then it is likely that the student will attribute her success to hard work. On the other hand, if less hours of study were required to complete the program, it is likely that the student may perceive that factors other than hard work were responsible for successful completion of the program.

Post-graduation communication behaviour.

Graduating students were asked to agree or disagree, on a seven-step scale, the likelihood that each of the following factors would occur: "I like talking about to ___ my friends", "I like helping potential students by providing them with information about ___ and its courses", "People ask me information about courses offered at ___". The scores were summed to obtain a measure of the construct.

RESULTS

Table 2 highlights the variables in the study, and the gender distribution of the sample at each of the three stages of the study: pre-enrolment, during university study, and post-graduation. Statistical analysis indicated no significant differences ($p < .05$) between respondents and non-respondents on demographic characteristics such as country of birth, and degree of enrolment: Most of the respondents were born in Australia (92%), and were enrolled in bachelors' degrees (98%). The conceptual model shown in Figure 1 is a recursive structure with no feedback loops. Our interest is in assessing the importance of variables in the causal system. The common approach to estimation of structural parameters in such a model is the application of ordinary least squares regression. This approach was followed in this research. Also, since the causal effects are estimated from a single population, standardised variables were used in the estimating equations (Asher, 1976).

Gender	Sample	Time Point	Observed Variables
· Female · Male	65% 35% (n = 953)	Pre-enrolment	· Pre-enrolment Expectation; · Pre-enrolment Attitude
· Female · Male	64% 36% (n = 435)	During study	· Satisfaction; · Attribution; · Involvement; · Perceived performance
· Female · Male	63% 37% (n = 241)	Post-graduation	· Post-graduation attitude; · Word-of-mouth communications

Table 3 presents the mean, standard deviation, scale reliability, and interscale correlations for all the variables in the causal system. The correlations suggest that the causal model is a plausible representation of the domain “student satisfaction with higher education services”. In addition, none of the variables exhibits a correlation of .8 or more a condition that is essential for the unbiased estimates of structural parameters (Billings & Wroten, 1979).

Variable	Mean	Std Dev
Expectation	16.93	5.5
Pre-enrolment attitude	5.91	2.27
Disconfirmation	28.26	4.62
Involvement	10.38	2.06
Perceived performance	72.91	21.85
Attribution	11.87	34.77
Satisfaction	0.11	0.34
Post-graduation attitude	6.98	1.69
Word-of-mouth	14.12	3.67

Table 4 lists the structural parameters of the causal model. Each of the four endogenous variables in the causal system: Pre-enrolment attitude, satisfaction, post-graduation attitude, and word-of-mouth, is associated with a structural equation. As predicted by H_1 , students’ pre-enrolment attitude toward the university is based on their expectations about the ‘core’ and the ‘support’ services of the university. On the other hand, of the five hypothesised predictors for student satisfaction (H_2 to H_6), only two path coefficients attained significance in statistical testing: pre-enrolment expectations (H_2), and disconfirmation of expectations (H_3). This result suggests that the disconfirmation model is useful for assessing consumer satisfaction with both goods and services. As regards post-graduation attitude, both pre-enrolment attitude, and satisfaction cause changes to the construct (H_6 and H_7 were significant). Finally, the causal link between word-of-mouth communications, and post-graduation attitude (H_8) was in the expected direction and significantly different from zero ($p < .05$).

	Expectation	Pre-enrollment attitude	Disconfirmation	Involvement	Perceived performance	Attribution
Expectation	0.55					
Pre-enrollment attitude	.4492*	0.87				
Disconfirmation	0.0633	0.0369	0.79			
Involvement	.0696	.0089	.0380	.91		
Perceived Performance	.0512	.0295	.0984	.0935	.56	
Attribution	-.0134	.0660	-.0143	-.0348	-.0017	Single Item
Satisfaction	.1836*	.0292	.2038*	.1022*	.1166*	-.0379
Post-graduation attitude	.0260	.1943*	.0285	.0589	.0747	.0114
Word-of-mouth	.1072*	.0682	.0519	.0999	.0812	-.0266

	Satisfaction	Post-graduation attitude	Word-of-mouth
Satisfaction	Not Applicable		
Post-graduation attitude	.6609*	0.86	
Word-of-mouth	.1811*	.1794*	0.95

Note: Entries in the diagonals of the correlation matrix indicate scale reliability * p<.005

Variable	Structural Equation
Pre-enrolment Constructs Z ₁ : Pre-enrolment expectation about the university services Z ₂ : Pre-enrolment attitude toward the university	$Z_2 = .449Z_1^{**} (R^2 = .198)$
Consumption Period Concepts Z ₃ : Disconfirmation Z ₄ : Involvement Z ₅ : Perceived performance Z ₆ : Attribution Z ₇ : Satisfaction	$Z_7 = .191Z_1^{**} + .17Z_3^{**} + .085Z_4 + .09Z_5 - .032Z_6 (R^2 = .27)$
Post-graduation Constructs Z ₈ : Post-graduation attitude Z ₉ : Word-of-mouth communications	$Z_8 = .175Z_1^{**} + .656Z_7^{**} (R^2 = .463)$ $Z_9 = .179Z_8^{**} (R^2 = .23)$

* p < .005

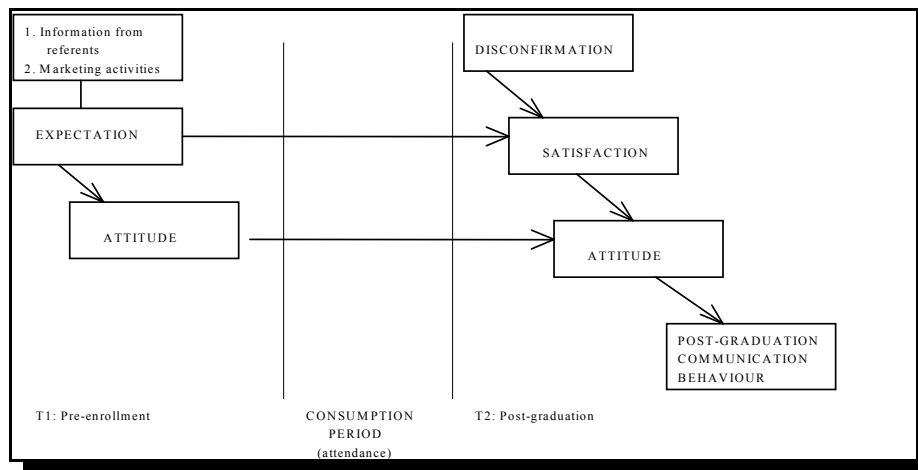
DISCUSSION

This paper is an initial attempt at theorising student satisfaction with higher education services. The underlying motive for this modelling is the need to reveal ordered relationships among empirically observed entities in the student satisfaction domain such as word-of-mouth communications, student's expectations about university, and student satisfaction with the core and support services of university (see Abell 1971 for more about empirical observations, and theory building).

We started by specifying units or variables that relate to student satisfaction (Table 1). Then, we specified how these variables are related using a recursive or unidirectional causal model (see Figure 1, and hypotheses H_1 to H_9 above). The causal model was categorised into three states or conditions: a pre-enrolment state, an enrolment period, and post-graduation time period. The causal model was tested using path analysis procedures (Asher, 1976; Billings & Wroten, 1978).

The results of the path analysis suggest modifications to the causal model in Figure 1. Specifically, the non-fitting data for the satisfaction equation highlight the need to reassess the inclusion of the involvement construct, the perceived performance concept, and the attribution predictor to explain satisfaction. If we use the criterion that the causal variables should be manipulable (Athiyaman, 1997), then psychological characteristics such as involvement, and attribution could be omitted from the satisfaction equation. Similarly, perceptions of performance could be assumed to be a part of disconfirmation judgements and thus removed from the satisfaction equation. The revised theoretical model is shown in Figure 2.

Figure 2. Modifications to the Starting theoretical Model: Student Satisfaction with Higher Education Services



Having established that the model is a reasonable representation of reality, we highlight to practitioners in the higher education sector the consequences of manipulating the variables in the system. We start with the pre-enrolment variables.

Influences on pre-enrolment attitude

It is now an established fact that attitude predicts behaviour (Krauss, 1995). Given the definition that attitude is a summary evaluation of an object (Petty, Wegener, & Fabrigar, 1997), the underlying bases of attitude need to be understood to effect changes to the summary evaluation. The correlational analysis in Table 3 demonstrates that beliefs about higher education such as emphasis on teaching students well, library services, etc. form the basis of students' pre-enrolment attitude toward the university. Further analysis of students' pre-enrolment data suggests that marketing communications play a major role in shaping these beliefs: the zero-order correlation between controllable marketing communications and pre-enrolment expectations was .21 ($p < .001$). Table 5 shows the types of controllable and non-controllable communications that are stimuli to pre-enrolment expectations. Information displays during open days, and potential student's visits to university can be managed to instil positive beliefs about the university.

Informational Source	% Using Source
Marketing Communications	
University handbook	73
Television advertising	73
Information displays	97
Visit to university	95
Reference Individuals:	
High school teachers	96
Relatives	62
Current students	84
Past students	74

Influences on Satisfaction

The causal analysis (Table 4) highlights that pre-enrolment attitude, and disconfirmation of expectations influence satisfaction judgements. As mentioned earlier, a strong, positive, pre-enrolment attitude can be developed using marketing communications (Table 5). As regards influencing student's beliefs about the magnitude of discrepancy between what she expected of a university and how it performed (disconfirmation of expectations), the marketing literature suggests the following guidelines that can be adapted for higher education (see Hull & Collins, 1987; Hartline & Ferrel, 1996; Ostrom & Iacobucci, 1995; Weitz, Sujan & Sujan, 1986).

The core service of a higher education, teaching, is complex: that is, adequate knowledge is required to complete the task. Since a student can never know the level of quality of certain aspects of teaching – for example, topics covered during the lectures and their relevance at the

workplace, the student will seek personal interaction with the service provider (the lecturer) to lessen her worries about service quality. Bearden, Malhotra and Usategui (1998) argue that greater the level of contact, the stronger is the perception of service satisfaction. Hence it is recommended that lecturer-student contact time be managed to enhance satisfaction.

For support services such as library, computing, and recreation facilities, students may be willing to give up the right to be treated individually for fast and efficient service. In other words, standardization may lessen the need for contact with students. In this situation, low cost, and rapid response time influence positive disconfirmation perceptions and thus satisfaction.

Influences on Post-Graduation Attitude

As shown in Table 4, post-graduation attitude is strongly influenced by perceived satisfaction with university services. Earlier, we presented arguments for managing disconfirmation perceptions using interpersonal contact as the manipulable independent variables. We can extend this approach to include all university services. Specifically, core and all support services can be arrayed on a continuum of student contact with one extreme representing self-service situations in which few university personnel may be present (for example, student computing labs) and the other extreme characterised by very remote or university-personnel only service situations (for example, accessing university library using the Internet). Interpersonal services that involve students and university personnel represent the middle position (for example, face-to-face lectures and tutorials). Student satisfaction can be enhanced using standardized yet reliable service for the extremes. For the high-contact services, satisfaction can be enhanced by hiring university personnel who possess the knowledge and skills required to perform the given tasks, and by training the personnel to care for the students (empathy).

Influences on Word-of-mouth Communications

As discussed above, understanding student-contact requirements for different services will offer insights into enhancing student satisfaction with the services. Student satisfaction, a short-term, consumption-specific attitude (see Table 1), will determine student's post-graduation attitude towards the university, and the latter will influence word-of-mouth about the university. The implication for practice is, 'enhance student satisfaction in order to gain positive communications about the university'.

CONCLUSION

This paper has provided a conceptual linkage between satisfaction-with-university services, pre-enrolment and post-graduation attitudes toward the university, and other antecedents and consequences. Practitioners in higher education should shape enrolling students expectations using marketing communications such as information displays during university open days. These pre-enrolment expectations form the basis of pre-enrolment-attitude that directly influences satisfaction perceptions, and post-graduation attitude toward the university. Student satisfaction should be

managed by classifying services based on student-contact requirements. Adapting the prescriptions provided in this paper will lead to competitive advantage for a university. Finally, additional research is required to further validate the conceptual model provided in this paper. Specifically, research is required to assess whether measurement error could have dampened the relationship between perceived performance and satisfaction, and whether the difference score conceptualisation of attribution could have nullified its relationship with satisfaction.

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AN EMPIRICAL STUDY OF THE INDICATORS OF THE NEED FOR POWER, ACHIEVEMENT AND AFFILIATION, AND THE ETHICAL, MACHIAVELLIAN AND POLITICAL ORIENTATION OF MARKETING MAJORS

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ABSTRACT

This research studies personal and behavioral indicators of the need for power, achievement, and affiliation, and the ethical, Machivallian and political orientation of 178 marketing majors. The statistics indicate that for all respondents in the study, those with a high level of academic achievement had a lower need for affiliation, were less politically oriented, but were more ethically oriented and that females are more ethically oriented than males. Surprisingly, there was no statistical difference in the median score for the need for achievement and the need for power between males and females; however, males had a statistically higher level of need for affiliation. Those respondents that had a high need for affiliation had a lower level of academic achievement and Machiavellian orientation but were more politically oriented. Those respondents that had a high need for power were more politically oriented but less ethically oriented. Those respondents that had a high level of Machiavellianism had a lower need for power, and those respondents that were more ethically oriented had a lower need for power and affiliation were less politically oriented but had a higher level of Machivalliasm. Politically-oriented respondents have a higher need for affiliation, a higher need for power, a lower degree of Machiavellianism, and a lower degree of ethical orientation than respondents who are not politically-oriented.

INTRODUCTION

Today's organizations have changed dramatically as a result of technological advancements, globalization, competition, legal, regulatory, environmental, and managerial changes. However, there has been one constant in organizations over the years: the presence of organizational politics. Employees have to contend with the nuance of organizational politics to survive in the workplace. Organizational politics is an ever existing phenomena in any organization. It is the one thing in the workplace that is constant and a tie that binds employees. To survive in today's fast paced,

competitive environment, employees must learn not only to deal with but effectively manage the seductive process of organizational politics.

The need for power, achievement, and affiliation is central to the study of organizational ethics, politics, and Machiavellian tendencies. The need for achievement is the employees' desire to perform to high standards and to excel in their job. Employees who have a high need for power use that power as manipulative for personal gains or as a means to help others in the organization to achieve their goals. However, individuals who have a high need for affiliation enjoy associating with other employees in the organization and are concerned about their happiness. These individuals like to work for organizations that are employee centered.

Employees having a high Machiavellian orientation have the potential for disrupting an entire organization. These individuals see what they can get away with, but not to the point of becoming obvious to others that are in a position to retaliate. The Machiavellian personality has no loyalty to the organization and mainly approaches all situations from a self-interest perspective. Therefore, an individual with a Machiavellian orientation represents a significant personality variable which directly affects other employees and also the organization.

The majority of past studies focused on the personal characteristics of male executives because of the small number of females in executive positions in firms and in corporations. However, this single gender approach is no longer relevant. It is important to study the potential impact of the increase in the number of females assuming managerial roles in organizations.

A pervasive but very significant reason for studying Machiavellianism in today's organizations centers around the issue of loyalty. Loyalty refers to the dedication or commitment to a person, a task, or the organization where the loyalty to one factor results in being at odds with the others. Self interest is the most powerful force affecting loyalty and influences both those who employ Machiavellian tactics and also the recipients. Since Machiavellian characteristics exist in individuals in differing degrees, professors need to know more about the students' characteristics and ethical attitudes. Also, an understanding of this type of aggressive personality and leadership style can help in understanding organizational behavior. By understanding high Machiavellian characteristics, employees can make counteractions to prevent damage to themselves or the organization. This information could help the socialization process of hiring new employees in the workplace, in structuring university ethic's courses, and in understanding Machiavellianism in the workplace.

Developing a corporate culture that encourages ethical behavior and discourages unethical behavior has become a major concern for organizations. This paper explores the possible connection between need for power, achievement, and affiliation and the ethical, Machiavellian and political, orientation of male and female marketing majors. Determining a profile will also suggest how much emphasis to place on ethics and management styles in the classroom in order to create students awareness of the implications of their actions in the organizations as they enter the workforce. By creating a classroom awareness of the study variables, students will be better equipped to deal with individuals who are not ethical and use political intrigue and Machiavellian methods in the work environment.

BASES OF POWER

An individual's influence over others can be derived from different bases of power such as referent, expertise, legal (legitimate), coercive, reward and information power (French & Raven, 1960, 1974). Legal power exists when employees obey the directives of an individual because they think that person has a legitimate right to direct them. This type of power is derived from an individual's position in the organization such as the chief executive officer of an organization. This power base is also known as formal power, and direction is accepted by subordinates as long as it is not abused. An individual has reward power if that person has control over the giving of rewards, such as salary increases or bonuses, for desired behavior. However, coercive power is the opposite of reward power and is the power to punish and withhold rewards. As a source of management's power, coercion is mostly punishment such as the threat of discipline. Expert power is the ability to influence others because of expert knowledge and competence. An individual has referent power to the extent that others identify with the expert and want to be associated with that individual. Information power is based on an individual's control of essential information on which others are dependent.

The first necessary condition for the power relationship is the requirement for a time lag between the actor's exertion of power and the response of the recipient. Implicit in this condition is the realization that the actor cannot have power over the recipient unless the actor's attempt precedes the recipient's response. The second necessary condition concerns the distance between the actor and the recipient. There is no action at a distance unless there is some connection between the two actors. If, in fact, a connection does exist, then a power relationship exists. In the study of power relationships, establishing a connection between actors is implicit for the power process to occur. This condition also acts as a screening process early in an inquiry. The third necessary condition concerns the recipient's dependency on the actor. This dependency resides in control over the things the actor wants or values. Therefore, power resides implicitly in the other's dependency. Finally, use of any power method must result in a successful attempt to get the recipient to do something he would not otherwise do (Dahl, 1957; Blau, 1964; Emerson, 1962; Tannenbaum, 1968). This approach to power studies the behavioral outcomes which result from the application of power. This classification of power often involves resistance by the target.

For Weber (1947) power is the probability that one actor within a social relationship will be able to carry out his/her own will, despite resistance, and regardless of the basis on which power rests. Nearly all theorists who have written about power will express agreement with this very broad definition; yet, there are subtle and not-so-subtle differences among their various perspectives.

Mechanic's (1973) study recognizes that increasing specialization and organizational growth has made the expert or staff person important. Experts maintain power because the organization depends on them for their special skills and information. However, power resulting from that person's expertise is likely to be limited unless it is difficult to replace that individual. Therefore, other factors remaining constant, an individual that is difficult to replace will have greater power than a person who is easily replaceable.

Olsen's (1970) thesis is that to exert dominance or power in an organization, an individual must be able to control activities such as information flow, decision making, and economic

transactions. These individuals may be at the top or the bottom of the organizational structure. Olsen realized there were sources of power other than position power in the organization.

Salancik and Pfeffer (1977) reinforced the relationship of information flow and power by studying a bank which was planning to install a new computer system for routine credit evaluation. Opposition came from the manager of the credit department. His function was to give approval to credit applications and review and approve other similar processes. As a consequence, his subordinates, colleagues, and superiors contributed considerable power to him. The manager's source of power was his ability to cope with the uncertainties of the approval process. However, as this example illustrates, an individual's or subunit's power is never absolute and depends on the situation.

In another research project, Salancik and Pfeffer (1977) studied a large insurance company to determine how the influence of each manager evolved from his unit's handling of critical organizational contingencies. They found that the coding function was one of the most powerful departments in the organization because this department's output affected virtually every operating department in the company. The basis for the coding department's power derived from the ability of a person or subunit to take or not to take action on which others depended.

Pfeffer (1977) further studied this ability to control information. He found that individuals or subunits limited access to information strategically to enhance or maintain their power in an organization. As long as the individual or subunit could control information, it was virtually impossible for anyone to challenge decisions. This was a key reason for the increasing base of power for accountants in organizations.

Previous research found dependency as the basis of power. According to Reiff (1974), the basis for professional power in a organizational setting was not the knowledge itself; instead, it was the control and coping with knowledge and therefore the control of information. The control of information led to uncertainty and dependency of other subunits in the organization on the individual that had the knowledge. Starr (1982) also found the basis of the physician's superior competence was dependency. Physicians claimed authority through skill in performing a service and also by the capacity to judge the needs of the patient. In this context, we define physicians' authority by a distinctive type of dependency condition.

The literature makes an important distinction between power, uncertainty, and coping. Uncertainty itself does not give power, rather the coping with uncertainty (sometimes referred to as "shock absorption") gives power. An index of the power of subunits is in direct relation to the amount of shock absorption a subunit can handle and can be directly measured by the difference between the uncertainty of the input's need by the subunit and the certainty with which it performs its activities. Having the ability to start action, especially when this action leads to the solution of an organizational problem, increases power of the initiator. Therefore, if the organization assigns tasks to their subunits which vary in uncertainty, then those subunits which cope most effectively with the most uncertainty should have the most power in the organization. Power in an organization is obtained by these coping subunits through the dependencies created (Hickson et al., 1971; Hinings et al., 1974).

Crozier's (1964) study of power introduced a broader concept of rationality which reviewed authority relationships. The study incorporated the universal need for power and control as motives

in the formation of groups in organizations. Instead of the passive compliance of groups with an organizational structure that established the distribution of authority, individuals developed means for the active pursuit of accumulating power for security and control. He postulated that individuals may strive for power as a tactic to preserve and protect against losing power in their area, or they may strive for power because of competition or control. Crozier believed every occupational group feels the need to cooperate to ensure the continued survival of the organization as a whole, since only through such cooperation can each group preserve the foundation upon which its own present privileges and future expectations are constructed. Groups have survival curves that force them to subordinate their power-maximizing strategy to the necessity of maintaining sufficient production to ensure the organization's survival.

The need for affiliation, power, and achievement are important in determining the kind of work people want to do and how effective they are likely to be in different work environments. Employees who have a high need for affiliation want to work with employees they like personally, like to work closely with other employees, are concerned about the other employees happiness and satisfaction, and have positive attitudes about their social and work relationships. Those with a high need for affiliation like acceptance by other employees and enjoy jobs which are people oriented. However, those individuals with a high need for affiliation may not necessarily make effective managers. The McClelland and Burnham (1976) study finds that managers that have a high affiliation needs are less effective managers than those who have a high need for power. Managers who have a high need for affiliation may be unable to confront unpleasant interpersonal issues and try to make decisions which will please all employees. A moderate level of need for affiliation may make managers sensitive to other employees and their concerns. However, when the need for affiliation is the primary motivator for a manager, then their managerial effectiveness may be less than desired.

Individuals with a high need for power like to influence other employees in the organization and these individuals work hard to maintain that power influence. There are two facets of power, one negative and the other positive (McClelland, 1975). Personal power is the negative facet of power and it is manipulative and directed exclusively at personal gain. Employees with a high need for personal power approach work as a win-lose approach in interpersonal situations. In this respect, personal power is viewed as an individual who manipulates and climbs over other employees for promotions in a purely selfish interest. Socialized power is the positive facet of power that combines a wish to influence others toward a concern for group goals. An employee who has a high need for socialized power will try to help other employees to achieve their goals and also help those employees achieve the work skills and competency that employee needs for success. Effective managers usually have a high need for socialized power and are motivated by the need to influence others in the positive aspects of power in order to benefit the whole organization.

Individuals with a high need for achievement like to set their own personal goals and are opposed to the organization setting goals. These individuals also like goals in which they have a 50 percent chance of achieving, because they do not want goals that are too easy to achieve. Individuals with a high need for achievement want frequent, specific feedback and to know how well they are performing their job. Individuals with a high need for achievement also want to be in control of their workplace and work environment and to be responsible for their productivity.

McClelland (1975) found that for managerial jobs in large organizations, a high need for achievement may be a disadvantage unless balanced by needs for power and affiliation. Managers and employees in large organizations have to work as team members and are responsible for goals set by others.

ETHICS

Bartels' 1967 model explains how ethical standards are determined and how decisions are made in compliance with these ethical standards. The four matrix models identify general cultural influences of society and their influence on organizations; the noneconomic influences on economic behavior; the sets of economic relationships where expectations affect behavior; and the decision bases in management role relationship. Bartel's theory indicates the determinants of ethical decisions in organizations and the various publics; further, it stresses the overall role of culture in influencing ethics.

Hunt and Vitells' 1986 model developed a general theory of ethics from a positive, descriptive perspective rather than the normative model. Almost all previous theoretical works focused on developing guidelines or rules for ethical decision making. Their general theory indicated that an individual's personality is a major factor in ethical decision making and directly influences the manager's perception of the ethical problem. The 1987 Bommer et al. model described and identified various factors that affect both ethical and unethical behavior in an organization. The Bommer et al. model includes the decision maker's social, governmental, legal, work professional and personal environments with the mediating effects of individual decisions. This represents a first attempt to identify and relate the environmental factors and influences in individual decision making. The ethical decision making process is particularly important to divisions of an organization which relate to the environment. Ferrell and Greshams' 1985 research developed a general framework contingency approach to individual decision making. The contingency framework indicates that multifaceted factors affect the ethical actions of decision makers. Their model describes ethical actions as a function of the interactive effects of organizational and individual factors.

The 1989 Ferrell and Fraedrich study described, evaluated, and compared the current models of ethical decision making. From their analysis an integrated model is developed which combines both cognitive-affect and social-learning theory. This model provides a more complete perspective of the ethical decision making process which acknowledges both the external and internal process. An organization which is interested in improving its ethical decision making process needs an organizational mandated sequence of ethical reasoning (Laczniak & Murphy, 1991). With top management commitment to an ethical culture, the question sequence model of ethical reasoning developed in this study can be used. The 1977 Weaver and Ferrell study indicated that the existence and enforcement of a corporate ethical policy influences its employees' beliefs about ethical behaviors. Their research found that a corporate code of ethics enhanced more ethical beliefs, but that enforcement is necessary to change ethical behavior.

In 1978 Ferrell and Weaver studies the personal beliefs of managers held toward their internal organizational relationships with peers and top management. Their research focused on why managers think and act ethically or unethically. In this study the respondents believed that their peers and top management have lower ethical standards than their own and that the existence and enforcement of corporate policy does not encourage more ethical conduct than their personal beliefs. The 1993 Metzger et al. study found that existing ethical codes of an organization, oversight surveillance procedures, and statements about the code's importance are not sufficient to assure that the organization's ethical standards will be followed. Rather, to assure the creation of an ethical internal environment, companies must conduct a rigorous study of existing systems, the incentive reward system, and employees' current perceptions about the ethical climate. Most large companies have written codes of ethics to guide activities (Hite et al., 1988). The Hite et al. study determined the frequency and specific topics covered in the ethics policy statements of large companies in the United States. They found that the topics most often covered were: misuse of funds, conflicts of interest, political contributions, and confidential information. In 1993 Hunt and Vasquez-Parraga developed an experimental design model to study ethical issues. Their findings suggest that a manager's decisions to either discipline or reward the behavior of salespeople are guided by whether the salesperson's behavior was right or wrong and only secondarily by the consequences of that behavior to the organization. Having a code of ethics in itself does not foster ethical behavior or prevent unethical behavior. Employees must believe that the organization's ethical code and norms are important enough to be enforced.

The 1971 Gelb and Brien study suggest the education process may be partially responsible for the personal and organizational value systems that influence future managers. In 1972 Hawkins and Coucanougher found that business majors as a group have a more tolerant frame of reference when evaluating the ethics of business practices and that this tolerance of questionable ethical practices may occur in their junior and senior years. They further found that increased exposure to a business school's curriculum would increase the students' level of tolerance toward questionable business practices and that the occupation of a student's father was not a significant factor in their frame of reference.

In 1988 Lane et al. found that business students believe they must engage in unethical behavior to succeed in business school. The study also found that business school programs do not reinforce positive ethical perceptions by students but rather the programs may have a negative effect on certain ethical actions and perceptions. The 1988 Grant and Broom study variables were family income, father's occupation, and university type. Their findings indicated that low family income makes one think strictly ethical or unethical with no compromise; a high family income makes one think ethics in terms of immediate monetary return; and coming from a middle income family makes one think strictly ethical or compromise. They also found that if the occupation of the respondent's father was managerial, they tended to think ethics in terms of immediate monetary return; those whose father's occupation was labor tended to think strict ethical or compromise; and, those from families where the father's occupation was professional tended to think ethical compromise. The analysis by university type indicates that students graduating from a small state university tend to have a more strict set of ethical attitudes, and those students from large state universities and private religious universities appear to have the full spectrum of ethical attitudes. Harris's 1988 research

study found that the ethical values of the university's faculty were not that much different from the students.

Concerns about students' ethical attitudes, the influence of media, the ethical practices of peers, and the influence of the American Marketing Association (AMA) was studied in 1989 by Steinberg et al. Their findings indicated that students did have a positive attitude toward ethical attitudes. Further, that research suggested that people are more aware of unethical business activity today because of the media. When questioned about successful peers, over half of the respondents agree that the successful students were more unethical.

A 1990 comparative study by Jones had students assume two different organizational roles, either as president or as an employee when answering ethical situations. The study found that the situation or role that the students were asked to assume did affect the pattern of their ethical responses. When students responded as employees, their ethical attitude were more liberal in the use of company resources; when students responded from the president's viewpoint, their ethical attitude was more protective of company resources.

Seventy-eight percent of the students report that they had cheated at least once during their college career in the 1991 Garner et al. study. Regression analysis indicated a significant relationship between students' ethical attitudes and cheating, but not between cheating and attitude toward grades. The 1982 Fritzsche and Becker study found that where students as a group possess no hard or fast rules for dealing with specific ethical problems, they respond to the ethical vignettes on an individual basis. They found that each problem will likely be dealt with on an individual basis depending on the values of the student at that point in time.

The 1991 Kraft and Singhapakdi study investigated the differences in perceptions between business students and service-sector managers regarding the role of ethics and social responsibility in organizational effectiveness. The study found a difference in the perception of students and managers with students rating the importance of ethical conduct and some dimensions of social responsibility lower than managers. The 1991 Peterson et al. study replicated an earlier research effort and found trends of increasing concern by college students about business ethics and a slightly higher level of concern by females than the previous study reported ten years earlier.

The 1991 Davis and Welton research found that lower and upper division business students have different perceptions of ethical behavior and that formal ethics training is not a significant factor for the difference. The study also found that gender was not a critical factor in differentiating the ethical perceptions of business students. Research conducted in 1991 by Whipple and Wolf indicated that students show greater sensitivity to social responsibility issues than practitioners. They also found that male students are less critical than the female students of questionable business practices.

The 1989 Akaah study found female respondents were more ethical than their male counterparts. These results support the viewpoint that ethical decision making in organizations will improve as the ratio of women to men in executive positions increases. Similar results were found in the 1985 Chonko and Hunt study found female managers perceive more ethical problems in management activities than do their male counterparts. The study also found that compared to their male counterparts, females appeared less likely to ask for a bribe, but were more likely to pay a bribe. They also found that females were much more likely to participate in conflicts of interest.

The 1989 Betz et al. study found that more female than male students wanted to help people. Also, male students indicated that they would more frequently skirt company rules. However, few respondents in this study were willing to break laws for personal gain. The study found that on questions relating to work-related values and interest, males were more concerned with money and advancement and that women students were more interested in relationships and helping others.

The 1987 Kidwell et al. research study found that male and female managers generally did differ in their perception of what is ethical and what is unethical. However, male respondents were more willing to conceal their errors. Male and female managers were asked to estimate the ethics of the opposite sex in decision situations. Almost universally each sex viewed the opposite sex as being more unethical than themselves.

The 1990 Tsalikis and Ortiz-Buonafina study found that females are more ethically sensitive than their male counterparts. Females also indicated a lower probability that they might act in a similar way if faced with the same problems and that male and female students use similar processes to evaluate ethical situations.

The 1993 Galbraith and Stephenson study found that no particular decision rule appears to be applied all or almost all the time by either male and female students. They also found that female students seem to more readily invoke different decision rules for different ethical situations while male students exhibit less diversity in their use of ethical decision rules.

MACHIAVELLIANISM

Since the publication of *The Prince* in 1532, the term, Machiavellian, has been used to designate a particular type of personality orientation. To be identified as Machiavellian is an indication of an unsavory, amoral if not immoral reputation for dealing with others so as to accomplish one's objectives. Traditionally, the Machiavellian individual is thought to manipulate others for his or her own purpose (Christie & Geis, 1970). Machiavellianism is defined as an individual's general strategy for dealing with other people and the degree to which they feel they can manipulate others in interpersonal situations (Robinson & Shaver, 1973). The needs, feelings, or rights of others in the organization are secondary. In essence, Machiavelli discussed ways to manipulate other people.

A twentieth century definition of a Machiavellian personality is an individual who employs aggressive, manipulative, exploiting, and devious moves to achieve personal or organization objectives (Calhoun, 1969). The major characteristics of a high Machiavellian orientation are: deceit, manipulative (but not obvious), opportunistic, suspicious of others, emotional detachment, impersonal and opportunistic, ambitious and consequently impatient. Such individuals appear unresponsive to personal or ethical concerns of others, have little concern for conventional morality, are not opposed to dishonesty, and have emotional detachment from others (Christie & Geis, 1970). High Machiavellians like to take control, especially in loosely structured organizations, are more rational, logical, rational and pragmatic than low Machiavellians. Low Machiavellians on the other hand, like and respond well to structure in organizations (Randolph & Blackburn, 1989).
Empirical Machiavellian Studies

The 1973 Siegel research studied managers and managers-to-be, MBA students, and faculty members as to the extent to which these groups exhibited the manipulative interpersonal dispositions and the extent to which a Machiavellian relates to the dimensions of leadership. Siegel used the MACH scale and the Theory X and Theory Y leadership scale. The study found that managers are less and MBA students are more Machiavellian than the norms, and that faculty are the most Machiavellian of all. They found Machiavellianism tends to be negatively related to participative leadership attitudes for both students and managers.

In 1973 Touhey found the greatest intergenerational mobility in occupational status is reported by individuals who made the highest scores on both IQ measures and the Machiavellian scale. The study concludes that intelligence aids the deployment and concealment of Machiavellian tactics.

In 1977 Heisler and Gemmill determined that Machiavellianism is shown to be consistently related to job satisfaction and job strain across a variety of organizational settings. This study also found that Machiavellianism demonstrates a consistent directional trend related to organizational success and satisfaction and is significantly associated with a manager's upward mobility as determined by their current salary. In 1978, Hegarty et al. identified Machiavellianism as one of the personality variables which is a significant covariate in graduate business students' ethics studies. Their findings indicate that individuals identified as high Machiavellians have less ethical behavior than other study participants.

The Singhapakdi and Vitell 1990 study reported that a Machiavellian orientation and an organization's ethical policy is a significant predictor of the outcome of a manager's ethical decision process. Their study also indicated that high Machiavellian-oriented managers were less ethically sensitive than low Machiavellian managers. Further, high Machiavellian-oriented managers would agree less with ethical policies or rules of behavior.

The Singhapakdi 1993 study found that high Machiavellian-oriented managers tended to perceive ethical problems as less serious than would low Machiavellian-oriented managers. The study also found that high Machiavellian-oriented managers tended to agree with "say and do nothing" as a possible course of action more than low Machiavellian-oriented managers. Also, this research found that Machiavellian managers appeared reluctant to punish unethical behavior and that enforcement of an ethical code was essential. The implication for management was to make it in the best interest of the Machiavellians to behave ethically. The study's results indicated that severe punishments for unethical behavior and significant rewards for ethical behavior was what a Machiavellian would respond to.

ORGANIZATIONAL POLITICS

Machiavellianism could be used as a surrogate for no-holds-barred political behavior, however, organizational politics appears to be a more diffused process (Christie & Geis, 1970). Political behavior in organizations is an inescapable feature of all organizations. Organizational politics are more fierce today than several years ago. Employees are working in an era of corporate takeover, downsizing, and restructuring; the efficient use of organizational politics is needed for

personal survival. To be successful today in an organization, a person has to have expertise, knowledge and also good organizational political skills. What is organizational politics? According, to Rozakis (1998), it is the subtle and informational methods that successful people use to gain power and advantage.

The common theme of organizational politics suggests a concern with self-serving behavior. In 1985 Mitzberg proposed that a metaphor for the organization could be a political arena. Politics in organizations also have functional roles to play, and these political processes can promote necessary strategy changes which are blocked by more legitimate systems of influence (Mitzberg, 1994). Organizational politics are characterized as: the ability to control people and resources, the desire to build mutual understanding and respect in the workplace, social skills, techniques for dealing with confidence and diplomacy, ability to master negotiations. Often the most important aspect is the criteria of getting ahead of others in the organization (Rozakis, 1998).

A study found that executives are wasting 20% of their time dealing with organizational politics. Negative organizational politics is often the result of many internal pressures, especially when businesses demand unreasonable levels of productivity. External factors such as increasing competition, industry down cycles, and layoffs can lead to job insecurity and also contribute to a politically charged organizational atmosphere. But as the result of the survey found, not all political maneuvering within the organization is negative (Communication World, 1995). Probably one of the core reasons that individuals engage in organizational politics is the craving for power. This lust for power in organizations is a normal human need, and to obtain power many executives engage in organizational politics (DuBrin, 1990).

DuBrin presents twelve fundamental reasons for the use of organizational politics. They are; scarcity of resources, competitive work environment, subjective performance standards, imitating power holders, win-lose organizational philosophy, cravings for power, Machlavelian tendencies of employees, emotional insecurities of people, belief in external forces, hunger for acceptance, self-interest, and a desire to goof off. Resources are scarce in organizations and employees quarrel over resources such as who deserves more secretarial help or who needs new computers. One of the most important ways in which resources are limited is the hierarchal pyramid shape of most organizations. The scarcity of powerful positions leads to politicking among mid or lower management levels to obtain more powerful positions and control resources (DuBrin, 1990). In an organizational hierarchy, employees tend to rise to their level of incompetence. Most promotions are based on present performance, conformity, likeability, and the approval of key people rather than on their potential. One of the reasons is the difficulty of defining and quantifying the qualifications for managerial positions. In an entry level position, companies tend to specify an education degree or training certification rather than experience which could be subjective (Fernandez, 1987). Competitive forces in the environment also enhance organizational politics. When an organization has a large number of ambitious employees, these individuals tend to try and outperform each other in order to achieve recognition and eventually advancement. Even after a cutback, employees compete to acquire the remaining positions; they often resort to organizational politics to gain a competitive edge. Subjective performance standards often force employees to resort to organizational politics because they feel that the organization does not fairly judge their performance. Subjective performance standards occur often as a result of unclear job definitions.

Those employees who do not have a clear job description often have more time to engage in organizational politics and office gossip which may eventually result in promotions (DuBrin, 1990).

Imitating the executives in the organization is another important reason of organizational politics. This involves dressing in similar clothing and imitating the management style of the supervisors or executives and even brown-nosing. Some employees engage in these acts in the hope of impressing the executives and become one of those favored employees. This phenomenon is called sycophantomism and can have a negative effect on the company. Employees who seek to conform and to please their supervisors at all costs quickly become chameleons and yes-people. These employees no longer think independently, question directives, or advance ideas that are very different from the status quo. They mimic and cater to their supervisors to such an extent that they lose sight of their own selves and become reflections of their supervisors. This loss of uniqueness and independence in the employee also means a certain loss of individual creativity and opportunities that follow risk taking (Fernandez, 1987).

The more an organization's culture emphasizes a win-lose approach when giving out rewards, the more employees will engage in organizational politicking (DuBrin, 1990). This is because the size of the rewards are fixed and any gain for one employee or a group is achieved at the expense of another employee or group. The most desired and useful objective for an individual in any organization is power. If one has power he can get things done, make things happen or not happen. Power enables us to direct our future, achieve goals, establish resources, exercise authority, maximize performance, create new opportunities, help others, and most importantly be fulfilled (DuBrin, 1990). The three types of power that are derived from the people in organizations are the power of position, power of influence, and power of scarcity. The power that directors, managers, and supervisors have are derived from their position on the organization chart and is identified as positional power. Employees with good communication skills sometimes have influential power. Secretaries that have the power to withhold information and control access to individuals in the organization possess power of scarcity. Influence, prestige, and control is the prize and money is the reward that follows that attainment of power. People who have power move up the corporate ladder very rapidly and receive a salary raise faster which results in more recognition. Organizations just confer the power, but people can and must generate their own kind of power (DuBrin, 1990).

The struggle for power in organizations involves Machiavellian tendencies of individuals. Human nature has as a core trait the desire to manipulate other people in organizations. Certain individuals often have the ability to shape the attitudes and desires of others for their own personal advantage. Examples of these types of actions would be to give false, misleading promises just to make that person happy or to embarrass the other person to put oneself into a better light. When people in organizations distrust one another, they don't listen, they don't communicate clearly, and they don't collaborate. On the other hand, when trust exists in organizations, individuals feel more empowered, free to act, experiment and contribute without fear. It all has to do with the organization's culture, management philosophy, charisma, and personality of the employees. Feeling insecure and lacking self-confidence prompts many people to organizational politicking, also, the hunger for acceptance and self-interest forces people to engage in organizational politics because they consider their own welfare before the company's interest. Another reason individuals engage in organizational politics is the desire to "goof off". Some employees politick simply to avoid hard

work. To be a favorite of the supervisor may save the employee undesirable assignments. Some employees also use organizational politics to avoid getting ahead. These employees do not want to transfer to another location because of the strong influence of the current work lifestyle (DuBrin, 1990).

Success for individuals is defined in most traditional organizations as being promoted and moving up the organization's structure, gaining more authority, responsibility, and recognition, and being rewarded financially for their effort. People define self-interest in terms of personal rewards rather than in terms of service and contribution to others (Block, 1987).

The unwritten strategies of organizational politics can be numerous. One of the most frequent strategies is to first know the company culture, its myths, and rituals. An example of a myth is a company story, and an example of a ritual is a company picnic, going away parties, baby showers, company outings, or casual dress days. Employees also need to know how people communicate in organizations. Communication is one of the most prevalent tools to gain success (Kansas City Business Journal, 1998).

Surveys consistently have shown that the ability to communicate effectively is one of the characteristics judged by managers to be most critical in determining promotability. Frequently, the quality of communication between employers and employees is poor and the main reasons are existing distrust, hostility, defensiveness, feelings of incompetence, and low-self esteem. An employee will be promoted if he masters the positive type of organizational communication skills that: focus on accuracy, that are problem oriented, that are based on goal congruence, that are descriptive, and that validate individuals (Whetten & Cameron, 1995). To gain validity and become influential in the organization the most important strategy to follow is to avoid abusing your personal power or being abused by those who have power. An important unwritten organizational rule is to acquire the ability to influence one's boss or others in higher level positions.

The five main approaches to handling organizational conflict are: avoiding, compromising, collaborating, forcing, and accommodating. All of these approaches reflect various levels of assertiveness and cooperativeness; however there is no single best way to handle conflicts. The forcing response is the blatant use of the authority of one's office. It is a way of satisfying one's own needs at the expense of another individual's and is probably an indicator of general lack of self-confidence. Use of the accommodating approach to conflict management means to satisfy someone's needs, thereby neglecting one's own concerns. This approach emphasizes the preservation of a friendly relationship at the expense of critically judging the situation and arriving at the best solution. Avoiding conflict neglects the interest of both parties by postponing the solution. Compromising is the liaison between assertiveness and cooperativeness that obtains partial satisfaction for both parties, whereas the collaborating approach tries to address fully the concerns of both parties (Whetten & Cameron, 1995).

For a real understanding of the organizational political environment, the concept of gossip is essential. People gossip to politic and socialize, but mainly it is a mode of intimate relationship and a form of association. It is a unifying force that communicates a group's moral code. Gossip is the social glue that holds organizations together. Products of organizational politics are gossip, backstabbers, bullies and the grapevine. Office gossip may be the most routine and relatively harmless office practice. However, many times bullies and backstabbers are determinatal to other

employees and also the organization because they do not stop their destructive gossip until they are promoted or dropped from the organization. The word gossip originated from the Old English word *godsibb*, which means a person who is related to one God, and until the 1800's it denoted a man who drank with friends or a woman who helped out during childbirth (Westen, 1996). Despite its simple meaning, gossip may be perceived as a dangerous and destructive weapon of communication in organizations; it can ruin reputations, poison relationships and destroy careers. However, gossip is part of human nature. It begins in childhood and follows people all the way throughout their working life and beyond. A survey found that each year employees spend the equivalent of three weeks of work engaged in gossip (Basile, 1995).

Managers can find out through the grapevine what others think about them and what usable ideas employees might have, which otherwise might not be voiced. Gossip travels faster than news in the official organizational channels. Gossip is an equalizer and a safety valve for many employees. Employees can learn about the frailties and foibles of managers in the organization through gossip. Gossip also serves as letting off steam about management (Basile, 1995).

Letting off steam is one of the reasons gossip might be beneficial to the organization and also detrimental at the same time. Employees often get caught in the web of organizational politicking exactly because of taking part in gossiping. Gossiping also sometimes seems to lead to lying. This often leads to false information which is one of the major criticism of gossip. Gossip is often used to decrease the power of managers or block someone from being promoted in the organization. Overall, gossip is bad only when it is meant to be personally destructive, and even that type of information can be useful, as long as it is not passed along.

HYPOTHESES AND METHODOLOGY

The data was obtained from 178 undergraduate marketing majors at two medium-size universities located in the mid-west and mid-south during. Completing the questionnaire was voluntary and anonymous. It took students approximately twenty-five minutes to complete.

The survey instrument included 82 questions or statements. The section of the survey which assessed the student's need for achievement, affiliation, and power used the 15-item motivational needs survey developed by Steers and Braunstein (1976) and Steers (1977). The student's political orientation was measured using the 20-item survey developed by DuBrin (1978). The section of the survey which assessed the student's need for achievement, affiliation, and power used the 15-item motivational needs survey developed by Steers and Braunstein (1976) and Steers (1977). The student's political orientation was measured using the 20-item survey developed by DuBrin (1978). The degree of Machiavellianism was measured using the MACH IV scale developed by Christie and Geis and included 20 questions (Hunt & Chonko 1984). The 27-item ethical scenarios section of the questionnaire was adopted and expanded from the 1991 Whipple and Wolf study. For the MACH IV survey, the motivation needs survey, the ethical orientation survey, the respondents were asked to answer in a Likert type format. For the political orientation survey the respondents were asked to answer each question with "mostly agree" or "mostly disagree".

A subject's Machiavellian score was calculated by summing the responses on the 20 Machiavellian questions. A cut-off score of 75 is used to divide the subjects into low Machiavellian and high Machiavellian groups. The subjects' self-reported GPA is used as a proxy for academic achievement. Subjects with a GPA of 3.0 or higher on a 4.0 scale are classified as high academic achievers; those with a GPA of less than 3.0 are classified as low academic achievers. The motivation needs survey was measured by recording the response in one of three columns, the need for achievement, the need for affiliation, or the need for power. The motivation needs survey consist of 15 questions, with five questions relating specifically to one of the three areas measured, which are the need for achievement, the need for affiliation, and need for power. A subject's need for achievement, affiliation, and power was calculated by summing the responses on the appropriate questions and dividing by 5; these measures ranged from 1 to 7. Students were classified into having a high need for achievement if their score exceeded 5, a high need for affiliation if their score exceeded 4.4, and a high need for power if their score exceeded 4.6. The median values of all measures are used to classify students.

The Likert type response for each of the five questions was added individually in each column and divided by 5 to give an average score. The political orientation survey consist of twenty statements. Each statement on the political orientation survey checked as "mostly agree" is counted as one point. If the score was equal to or more than 16, then the individual has a strong inclination toward playing politics. Scores of 5 or less would suggest that the individual is not inclined toward political maneuvering. A subject's ethical orientation was assessed by summing their responses on the 27 ethical scenarios; this score ranged from 39 to 177. Students with a score of more than 119 were classified as highly-ethical. The following hypotheses were tested in the study using the Mann-Whitney U test.

Ho1:	There is no difference between male and female students as to their academic achievement, motivational needs, political orientation, Machiavellianism, or ethical orientation.
Ho2:	There is no difference between students who have a high level of academic achievement and students who have a low level of academic achievement as to their motivational needs, political orientation, Machiavellianism, or ethical orientation.
Ho3:	There is no difference between students who have a high level of motivational needs (power, achievement, and affiliation) and students who have a low level of motivational needs as to their academic achievement, political orientation, Machiavellianism, or ethical orientation.
Ho4:	There is no difference between students who are politically-oriented and students who are not politically-oriented as to their academic achievement, motivational needs, Machiavellianism, or ethical orientation.
Ho5:	There is no difference between students who have a high level of Machiavellianism and students who have a low level of Machiavellianism as to their academic achievement, motivational needs, political orientation, or ethical orientation.
Ho6:	There is no difference between students who are highly ethical and students who are not highly ethical as to their academic achievement, motivational needs, political orientation, or Machiavellianism.

LIMITATIONS OF STUDY

The data being reported came from a questionnaire survey. Thus, the following limitations usually associated with survey research apply: general issues of questionnaire understandability and readability, scaling issues, measurement errors, and "halo" effect. The exploratory nature of the study and its sensitive ethical questions require a cautious interpretation or generalization of the results of this study. There is no assurance that the students' responses are a true reflection of their ethical judgments and some of the respondents could have provided socially desired answers.

RESULTS

There were 100 female students and 78 male students who completed the survey. The results for the test of hypothesis 1 are shown in table 1. As expected, females had a higher level of academic achievement, as proxied by GPA, than males ($Z = -3.69$, two-tailed $p < 0.01$). There was mixed evidence as to differences in males' and females' level of motivational needs. Surprisingly, there was no statistical difference in the median score for the need for achievement and the need for power between males and females; however, males had a statistically higher level of need for affiliation (4.60 vs. 4.40; $Z = 2.19$, two-tailed $p < 0.03$). It was expected that females would have a higher need for affiliation. Although the Z statistic indicated a statistical difference in males' and females' political orientation, the median values indicated that the difference between males' and females' political orientation was not significant. Another surprising finding was that there is no difference in the degree of Machiavellianism between males and females ($Z = -0.17$, two-tailed $p > 0.10$). However, females were more ethically-oriented than males (123.50 vs. 111.06; $Z = -4.74$, two-tailed $p < 0.01$). This finding was supported by previous research studies (Akaah, 1989; Chonko & Hunt, 1985; Tsalikis & Ortiz-Buofina, 1990).

Variable	Males	Females	Z Score	P-Value
Academic Achievement (GPA)	2.94	3.25	-3.69	0.01
Motivational Needs:				
Need for Achievement	5	5.2	-0.8	0.42
Need for Affiliation	4.6	4.4	2.19	0.03
Need for Power	4.75	4.55	1	0.32
Political Orientation	7	7	1.8	0.7
Machiavellianism	77.5	77	-0.17	0.86
Ethical Orientation	111.06	123.5	-4.74	0.01

The results for the test of hypothesis 2 are provided in Table 2. The findings indicate that respondents with a high level of academic achievement (GPA = 3.00) have a lower need for affiliation ($Z = 2.96$, two-tailed $p < 0.01$), are less politically-oriented ($Z = 2.03$, two-tailed $p < 0.04$), and are more ethically-oriented ($Z = -2.72$, two-tailed $p < 0.01$). There is no statistical difference in the need for achievement, the need for power, or the degree of Machiavellianism between respondents with a high and low level of academic achievement. Previous studies by Touhey (1973) have found that intelligence does aid the deployment and concealment of Machiavellian tactics. However, Calhoun (1969) found that there is no difference in IQ between high and low Machiavellian individuals.

Variable	Males	Females	Z Score	P-Value
Motivational Needs:				
Need for Achievement	5	5.1	-0.76	0.44
Need for Affiliation	4.60	4.40	2.96	0.01
Need for Power	4.60	4.6	-0.24	0.8
Political Orientation	8.00	7.00	2.03	0.4
Machiavellianism	77.50	77.00	0.10	0.92
Ethical Orientation	116.15	121	-2.72	0.1

Table 3 presents the results for the test of hypothesis 3. When respondents are classified by their need for achievement, there is no statistically significant difference in academic achievement, political orientation, Machiavellianism, and ethical orientation between respondents with a low level of motivational needs and a high level of motivational needs (panel a). In contrast, respondents with a high need for affiliation (panel b) have a lower level of academic achievement ($Z = 2.26$, two-tailed $p < 0.02$), are more politically-oriented ($Z = -3.35$, two-tailed $p < 0.01$), and have a lower level of Machiavellianism ($Z = 1.76$, two-tailed $p < 0.08$). There is no difference in ethical orientation between respondents with a high and low need for affiliation (121.00 vs. 117.00; $Z = 1.48$, two-tailed $p > 0.10$; panel b). Respondents who have a high need for power (panel c) are more politically-oriented ($Z = -3.08$, two-tailed $p < 0.01$) and are less ethically-oriented ($Z = 2.20$, two-tailed $p < 0.03$) than respondents with a low need for power. The median values for academic achievement and Machiavellianism are not statistically different between respondents with a low and high need for power. The finding that Machiavellianism is not statistically different from respondents with a low and high need for power is not surprising because power need is not a major characteristic of high Machiavellian individuals (Christie & Geis, 1970).

Table 3: Test for Differences in Academic Achievement, Political Orientation, Machiavellianism, and Ethical Orientation Between Respondents with a Low Level of Motivational Needs and Respondents with a High Level of Motivational Needs

Variable	Median Values			P-Value
	Low	High	Z Score	
A. Need for Achievement				
Academic Achievement	3	3.1	-0.79	0.43
Political Orientation	6.00	7.00	-0.48	0.63
Machiavellianism	77.50	76.50	1.41	0.16
Ethical Orientation	117.00	120.00	-1.01	0.31
B. Need for Affiliation				
Academic Achievement	3.25	3	2.26	0.02
Political Orientation	6.00	8.00	-3.35	0.1
Machiavellianism	78.00	76.00	1.76	0.8
Ethical Orientation	121.00	117.00	1.48	0.14

The results for the test of hypothesis 4 are provided in Table 4. Politically-oriented respondents have a higher need for affiliation (4.70 vs. 4.20; $Z = -4.41$, two-tailed $p < 0.01$), a higher need for power (4.80 vs. 4.40; $Z = -2.43$, two-tailed $p < 0.02$), a lower degree of Machiavellianism (75.00 vs. 80.00; $Z = 3.30$, two-tailed $p < 0.01$), and a lower degree of ethical orientation (116.00 vs. 125.00; $Z = 3.92$, two-tailed $p < 0.01$) than respondents who are not politically-oriented. There is no statistical difference in the level of academic achievement and the need for achievement across these two subsamples. The finding that politically-oriented respondents have a low degree of Machiavellianism is not surprising because organizational politics appears to be a more diffused process. (Christie & Geis, 1970).

Table 5 presents the results for the test of hypothesis 5. The median values for academic achievement, the need for achievement, and the need for power are not statistically different between respondents with a high level of Machiavellianism and respondents with a low level of Machiavellianism. Respondents with a high level of Machiavellianism, however, have a lower need for affiliation ($Z = 3.21$, two-tailed $p < 0.01$), are less politically-oriented ($Z = 4.20$, two-tailed $p < 0.01$), and are more ethically-oriented ($Z = -2.44$, two-tailed $p < 0.01$). The finding that individuals that have a high level of Machiavellian have a lower need for affiliation is expected because the characteristics of an affiliation need is a concern for other employees' happiness and satisfaction (McClelland & Burnham, 1976). The characteristics of a high Machiavellian individual are that the needs, feelings, and rights of others in the organization are secondary. (Machiavelli, 1961).

Variable	Median Values		Z Score	P-Value
	Low	High		
Academic Achievement	3.2	3	0.98	0.33
Motivational Needs:				
Need for Achievement	5.00	5.20	-1.13	0.26
Need for Affiliation	4.2	4.7	-4.41	0.01
Need for Power	4.40	4.80	-2.43	0.02
Machiavellianism	80.00	75.00	3.30	0.01
Ethical Orientation	125.00	116.00	3.92	0.01

Variable	Median Values		Z Score	P-Value
	Low	High		
Academic Achievement	3.30	3.23	-1.06	0.29
Motivational Needs:				
Need for Achievement	5.20	5.00	0.71	0.48
Need for Affiliation	4.60	4.40	3.21	0.01
Need for Power	4.78	4.60	0.17	0.86
Political Orientation	8.00	6.00	4.20	0.01
Ethical Orientation	116.15	121.00	-2.44	0.01

The test for the final hypothesis, hypothesis 6, are provided in Table 6. Highly-ethical respondents have a higher level of academic achievement (3.24 vs. 3.00; $Z = -2.85$, two-tailed $p < 0.01$), a lower need for affiliation (4.40 vs. 4.60; $Z = 2.59$, two-tailed $p < 0.01$), a lower need for power (4.40 vs. 4.80; $Z = 1.69$, two-tailed $p < 0.09$), are less politically-oriented (6.00 vs. 8.00; $Z = 5.31$, two-tailed $p < 0.01$), and have a higher level of Machiavellianism (78.00 vs. 76.00; $Z = -2.06$, two-tailed $p < 0.04$) than respondents who are not highly ethical. There is no statistical

difference in the median value for the need for achievement between highly-ethical and non highly-ethical respondents ($Z = -0.74$, two-tailed $p > 0.10$).

Variable	Median Values			
	Not Highly	Highly	Z Score	P-Value
Academic Achievement	3.00	3.24	-2.85	0.01
Motivational Needs:				
Need for Achievement	5.00	5.00	-0.74	0.46
Need for Affiliation	4.50	4.40	2.59	0.01
Need for Power	4.80	4.40	1.69	0.09
Political Orientation	8.00	78.00	-2.06	0.04
Machiavellianism	76.00	78.00	-2.06	0.04

CONCLUSION

The findings that males have a higher need for affiliation than females is a surprise. Traditionally, females are perceived to have a higher need for affiliation. The finding that politically oriented respondents have a lower degree of Machiavellianism is consistent with prior studies because organizational politics is a more defined process.

A pervasive but very significant reason for studying Machiavellianism, ethical orientation, and organizational politics in today's organizations centers around the issue of loyalty. Loyalty refers to the dedication or commitment to a person, a task, or the organization where the loyalty to one factor results in being at odds with the others. Self interest is the most powerful force affecting loyalty and influences both those who employ political and Machiavellian tactics and also the recipients. Since Machiavellian, ethical, and political orientation exist in individuals in differing degrees, professors need to know more about the students' orientation and ethical attitudes. Also, an understanding of this type of aggressive personality and leadership style can help in understanding organizational behavior. By understanding an individual's Machiavellian, ethical, and political orientation and motivation characteristics, employees can make counteractions to prevent damage to themselves or the organization. This information could help the socialization process of new employees in the workplace, in structuring university ethic's courses, and in understanding Machiavellianism and organizational politics in the workplace.

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