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## Financial Decision Making, Price, and Consumer Financial Well-being: A Multiple Methodology Inquiry of the Cognitions, Emotional Coping Responses, and Brand Measures in the Healthcare Service Industry

Joshua D. Dorsey

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Financial Decision Making, Price, and Consumer Financial Well-being: A Multiple  
Methodology Inquiry of the Cognitions, Emotional Coping Responses, and Brand  
Measures in the Healthcare Service Industry

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Dissertation submitted  
to the College of Business and Economics  
at West Virginia University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in  
Business Administration-Marketing

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branding, brand equity, brand image, price, price premium

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## ABSTRACT

### Financial Decision Making, Price, and Consumer Financial Well-being: A Multiple Methodology Inquiry of the Cognitions, Emotional Coping Responses, and Brand Measures in the Healthcare Service Industry

Joshua D. Dorsey

Article 1: Financial bankruptcy, particularly those as a result of healthcare expenses, has become a pervasive issue in the United States. This article examines a basic premise for the research, that healthcare is not viewed, by consumers, consistently with other exchanges, leading to detachment and disengagement within the purchase experience (e.g., a lack of price searching and price comparison behaviors) and disadvantageous consequences for financial well-being. Subsequently, the studies test cognitive (i.e., knowledge structures) and emotional constructs (i.e., emotion regulation), with a between-subjects experimental methodology (three studies), that may further unfurl the decision process for healthcare consumers. Contributions to the marketing, psychology, and public policy literatures yield implications for marketers and public policy makers, which are discussed subsequently.

Article 2: A qualitative exploration of mindfulness and emotion regulation is proffered, in an effort to identify and understand the cognitive processes used by consumers during healthcare financial decision making. Two complementary methodologies (i.e., stimulated recall, think-aloud protocol) are used for data collection, and two rounds of coding analysis offer themes which inform the literatures of psychology and marketing. Data from 16 participants supports the proposal of a preliminary framework. Implications for marketers and public policy makers are discussed.

Article 3: Healthcare organizations (HCO) are a critical portion of the continually burgeoning healthcare industry. Recent revenue estimates for the industry now exceed \$3 trillion in the U.S. (Phillips 2015). As such, HCOs, embedded within a unique service context, have turned their attention and resources towards managing, cultivating, and promoting their brands. Brand equity and brand image are examined for their impact on price (i.e., "average charge price"), a dependent variable derived from data from the Centers for Medicare & Medicaid Services, and price premiums within the healthcare industry. Implications for the theory of services marketing and healthcare marketing are discussed, as well as for managers.

## DEDICATION

The author wishes to dedicate this research to the consumers of the world, both foreign and domestic, who face peril to their financial, physical, psychological, or other well-being during their daily consumption decisions.

## ACKNOWLEDGEMENTS

The author wishes to acknowledge the dissertation committee of: M. Paula Fitzgerald, Ph.D. (Committee Chairperson), Laurel A. Cook, Ph.D., Jody L. Crosno, Ph.D., Ronald P. Hill, Ph.D., and Jerome D. Williams, Ph.D. Moreover, the author wishes to acknowledge the support of his family, Brothers, and Dr. Courtney Nations.

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## **INTRODUCTION: HEALTHCARE CONSUMPTION AND FINANCIAL WELL-BEING**

As consumers navigate the vast, diverse marketplace of goods and services, they are faced with a multitude of decisions. Often, consumers are equipped with the experience, accumulated knowledge, diligence (of process and behavior), constructive skepticism, and awareness of their cognitions and emotions to successfully traverse these consumption tasks. However, for many, these decisions are not always conscious and/or rational (as economic theories have suggested in the past); as a result, certain sectors of the marketplace present consumers with vulnerabilities which threaten their physical, psychological, and/or financial well-being. Perhaps the largest threat to a consumer's well-being, particularly financial, is an unprepared, unengaged, or—worse yet—unassuming and unaware consumer.

As an example, a unique susceptibility, deemed *consumption detachment*, exists within the healthcare industry (and likely in other select consumption scenarios). Consumption detachment is herein defined as the lack of a fundamental mindset, accumulated knowledge structures, set of norms, approaches, and/or behaviors which indicate a capacity for and preparedness to make effective consumption decisions. The healthcare exchange does not, for many, activate the cognitive and/or affective threshold(s) necessary to avoid this consumption detachment, because of phenomena such as the halo of sacredness (Samper and Schwartz 2013), inherent trust in the provider (Ford 2007), influential heuristic cues (Friestad and Wright 1994), an actual or perceived lack of access to pricing information, a dearth of financial literacy, and a disparity of knowledge—all of which may leave consumers facing unexpected financial peril. Thus, the current research addresses: 1) consumers' preconceptions (i.e., about the healthcare industry and healthcare providers) which often lead to detachment, 2) marketplace practices

which leave consumers unable to make informed decisions, and 3) cognitive and affective processes which are likely to empower consumers in the protection of their financial well-being.

For consumers, comprehensively reframing this exchange context in a manner which is similar to that of other purchase decisions is key. With a different perspective on the healthcare pricing structure (e.g., clarity on the price to quality relationship, transparency on price) and its relationship to the strength of healthcare brands, as well as an understanding of the cognitions and emotional coping mechanisms used during these decisions, consumers are likely to be enabled towards the active protection of their own well-being. For healthcare managers and practitioners, it is essential to understand consumer perceptions and response to the brands which provide services and the prices at which the service is offered, as well as the way in which consumers process pertinent pricing information. For makers of public policy, the ability to facilitate advantageous outcomes for consumers is of significant merit. As such, due to the wide-ranging implications—for various stakeholders—healthcare financial decision making, healthcare pricing, and consumer financial well-being are the focus of the current set of articles.

Bankruptcies as a result of healthcare debt are a pervasive and impactful issue facing American consumers; such defalcations account for nearly two-thirds of all filings (Brill 2013). From these statistics, it is clear that healthcare possesses the *potential* to have an inordinate effect upon the financial well-being of consumers. Since healthcare occupies such a unique space within the financial decision making discourse, as well as within consumers' fiscal health, this issue merits further inquiry within an underdeveloped stream of research. Despite healthcare's designation as “A Fertile Field for Service Research” (Berry and Bendapudi 2007), only limited

studies regarding branding issues (e.g., Kemp, Jillapalli, and Becerra 2014) and emotional trade-offs (e.g., Luce, Bettman, and Payne 2001) have been conducted within the marketing arena.

Thus, in the exploration of this issue, a diverse combination of complementary constructs, explanatory theories, and synergistic methodologies (i.e., qualitative and quantitative) are leveraged to obtain additional insight which may be used towards a resolution for inordinate, consumer-level healthcare expenditures and the promotion of financial well-being. Moreover, results are likely to advise managers regarding the strength of their specific brands, in addition to providing general strategies to enhance marketplace outcomes by creating industry-level pricing efficiencies. As such, the complex, idiosyncratic, and pervasive nature of the U.S. healthcare system make it an optimal context for multiple methodologies.

## **THE UNIQUE NATURE OF HEALTHCARE**

Healthcare is like no other exchange. In fact, it presents a distinct, voluminous set of circumstances which other categories of goods and/or services do not. For example, common characteristics of either the healthcare context (e.g., consumers with tenuous physical well-being, stressed clinicians) and/or healthcare consumers (e.g., consumers nearly exclusively seeking necessary, functional healing—not hedonic fulfilment) are often not replicable or desirable (Berry and Bendapudi 2007). Healthcare, a distinct consumption riddle, wrapped inside a mystery, and enveloped within an enigma (for consumers making financial decisions, at least), stands alone in each of the ways described subsequently.

**Consumer Awareness of Intent.** In most consumption contexts, the intent/purpose (i.e., a transaction or exchange) is salient to both parties. This level of awareness serves as a catalyst

for consumers, allowing them to prepare cognitively (e.g., mental accounting, budgeting, leveraging prior experience for comparison of price and attributes, readiness for negotiation), affectively (e.g., emotional management), and behaviorally (e.g., execution of the appropriate cognitive preparations) for the interaction and its accompanying monetary commitment—however significant or nominal the purchase may be. For example, when a consumer visits a car dealership, s/he often prepares by bringing a CARFAX® vehicle history report, a Kelly Blue Book® suggested value, a NADA Guides® retail price, an appropriate measure of skepticism regarding the sales associate’s intent/objective, and an expectation and/or willingness to negotiate price.

When a consumer fails to recognize an exchange interaction as such, a host of disadvantageous scenarios become more likely to ensue. For instance, the implicit trustworthiness and competence which is attributed to healthcare providers is due, in large part, to the presence of prominent and influential heuristic cues (as well as a significant knowledge disparity between physician/healthcare organization (HCO) and patient). Within healthcare, heuristic cues are capable of impelling individuals to eschew the traditional price searching and comparison behaviors which, generally speaking, are lynchpins of a healthy consumption approach. As Schleifer, Hagelskamp, and Rinehart (2014) support, consumers do *not* exert the same diligence in searching for or comparing healthcare prices as they do for other products and/or services.

**Price Dubiety/Ambiguity and Price Variance.** Healthcare differs from other instances of consumption due to a large degree of price dubiety/ambiguity and variance. Even if consumers are empowered to exert an appropriate degree of price searching and price

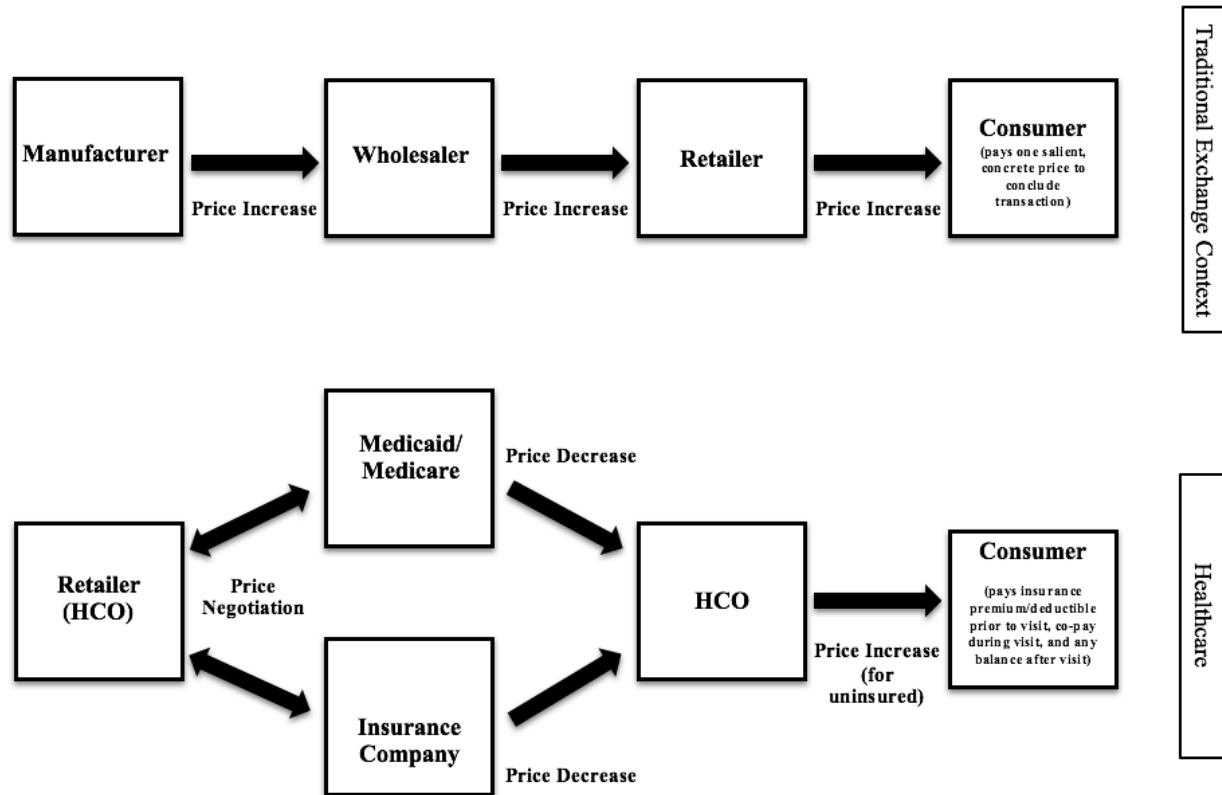
comparison behaviors when navigating healthcare purchases, they may still find themselves stymied by either the barriers (real or perceived) to accessing and assessing pricing information on their own or by the reluctance of HCOs to willingly provide transparent prices to the public.

“Americans have long become accustomed to bewilderment and anxiety when confronting health care bills...[due to] the perplexing assortment of prices for medical care, with the details of bills seemingly untethered to any graspable principle” (Young and Kirkham 2013). A large portion of healthcare’s price confusion is due to the multiple iterations and variance of price which are presented to consumers—for equivalent procedures. This, alone, is a phenomenon rarely seen in other sectors of the marketplace.

To elaborate, in the healthcare industry, a “chargemaster” price, consistent with the familiar “manufacturer’s suggested retail price” (MSRP) is presented as *the* price when, in actuality, few (i.e., the uninsured) are charged this amount. Moreover, there is the Medicare/Medicaid price, which is paid to qualifying HCOs by the respective federal agency for services rendered to patients. A third type of price typically found within healthcare’s financial structure is the price paid to HCOs by private insurance companies; these figures are negotiated on a hospital-to-hospital basis with each individual insurer.

Together, these three manifestations of healthcare price provide ample opportunity for suboptimal financial decision making. Once again, there are few other sectors of the marketplace where a product, relatively consistent in perceived quality, is placed within a financial structure with multiple different designations of price. Figure 1 contrasts the relatively straightforward nature of price within traditional exchanges with the multi-faceted nature of healthcare pricing.

Figure 1: Pricing Roadmap: Traditional Goods/Service Exchange Versus Healthcare Exchange



Further exacerbating the dubiety/ambiguity (i.e., multiple distinct layers/designations) of healthcare price for consumers, the cost for equivalent treatments often exhibit a large degree of variance from one HCO to another (even within the same city/state/geographic region). For instance, the prices for the billing code of procedures, "Fracture, Sprain, Strain, or Dislocation (not Femur, Pelvis, Hip, or Thigh)," ranged from \$643.27 at one HCO to \$8,323 at another, with a mean price of \$1,467.47. Even with reasonable considerations for cost of living/regional differences in pricing, it is not difficult to understand how these stark differences may lead to disadvantageous financial outcomes for many consumers.

**Affective Influence.** Although affect is not exclusive to healthcare consumption, the stakes of emotional influence here are high—because of the potential combination of valence and intensity (i.e., strong *negative* emotion). Consumers must not only navigate the emotion of selecting a treatment to maintain or improve their physical well-being, which may vary with the severity of the situation, but they must also deal with the emotion which accompanies the tenuous financial strain that is often incurred (via the combination of premiums/deductibles/co-pays or chargemaster prices, if uninsured). Moreover, the negative affect which is generated when the profitability motives of the healthcare industry (sometimes known, but often not top-of-mind) is saliently activated is likely to influence purchase decisions.

**Multiple Dimensions of Well-being Affected.** Another way in which healthcare is unique is the breadth of well-being affected by these decisions. In addition to the emotional implications, healthcare may also influence physical and financial well-being. Physical well-being is often front and center in the healthcare discourse, rightfully so, due to the focus upon healing which is typically assumed within the industry. However, sizeable financial obligations for consumers, such as co-pays, deductibles, and premiums (see Brill 2013), often manifest in the form of a cumbersome burden—even as healthcare is not considered by some to be a “major” financial purchase (i.e., \$500 or greater; Schleifer, Hagelskamp, and Rinehart 2014). The critical change of context—from a purely medical perspective to that of an exchange—shifts focus and recognizes the *equally* important impact of financial and cognitive/affective elements.

As an example, when an exchange perspective is assumed, there are many instances in which individuals may incur a relatively large expense (e.g., luxury items, cars, houses, etc.); however, these purchases—more often than not—either affect consumers’ emotions positively or

not at all. Moreover, none of the aforementioned products have the ability to directly and adversely alter the physical well-being of an individual. Herein lies another key aspect in the uniqueness of healthcare consumption.

**Consumer Challenges.** A final distinction for healthcare, as a unique consumption scenario, lies within a set of consumer-level challenges. Most importantly, perhaps, is the fact that healthcare decisions are often made by consumers who are in need of physical reprieve from pain. Instantaneously, healthcare consumers are provided with a different designation—“patient”—which indicates their sickness, pain, and general reluctance to the service. Indeed, healthcare is quite often needed, but it is rarely *wanted*.

Also, privacy concerns persist for many consumers of healthcare (e.g., the creation of health information privacy regulations such as the Health Insurance Portability and Accountability Act of 1996, HIPAA; HHS.gov 2017). Stretching far beyond the obvious sensitivity of financial/payment information—inherent within the vast majority of contemporary transactions—healthcare is perpetually entangled with patients’ concerns for the privacy of their personal medical histories. Moreover, the need for a comprehensive understanding of a consumer is critical within this context. There is no other exchange where it is imperative—a matter of life and death, at times—to understand the history (individual and family), prior “purchases,” personality, preferences, needs, and psychological well-being of a consumer prior to a transaction. Imagine if it was essential to establish each of these elements prior to a consumer purchasing a new blouse or a movie ticket.

## **SUMMARY**

Under the binding threads of healthcare price and financial decision making and consumer financial well-being, the current set of three articles collectively seeks to better understand consumers' cognitive processes and emotional coping mechanisms and the consumer- and industry-level factors which influence these decisions. As a result, the research will provide theoretical contributions for an imperative public policy issue, in addition to offering managerially relevant recommendations. Consumers are likely to be empowered by appreciating the nuances of their own decision making processes. Moreover, consumers with this knowledge are more likely to intervene during their decision cognitions, recognize their own vulnerabilities and biases, and make decisions which are more informed and more conducive to the preservation of financial well-being. Finally, by reframing an exchange context which is rife with sacred themes (i.e., healing, perceptions of non-primary profitability motives), and which is often not viewed as a traditional consumption scenario, consumers may find their lives transformed by a new perspective on healthcare.

## **THE ARTICLES AT HAND**

Article One uses a set of three between-subjects experiments to manipulate the independent variables of knowledge structures (persuasion knowledge, agent knowledge) and emotion regulation strategies (suppression, reappraisal), in testing for main, moderation, and mediation effects upon price search, price comparison, and price negotiation behaviors and a selected healthcare procedure's price. The second article uses two qualitative methodologies, stimulated recall and think-aloud protocol, for their distinct competencies in accessing the depths

of cognitive progressing. As such, these two techniques allow for a more comprehensive understanding of consumers' decisions, based upon an exploration of mindfulness, emotion, and emotion regulation, within this context. The nature of these cognitions (i.e., deeply entangled, not easily accessible, fragile) reiterate the need for a mixed-methods approach. Finally, Article Three uses a data analytics approach to hospital-level financial and quality information (approximately 4,000 hospitals), primarily derived from the Centers for Medicaid and Medicare (CMS). This article provides insight for both managerial application and theoretical development, by testing the relationship between multiple measures of brand strength and price. The base CMS data set has been used rarely to this point. The value of the augmented CMS data set, used presently, lies in its exclusivity and uniqueness.

**ARTICLE ONE: IT IS TIME TO REGULATE: THE DUELING EFFECTS OF  
PERSUASION KNOWLEDGE STRUCTURES AND EMOTION REGULATION ON  
HEALTHCARE FINANCIAL DECISION MAKING**

A between-subjects experimental design is used across three studies to investigate the effects of knowledge structures (i.e., persuasion knowledge and agent knowledge) and emotion regulation strategies on price search, price comparison, and price negotiation behaviors and the price of a selected healthcare procedure.

It is Time to Regulate: The Dueling Effects of Persuasion Knowledge Structures and Emotion

Regulation on Healthcare Financial Decision Making

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## **Abstract**

Financial debt (including bankruptcy), as a result of healthcare expenses, has become a pervasive issue in the United States. This article examines a basic premise for the research, that healthcare is not viewed, by consumers, consistently with other exchanges, leading to detachment and disengagement within the purchase experience (e.g., a lack of price searching, price comparison, and price negotiation behaviors) and perilous consequences for financial well-being. Subsequently, the studies test cognitive (i.e., knowledge structures) and emotional constructs (i.e., emotion regulation), with a between-subjects experimental methodology (three studies), which may further unfurl the decision process for healthcare consumers. Contributions to the marketing, psychology, and public policy literatures yield implications for marketers and public policy makers, which are discussed subsequently.

**Keywords:** financial decision making, knowledge structures, emotion regulation, healthcare bankruptcy, financial well-being

For a large number of consumers, the healthcare industry remains—in many ways—a place of acute confusion, naivety, and sub-optimal decision making. Not from a lack of desire, intent, or purpose, most consumers do not *truly* know healthcare—a polarizing social institution, an indispensable service, and a perpetual economic titan (\$3.2 trillion in 2015; Phillips 2015).

Multiple factors, discussed subsequently, cause consumers to view healthcare in a manner which is distinct from other exchanges (i.e., not as an exchange; not having traditional profitability motives), thereby altering the accompanying financial decision making processes. When consumers do not view a situation as an exchange, a consumption detachment occurs, affecting the cognitions (e.g., inadequate knowledge structures), attitudes (e.g., constructive skepticism, diligence), and behaviors (e.g., a lack of price searching and price comparison and price negotiation behaviors) within the purchase experience—and may result in disadvantageous consequences for financial well-being. To consume effectively (i.e., recognition of potential persuasion motives, use of full [available] information, paying appropriate prices), a host of cognitions, attitudes, and behaviors may be necessary to approach optimal financial decisions, due to consumers' own preconceptions, psychological biases, and omnipresent market forces.

*Consumption detachment* is herein defined as the lack of a fundamental mindset, accumulated knowledge structures, set of norms, approaches, and/or behaviors which indicate a capacity for and preparedness to make effective consumption decisions. One of the factors which influences this consumption detachment is that healthcare providers and healthcare organizations (HCOs) are afforded a substantial degree of tacit credibility and trust, whether deserved or not (Ford 2007; Sanger-Katz 2011). Such perceptions, habitually imbued within the clichéd "white lab coat and stethoscope" heuristic cue, exert a powerful influence upon consumers' healthcare

decisions (Paulsel, McCroskey, and Richmond 2006; Fried et al. 2011; Wrench 2003) and are likely to inhibit a *constructive* skepticism and diligence when the interaction is not recognized as an exchange.

Support for the positive sentiment towards healthcare may also be observed with Ford (2007), who, in a recurring study of the field, stated that "findings support a conclusion of ongoing trust and belief in medical competence, with little deviation even at times of highly adverse publicity (p. 222)." Moreover, Sanger-Katz (2012, p. 1) states, "most Americans are becoming more mistrustful of many professions such as clergy, lawyers and politicians and cynical on a healthcare system that has become more corporate and reliant on technology while doctors enjoy the reputation of being trustworthy." These perceptions are bolstered by a societal-level attitude of the industry, defined, overall, by connotations of honesty and ethical standards (Gallup 2014), healing over profitability, and altruism (Gallagher et al. 2003; Finkelstein et al. 1996). Strikingly, they persist—even after directly harming a patient (Entwistle and Quick 2006).

Although the deference which most physicians receive is often warranted, there may be unforeseen implications for consumers when failing to exercise appropriate diligence in healthcare price searching behaviors. In a recent *Time* article, Brill (2013) found that 62% of U.S. bankruptcies are related to debt incurred during periods of illness; 69% of those who were currently experiencing bankruptcy or who had experienced medical bankruptcy in the past were insured at the time of their bankruptcy filing (p. 31). Most importantly, perhaps, is that a mere 56% of Americans have sought healthcare pricing information (33% have attempted to find the price for one provider and 21% have attempted to compare prices across multiple providers;

Schelifer, Hagelskamp, and Rinehart 2014). In stark contrast, 81% of all consumers "extensively" research and compare prices prior to making "major" purchases (defined as \$500 or more and includes appliances, electronics, jewelry, etc.; RetailingToday.com 2013). The price searching disparity between healthcare and other industries, as well as the potential for decisions with adverse financial outcomes, emphasize the merit of further inquiry into this issue.

Knowledge structures, accumulated, personalized knowledge which facilitates consumers' identification of how, when, and why they are being influenced, are key to the present research, because this knowledge is what is accessed, activated, or augmented when a consumer becomes aware and engaged in an exchange scenario (Friestad and Wright 1994). As theorized, this access, by recalling knowledge which is likely the catalyst for cognitions, attitudes, and behaviors indicative of consumption readiness, will alter the financial decision making process by allowing consumers to make decisions which are more informed. Moreover, the augmentation/activation of such knowledge structures is likely to produce a type of negative affect (e.g., skepticism, distrust), due to either the realization of a person or situation's persuasive potential or information which is negatively antithetical to extant beliefs.

Two distinct knowledge structures pertinent to the current study exist. Persuasion knowledge, the accumulated knowledge of when one is being exposed to an exchange (and the accompanying factors which are likely to result in sub-optimal financial decisions) and agent knowledge, consisting of beliefs about an agent's (e.g., marketer, salesperson, billboard, physician) traits, competence, and goals (Friestad and Wright 1994) on healthcare decision making is still elusive. Does the presence of agent knowledge and persuasion knowledge affect

the financial decision making processes of consumers and influence the price of selected healthcare procedures?

In theorizing the potential effects of persuasion knowledge and agent knowledge, as well as the impact of negative affect from the recognition of an exchange as an exchange (when knowledge structures were either not present or previously activated), the potential counteractive effect of emotion regulation strategies may be essential. Emotion regulation—all of the conscious and nonconscious strategies used to increase, maintain, or decrease one or more components of an emotional response (Gross 2001)—is examined because of its effect upon the cognitions, affective state, and behaviors of consumers. Reappraisal—one of the two emotion regulation strategies within Gross' (2001) process model—may counteract the negative affect from accessing, activating, or augmenting knowledge structures during an exchange context which was not previously noted/stored as such. This is because of the way in which reappraisal cognitively reframes the negative affect generated from the acquisition of new knowledge which alters consumers' perceptions. Suppression, obscuring the experience of emotion (as opposed to altering it), may emphasize the negative affect from new knowledge structures.

By examining the literature of multiple disciplines and streams, a theoretical framework is formed. From this theoretical framework, a model is derived which tests the following research questions: 1) Do healthcare consumers experience a consumption detachment which alters their financial decision behaviors (i.e., price search/comparison and price negotiation [i.e., before and after knowing final price])?, 2) what are the effects of knowledge structures on healthcare financial decision making (i.e., price of a selected procedure, price negotiation, trust in the physician)?, 3) what is the effect of emotion regulation on healthcare financial decisions

(i.e., price of a selected procedure, price negotiation, trust in the physician)?, and 4) does attitude certainty mediate the relationship between knowledge structures and the price of a selected healthcare procedure?

A series of three between-subjects experiments provide support to the study's fundamental premise: that consumers experience consumption detachment during healthcare exchange. As a result of this detachment, knowledge structures and emotion regulation are key in affecting financial decisions. Establishing empirical evidence for these theoretical relationships proffers contributions to the literatures of marketing, public policy, psychology, and emotion including: 1) Establishing the presence of a consumption detachment, which occurs during healthcare exchange, causing significantly less price negotiation behaviors than a good and a service of the same price and ratings (consumer and third-party ratings), 2) providing support for the effect of knowledge structures on key behavioral indicators of consumption, and 3) establishing a counteractive effect of emotion reappraisal and suppression on key behavioral indicators of consumption.

To summarize, consumers experience consumption detachment when they enter into healthcare exchange, because of inherent industry-level and provider (i.e., physician) trust, heuristics cues, cognitive biases, and industry forces. As a result of this detachment, the cognitions, attitudes, and behaviors of consumers within the purchase experience are not consistent with engaged, effective consumption. Moreover, the detachment causes healthcare consumers to engage in lower/higher rates of key behaviors (contingent upon the particular behavior) which indicate the ability to consume healthcare effectively, relative to goods and/or services. In turn, the possibility of suboptimal financial commitments is increased. However,

knowledge structures can access, augment, and activate information which produces behaviors and attitudes (e.g., constructive skepticism, distrust), as part of an overall consumption preparedness, which enables more effective financial decision making.

The negative affect which manifests during the augmentation, access, or activation of a knowledge structure, once exchange is brought to salience (where it was previously absent), is addressed by consumers through emotional regulation. In general, consumers do not desire to remain in states of negative affect. As such, after the experience of this negative affect, consumers will deploy either of two emotion regulation mechanisms (i.e., suppression or reappraisal; Gross 2001) to manage their emotional state. Through the reappraisal strategy of emotion regulation, consumers are able to attenuate the intensity of their emotional experience and reposition the exchange experience and their negative affect. Suppression does not assuage the negative affect which a person experiences; the strategy merely obfuscates the emotional experience from others.

Thus, consumers may be able to make financial decisions which are advantageous for financial well-being. Implications for marketers and public policy makers are discussed from these results.

## **THEORETICAL BACKGROUND**

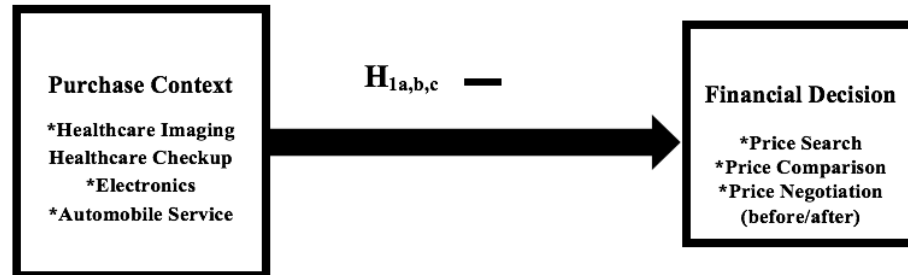
Consumption detachment, a susceptibility unique—but perhaps not exclusive—to the healthcare industry, occurs when consumers lack a fundamental mindset, accumulated knowledge structures, set of norms, approaches, and/or behaviors which indicate a capacity for and preparedness to make effective consumption decisions. The healthcare exchange does not, for many, activate the threshold necessary to avoid this consumption detachment, because of

phenomena such as heuristic cues/the halo of sacredness (Samper and Schwartz 2013), inherent trust in the provider (Ford 2007), cognitive biases, and a disparity of knowledge—all of which may leave consumers facing unexpected financial peril.

Because of the importance of effective, engaged consumption, multiple sources advise, caution, and counsel individuals on how to achieve this. For instance, Dr. Simonson (Professor of Marketing, Stanford University), in the Personal Finance portion of [forbes.com](http://forbes.com), laments the unforgiving irony of consumers having access to a wealth of information, yet not taking advantage of it (Mayer 2014). In another example, the North Carolina Department of Justice has a list of “Consumer Tips,” which includes (amongst others): “be[ing] skeptical,” “say[ing] ‘no’ to high-pressure sales pitches,” “be[ing] cautious when responding to telemarketers, door-to-door sellers, and email,” “do business with companies...recommended by those you trust,” and “if an offer sounds too good to be true, it probably is” (North Carolina Department of Justice 2016).

Despite some support that a substantial disparity exists between the amount of price searching/comparison behaviors for healthcare and other goods/services (RetailingToday.com 2013; Schelifer, Hagelskamp, and Rinehart 2014), we extend logic and advance theory by including a broader complement of relevant behaviors and by explaining this disparity as consumption detachment. Accordingly, to empirically establish this detachment as the foundational premise of the study (i.e., that consumers price search/compare and negotiate during healthcare exchange at rates far less than those of “traditional” exchanges), the following hypotheses are presented (depicted in Figure 2):

Figure 2: Purchase Context to Financial Decision (Price Search, Price Comparison, Price Negotiation)



**H<sub>1a</sub>:** Consumers within a healthcare consumption context will exhibit rates of price search behaviors which are lower than those of the other exchange contexts (laptop, car brake service).

**H<sub>1b</sub>:** Consumers within a healthcare consumption context will exhibit rates of price comparison which are lower than those of the other exchange contexts.

**H<sub>1c</sub>:** Consumers within a healthcare consumption context will exhibit rates of price negotiation which are lower than those of the other exchange contexts.

## Persuasion

The marketing literature on persuasion and influence has been developed, partially, through the use of Chaiken, Liberman, and Eagly's (1989) Heuristic-Systematic Model (HSM). Although similar models exist, HSM is most appropriate due to the concurrent assessment of messages using two types of processing [as opposed to a singular route/processing type] (Chaiken and Stangor 1987; Chaiken 1980). According to HSM, when a judgment decision is necessary, individuals may process marketer messages simultaneously (or singularly) through either (or both) of two cognitive processing methods: 1) systematic processing: a comprehensive analysis orientation in which all information determined to be pertinent to a particular judgment

decision is scrutinized prior to a decision being made and 2) heuristic processing: a limited processing mode requiring less cognitive effort and which uses simple inferential rules for decisions (Chaiken et al. 1989; Chaiken 1980).

The simple inferential rules which are used during heuristic processing, called heuristic cues, associate specific levels of a cue with a high probability that the position is valid (Chaiken et al. 1989). Heuristic cues may be derived from lived experiences and/or secondary sources (e.g., people, media) and may only affect the attitude judgment/decision to the extent which they are cognitively available and activated in an individual's memory (Chaiken et al. 1989). A heuristic cue for the inherent trust in physicians may be a visual image such as the "white lab coat and stethoscope," which stimulates high levels of implicit trust.

Also within the persuasion and social influence literature is the concept of source credibility. The image of the source, within the mind of the receiver, was called "ethos" by Aristotle, and was theorized to be the most effective means of persuasion for a source (Cooper 1932). Further reinforcing this sentiment was Hovland, Janis, and Kelly (1953), who concluded that "source credibility" (the authors' term for the source's image) was a prime component of the potential persuasive impact of any source and their accompanying message.

In the rationale of Aristotle, ethos is comprised of the following three dimensions: intelligence, character, and goodwill (McCroskey and Teven 1999). Later theoretical work would adapt these dimensions to include expertness, trustworthiness, and intention towards the receiver (Hovland, Janis, and Kelly 1953), as well as competence (qualification, expertness, intelligence, authoritativeness), trustworthiness (character, sagacity, safety, honesty), and goodwill, or intent toward receiver, in other iterations (McCroskey and Teven 1999).

Paulsel, McCroskey, and Richmond (2006), using similar source credibility scales, provide support for the direct relationship between source credibility and patient satisfaction. In two other examples of source credibility's theoretical network, Freed et al. (2011) showed that physicians (sources with increased levels of perceived credibility) would influence the vaccination decisions of parents more than less credible sources and Jackson (1994) found results to suggest that more credible sources of medical advice produced more confidence in the received message (advice). Finally, Wrench (2003) produced results which indicate a direct relationship between source credibility and patient satisfaction and *compliance with and adherence to* medical recommendations.

In healthcare decision making scenarios and beyond, sound theoretical relationships between heuristic cues and source credibility and attitudes and behaviors have been supported. Due to the powerful effect of source credibility (and its ability to inform heuristic cues) in myriad persuasion contexts, it's role as a process variable within the theoretical framework is likely to be key.

### **Knowledge Structures**

Friestad and Wright's (1994) Persuasion Knowledge Model (PKM) addresses a perspective of persuasion which describes the relationship between marketers' persuasion attempts and consumers' coping responses. Persuasion knowledge (PK) includes the recognition, evaluation, and deployment of appropriate coping strategies. PK is fluid and, similar to other forms of learning, evolves as consumers' experiences increase (p. 1). Similar to the development of one's understanding of heuristic cues, this overall knowledge of persuasion information is contingent upon an individual's history and experience and can also be supplied by culture,

interpersonal interactions (e.g., family, friends, coworkers), observing past persuasion attempts, and media (p. 1; Chaiken et al. 1989).

*Persuasion Knowledge.* Persuasion knowledge assists consumers in identifying "how, when, and why marketers try to influence them" (Friestad and Wright 1994, p. 1). The persuader, the source from which a persuasive message is derived, may use, design, compose, and present information intended to influence the beliefs, attitudes, actions and decisions of the message's recipient. The observable portion of this behavior—deemed the persuasion episode (Friestad and Wright 1994, p. 3)—may be influenced by heuristic cues, whether intentionally or not. For instance, the mere presence of the "white lab coat and stethoscope" elicits credibility, trust, and expertise.

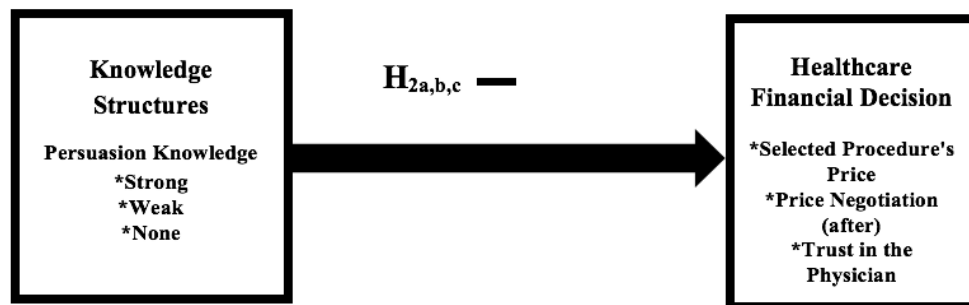
To produce effective coping during a persuasion episode, this essential resource—persuasion knowledge—must be both *present* and *accessed* during the persuasion attempt (Friestad and Wright 1994, p. 10). As such, the use of persuasion knowledge may not be activated in situations where the interaction has not previously been identified as a persuasive attempt and existing knowledge structures do not yet exist to contradict an established heuristic of trust and credibility.

Compared to agent knowledge, persuasion knowledge may be more or less salient during any particular episode. The use of both of these knowledge structures will be influenced directly by the accumulated experiences of a consumer—how well (or not) the structures have been developed. As an example, if consumers perceive a persuasive attempt as benign, these knowledge structures are unlikely to be activated—circumventing skepticism of the message in that instance (Williams, Fitzsimmons, and Block 2004). When persuasive attempts are perceived

as such, skepticism and persuasion knowledge are more likely to be activated and the behavioral impact of the attempt is often attenuated (p. 542), and heuristic cues presented (un)intentionally may be erroneously employed by the recipient during a persuasion episode. Therefore, when the determination is made that an interaction is benign (i.e., not persuasive), knowledge structures are not likely to be affected negatively. In a similar vein, Wei, Fisher, and Main (2008) offer results which support the relationship between the perception of persuasion motives by consumers (activation of persuasion knowledge) and negative evaluations of the firm and trust.

Source-message incongruence (of perceived expertise and message structure [quantitative or verbal]), was shown to stimulate negative inferences about the source's (agent's) manipulative intent (Artz and Tybout 1999). Thus, when an incongruence occurs between existing persuasion knowledge and the additional knowledge (primarily from heuristics), a similar effect on behaviors is likely to occur. In response, the following hypotheses are presented (seen in Figure 3):

Figure 3: Persuasion Knowledge to Healthcare Financial Decision (Selected Procedure's Price, Price Negotiation, Trust in the Physician)



**H<sub>2a</sub>:** Consumers provided with new persuasion knowledge will select a healthcare procedure with a lower price, as compared to consumers with no new persuasion knowledge.

**H<sub>2b</sub>:** Consumers provided with new persuasion knowledge will exhibit higher rates of price negotiation (after knowledge of final price), as compared to consumers with no new persuasion knowledge.

**H<sub>2c</sub>:** Consumers provided with new persuasion knowledge will have lower rates of trust in the physician, as compared to consumers with no new persuasion knowledge.

As a summary, in instances in which novel or incongruent persuasion knowledge is attained, the persuasion knowledge should have a large effect on the consumer, as the assessment of a novel persuasion attempt will augment existing knowledge, create a contrast from prior assessments (incongruence), stimulate skepticism, activate the use of the knowledge, and resist a heuristic-based decision. This sequence of events is likely to emphasize the presence of knowledge structures within such exchanges.

*Agent Knowledge.* As an independent, distinct knowledge structure, agent knowledge aids in the assessment of the "traits, competencies, and goals of the persuasion agent" (Friestad and Wright 1994, p. 8). Stated differently, agent knowledge assists consumers in appraising the source and its attributes to evaluate claims from a source or to judge a source (p. 8).

During a persuasion attempt, consumers are motivated to form and hold accurate attitudes about persuasion sources. As such, consumers seek these attitudes when they must make decisions about products and services, and the sources which provide them. In consumption contexts (e.g., healthcare) with direct, interpersonal interaction between the source and the

receiver, the perception of a source is likely to be attributed to an individual—when, and if, a persuasion attempt becomes salient. Moreover, the procurement and refinement of valid attitudes is more pertinent to consumers when marketers (source) are unfamiliar and they aspire to get acquainted with the source (Friestad and Wright 1994, p. 9). Thus, when a consumer perceives familiarity or trust with an agent—such as in cases where a heuristic provides a strong effect—the pursuit of these attitudes may be postponed and diverted in a persuasion context, especially when skepticism (and agent knowledge) is not activated. As with persuasion knowledge, agent knowledge may be recalled and activated with little effort once persuasion motives are made salient by either the behavior of an agent during the communication of a persuasive message (e.g., use of noticeable influence tactics, purchase pressure) or prior to an encounter (e.g., obvious ulterior motives [a salesperson sells]; Campbell and Kirmani 2000). Thus, the attributes of an agent, assessed through heuristics, may inhibit completely (or assuage) skepticism of an agent, limiting negative agent knowledge (e.g., source credibility from business suits or white coats and stethoscope) and enabling positive assessments.

This effect happens when novel information diminishes the perception of the agent's attributes or abilities. In particular, the competence and/or trustworthiness components of an agent's perceptions are affected.

### **Persuasion Resistance and Emotion**

When an exchange is recognized, a consumer's cognitive processes may be disrupted (Friestad and Wright 1994). Described as "generally off-putting" (Friestad and Wright, p. 13) the recognition that an agent is actively using a persuasion tactic is not well-received. Thus, the interaction is fundamentally redefined and a consumer proceeds to disengage from the "reality"

which was offered by the agent. In other words, "the perception of a persuasion tactic may disrupt the comprehension and elaboration of statements and/or images related to the topic, drawing the consumer's attention to their persuasion knowledge" (p.13). The resulting negative emotion is similar to irritation, anger, distrust, or skepticism.

In an exchange context, skepticism (increased alertness and more careful consideration of a recommendation's validity, in a nonprejudiced fashion) may not always trigger negative affect; however, pessimism or negativity towards the marketer has been observed during these interactions (Brown and Krishna 2004). In a continuation of this logic, Miller, Visser, and Staub (2005) found that encouraging participants to question the honesty of others, otherwise reasonably conceptualized as skepticism, decreases the effectiveness of persuasive communications and also decreases the perception of others' honesty. Therefore, the role of various negative affective states such as anger, irritation, and skepticism can clearly be gleaned.

As agent knowledge is concerned, the procurement of new knowledge which alters the receiver's perception of the source's ability or expertise will likely cause a degree of negative affect (e.g., irritation, anger, distrust), as well. The source's credibility is undermined by the incorporation of the new information into the consumer's existing agent knowledge structure, affecting critical perceptions of the source's ability. In instances where a source's intent to persuade is successfully obscured by the source, the way in which a receiver thinks and behaves differs greatly from their thinking and behavior in situations in which persuasion intent or agent attributes are intact (Friestad and Wright 1994). Once these knowledge structures are altered, the same consumer will judge the source's competence differently, based upon the receiver's

reassessment of the source's competence, with novel information, and the effectiveness or appropriateness of the persuasion which is perceived (p. 15).

In the preceding discussion of persuasion and agent knowledge, similar—but distinct—effects are theorized to be present for each of these knowledge structures. The common thread which binds the effects of agent knowledge and persuasion knowledge is the generation of negative affect. Though the process through which this negative affect generation occurs is different for each, the *manifestation* of this affect is key.

*Emotion Regulation.* Emotion regulation, the conscious and/or unconscious strategies used to increase, maintain, or decrease one or more components of an emotional response, is used primarily by consumers to manage the effects of negative experiences (Gross 2001). Although positive emotions may also be managed by emotion regulation, negative experiences are the focus of the current research. According to the process model of emotion regulation (Gross 2001), there are two distinct mechanisms which individuals may use to cope with emotional experiences.

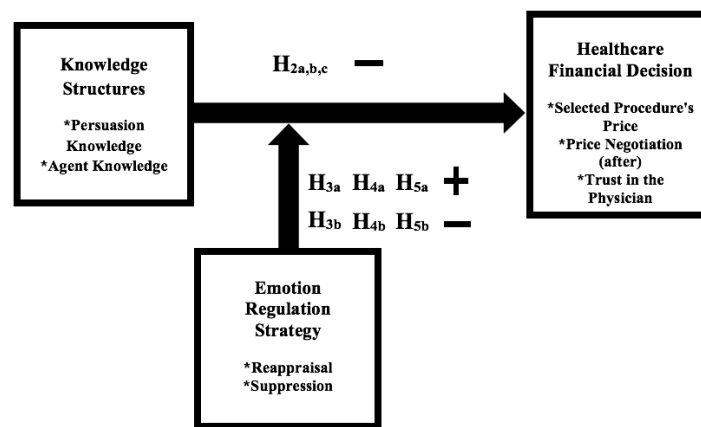
First, the category of antecedent-focused emotion regulation, reappraisal, is a particular process of cognitive change. The antecedent-focused method of emotion regulation signals that an individual cognitively reevaluates a situation which had been determined to have potential to impact emotion (Gross 2001, p. 214). Reappraisal, by nature, is activated early in the emotion-generative process, which enables the emotional situation to be assessed and appraised prior to the complete engagement of the emotion. Therefore, the situation (and its emotion) is able to be effectively neutralized—decreasing both the experience and behavioral expression of emotion (Gross 2001, p. 214). Thus, the reappraisal of emotion is likely to allow for the impact of

negative affect to be attenuated, after the activation of persuasion knowledge and agent knowledge.

Suppression, the other strategy for regulating emotion within the process model, does not appear until the latter stages of the emotion-generative process (as compared to reappraisal) and is deemed to be response-focused. Thus, this emotion regulation process described is an active repression of behavior which expresses emotion physically (e.g., facial expressions, body language, behavior), as the emotion is in progress (Gross 2001, p. 215). While suppression does, in fact, reduce behavioral *expression*, it fails to decrease the *experience* of emotion (Gross 2001, p. 215).

Due to its later stage of intervention and the repression of emotion (as opposed to cognitive reassessment), suppression may cause temporary cognitive discomfort, but may also enhance the effect of knowledge structures—reinforcing the effect of a consumer adding persuasion knowledge and agent knowledge to her/his existing structures. In response to the preceding theory, also observed in Figure 4, the following hypotheses are proposed:

Figure 4: Moderation of Knowledge Structures to Healthcare Financial Decision by Emotion Regulation Strategy



**H<sub>3a</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the reappraisal strategy, will select healthcare procedures with higher prices than consumers using the suppression strategy.

**H<sub>3b</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the suppression strategy, will select healthcare procedures with lower prices than consumers using the reappraisal strategy.

**H<sub>4a</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the reappraisal strategy, will negotiate less than consumers using the suppression strategy.

**H<sub>4b</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the suppression strategy, will negotiate more than consumers using the reappraisal strategy.

**H<sub>5a</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the reappraisal strategy, will trust in the physician more than consumers using the suppression strategy.

**H<sub>5b</sub>:** Consumers provided with new persuasion knowledge or negative agent knowledge, when using the suppression strategy, will trust in the physician less than consumers using the reappraisal strategy.

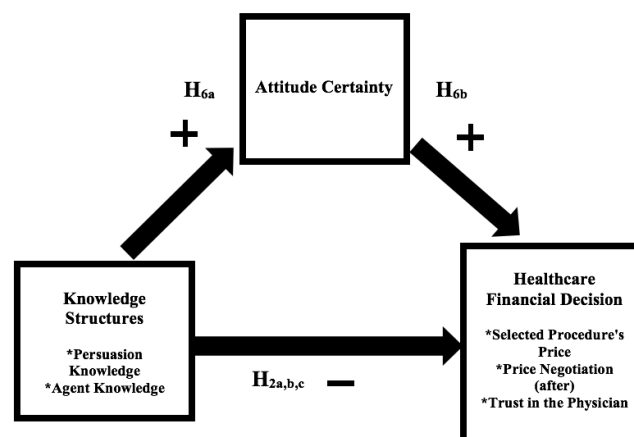
### **Attitude Certainty**

The mediator of this cognitive process is hypothesized to be an individual's feeling of confidence or conviction about an opinion, attitude, or evaluation—otherwise known as attitude certainty (Abelson 1988; Gross, Holtz, and Miller 1995; Petrocelli, Tormala, and Rucker 2007).

A primary reason for the construct's significance is its influence upon consumer behavior and social psychology. More precisely, increased attitude certainty has been determined to fortify the attitude-behavior relationship (Bizer et al. 2006; Fazio and Zanna 1978; Rucker and Petty 2004) and to increase the persistence of attitudes (Bassili 1996).

As recipients of persuasive messages are concerned, attitudes held with an increased degree of certainty yield less to change (Bassili 1996; Muthukrishnan, Pham, and Mungale 2001; Tormala and Petty 2002). Moreover, attitudes which are more certain exert additional influence over behavior and choice (Berger and Mitchell 1989; Bizer et al. 2006; Fazio and Zanna 1978), and are less conducive to systematic processing (Clarkson, Tormala, and Rucker 2008; (HSM) Maheswaran and Chaiken 1991; Tormala and Petty 2004) than attitudes which are retained with less certainty. Specific to the present study, resisting persuasive messages (through the experience of any negative affect or skepticism) is likely to affect participants' attitude certainty and mediate the relationship between knowledge structures and the selected healthcare procedure's price. Therefore, consistent with Figure 5, the following hypotheses are proposed:

Figure 5: Attitude Certainty Mediating Knowledge Structures to Healthcare Financial Decision



**H<sub>6a</sub>:** Knowledge structures will have a positive relationship with attitude certainty, such that new information about the persuasion context or agent will cause increased levels of attitude certainty.

**H<sub>6b</sub>:** Attitude certainty will have a positive relationship with the price of a selected healthcare procedure, such that consumers with increased levels of attitude certainty will select healthcare procedures with higher prices.

## **METHODOLOGY**

### **Overview**

A total of 576 participants, across three experiments, were recruited via Amazon.com's Mechanical Turk. Participants were compensated \$.50 to \$1 in return for completing a questionnaire. All prices, including those of the healthcare procedures, were sourced from actual marketplace averages. When tasked with making a financial healthcare decision, participants are informed *explicitly* that all costs from their healthcare purchase (or good/service) will be paid out-of-pocket, at the time of the purchase, to mitigate potential confusion regarding the multiple layers of payment/price which are commonly available to patients (e.g., insurance premiums, deductibles, and co-pays) and to create a common baseline upon which to build the unestablished empirical contribution in healthcare.

### **STUDY 1: PURCHASE CONTEXT: HEALTHCARE, ELECTRONICS, AUTOMOBILE SERVICE**

#### **Participants and Procedure**

Two hundred twenty-eight participants were recruited from Amazon Mechanical Turk (57% female,  $M_{\text{age}} = 38.6$  years,  $SD = 11.8$ ). In exchange for their time, each participant was

paid \$.50. Participants were provided with a scenario in which they purchased either healthcare (i.e., radiological imaging, annual checkup), a common consumer electronics good (laptop computer) or a common service (car brake service). The radiological imaging and the laptop computer are of an equivalent price (\$1200), as well as are the annual checkup and car brake service (\$200). One good and one service were selected to oppose each of the healthcare services, for the opportunity to identify any inherent differences between goods and services which may be present.

Study 1 used this four group (i.e., purchase context) between-subjects design to determine differences in the effect of each context upon the subsequent price search/comparison and price negotiation behaviors. Participants were randomly assigned to one of the four groups (stimuli are available in appendix A), instructed to imagine the purchase of the good or service within their respective condition, and were tasked with the completion of a questionnaire. Participants were informed *explicitly* that all costs from their purchase (including the healthcare procedure) will be paid out-of-pocket, at the time of the purchase, to establish a consistent consumption baseline.

Price search was captured by a series of behavioral choices within the survey which allowed participants to select from four categories of information (third-party Consumer Magazine reviews, product specifications, overall consumer ratings, price) about each product or service. As participants proceeded through the survey, they were allowed to view any particular category of information up to five times. If a category of information was not viewed initially, it could be viewed up to four times; otherwise, the four remaining views could be allocated to other categories. Finally, all information could be declined initially or at any time during the search

process. Price comparison was determined by participants electing to receive one of the four original categories of information for a competing product in their specific treatment or decline comparison information.

For each treatment, the information within the categories was adjusted to fit the unique attributes of each product/service (e.g., participants who viewed laptop computers were provided information on product specifications such as processor speed, RAM, and hard drive GB capacity; participants who viewed healthcare checkups were provided information about the EKG, physical examination, and blood test which were included). All product specifications were actual information from products/services priced similarly to those within the treatments. For the Consumer Magazine review, all products/services received the same rating (i.e., 4.3/5.0); for overall ratings, all products/services received the same rating (4.6/5.0 stars). Price, as stated previously, was consistent for the healthcare checkup and the car brake service (\$200) and the healthcare imaging and laptop computer (\$1,200).

## **Results**

**Manipulation check.** The manipulation check confirmed that participants correctly identified the good or service which they viewed ( $\chi^2(12) = 622.70, p < .01, \phi = 1.65$ ). No more than four participants in any condition either incorrectly identified their treatment or answered, “I do not know” when asked “In the scenario presented, the product/service that I bought was...”

**Dependent variables.** Initial price search behavior (i.e., if the participant initially prioritized price information over any of the other three categories of information which were available) was determined by a cross tabulation of the treatment groups by the type of information chosen initially. No category of information was emphasized over any of the other

three; thus, participants' behavioral choices would show any differences in the importance of viewing price initially across the consumption scenarios.

To determine if initial price selection was significantly related to the four treatments, a dummy code was applied to indicate whether the initial category of information selected was, in fact, price (0 = no, 1 = yes). If price was the first category of information chosen by participants, a "1" was assigned; if any of the other three categories of information was selected, a value of "0" was applied. Initial price selection was not significantly related to the treatment ( $\chi^2(3) = 4.68, p > .05$ ). When presented with four randomly ordered categories of information, approximately half of the participants in each treatment selected price initially. This result supports extant literature which describes the importance of price to consumers; however, the test does not confirm  $H_{1a}$ .

Total views of price (i.e., the number of times that a participant, after either exhausting the entire five-round information search process or declining any further information) was calculated by summing the total number of price views for each participant. Again, no emphasis is placed upon any particular category of information, and the four categories of information were rotated randomly after each round. By calculating the total views of price as a dependent variable, participants' behavior showed a different assessment of price importance, determining the quantity of price views (i.e., initial price viewing, if selected at all, and any additional price viewing/verifications).

An ANCOVA test of the differences between the treatment means was not significant, after accounting for the covariate of healthcare price perceptions (low:high;  $p > .05$ ) ( $F(3,224) =$

.89,  $p > .05$ ). Participants in each of the four conditions viewed price less than one time per person ( $M_{\text{healthcare checkup}} = .90$ ,  $M_{\text{healthcare scan}} = .75$ ,  $M_{\text{brake service}} = .81$ ,  $M_{\text{laptop}} = .85$ ).

To determine if price comparison behavior was significantly related to the four treatments, a dummy code was applied (0 = no, 1 = yes) to indicate whether the participant chose to view the price of a competing product/service within the category of their assigned scenario (i.e., laptop, car brake service, healthcare checkup, healthcare scan). If price was selected, a “1” was assigned; if any of the other three categories of information was chosen, a “0” was assigned. After either exhausting the five rounds of information or declining any further information, participants were presented with the opportunity to compare any of the four categories of information for their good/service (“Please select any additional information which you would like”). Participants could either select one of the four categories of information (overall consumer rating, product specifications, Consumer Magazine review, price) or decline any information comparison. This dependent variable showed the prioritization of the type of information which was to be compared, as well as whether any comparison was made.

Price comparison behavior was not significantly related to the treatment ( $\chi^2(3) = 3.49$ ,  $p > .05$ ). The results do not support  $H_{1b}$ .

To test for the main effect of the consumption context on the likelihood of price negotiation before seeing the price of the healthcare service ( $\alpha = .94$ ), an ANCOVA, accounting for the covariates of general risk of purchase ( $\alpha = .89$ ), general health (a single item measure capturing self-reported assessment of overall health), knowledge of good/service ( $\alpha = .85$ ), and self-efficacy ( $\alpha = .91$ ) was used. Measures for the likelihood of price negotiation (e.g., “based upon the buying scenario which you saw previously, please rate the likelihood of the following,

before/after seeing the price of the [good/service]”) were adapted from Ganesh et al. (2010). Five seven-point, Likert-type items were generated for the price negotiation scale (1 = extremely unlikely, 7 = extremely likely). Complete scale items are available in appendix B.

The ANCOVA test was significant ( $F(3,220) = 3.32, p = .02$ , partial  $\eta^2 = .043$ ), showing that participants in the healthcare checkup ( $M_{\text{healthcare checkup}} = 2.60$ ) and healthcare scan conditions ( $M_{\text{healthcare scan}} = 2.78$ ) are less likely to negotiate the price of these healthcare services than brakes ( $M_{\text{brake service}} = 3.30$ ) or laptop computers ( $M_{\text{laptop}} = 3.25$ ). Thus, these results provide support for  $H_{1c}$ .

An ANCOVA for the likelihood of price negotiation after seeing the price of the good/service ( $\alpha = .95$ ) was significant, after accounting for the significant covariates ( $p < .05$ ) of general risk of purchase, general health, knowledge, self-efficacy, and input into healthcare decisions ( $F(3,219) = 2.90, p = .04$ , partial  $\eta^2 = .038$ ). Participants within the healthcare checkup treatment ( $M_{\text{healthcare checkup}} = 2.73$ ) were less likely to negotiate after seeing the price, compared to brake service ( $M_{\text{brake service}} = 3.23$ ) and laptop computers ( $M_{\text{laptop}} = 3.56$ ). The results also provide support for  $H_{1c}$ .

## Discussion

Due to the design of this experiment, participants were advised that they could select from four categories of information, including price, about the product or service within the scenario. Although participants were not aware of the fact that price was the focal category of information, all uncertainty regarding the information’s availability was removed. Moreover, the search costs (i.e., time, effort) for locating this information—as well as the comparison information—was nominal.

Considering that information availability and cost are two items often two primary barriers to search, particularly for healthcare consumers, the results are logical. Using a methodology which better simulates/accounts for the actual barriers which consumers face for healthcare services would likely produce results which are more reflective of marketplace behaviors.

However, significant differences on the price negotiation measures support the notion of consumption detachment for healthcare consumers. These negotiation measures do not circumvent the cognitive barriers which would be present in the marketplace and, as such, are a more accurate depiction of likely behavior.

## **STUDY 2: KNOWLEDGE STRUCTURES: PERSUASION KNOWLEDGE**

### **Participants and Procedure**

Amazon Mechanical Turk HITs were used to source 145 participants for the study (58% male,  $M_{\text{age}} = 35.2$  years,  $SD = 10.3$ ). As compensation, each participant was paid \$1 for the questionnaire completion task. Each participant was assigned to a hypothetical scenario in which s/he sustained a moderate injury to their knee during an athletic activity. After incurring the injury, but prior to making a healthcare financial decision, participants were presented with a mock online news article. These articles used headlines and content information from actual, recent news reports. For the no persuasion knowledge treatment, an article about an athletic event was viewed. Stimuli are available in appendix A.

A three-group (persuasion knowledge: strong, weak, none) between-subjects design was used within the mock online news articles, to determine the effect of the persuasion knowledge independent variable upon three pertinent dependent variables. Treatment stimuli and

manipulation check items were generated using definitions and conceptualizations from the original PKM (Friestad and Wright 1994). Three seven-point, Likert-type items (e.g., “I learned that hospitals are a business, with the goal of making money”) were generated for the persuasion knowledge scale (1 = strongly disagree, 7 = strongly agree).

After being instructed to visualize the knee injury scenario, participants were provided with the mock online news article containing information which either objectively reported the financial performance/profitability of the healthcare industry (weak persuasion knowledge), broached the *possibility* of revenue-based motivations within the healthcare industry (via rising executive compensation and increasing consumer debt; strong persuasion knowledge), or detailed sports-relevant news (no persuasion knowledge) prior to being tasked with the selection of a price of a healthcare procedure. Participants, once again, are informed *explicitly* that all costs from their selected healthcare procedure will be paid out-of-pocket, at the time of purchase.

## **Results**

Manipulation check. The chi-square manipulation check confirmed that participants successfully identified the good or service which they viewed ( $\chi^2(4) = 213.99, p < .01, \phi = 1.22$ ). No more than six participants in any condition either incorrectly identified their treatment or answered, “I do not know.” When participants were asked to identify, inferentially, the new information that they received within the scenario, a significant chi-square result supported the initial manipulation check ( $\chi^2(4) = 125.03, p < .01, \phi = .93$ ). Finally, an ANOVA to assess persuasion knowledge, using a four-item, Likert-type scale ( $\alpha = .80$ ), did not provide consistency to the prior two checks ( $F(2,142) = 2.17, p > .05, \text{partial } \eta^2 = .30$ ).

Dependent variables. An ANCOVA for the dependent variable measuring the price of the selected procedure was not significant, after accounting for price perceptions (low:high;  $\alpha = .69$ ), input into healthcare decisions, source credibility (goodwill;  $\alpha = .96$ ), general risk of purchase ( $\alpha = .89$ ), and involvement in the good/service (situational;  $\alpha = .90$ ) ( $F(2,136) = 1.57, p > .05$ ). Each of the five covariates were significant ( $p < .05$ ). The price of selected procedure dependent variable consisted of one item (seven-point, Likert-type scale), using dollar amounts consistent with an interval of prices designed around the average price ("chargemaster" or list/retail price, which a patient paying out-of-pocket would pay) of a "Fracture, Sprain, Strain, or Dislocation" procedure from the Centers for Medicaid and Medicare Services. The prices ranged from \$800 to \$2,000, in increments of \$200.

Participants in the strong persuasion knowledge treatment ( $M_{PK \text{ strong}} = 1.52$ ) selected procedures with lower prices than either the weak persuasion knowledge ( $M_{PK \text{ weak}} = 1.71$ ) or no persuasion knowledge ( $M_{PK \text{ none}} = 1.53$ ) treatments. This result provides no support for  $H_{2a}$ .

To test for the main effect of persuasion knowledge on the likelihood of price negotiation after seeing the price of the healthcare service ( $\alpha = .93$ ), an ANCOVA, accounting for the covariates of frequency of doctor visits, general risk ( $\alpha = .89$ ), familiarity ( $\alpha = .96$ ), and PANAS (positive;  $\alpha = .88$ ) ( $F(2,138) = .03, p > .05$ ) was used. The results were not significant, and they do not provide support for  $H_{2b}$ . The frequency or doctor visit, general risk, and familiarity covariates were significant ( $p < .05$ ) and the positive PANAS covariate was not significant ( $p > .05$ ). Participants in the strong persuasion knowledge treatment ( $M_{PK \text{ strong}} = 3.18$ ) were less likely to negotiate price than the no persuasion knowledge treatment ( $M_{PK \text{ none}} = 3.38$ ), but not the weak ( $M_{PK \text{ weak}} = 3.13$ ).

Finally, an ANCOVA measuring differences in trust in the physician ( $\alpha = .85$ ) was significant, after accounting for the covariates of price perceptions (low:high), source credibility (competence;  $\alpha = .91$ ), general risk, familiarity, and PANAS (positive) ( $F(2,136) = 4.87$ ,  $p = .01$ , partial  $\eta^2 = .067$ ). Each of the five covariates were significant ( $p < .05$ ). Ten Likert-type items (seven-point; 1 = strongly disagree, 7 = strongly agree) measure trust in the physician (Hall et al. 2001). Fidelity (two items), competence (three items), honesty (one item), and global (four items) dimensions constitute the overall scale. A sample item is as follows: “Sometimes your doctor cares more about what is convenient for him/her than about your medical needs.”). Complete measures are available in appendix B.

Participants in the strong persuasion knowledge condition ( $M_{PK \text{ strong}} = 4.77$ ) were more likely to trust the physician than participants in the weak ( $M_{PK \text{ weak}} = 4.12$ ) and no persuasion knowledge ( $M_{PK \text{ none}} = 4.53$ ) conditions. Regardless of the significant test, inconsistency of the expected means does not support  $H_{2c}$ .

## **Discussion**

Despite two significant manipulations checks, inconsistency across the means of the dependent variables and the relatively small effect size for the non-significant check indicate the likelihood of ineffective treatments. As such, the treatments for study 3 were adjusted to represent more robust effects for both persuasion knowledge and persuasion knowledge.

## **STUDY 3: KNOWLEDGE STRUCTURES AND EMOTION REGULATION**

### **MODERATION, ATTITUDE CERTAINTY MEDIATION**

#### **Participants and Procedure**

Amazon Mechanical Turk HITs were used to collect 203 participants (51.7% male,  $M_{\text{age}} = 36.7$  years,  $SD = 11.6$ ). As compensation, each participant was paid \$1 for completing the questionnaire. Each participant was assigned to a hypothetical scenario in which s/he sustained a moderate injury to their knee during an athletic activity. After incurring the injury, but prior to making a healthcare financial decision, participants were presented with a mock online news article which used actual headlines and information.

A 2 (knowledge structures: persuasion knowledge, agent knowledge) x 2 (emotion regulation strategy: suppression, reappraisal; measured and continuous) between-subjects design was used to determine the moderation effect of each emotion regulation strategy on the effect of persuasion and agent knowledge upon a selected healthcare procedure's price. Similar to the manipulations used for study 2, mock online news articles (using headlines and information from actual, recent news reports) were developed to create strong treatments for the knowledge structure independent variable (persuasion knowledge and agent knowledge). For persuasion knowledge, participants were provided with an article which described the profitability of hospitals, due to maximizing revenues with the pricing protocol of healthcare procedures. For agent knowledge, participants viewed information about physicians having revenue-based treatment motives, by ordering unnecessary procedures in volume.

Emotion regulation was measured as a continuous independent variable, representing the two distinct strategies of reappraisal and suppression. The Emotion Regulation Questionnaire

(ERQ; Gross 2003), containing scales for each regulation strategy (six items for reappraisal, four items for suppression), was presented in a seven-point, Likert-type format (1 = strongly disagree, 7 = strongly agree). An example item is as follows: “When I am faced with a stressful situation, I think about it in a way that helps me stay calm.” For complete scale items, see appendix B.

Consistent with the prior two studies, participants are informed *explicitly* that all costs from their selected healthcare procedure will be paid out-of-pocket, at the time of purchase. Moderation is tested using the Johnson-Neyman technique; the mediating effect of attitude certainty is tested through Andrew Hayes’ PROCESS macro, via SPSS. To gauge attitude certainty, a single question measure (“How certain are you of your attitude toward the healthcare received?”) was used. Responses to the item, adapted from Fazio and Zanna (1978) and Tormala and Petty (2002), were measured on a seven-point Likert-type scale (1 = not at all certain, 7 = extremely certain).

## **Results**

Manipulation check. The manipulation check confirmed that participants successfully identified the type of knowledge structure which they viewed in the respective article ( $\chi^2(2) = 148.76, p < .01, \phi = .86$ ). No more than eight participants in either condition either incorrectly identified their treatment or answered, “I do not know.” Also, four-item, Likert-type scales for persuasion knowledge ( $\alpha = .82$ ) agent knowledge ( $\alpha = .93$ ) were used, with independent samples t-tests analyses, to test for successful manipulations. For both persuasion knowledge ( $t(201) = 4.77, p < .01, R^2 = .10$ ) and agent knowledge ( $t(201) = 3.28, p = .00, R^2 = .05$ ), significant results are found.

All moderation effects were tested using the Johnson-Neyman technique in Andrew Hayes' SPSS Process macro. For interaction effects, the Johnson-Neyman technique is increasingly informative, because it identifies regions of significance beyond  $\pm 1$  SD; thus, the Johnson-Neyman technique was used to further assess significant interactions (Hayes and Matthes 2009). The continuous moderating variable of emotion regulation strategy (individual scales for both reappraisal and suppression) was mean-centered. Because of the individual scales for reappraisal and suppression, two separate Johnson-Neyman tests were run for each dependent variable, discussed subsequently.

**Moderation.** An ANOVA, to test for the interaction effect of PK and AK on the price of a selected procedure, with reappraisal ( $\alpha = .90$ ) as the moderating variable, was not significant ( $F(3,199) = .17, p > .05$ ) No support was provided for H<sub>3a</sub>.

Support for H<sub>3b</sub>, the interaction effect of PK and AK on the price of a selected procedure, with suppression ( $\alpha = .91$ ) as the moderator, was provided by a significant ANOVA test ( $F(3,199) = 3.00, p = .03, R^2 = .02$ ). Results indicate that very high levels of suppression (2.7 SD above the mean and beyond;  $t = 1.97, p = .05$ ), combined with the interaction of new persuasion knowledge and negative agent knowledge, produced selected procedures with lower prices.

Support for H<sub>4a</sub> was shown, via ANOVA, by the significant interaction effect of PK and AK on the likelihood of negotiating after seeing the price ( $\alpha = .93$ ), with reappraisal as the moderating variable ( $F(3,199) = 5.11, p < .01, R^2 = .07$ ). Results indicate that very low levels of reappraisal (3.0 SD or more below the mean and beyond;  $t = 1.97, p = .05$ ), combined with the interaction of new persuasion knowledge and negative agent knowledge, caused higher levels of negotiation after seeing the price. Moreover, moderate to high levels of reappraisal (above  $-.06$

SD below the mean to 2.0 SD above the mean;  $t = -1.97$ ,  $p = .05$ ), combined with the interaction of new persuasion knowledge and negative agent knowledge, caused lower levels of negotiation after seeing the price.

An ANOVA to test for the interaction effect of PK and AK on the likelihood of negotiating after seeing the price, with the moderating effect of suppression, did have an overall significance ( $F(3,199) = 3.73$ ,  $p = .01$ ); however, the interaction variable was not significant ( $t = -.77$ ,  $p > .05$ ). Multiple spurious significance points, generated by the Johnson-Neyman test, were likely due to errors; thus, the results of these tests lend no support to  $H_{4b}$ .

Finally, ANOVAs to test for the interaction effect of PK and AK on trust in the physician ( $\alpha = .87$ ), with both reappraisal ( $F(3,199) = 4.10$ ,  $p < .01$ ); non-significant interaction term ( $t = -.28$ ,  $p > .05$ ) and suppression ( $F(3,199) = 1.67$ ,  $p > .05$ ); non-significant interaction term ( $t = -1.21$ ,  $p > .05$ ) as moderators, were not significant. These tests do not support  $H_{5a}$  or  $H_{5b}$ .

Mediation. Tests of mediation, in SPSS Process, do not provide support for  $H_{6a}$  and  $H_{6b}$ . Non-significant results for the relationship between knowledge structures and attitude certainty ( $t = .01$ ,  $p > .05$ ) and attitude certainty and the selected procedure's price ( $t = -.46$ ,  $p > .05$ ) do not indicate the indirect mediation effects of knowledge structures on the selected procedure's price, through attitude certainty. To gauge attitude certainty, a single question measure ("How certain are you of your attitude toward the healthcare received?") was used. Responses to the item, adapted from Fazio and Zanna (1978) and Tormala and Petty (2002), were measured on a seven-point Likert-type scale (1 = not at all certain, 7 = extremely certain). Further tests of the mediating relationship of trust in the physician between knowledge structures ( $t = -1.34$ ,  $p > .05$ ) and the price of a selected procedure ( $t = -.03$ ,  $p > .05$ ) were not significant.

## **Discussion**

The results of study 3 are informative for the development of theory in the cognitive and emotion literature, as well as that of marketing. A novel understanding of multiple healthcare financial exchange decisions, provided by significant interaction effects, is a primary yield. Concisely, by augmenting the existing knowledge structures of consumers with either new persuasion knowledge or negative agent knowledge, the strategy by which they process their emotion is shown to affect multiple behaviors. High levels of suppression interacted with the knowledge structures to cause participants to select procedures with lower prices. Moreover, high levels of reappraisal interacted with knowledge structures to produce lower levels of negotiation after seeing the price.

## **GENERAL DISCUSSION**

### **Theoretical and Practical Implications**

The comprehensive result of these studies is promising; however, there is still much to be gleaned. Because the healthcare context and combination of cognitive and emotion-based constructs is nascent, particularly to the marketing context, the study results have generous value for disentangling the financial decision making process of healthcare consumers. Although studies 1 and 2 will, undoubtedly, benefit from methodical tailoring, each still bears new contributions. For study 1, a difference from the healthcare exchange context to other common contexts was established for one of the key behavioral indicators of a consumption readiness/diligence—price negotiation behaviors after seeing the price of a good/service. This

result supports the fundamental premise of consumption detachment. Consumers do, indeed, treat healthcare differently than other common exchanges.

In study 2, the lack of consistency in the treatments furnished an opportunity to improve upon those used in study 3. After enhancing the quality of the treatments used in 2, study 3 generated interactions of cognitions and emotion for multiple consumption-relevant dependent variables. From study 3, it is clear that the augmenting or altering of knowledge structures is likely to produce negative affective states. In an effort to address these negative states, consumers will use one of two emotion regulation strategies; as hypothesized, the (high) use of suppression interacted with knowledge structures to enable consumers to select procedures with lower prices. Moreover, the use of appraisal, when interacting with knowledge structures, caused less price negotiation in consumers.

Practically, the value of consumers circumventing the detachment which manifests in healthcare is apparent. When consumers approach other exchange contexts, they exert more diligence and are likely to be better equipped—cognitively and behaviorally—to make decisions which are more financially effective. Also, consumers must be aware of the negative affective states which are likely to follow the augmentation or alteration of these healthcare knowledge structures. This awareness is crucial because, despite the counterintuitive logic at this cognitive and emotional interaction, the suppression strategy is most beneficial to consumers. Although suppression has been shown, within the psychology and emotion literature, to be disadvantageous emotionally, interpersonally, and physically (Gross and Levenson 1997; Butler et al. 2003; Gross and John 2003), financial well-being benefits meaningfully from this strategy.

If consumers can be educated to have the requisite awareness of the healthcare exchange context, and are able to understand the way in which they process emotion, advantageous financial outcomes are likely to ensue.

### **Limitations and Future Directions**

As discussed previously, multiple opportunities for methodological refinement were present in the studies. However, for an investigation of an underexplored context, this learning curve is neither unexpected or dissuading. Contrarily, the studies provide solid theoretical contributions, forming the foundation for later developments. Future iterations of study 1 will either develop an alternative method to capture real-time behavioral data from the dependent variables of interest (i.e., price search, price comparison), or utilize other theoretically-pertinent/valuable dependent variables.

The robustness of study 3's treatments, redesigned from study 2, offers a direction for developing future studies which use the knowledge structure manipulation in this manner. Finally, public policy—to facilitate financial well-being—and consumer education—to empower sound financial decisions—are likely future applications of this research.

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## **ARTICLE TWO: MINDFULNESS AND EMOTION REGULATION: INFLUENCES ON HEALTHCARE FINANCIAL DECISION MAKING AND CONSUMER FINANCIAL WELL-BEING**

In article two, a qualitative exploration of mindfulness and emotion regulation is conducted. A study of sixteen participants uses stimulated recall and think-aloud protocol methodologies to identify and distinguish the cognitive processes used by consumers during healthcare financial decision making.

Mindfulness and Emotion Regulation: Influences on Healthcare Financial Decision Making and  
Consumer Financial Well-being

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## **Abstract**

A qualitative exploration of consumption detachment, mindfulness, and emotion regulation is presented, in an effort to identify and understand the cognitive processes used by consumers during healthcare financial decision making. Two complementary methodologies (i.e., stimulated recall, think-aloud protocol) are used for data collection, and two rounds of coding analysis offer themes which inform the literatures of psychology and marketing. Data from 16 participants supports the proposal of a preliminary framework which identifies the emergence of a dichotomous perspective on the two distinct stages of healthcare exchange. Behavioral and emotional indicators illuminate the prominent role of mindfulness and emotion regulation in financial well-being. Implications for marketers and public policy makers are discussed.

**Keywords:** mindfulness, emotion regulation, consumer well-being, financial decision-making, qualitative, consumption detachment

On a daily basis, consumers are confronted with a multitude of exchange decisions. These decisions have a wide scope of regularity (e.g., repeated, periodic), gravity (e.g., toothpaste, food, housing, healthcare), and implications for well-being (e.g., financial, psychological, physical). Even when presented with optimal conditions, the task of interacting with the exchange environment, processing information, navigating the accompanying emotions, and committing to an appropriate financial obligation poses challenges for the most adept of consumers. Many potentially precarious exchange contexts have been noted (see: Harris, Henderson, and Williams 2005; Hill and Kozup 2007; Perry and Morris 2005). Fortunately, marketing researchers have continued the evolution in thought towards positively transforming consumers' lives; well-being has been a primary beneficiary of this attention.

Although physical well-being has assumed the focus of much of the research in this arena, financial well-being and its potential for persistent, disadvantageous consumer implications have largely been bypassed in marketing thought. Concurrently, mindfulness has emerged as an important factor in the facilitation of more effective decisions and, in turn, the promotion of well-being. Despite theorizing by Bahl et al. (2016) regarding the potential for mindfulness to “reduce biases which lead to poor financial decisions” by paying attention to “body sensations and emotional response to financial decisions” and being aware of “underlying motives to spend money...in contrast to the transitory nature of self” (p.5), empirical examinations of this application remain absent.

Specifically, one category of consumption decision—healthcare—resides at the critical junction of regularity, gravity, and implications which allows it to inordinately influence consumers' financial well-being. Considering that the financial implications from these

healthcare decisions are especially salient—to consumers, firms, and policy makers (i.e., personal financial health vs. revenues vs. bankruptcies from medical debt)—they are, to be sure, a key portion of the marketing literature.

Moreover, price, a variable which represents both the perceived and actual value of a good/service, is likely to contain valuable insight as to the cognitions of consumer healthcare decision making. From a marketing perspective, price has been examined for its fundamental importance to firms, as well as for how it is perceived amongst consumers (Jacoby and Olson 1977; Zeithaml 1988; Hamzaoui Essoussi and Linton 2010; Dodds, Monroe, and Grewal 1991; Van de Ven, Zeelenberg, and Pieters 2011). Indeed, price is the most common and apparent manifestation of the traditional (i.e., monetary) exchange, and it directly impacts the financial well-being of consumers. Through the examination of price, there is a sound understanding of many of the implications from consumers' decision making processes. However, there is much yet to be learned, both theoretically and substantively, from adopting a new perspective on these decisions, by integrating novel understanding into the existing framework, and by allocating acute attention to healthcare consumption. With this approach, the marketing literature may be augmented with new insight.

Due to the impact which these decisions have upon a consumer's fiscal health, financial well-being garners the focus of the current study. Reinforcing the influential role of healthcare upon a consumer's financial well-being, Brill (2013) reports that 62% of bankruptcies are related to medical debt; 69% of these individuals were insured at the time of their filing. As such, it is imperative to understand the cognitive processes which influence the decision making of consumers, to facilitate and promote financial well-being. For the consumer navigating

healthcare financial decision making, a host of biases (e.g., the inherent trust that consumers place within healthcare providers; Ford 2007; Sanger-Katz 2011), as well as negatively-valenced emotions (e.g., fear, anger, confusion), stressors, and vulnerabilities, may present a "perfect storm" for perilous consumption.

Thus, in the research presented henceforth, two constructs with limited presence within the extant marketing literature, mindfulness (nonjudgmental, present moment awareness; Brown and Ryan 2003) and emotional regulation (the conscious and/or unconscious strategies used to increase, maintain, or decrease one or more components of an emotional response; Gross 2001), will be examined for their potential to offer a novel perspective of price to the marketing discipline. Moreover, mindfulness and emotion regulation may also shed light upon cognitive and affective processes which may offer the theoretical and substantive advances necessary to inform consumers and promote financial well-being.

Mindfulness is likely to influence consumers' decisions due to its unique effect upon cognitions and behaviors (Ndubisi 2014). Specifically, mindfulness may have a transformative impact upon consumers' financial decision making by allowing the clarity, awareness, acceptance, and understanding of their thoughts and emotions during healthcare decisions which will, ultimately, affect their well-being. Emotion regulation (ER) also has the potential to directly address the financial vulnerability of consumers during healthcare decisions. When the negative affect often present within the current context unduly affects consumers, the opportunity for empowerment presents itself. Based upon a consumer's understanding of their emotions and affective state, in addition to the particular process used to regulate said emotion, a consumer may also have the ability to further safeguard their financial well-being.

Considering the theoretical, managerial, and substantive implications contained within these constructs—and from utilizing these specific methodologies—the following research questions are presented:

- In what ways do consumers fundamentally understand, approach, and navigate healthcare exchange differently than other contexts?
- What is the role of mindfulness in healthcare financial decision making?
- What is the role of emotion regulation, as it pertains to the affect (negative or positive) incurred in healthcare financial decision-making?

Due to the magnitude of the implications from the underlying cognitive mechanisms presented here, research questions must be broad enough to encompass a breadth of phenomena—while also retaining the requisite focus to address idiosyncratic portions of theory which may be pertinent to this specific consumption scenario. Although these inquiries are meant to, initially, address the issues proposed here in a comprehensive manner, they are fluid—due to the partially exploratory and dynamic nature of the phenomena explored. These inquiries shall guide the data collection and analysis, but the process will be engaged in a way which allows for adaptivity and flexibility moving forward.

Through these research questions, the following contributions will be provided: 1) developing an understanding of the distinct differences in the cognitions, behaviors, and approaches between healthcare and other goods/services, deemed consumption detachment, 2) support for a relationship between mindfulness and emotional regulation, 3) insight into the cognitive mechanisms which are likely to influence healthcare financial decision making and

well-being, and 4) a new perspective regarding consumers' perceptions of price within the healthcare marketplace.

As a summary, I propose that, due to the source credibility and implicit heuristic cues inherent within this industry, consumers regularly enter into these exchange relationships with increased levels of trust in the healthcare provider and/or organization. Many consumers do not view themselves, when seeking healthcare, in a manner consistent with other exchange contexts (e.g., purchasing a car, entering a retail sales encounter). That is, they generally fail to perceive the healthcare context as an active persuasion attempt by the firm (e.g., hospital, clinic, medical center). Additionally, most do not recognize themselves as consumers. Imbedded within this false perception is the early dismissal of firms' persuasion motives (e.g., profitability). As a result, consumers' financial well-being may be jeopardized by the selection of higher priced (or unnecessary) healthcare procedures/treatments, in a phenomenon known as consumption detachment (hereby defined as the lack of a fundamental mindset, accumulated knowledge structures, set of norms, approaches, and/or behaviors which indicate a capacity for and preparedness to make effective consumption decisions).

Mindfulness (Baer et al. 2006; Maddux 1997) and emotion regulation (Gross 2001) each have inherent value within this study because of their distinct potential to impact the financial decision making of consumers in a healthcare context. Specifically, mindfulness is likely to have an unconventional application and counterintuitive results. The present-moment acceptance, non-judgment, and non-reactivity that is characteristic of mindfulness creates an atmosphere for psychological and social well-being. However, the dimensions of physical and financial well-

being may be traded-off when consumers possess increased mindfulness in a healthcare consumption setting.

To understand the potential effect of ER upon financial decision making, its effect on consumer well-being must first be noted. Effective regulation of emotion is viewed by many as vital for human psychological well-being, and has been empirically linked to critical outcomes such as mental health, physical health, relationship satisfaction, and work performance (Gross and Muñoz 1995; Sapolsky 2007; Murray 2005; Diefendorff et al. 2000).

Suppression and reappraisal, due to their distinct mechanisms of regulation, influence emotion in divergent ways. For example, as negative affect is internalized and disguised outwardly, a patient that is angered or challenged by mounting healthcare bills or that is skeptical of a physician's recommended course of treatment is more likely to make fiscally-responsible decisions. When reappraisal is engaged as the strategy of regulating one's emotion, a consumer is likely to cognitively reframe a large financial obligation (relative to the individual) in a positive manner (lessening the emotional impact of spending). When this occurs, financial well-being is likely to be jeopardized during healthcare decisions.

## **CONCEPTUAL FOUNDATIONS**

### **Mindfulness**

Derived from Buddhist theory, the four noble truths (the truth of suffering, the truth of the cause of suffering, the truth of the end of suffering, and the truth of the path that leads to the end of suffering) describe the causes of human suffering and the means by which individuals might be emancipated from calamity and woe—caused by the perpetual pursuit of some ideal state of life (Wallace and Shapiro 2006). According to this theory, the primary source of human

suffering is judging and assessing life's moments, while incessantly pursuing an ideal self which is always just beyond reach.

By designating present-moment phenomena as “good vs. bad,” perpetually striving to attain the “good” things, and avoiding the “bad” things, humans lend themselves to persistent suffering. By becoming infatuated with the pursuit of the "good," sometimes unattainable, and consistently attempting to avert the "bad"—which becomes feared, suppressed, and avoided—one is never able to fully appreciate the present; thus, a self-imposed form of incessant suffering must be endured (Wallace and Shapiro 2006).

Theoretically, nonjudgmental mindfulness, including an awareness and appreciation of the present moment, assuages any potential self-imposed human stress, enhancing psychological well-being during the process. Several contemporary Western psychologists have expounded upon the theory of mindfulness and well-being (Ekman et al. 2005; Wallace and Shapiro 2006). For example, Wallace and Shapiro (2006) outline the four dimensions of mental balance which commonly result from Buddhist meditation practice: conative, attentional, cognitive, and affective. When mindfulness seizes its role as the central component in Buddhist meditation, its ability can be described as operational and in cognitive-attentional terms, as a means to facilitate research into the construct (Bishop et al. 2004).

When considered with the broadest interpretation, mindfulness may be viewed through the lens of self-determination theory. This approach posits three basic human psychological needs that are required for good mental health: competence (ability to perform a job properly), autonomy (capacity to make an informed, independent decision), and relatedness (satisfactory social relationships) (Ryan and Deci 2000). Buddhist philosophy embraces autonomy and

relatedness as critical tenets, however, competence is not regarded with the same esteem (Nhat Hanh 1988). Both autonomy and relatedness have been posited, as components of mindfulness, to facilitate well-being through self-regulated activity and fulfillment of the basic psychological needs (Brown and Ryan 2003). Though most theories of mindfulness do not explicitly discuss strategies of emotion regulation as mechanisms through which mindfulness functions, an empirical relationship between the two has been shown (Bishop et al. 2004; Brown and Ryan 2003). The association between mindfulness and emotion regulation is also explored here.

### **The Relationship between Mindfulness and Well-being**

Research on the relationship between mindfulness and well-being is limited to correlational studies and intervention studies. Multiple correlational studies, using self-reported mindfulness, have found positive relationships with various measures of psychological well-being, and negative relationships with psychological symptoms of distress. These negative correlations have included symptoms of distress, anxiety, and depression (Baer, Smith, and Allen 2004; Baer et al. 2006; Brown and Ryan 2003; Feldman et al. 2007). Since correlational studies fail to provide insight of causality, experimental studies of mindfulness are an important contribution in the current research.

The majority of experimental research addressing mindfulness has involved studies on the effectiveness of the mindful-based stress reduction (MBSR). These interventions typically consist of eight weekly sessions (2.5 hours per day) which nurture mindfulness psychoeducation. Mindfulness is practiced during various exercises, such as mindful breathing, mindful moving, and vipassana (insight) meditation (Nykliček 2010). Recently, MBSR has been shown to be capable of decreasing symptoms of distress, anxiety and depression, and enhancing positive

mood and quality of life (Jain et al. 2007; Lengacher et al. 2009; Nyklíček and Kuijpers 2008; Speca et al. 2000).

Indeed, the relationships between the aforementioned benefits and increases in mindfulness are still not completely defined. An alternative explanation may include nonspecific effects (such as social support from the group). Of interest are two recent trials which show how changes in self-reported mindfulness were statistically responsible—at least partially—for mediating the beneficial effects of MBSR on perceived stress and quality of life (Bränström et al. 2010; Nyklíček and Kuijpers 2008). Regardless of the unresolved issue of causality, the positive association between mindfulness and psychological well-being has been supported previously.

### **Potential Implications for Financial Well-being**

Mindfulness, in the context of consumer decision making, is likely to have an unconventional application and counterintuitive result. Although psychological well-being has traditionally garnered the exclusive concern of empirical investigation and theorizing on mindfulness, the framework presented here expands the theoretical discourse to encompass three additional dimensions: financial, physical, and social. These additional elements of well-being are particularly relevant to both daily and periodic consumption scenarios. The present-moment acceptance, non-judgment, and non-reactivity which is characteristic of mindfulness creates an atmosphere for psychological well-being. Additionally, social well-being is likely to be enhanced with increased levels of mindfulness. On the contrary, however, physical and financial well-being may be traded-off by a highly mindful consumer during the preservation of psychological well-being. It is likely not possible to optimize all dimensions of well-being simultaneously during these consumption scenarios.

A similar logic may be applied specifically within a healthcare financial decision-making context, such as emergency care or the selection of treatment for an illness. Individuals with increased levels of mindfulness are likely to accept the experience of the moment, including the challenging financial obligations which may result from accepting and approving healthcare procedures and treatments that are unnecessary or excessive. Healthcare-related bankruptcies, as well as lesser degrees of financial turmoil, are likely to be reduced with the momentary experience of negative affect, non-acceptance of the present experience (and default trust of healthcare providers), and judgment of the present moment—all inherent characteristics of being *less* mindful.

### **Emotion Regulation**

Effective regulation of emotion is viewed by many as vital for human psychological well-being and has been empirically linked to critical outcomes such as mental health, physical health, relationship satisfaction, and work performance (Gross and Muñoz 1995; Sapolsky 2007; Murray 2005; Diefendorff et al. 2000). Various types of psychopathology, from affective disorders to personality disorders, have been associated with inadequacies in emotion regulation (Gross and Muñoz 1995). When poor regulation of emotion occurs consistently, it may manifest in psychological disorders such as depression and withdrawal (Macklem 2008). Symptoms can also be demonstrated biologically (e.g., disrupted sleep, anxiety) and physiologically (e.g., pain, smoking, eating disorders, addiction, etc.; p. 18).

Psychological interventions, including Cognitive Behavioral Therapy and Dialectical Behavioral Therapy, are often utilized to enhance emotion regulation. These techniques have been identified as effectively reducing multiple types of psychological symptoms (Hofmann and

Asmundson 2008; Linehan 1993). Despite these results, empirical research has yet to produce findings of causality for the relationship between effective emotion regulation and well-being. Increasingly, the effects of emotion regulation are viewed as a complex process, substantially contingent upon the context in which it occurs (Nykliček 2010). There are, however, findings which indicate correlation—suggesting that some ER strategies are likely to promote or decrease psychological well-being as a function of the environment (Nykliček 2010).

### **The Relationship between Emotion Regulation and Well-being**

The two emotion regulation strategies pertinent to the theoretical framework presented here, suppression and reappraisal, have been the subject of moderate empirical investigation. Suppression, a response-focused regulation strategy involving the deliberate inhibition of emotional expression, is useful for effective social interactions in all human societies. The effects of suppression, however, are not always advantageous. In fact, studies have shown a relationship between suppression and decreased positive emotions, interpersonal functioning, physical well-being, and increased rumination regarding negative mood (Gross and Levenson 1997; Butler et al. 2003; Gross and John 2003). Moreover, research is available which indicates an association of emotion suppression with enhanced sympathetic nervous system reactivity to laboratory stressors—resulting in disadvantageous physiological symptoms such as cardiovascular disease (Butler et al. 2003; Mauss and Gross 2004).

Cognitive reappraisal, an antecedent-focused strategy, reflects the deliberate reinterpretation of emotive stimuli in order to modify its emotional impact (Gross 1998). As a contrast to the effects of emotional suppression, reappraisal has been found to be generally related to positive effects on psychological well-being, such as increased effectiveness in

interpersonal functioning and positive mood and decreased negative affect, sans any accompanying sympathetic nervous system activation (Gross and John 2003; Butler et al. 2003; Ochsner et al. 2004). Concerning physiology, cognitive reappraisal has been associated with lower blood pressure measures and with activation of prefrontal and anterior cingulate brain structures, which are known to be involved in adaptive emotion regulation (p. 345, see also Nyklíček and Vingerhoets 2009).

### **Potential Implications for Financial Well-being**

Despite a relative dearth of empirical research in the emotion regulation arena, findings suggest a link between several forms of regulation and psychological and physical well-being. Since mindfulness and emotion regulation have displayed advantageous effects for psychological well-being, it is a natural progression to theorize and posit the nature of the relationship between these same constructs and how they combine to affect multiple forms of well-being. The role of emotion regulation in the proposed framework is offered below.

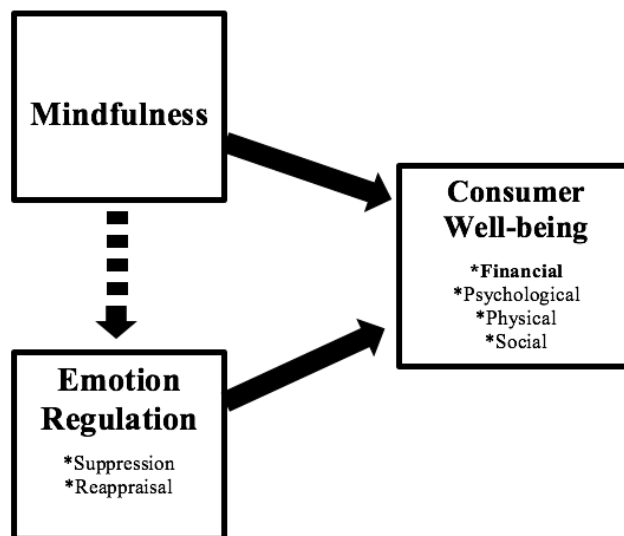
Effective regulation of emotion is positively related with psychological well-being. Moreover, emotion regulation will likely have a positive main effect on social well-being, but a negative main effect on physical and financial well-being—in the relevant consumer contexts. Suppression and reappraisal, due to their distinct mechanisms of regulation, affect emotion in vastly divergent ways.

When consuming a healthcare service, negative emotions may become enhanced through suppression. Any outward expression of anger, sadness, etc. (facial expressions, body language, mannerisms) is controlled and an individual is likely to be more adept at interacting within the social environment—enhancing social well-being. As the affect is internalized and obfuscated

outwardly, a patient that is angered (e.g., by mounting healthcare bills or that is skeptical of a healthcare provider's motives) may behave within social norms but is more likely to make decisions which are fiscally responsible because of negative emotion.

Reappraisal has also been shown to have a consistently positive effect on psychological well-being. However, when reappraisal (vs. suppression) is used as an emotion-regulation strategy, financial well-being is likely to be *jeopardized*. This effect is significantly increased as negative affect increases. For example, when the cost of the healthcare treatment is large (protracted illness, extended in-patient stay, severe illness). However, consumers with either large out-of-pocket costs and/or low socioeconomic statuses also face severe risk to their financial well-being during routine decisions with moderate financial implications. The framework proposed in Figure 6 shows the relationships described previously.

Figure 6: Conceptual Framework for Mindfulness, Emotional Regulation, and Consumer Well-being



## METHODOLOGY

### **Qualitative Rationale**

In designing the study, careful consideration was taken to maximize the nomothetic theoretical and substantive yield derived from the research questions, while also adhering to the objective of providing a novel perspective to the marketing literature. To best encapsulate both of these considerations, two synergistic methodologies, stimulated recall and think-aloud protocol, were selected. These two qualitative methodologies possess complementary strengths which allow for the exploration of nuanced cognitive processes through the use of verbalization techniques.

Although the marketing literature has acknowledged the contribution and impact of seminal qualitative articles such as Schouten and McAlexander (1995) and Fournier (1998), the benefits of these methods are often underutilized. However, by properly aligning the strengths of stimulated recall and think-aloud protocol (accessing challenging cognitions) with the research questions at hand, a tailored, maximum return was obtained. This highly-targeted approach, coupled with traditionally underutilized methodologies, increased the likelihood of new insight and contribution from the study—much of which is certain to not be obtained through quantitative approaches.

### **Study Design**

**Selected Methodologies.** When delving into cognitions with subtle components, the verbalization components characteristic of these two methodologies allow for the strengths of each to be actualized. Both techniques operate with the logic that cognitive processes may be

articulated through verbalization and introspection. For the current study, the two methodologies were used sequentially—beginning with stimulated recall.

Stimulated recall (post-process oral observation) was selected due to its adroit ability to activate deeper memory structures through introspection and recollection (Lyle 2003). With mindfulness, in particular, its presence (as a trait) may be difficult to detect. Despite its limitations, multiple researchers have concluded that the understanding of cognition obtained through stimulated recall makes the methodology particularly valuable for eliciting higher-order mental processes—outweighing most shortcomings of the technique (Lyle 2003; Dempsey 2010). Moreover, stimulated recall's deftness in process tracing and gleaning accurate accounts of reasoning make it well-suited to delve into the involved mental processes and psychological constructs (i.e., mindfulness, emotion regulation) explored in this study. This is because of the deeply-involved cognitive processes of each, as well as our limited understanding of them.

Stimulated recall explores cognitive processes through directed navigation of a recent event, usually through video recordings. In the current study, participants were video recorded during a visit to a local family medicine center. After the completion of their visit, an interview instrument, developed and refined during a pilot data collection, was administered to participants as the visit was assessed. Participants were allowed to view the video of their appointment, as necessary, to accurately navigate their own understanding of the questions and effectively articulate cognitions and emotions.

The second technique, think-aloud protocol, is derived from cognitive psychology (Ericson and Simon 1984) and provides utility due to its aptitude at "gain[ing] insight into...participants' thought processes" (Boren and Ramey 2000, p.261). The concurrent verbal

protocol characteristic of think-aloud protocol also provides a "richness of data [which]...outweighs these constraints [and] has the potential to enhance research..." (Cotton and Gresty 2006, p. 45). Once again, the high-order mental processes under inquiry are well served by think-aloud protocol.

Similar to stimulated recall, think-aloud protocol probes cognitive processes through the verbalization of said cognition(s), but diverges at the fact that think-aloud requires verbalization to be concurrent with the actual performance of a given activity. For think-aloud protocol in the current study, participants were asked to retain the billing statement from their respective family medicine visits—not opening the correspondence until a subsequent research session. The billing cycle (i.e., from appointment date to receipt of statement) for the family medicine center averaged four to five weeks; after this period, participants were contacted, via email correspondence or telephone to schedule the think-aloud portion. To facilitate the comfort of each participant, interviews were conducted either at participants' homes or public settings, such as coffee houses, based upon the preference of each individual.

During the second session, participants were administered a guiding instrument which allowed for the expression of cognitive processes during the opening of their billing statement. The protocol used during the think-aloud session provided participants with the latitude to explain cognitions, while retaining some degree of linearity and structure. Table 1 provides a rationale for the selection of the aforementioned methodologies, in lieu of a quantitative or alternate qualitative technique.

Table 1: Guide for Selection of Current Study's Methodology

Strengths	Strengths, cont'd.	Weaknesses	Weaknesses, cont'd.	Selected?	
Quantitative	<ul style="list-style-type: none"><li>allow for a broader study, involving a greater number of subjects, and enhancing the generalization of the results;</li><li>can allow for greater objectivity and accuracy of results</li><li>prescribed procedures to ensure validity and reliability</li></ul>	<ul style="list-style-type: none"><li>using standards means that the research can be replicated, and then analyzed and compared with similar studies</li><li>personal bias can be avoided by researchers keeping a 'distance' from participating subjects</li></ul>	<ul style="list-style-type: none"><li>results are limited as they provide numerical descriptions rather than detailed narrative and generally provide less elaborate accounts of human perception</li><li>preset answers will not necessarily reflect how people really feel about a subject and in some cases might just be the closest match;</li></ul>	<ul style="list-style-type: none"><li>the development of standard questions by researchers can lead to 'structural' bias and false representation, where the data actually reflects the view of them instead of the participant</li></ul>	<input type="checkbox"/> No
Qualitative	<ul style="list-style-type: none"><li>provide you with details about human behavior, emotion, and personality characteristics that quantitative studies cannot match</li><li>researcher gains more detailed and rich data in the form of comprehensive written descriptions or visual evidence, with context and social meaning and how it affects individuals</li><li>grounded theory to inductively generate a tentative but explanatory theory about a phenomenon</li><li>responsive to changes that occur during the conduct of a study (especially during extended fieldwork) and may shift the focus of their studies as a result</li><li>can study dynamic processes (i.e., documenting sequential patterns and change)</li><li>Determine idiographic causation</li></ul>	<ul style="list-style-type: none"><li>flexibility, allowing you to respond to user data as it emerges during a session</li><li>useful for describing complex phenomena</li><li>provides understanding and description of people's personal experiences of phenomena (i.e., the emic or insider's viewpoint)</li><li>can describe in rich detail phenomena as they are situated and embedded in local contexts</li><li>identifies contextual and setting factors as they relate to the phenomenon of interest</li><li>data in the words and categories of participants lend themselves to exploring how and why phenomena occur</li><li>(i.e., determination of causes of a particular event)</li></ul>	<ul style="list-style-type: none"><li>observe and document behaviors, opinions, patterns, needs, pain points, and other types of information without yet fully understanding what data will be meaningful</li></ul>	<ul style="list-style-type: none"><li>time consuming (collection and analysis)</li></ul>	<input checked="" type="checkbox"/> Yes
Qualitative Methodologies					
Stimulated Recall (post-process oral observation)	<ul style="list-style-type: none"><li>designed to activate deeper memory structures through introspection and recollection (Lyle 2003)</li></ul>	<ul style="list-style-type: none"><li>ability to elicit higher-order mental processes (Lyle 2003; Dempsey 2010)</li><li>deftness in process tracing and gleaning accurate accounts of reasoning</li></ul>	<ul style="list-style-type: none"><li>potential for judgment biases</li><li>possible post-hoc rationalization by participants</li></ul>	<ul style="list-style-type: none"><li>contingent upon capacity for direct reporting of introspective reasoning</li><li>need to maximize short-term working memory</li></ul>	<input checked="" type="checkbox"/> Yes
Think-aloud Protocol (concurrent process verbalization)	<ul style="list-style-type: none"><li>probes cognitive processes through the verbalization of said cognition</li></ul>	<ul style="list-style-type: none"><li>access to higher-order mental processes</li><li>evaluation of the thought processes or decision making of someone performing a specific task (Ericsson and Simon 1984)</li></ul>	<ul style="list-style-type: none"><li>may provide inadequate level of guidance for participants (Cotton and Gresty 2006)</li></ul>	<ul style="list-style-type: none"><li>may act as catalyst for metacognition or alter thought processes</li></ul>	<input checked="" type="checkbox"/> Yes
Observations	<ul style="list-style-type: none"><li>provide direct information about behavior of individuals and groups</li></ul>	<ul style="list-style-type: none"><li>provide good opportunities for identifying unanticipated outcomes</li></ul>	<ul style="list-style-type: none"><li>expensive and time consuming</li><li>need well-qualified, highly trained observers; may need to be content experts</li></ul>	<ul style="list-style-type: none"><li>selective perception of researcher may distort data</li><li>researcher has little control over situation</li></ul>	<input type="checkbox"/> No

	<ul style="list-style-type: none"> <li>• permit evaluator to enter into and understand situation/context</li> </ul>	<ul style="list-style-type: none"> <li>• data collected in natural, unstructured, and flexible setting</li> </ul>	<ul style="list-style-type: none"> <li>• may affect behavior of participants</li> </ul>	<ul style="list-style-type: none"> <li>• behavior or set of behaviors observed may be atypical</li> </ul>	
<b>Depth Interviews</b>	<ul style="list-style-type: none"> <li>• ability to yield rich data, details, and new insights</li> <li>• permit face-to-face contact with respondents</li> <li>• provides opportunity to explore topics in depth</li> </ul>	<ul style="list-style-type: none"> <li>• affords ability to experience the affective as well as cognitive aspects of responses</li> <li>• allows interviewer to explain or help clarify questions, increasing the likelihood of useful responses</li> <li>• allows interviewer to be flexible in administering interview to particular individuals or circumstances</li> </ul>	<ul style="list-style-type: none"> <li>• may be expensive and time-consuming</li> <li>• need well-qualified, highly trained interviewers</li> <li>• interviewee may distort information through recall error, selective perceptions, desire to please interviewer</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility can result in inconsistencies across interviews</li> <li>• Volume of information too large; may be difficult to transcribe and reduce data</li> </ul>	<input checked="" type="checkbox"/> No
<b>Focus Group</b>	<ul style="list-style-type: none"> <li>• interaction of respondents may stimulate a richer response or new and valuable thought</li> </ul>	<ul style="list-style-type: none"> <li>• group/peer pressure will be valuable in challenging the thinking of respondents and illuminating conflicting opinions</li> </ul>			<input checked="" type="checkbox"/> No
<b>Document Studies</b>	<ul style="list-style-type: none"> <li>• available locally</li> <li>• inexpensive</li> <li>• useful for determining value, interest, political climate, public attitudes, or historical trends</li> </ul>	<ul style="list-style-type: none"> <li>• grounded in setting and language in which they occur</li> <li>• provide opportunity for long-term study of trends</li> </ul>	<ul style="list-style-type: none"> <li>• may be incomplete</li> <li>• may be inaccurate or have questionable authenticity</li> </ul>	<ul style="list-style-type: none"> <li>• locating suitable documents may pose challenges</li> <li>• analysis may be time consuming</li> <li>• access may be difficult</li> </ul>	<input checked="" type="checkbox"/> No
<b>Key Informant</b>	<ul style="list-style-type: none"> <li>• information concerning causes, reasons, and/or best approaches from an "insider" point of view</li> <li>• advice/feedback increases credibility of study</li> </ul>	<ul style="list-style-type: none"> <li>• pipeline to pivotal groups</li> <li>• may have side benefit to solidify relationships between evaluators, clients, participants, and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• time required to select and get commitment may be substantial</li> <li>• relationship between evaluator and informants may influence type of data obtained</li> </ul>	<ul style="list-style-type: none"> <li>• informants may interject own biases and impressions</li> <li>• may result in disagreements among individuals leading to frustration/ conflicts</li> </ul>	<input checked="" type="checkbox"/> No
<b>Case Study</b>	<ul style="list-style-type: none"> <li>• in-depth, real-time documentation of phenomena and developments provide insight into factors critical to outcomes of interest</li> <li>• multiple stakeholder perspectives may be obtained, to provide a breadth of rich data</li> </ul>	<ul style="list-style-type: none"> <li>• flexibility of data collection methods which may be used (e.g., observation, audio, field notes, etc.) facilitates triangulation (i.e., validity)</li> <li>• able to provide a vivid, vicarious lived experience from participants</li> </ul>	<ul style="list-style-type: none"> <li>• may be difficult to generalize from a single case</li> </ul>	<ul style="list-style-type: none"> <li>• data collection may be time consuming</li> </ul>	<input checked="" type="checkbox"/> No
<b>Ethnography</b>	<ul style="list-style-type: none"> <li>• researcher immersion allows access to a depth of insight which may not be otherwise obtained</li> <li>• deep, rich data</li> </ul>	<ul style="list-style-type: none"> <li>• provides the opportunity for innovative presentation of data (e.g., poetry, plays, confessionals, rhetoric, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• potential for researcher (observer) bias</li> <li>• results of data collection may not generalize</li> </ul>	<ul style="list-style-type: none"> <li>• data collection and analysis may be time consuming</li> <li>• developing entrée (i.e., trust) into research setting may be time consuming</li> <li>• observers may require extensive training prior to data collection</li> </ul>	<input checked="" type="checkbox"/> No
<b>Narrative Inquiry/Life History</b>	<ul style="list-style-type: none"> <li>• ability to provide participants with a meaningful voice, validating their experiences</li> <li>• participant empowerment from research process</li> </ul>	<ul style="list-style-type: none"> <li>• ability for researcher to work with participants in a joint data collection process</li> <li>• sense of mutual trust between researcher and participant circumvents potential power discrepancies and yields rich data</li> </ul>	<ul style="list-style-type: none"> <li>• may require labor intensive data collection</li> </ul>	<ul style="list-style-type: none"> <li>• time consuming data collection</li> <li>• tendency for researchers to describe data analysis as a narrative, rather than thematic coding (Riessman and Quinney 2005)</li> </ul>	<input checked="" type="checkbox"/> No

**Instruments.** A pilot data collection was conducted which provided the opportunity to develop inquiries appropriate for each methodology. The pilot study ( $n = 1$ ) was conducted with a participant who had recently incurred an illness which required a moderate degree of financial decision making, consistent with the purpose of the current research. Moreover, researchers familiar with these methodologies were consulted during the development of the instrument, and relevant literature was examined to provide supplementary insight.

Through these inquiries, participants were afforded a tailored combination of structure and autonomy requisite for the articulation of the focal cognitive processes. The full instruments used in the studies are available in Appendix A.

**Trustworthiness.** During the use of many qualitative methodologies, particularly those requiring moderate to in-depth personal interaction and the exploration of deep cognitions and/or sensitive subject matter, rapport is critical for effective communication between the participant and researcher. Thus, although the study was not immersive and/or longitudinal (beyond the think-aloud follow-up), interpersonal relationships were established with all participants during the recruitment phase and initial appointment/interview. Moreover, each participant was contacted at least twice, via telephone, during the time which elapsed between the stimulated recall session and the think-aloud protocol.

Since the study had personal physical and financial implications for all recruited, in addition to a public policy pertinence, many participants felt an increased level of comfort because of either empathy for others, personal relevance (i.e., polarizing past healthcare experiences), and/or altruism (i.e., contribution to large scale improvements in consumer well-being). Understanding that these advantages were embedded within the study, as well as my

credibility through the relationship with the university (a staple institution in the community), participants consistently expressed comfort and trust in the divulgence of intimate experiences. Without this comfort and trust, and/or assurances of confidentiality, participants may not have committed to video recording of their physician's appointments nor shared the level of personal information requisite to conduct the study effectively.

**Participants and Location.** Nearly a year in advance of the study, a professional relationship with the university-owned family medical center was cultivated. This relationship provided access to participants with both existing medical histories (i.e., recurring appointments) and initial consultations and yielded an additional layer of credibility and trustworthiness.

By leveraging this relationship with the family medicine center, participants were recruited and consented, on site, immediately prior to their scheduled appointment. A purposeful, interpersonal dialogue was used to elucidate the potential benefits of participation and to secure a commitment to both stages of the study. The on-site dialogue was advantageous, particularly for participants that shared an established rapport with the physician/family medicine center, because the extant, accumulated equity was consistently transferred from the physician to me.

Participants at the family medicine center were generally reflective of the demographics of the geographic region (moderately-rural, Mid-Atlantic state). Participants in the sample (n = 16) were nearly exclusively Caucasian, with ages ranging from young adults to senior citizens (late twenties to seventies), and of an evenly distributed gender. Eight participants were compensated \$20 for their time, after completion of the second stage of the study. The remaining eight participants, through various means of attrition, were not available for the latter portion.

Although there is considerable homogeneity within the sample's racial demographics, this is an expected reflection of both the state and local community. However, the lack of diversity is not necessarily disadvantageous for this particular study. In fact, the participants displayed the requisite maturity and experience with making healthcare decisions to effectively understand, access, and articulate their cognitions; additionally, the respect and admiration which these participants possessed for the university (many of them were born and raised in the neighboring communities) was expressed as an impetus to contribute to the study.

The research questions within the study are more effectively addressed, in many ways, by the sample's characteristics. By drawing from a sample with lower general socioeconomic status (also characteristic of the state's population), the participants are more likely to be affected by healthcare debt—incurred by routine care—due to the relatively small amount of disposable and discretionary income, by definition, available to this category of consumers. Cohen and Kirzinger (2014) report that over 26% of families ("an individual or group of two or more related persons living together in the same housing unit") experience financial burdens from medical care. Moreover, families with incomes which are equal to or below 250% of the federal poverty level (FPL) were increasingly more likely to confront the financial burdens of medical care than families with greater financial means; families having incomes from 139% to 250% of the FPL were most likely to have been paying medical bills over an extended period of time (p. 1). FPLs are found in Table 2.

Table 2: Federal Poverty Guidelines (2015)

Number of Persons in Family/Household	Poverty Guideline Amount
1	\$11,770
2	\$15,930
3	\$20,090
4	\$24,250
5	\$28,410
**Figures from the U.S. Department of Health and Human Services ( <a href="http://aspe.hhs.gov/poverty/15poverty.cfm">http://aspe.hhs.gov/poverty/15poverty.cfm</a> )	

Theoretically, the value of both the recruitment location and the sample of participants is to be appreciated. When considering the issue of healthcare debt, routine and moderate (as opposed to catastrophic) healthcare decisions—typical of a family medicine site—provide more insight into the decision-making processes of consumers because of the elevated risk perceptions and/or negative emotions which accompany severe injury/trauma. To elaborate, consumers in catastrophic scenarios are likely to spend sans regard for their financial status—in the pursuit of preserving physical well-being. Contrarily, consumers making the type of decisions which garner the focus of this research face a more theoretically viable (i.e., complex and interesting) decision process.

Finally, the costs of even minor to moderate healthcare decisions still pose a challenge to the finances of consumers within this demographic, due to the low socioeconomic status. The healthcare context of these decisions will likely generate negative affect pertinent to the research, in addition to disrupting the delicate balance of fiscal management with which many of these

consumers must cope. Thus, the setting and recruitment of participants used in the current research is key.

### **Data Analysis**

Data analysis consisted of transcripts from both sessions of the study, as well as non-verbal video data (of body language and facial expressions), assessed by balancing an understanding of culturally-derived meaning with hermeneutic interpretation (Crotty 2013). A foundational theoretical framework, consisting of mindfulness, emotion regulation, and consumer well-being guided the analysis. However, theoretical advances such as the dichotomous, two-stage manifestation of consumption detachment emerged from the analytical latitude afforded to the data.

The data was analyzed, by me, using a structure of traditional qualitative coding techniques, in an iterative process (i.e., two cycles) designed to move towards establishing codes, forming categories, and identifying themes which were present within the data. This approach to the data analysis is essential because, although the inquiry was guided by a proposed theoretical framework/model, a flexible disposition was also adopted to allow for the discernment of emerging and/or unanticipated themes.

**Analytical Approaches.** During the initial cycle of data analysis, a focused coding technique was used to identify salient categories within the transcripts (Saldaña 2013). These coarse categories were reviewed for information which is congruent to, or which parallels, theoretical conceptualizations of the constructs of primary interest (via the guiding theoretical framework). From this first cycle, multiple pertinent categories were monitored, such as “extensive thought,”

“present-moment awareness,” “non-judgmental,” “acceptance,” “suppress,” “reappraise,” “reconcile,” “rationalize,” “emotional expression/conflict.”

After the identification of these categories, a second cycle of data analysis was conducted to capitalize upon the salient categories of the initial round—to crystallize the former and the latter categories into themes which supported, augmented, or otherwise contrasted the theoretical framework. The second cycle of coding expounded upon the first round by using emotion coding and values coding, with subcoding serving in a support role to these primary coding techniques—to "detail or enrich" the previously mentioned categories (Saldaña 2013; Miles, Huberman, Saldaña 2013).

Emotion coding yielded multiple categories such as “negative emotion,” “emotional expression,” “positive emotion,” and “suppression of emotion”—each of which are aligned with a construct of primary interest (i.e., negative affect, emotion regulation/suppression). Moreover, values coding identified categories which shed light upon the participant's "values, attitudes, and beliefs, representing his or her perspective or worldview" (Saldaña 2013, p. 268). Within this infrastructure, categories such as “integrity,” “trust,” “comfort,” “consumer efficacy,” “ownership of care,” “compliance,” “desire for compassion,” “family, and “trade-offs” were noted.

Additionally, as the coding (cycles one and two) moved towards categories, each cycle's results galvanized into larger themes such as trust of the healthcare provider, perceptions of the commercialization of medicine, skepticism/distrust of the healthcare establishment, powerlessness and confusion of pricing/billing, detachment, and the coping/navigation of various

emotional (affective) states. Although many of the categories were consistent with the posited framework, multiple novel categories emerged to supplement some of the overarching themes.

Finally, an unexpected behavioral, mindfulness, and emotional dichotomy of the healthcare exchange process emerged from the data.

## **RESULTS**

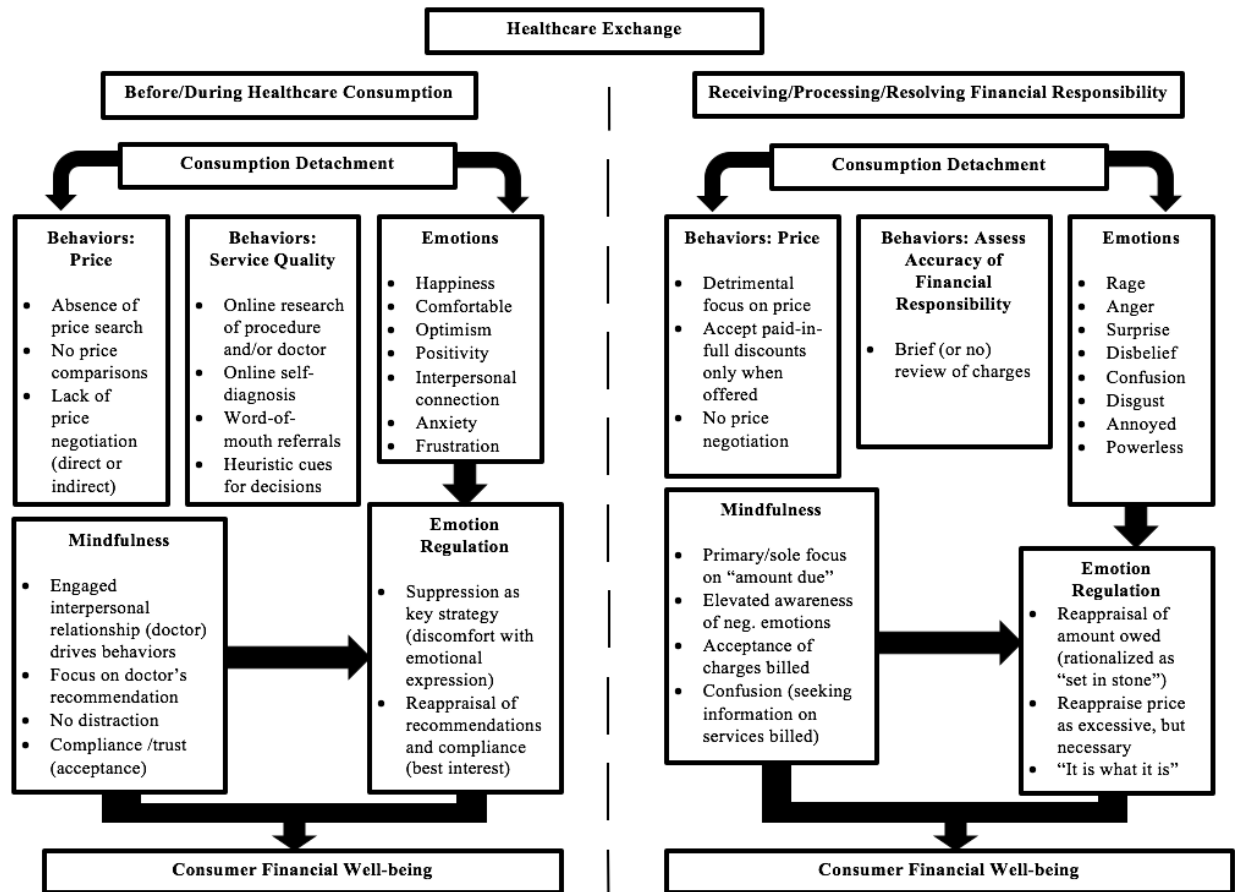
As suspected, from informed extensions of logic and theory, manifestations of mindfulness and emotion regulation strategies were observed in both stages of the healthcare context. Moreover, inextricably woven within healthcare consumption's idiosyncrasies, the fundamental, defining components of exchange persist; unfortunately, several of these considerations intersect to produce sub-optimal conditions for consumers. Because of its importance to a complete assessment of the study, demographic and general treatment information for participants may be viewed in Table 3.

Table 3: Participant General Treatment Information and Demographics

Name	Reason for Visit	Length of Relationship with Physician/Family Medicine	Age Range	Gender	Race/Ethnic Group	Participation in Financial Portion of Study
A.G.	General checkup	2 years	25-35	Male	Caucasian/white	No
B.P. (Briana)	General checkup	Initial visit	25-35	Female	Caucasian/white	Yes
C.T.	Smoking/weight	4 years	55-65	Female	Caucasian/white	No
D.K. (Don)	Diabetes	5-6 years	45-55	Male	Caucasian/white	Yes
D.K.2 (Denise)	Pain	5 years	45-55	Female	Caucasian/white	Yes
E.C. (Emily)	Diabetes complications	1-2 years	25-35	Female	Caucasian/white	No
G.M. (Gary)	Diabetes	1-2 years	45-55	Male	Caucasian/white	Yes
H.B. (Harold)	Multiple minor issues	3 years	55-65	Male	Caucasian/white	Yes
H.H. (Helen)	Chronic illness	Less than 1 year	45-55	Female	Caucasian/white	No
J.K. (Jamie)	Multiple minor issues/blood pressure	8-10 years	55-65	Female	Caucasian/white	No
J.O.	Weight	2 years	35-45	Female	Caucasian/white	No
K.G.	General checkup	2 -3 years	25-35	Female	Caucasian/white	Yes
L.M. (Lori)	Pain	5 years	75-85	Female	Caucasian/white	Yes
M.N.	Multiple minor issues	3 years	55-65	Female	Caucasian/white	No
R.M. (Randy)	Diabetes/medication questions	2 years	65-75	Male	Caucasian/white	Yes
S.N. (Stacey)	Flu-like symptoms	2 years	65-75	Female	Asian	No

Since these considerations (e.g., trust in the physician, lack of diligence/skepticism) are the primary drivers of consumption detachment's ubiquity in healthcare, the data analysis frames them within the larger detachment notion, as well as within the dichotomous characteristics (behaviors, mindfulness, and emotion) of the two healthcare exchange stages. The holistic, preliminary framework for healthcare consumption is found in Figure 7.

Figure 7: Role of Consumption Detachment in Mindfulness & Emotional Regulation for Healthcare



### Consumption Detachment Before/During Healthcare Consumption

As consumers recognize a need for healthcare services, their entry into and engagement with the exchange context commences. However, consistent with a divergence from the approach of other goods and services, the behaviors, emotions, mindfulness, and emotion regulation strategies of healthcare all appear in insightful and revealing iterations. Specifically, the price-related behaviors are passive and/or non-existent; emotions are nearly exclusively positive; high levels of mindfulness, likely bolstered by the interpersonal relationship and/or

inherent trust with the physician, promote a lack of consumer diligence; emotion regulation is split between strategies, but likely results in less-than-optimal outcomes. All of the aforementioned portions of the framework are described in detail hereafter.

**Behaviors: Price and Service Quality.** Two essential indicators of an effective consumption approach, price search and price comparison, were conspicuously absent from the decision processes of healthcare consumers in this stage. None of the participants in the study identified price as a criterion in the selection of a hospital, primary care physician, or surgeon. Moreover, no participants discussed comparing (or even seeking) prices of specific procedures or general pricing trends at different hospitals.

Although this was not unexpected, as it is the crux of the consumption detachment premise within healthcare, the degree of passivity in price-related behaviors was telling. The barriers which not only partition any financial considerations from top-of-the-mind, but, ostensibly, obfuscate them from the conscious cognitions of consumers, are powerful. Healthcare services place the focus upon physical well-being; however, this sole focus is likely to diminish the ability of individuals to be effective consumers. There are few other instances where the financial implications of an exchange are severed entirely from the actual consumption experience, particularly during an extended interaction with the service provider. As it appears, the tightly-intertwined physical ramifications of healthcare are more far more influential than the financial, social, and/or psychological associations of other exchange contexts.

In lieu of these traditional, fiscal-based criteria, participants leveraged multiple non-price attributes and/or pieces of information to make these selections, such as online research regarding the actual procedure (e.g., technical details, recovery time, other consumers'

experiences), researching the reputation of a physician or hospital, using online sources to self-diagnose and select procedures, and relying upon word-of-mouth from friends, family, co-workers, and current physicians. Without hesitation, participants decisively articulated their processes of selecting a hospital, physician, or surgeon for their care. As multiple participants eagerly spoke—their eyebrows raised in excitement at the opportunity to prove/gain approval for their diligence—price remained the forgotten factor. Undoubtedly, the participants were well-intentioned and confident in their processes, but the subconscious detachment allows these critical behaviors to stay elusive.

For instance, when asked about the process of choosing where (hospital) and with whom (physician) she would have a minor surgical procedure, Stacey relied upon the familiarity and comfort of the status quo, stating, “Yeah, I’ve been coming to this hospital, so I would rather come here. And, I would find out about the surgeon, if he—what his rating was or anything like that.” Referring to the family medicine’s affiliation with the medical school, as a teaching hospital, Jamie stated, “My dad always said ‘a teaching hospital,’ because they had to stay up on stuff...”

Lori, expressing a lesson acquired from past lapses of diligence, still omitted price as a factor in her decision, saying, “I’ve learned that I need to be more thorough than what I’ve been in the past, because I went to one doctor, who I found out after I had my hip surgery, who does mostly knees.” A deliberate, thoughtful participant, Harold, expressed an affinity for efficiency and consolidation in his healthcare consumption, as well a strong relationship with the university’s brand, telling me that, “...I like everything under one system—my doctors, the hospital. So, like in this case, I would, myself, I’d rather stick with [the university]. And, I’d like

to pick a surgeon that's associated with [the university]..." Finally, multiple participants discussed the importance of an "in-network" facility/insurance coverage in their decision process.

To further compound the financial implications from this dearth of price information, there were no expressions of desires (or willingness) to directly negotiate the price of procedures or to indirectly temper the financial commitment for which one was responsible, by negotiating the course of treatment. These behaviors, also related to inherent trust in the physician and mindfulness, are discussed subsequently.

Essential to this equation, is the generous use of simple heuristic cues. For instance, participants consistently referenced the high quality of the university's healthcare brand, indicated, apparently, by its status as a teaching hospital, and its affiliation with the university's overall equity. Regardless of whether an objective assessment of the university's family medical center (and the university, as well) supports these consumer perceptions, the strong, favorable, and unique associations which the participants have for the university gives credence—in the minds and hearts of the participants—to the quality of the facility. A quote from Emily, "I mean, I'd definitely choose [university name] because they are the best, and I—I don't know," represents this heuristic-based perspective.

A time-tested heuristic for healthcare, the trustworthy, expert physician was well-imbedded within the participants' sentiments. In fact, "trust," was used by every individual to describe why they would either choose the hospital or why they would adhere to the recommendations of the physician. Further details on the role of trust is found in the section on mindfulness.

**Emotions.** One of the unique characteristics of healthcare is that, despite its indispensable and pervasive nature, consumers (before, during, and after the service experience) generally do not desire the service; instead, healthcare is typically accepted, reluctantly, by those in need of healing. Characteristic of the exchange, healthcare consumers often experience a host of neutral to negative emotions, making the dichotomy of detachment especially salient here.

Initially, some participants expressed mild levels of trepidation for their visits; however, the prominent interpersonal relationship which most of the participants shared with the physician attenuated any negative affective states. Subsequently, a host of positively-valenced emotions were repeatedly expressed.

Laughter echoed throughout the examination rooms, smile lines materialized in the crevices of appreciative faces, and positivity became a consistent theme. Participants described the physician's rapport, personality, and hospitality with enthusiasm—even referring to her as being “like a friend.” Undoubtedly, this degree of rapport played a critical role in the mindfulness of consumers during this initial stage of the exchange process, but it also generated emotions such as happiness, comfort, optimism, positivity, and an interpersonal connection mirroring friendship/kinship. Not only did the words and facial expressions of the participants convey comfort, but video recordings of their appointments showed affirmative body language; most leaned in towards the physician and maintained eye-contact throughout the consultation.

Together, these verbal declarations, facial expressions, and body language all indicate an abundance of positive affect and interpersonal synergy; this piece of the healthcare exchange equation is connected to trust and discussed in the mindfulness section which follows. Obviously, this class of positive emotions and interpersonal connectivity has the potential to

influence consumer behavior, which becomes an essential development when examining the presence of mindfulness within healthcare. The interpersonal relationships, and accompanying positive emotions, may facilitate an elevated level of physical care—through more effective communication and compliance; however, this healthcare exchange coin has two antithetical sides. As the level of detachment within healthcare is inherently present (e.g., trust in the physician, lower skepticism, etc.), the generation of these states present potential vulnerabilities within the context, particularly when higher levels of mindfulness are present.

**Mindfulness.** As discussed, participants repeatedly expressed convictions which lauded the interpersonal acumen of their primary care physician. In fact, participants conveyed an uncompromised attentiveness for the duration of the appointment. Not only did participants vehemently embrace the present-moment awareness which is consistent of mindfulness, they described little to no distraction (internal or external) during the time spent with their physician. When asked about the level of distraction, if any, which she experiences during her appointment, Emily stated, “No, not really. I mean, she [doctor] listens to my concerns...I stay pretty focused when it comes to my health...” Similarly, Jamie says, “Uh uh. No. No distraction. I am just focused on the questions, and what we are going to do.” Finally, Randy told me, “Nothing. No distractions, I mean. The doctor I have is really excellent with communicating and listening, and, uh, we have a good rapport, and, uh, I really like her. I hope she never leaves...” Interestingly, one of the only participants to express distraction, Helen, directed the ‘blame’ on her relationship with the physician, saying, “I think I—the only thing that we get distracted with, we get carried away with talking about our personal life, instead of the medical, sometimes, because we know...I know she’s got kids, you know, my daughter’s in the band...”

In addition to present-moment awareness, the non-judgmental acceptance of the physician's recommendations for care, another core component of mindfulness, collides with trust in the physician, and is closely linked to healthcare consumption detachment. Of the 16 participants, all referenced their trust in the decisions and/or course of treatment recommended by their physician. Expertise and credibility, encompassed by the larger idea of trust, were a constant presence in participants' comments. Whether a direct declaration or an indirect explanation, participants displayed a willing, eager, and unquestioned compliance with any recommendations from the physician. An amalgamation of inherent trust and interpersonal trust (earned) were observed in the comments pertinent to this issue. When describing the way that he decided to accept a physician's recommendation for care, deferring to a perception of expertise (i.e., knowledge disparity), Randy said, "...if she suggests that I do it her way, then that's the way it is, 'cause I feel that she knows better." Helen discussed a similar feeling, albeit based partly upon previously-demonstrated expertise and the trust cultivated during their interactions.

"You know, because had I just had a mammogram, they wouldn't have found it [lump in her breast], because it's so small. But, she [primary care doctor] said, 'let's go one step further and have an ultrasound.' They found it on the ultrasound. So, you know, and that reinstated that I'm in the right place, you know, so the history that I have with her, it's there again, the comfort—the, I don't know...the "click." So, I trust her. I've had people before that I've walked away, and I thought, 'uh uh, this isn't right, so...'"

The strong, influential interpersonal connection which a physician may develop with their consumer is unlike any other exchange, particularly when coupled with the inherent trust (expertise and competence) which healthcare providers are often afforded. The result: highly

focused, accepting, and compliant consumers. By these same mechanisms, a healthcare consumer may see benefits to their physical well-being, but also experience a mindful detachment which is likely to produce detrimental financial outcomes.

**Emotion regulation.** Suppression of emotion was a primary strategy to manage the infrequent, yet present, feelings of hesitation which were expressed by some. This hesitation was not derived from any level of discomfort with the physician; however, multiple participants indicated that the vocalization of emotions was inappropriate for the professional environment. Additionally, some participants feared that any articulation of emotion may be perceived as a challenge to the competence/expertise of the physician and potentially strain the relationship.

Even though suppression was observed as the primary strategy, the emotion exhibited within this stage of healthcare consumption did not require the use of reappraisal to lessen its psychological impact. Participants were overwhelmingly positive in their emotional expression, and managed only mild, general negative affect about “seeing the doctor.” Although the emotion regulation strategies can be used to regulate emotion of any valence, negative affective states are most often the catalyst for their deployment.

Due to the nature of the healthcare, at this stage, and its related affect, no relationship between mindfulness and emotion regulation is apparent. The defining characteristics of healthcare, coupled with the interpersonal relationship which most participants shared with their physician, created an atmosphere for elevated situational mindfulness; however, the prevalence of consistent, positive emotional states tempered the need for emotion regulation and obscured any potential relationship between the strategies and mindfulness.

### **Consumption Detachment When Receiving/Processing/Resolving Financial Responsibility**

As consumers transition from the healthcare consumption experience into the reception and processing of financial information, the detachment which persists in the first stage remains. There is an essential difference for consumers, though. Financial commitments now become clear within the cognitions of all participants—leaving no ambiguity as to the intention of the context—but not precluding the detachment effect and subsequent sub-optimal outcomes.

In this financial portion of healthcare exchange, the divergence from established, diligent price behaviors, customary consumption emotions, and emotion regulation is readily apparent. To expound, the price-related behaviors become more assertive, relative to the initial stage, but are not proactive; emotions are overwhelmingly negative; moderate levels of mindfulness appear; the emotion regulation strategy consistently employed is reappraisal, as no affect is left unarticulated/unexpressed (sub-optimal financial outcomes are likely). An elaboration of the aforementioned portions of the framework follows.

**Behaviors: Price and Accuracy of Financial Responsibility.** When asked to open their billing statements, multiple participants discussed a reluctance, because of the impending confrontation with price. Lori, when asked to articulate her process while opening the billing statement, said, “I am thinking about how I am going to throw that shit in the trash.” However, participants did eventually open the envelopes for their statements; once this occurred, price (otherwise stated as “amount owed,” “amount due,” “patient responsibility,” etc.) became an immediate, unrivaled behavioral (and cognitive) focal point. Logically, consumers developed a predilection for price—a tunnel vision of sorts—which often toed the narrowing line between curiosity and obsession.

Participants described the importance of this price, regardless of its magnitude (i.e., \$54 for a gentleman with insurance; \$2014 for an uninsured gentleman), with a wide array of colorful phrases and adjectives. When describing the importance of this price, Briana responded, “I know, you know, that it’s going to let me know what we owe. So, I’m always nervous...like, ‘okay what’s the damage?’” Although Briana sat, stoically, on the edge of her seat when describing this “damage,” her demeanor—a deeply furrowed brow and tightly-crossed legs—exemplified the anxiety of which she spoke. Denise, when asked the same question, explained her concise perspective, “Well, the bottom line is how much they’re going to make me pay.” Finally, multiple participants described the amount due as “pain,” even though the figure commandeered the sole attention of everyone involved—the mindful moths of healthcare, drawn to the flickering flame of price.

In another example of this singular focus upon price, Harold described the process of opening his billing statement and engaging the available information, saying, “It’s patient responsibility! [Laughter] I got—that’s the first thing I go to! That, all this other stuff, I bury. No, that’s patient responsibility. That’s what I look at.” Using any reasonable baseline, the importance of price is fundamental to both marketing scholars and consumers; thus, these price-relevant behaviors are not perplexing or unexpected. However, the focus upon price, to the detriment of other essential information (and the effective processing/understanding of the entire billing statement), is of interest.

The phenomenon of inattentiveness to the remaining information occurred for two broad reasons. Most participants were simply unable or unwilling to navigate the other information provided (because of confusion, price focus, or perceived effort), or they marginalized the

additional information with fiscal rationalizations. In an example of the former, Lori talked about the likelihood of her processing the other seven columns of data, physician's names, ambiguous billing codes, and other information by saying,

"I don't know. Not with all that on there, probably, because it's just overload to me. And you can imagine old people, whose minds aren't real clear would look at that and just toss the whole thing in the garbage. And who knows where we're being overcharged for different things and people that we didn't see."

Don, in a complementary example of the latter, was asked about whether he seeks any additional information on the billing statement—after he has confirmed the fulfillment of his insurance deductible (\$0 amount due). "Yeah, there's—there's no reason to." Subsequently, I inquired as to whether there could be mistakes in the statement, of which he would never be aware. "It could be, but it would be irrelevant," said Don. After a final probe, in which I suggested that "someone" would be responsible for absorbing the costs of any potential billing mistakes, Don responded,

"Well, when you put it that way...right. People don't look and think, 'well, why are my premiums going up?' You know, because you didn't check your bill. [laughter] That, I would understand. I never really thought about it like that, but usually it's just move on."

When discussing the likelihood of engaging in negotiation regarding the price (amount) for which they were responsible, participants could not overcome the perceived stigma ("I think a lot of people are afraid to do it—just afraid to ask, because they don't want to seem cheap."), psychological barriers (consumption detachment), and discomfort of seeking reprieve on their healthcare financial commitments ("it is what it is"). With the exception of one gentleman, all

other participants discussed a lack of knowledge regarding the ability to negotiate healthcare financial obligations. In a random, yet valuable, set of circumstances, this participant happened to be the sole proprietor of a pawn shop.

With further probing, he explained that his knowledge of the ability to negotiate healthcare price is because of his profession, and the fact that he negotiates daily—providing him with a constant reminder of the, sometimes arbitrary, nature of the value which we assign to goods/services. According to him, everything has a price, and every price is flexible. Several statements from Gary, including his comment on consumers’ fear of being perceived as cheap by negotiating, emphasize the rich outlier position which he assumes on healthcare financial decisions.

“I’ll call into Health Associates and say, ‘what’s the best that we can do on this?’ And, I think, one, they cut me half...I’ll drive the check over there myself...So, yeah, they’re pretty negotiable on these...The worst thing they can do is say, ‘no, there’s nothing that we can do.’”

To the detriment of other pertinent information (e.g., services rendered, insurance payment, pre-insurance cost, etc.), most participants either would not or could not broaden the scope of their assessment beyond price. Because of the staunch focus upon price, made possible by the very nature of this stage in the exchange, financial considerations are clear. However, consumption detachment either mitigates or attenuates the ability of participants to review information which would inform a comprehensive understanding of the available information regarding their service exchange. Accompanying the participants’ emphasis on price was an assortment of ornery dispositions, melancholy tones, and deflated body language. In sharp

contrast to the generally positive emotional states observed in the consumption stage, the sentiments during financial processing were expressly, exclusively, and vehemently negative.

**Emotions.** The types of emotions experienced by participants traversing the financial responsibility of their healthcare exchange included rage, anger, surprise, disbelief, confusion, disgust, and powerlessness. No participants reported positively-valenced emotion, of any type, during any point in the second stage of healthcare exchange. Prior to opening the billing statement, multiple participants either showed, through facial expressions/body language, or verbally conveyed anxiety. Rage, anger, and disgust were the most prominent emotional themes following the viewing of price. For the participants who did, eventually, attempt to process information beyond price (i.e., billing codes, descriptions of procedures, supplementary notes, insurance coverage, etc.), confusion, disbelief, and surprise soon ensued.

Although each billing statement varied in the aesthetics of presenting this information, negative emotions were a reliable constant. Whether a surplus of information or a relative dearth (“it ain’t got no information”), the billing statements caused what often began as confusion, but almost always left participants with a feeling of powerlessness. When probing the participants’ understanding of this non-price information, many could not (or would not take the time to) decipher the cumbersome and complex assortment of billing codes (numerical labels printed with no additional explanation), process the descriptions of services provided (generic explanations), or examine the financial details of their statements (e.g., insurance payment, adjustments, etc.).

During this stage of healthcare exchange, the majority of participants used profanity to describe their feelings towards the industry, the amount owed, or the billing statement itself. This negative emotion was often unbridled and expressed openly; at times, there were not even

concrete objects to receive the ire of the participants. In many instances, “they” was the only identifiable adversary. However, the emotional expression appeared to have a cathartic component to it, allowing participants to anchor themselves in an understanding of the emotion and facilitating the process of acceptance—as nearly all were resigned to the financial fate which had befallen them. In the subsequent section, on mindfulness, this dynamic of powerlessness and acceptance is elucidated further.

**Mindfulness.** Participants were acutely aware of their emotions during the financial processing stage. These negative emotions were a common, binding thread among the participants and, although the origins of the different feelings were distinct, introspection revealed deeply-rooted opinions on healthcare. Participants either referenced overarching cynicism regarding the fiscal motivations of the healthcare industry—which only emerged in the latter stage of the exchange—or personal experiences which left them jaded and demure to the financial portion of healthcare services.

This introspection aided the emotional awareness which was prevalent and guided the acceptance of financial outcomes which were perceived to be dictated to them. For instance, Denise described having her wages garnished because of a past medical bill, while simultaneously managing the burden of her current financial responsibility, saying, “...you're getting me at a time when I'm not happy with them [nervous laughter]. Obviously, it's just a shame, you know, that you work full-time and you're really not even that sick, I mean, and it's just [that] medical bills are outrageous.” During the same dialogue, Denise again expressed her emotional awareness, as well as complete resignation, stating, “So, I'm not real happy with [name of university] hospitals right now, because they won't let you say how much you can pay.

They won't take anything less than \$50, and then it's like, 'I can't do \$50. I'll send you something.' But if it's not that, then..."

Despite the visceral nature of what most participants expressed, there was a subdued acceptance of the confusion (taken as the status quo), the negative affective states, and the price (amount owed). As price is concerned, most participants viewed their financial obligation as "set in stone," "concrete," and "it is what it is." Thus, the juxtaposition of inordinate negative emotion with the awareness of said emotion and the acceptance of, often debilitating, financial implications from the services, provides a paradoxical perspective on the dynamic between emotions, mindfulness, and healthcare price.

Through the negative emotion, participants remained highly mindful; despite this mindfulness, healthcare's unique combination of factors still gives rise to consumption detachment. Because of this, healthcare remains a context with the potential for sub-optimal financial decisions.

**Emotion Regulation.** When dealing with healthcare price information, reappraisal, of the enraging, confusing, or powerless emotions, was the primary strategy used in the financial processing stage. Suppression was neither expressed nor observed at any point in the latter stages of healthcare exchange. Rather, participants showed a propensity to reappraise the amount owed with logic such as, "it was worth it," and "I don't mind doing my part." Indeed, the rationalization of prices which were concurrently deemed as both excessive (and evoking an array of negative emotions) and necessary, can only be viewed as compelling.

From the observation of mindfulness and emotion regulation strategies, in this latter stage of healthcare exchange, a relationship between the two is supported. Participants displayed high

levels of mindfulness, due to the acute focus upon price, even when their emotional awareness and acceptance was detrimental to financial well-being. Decidedly, once participants were tasked with processing and reconciling their financial obligations, negative emotion was prominent. The intersection of these negative emotions and the elevated states of mindfulness caused participants to use reappraisal as the sole emotion regulation strategy. Reappraisal was used to reposition and rationalize the cost of healthcare service, when prices were perceived as excessive and participants were experiencing volumes of negative emotion. However, as suspected, these levels of mindfulness and emotion reappraisal impose artificial parameters on consumers' price-related behaviors, with adverse implications for financial well-being (and likely benefits to social and physical well-being).

## **DISCUSSION AND IMPLICATIONS**

From this research, multiple novel theoretical and substantive contributions are offered. First, support for a general premise which explains the difference in cognitions, behaviors, and emotions that accompany healthcare and those of other contexts—deemed consumption detachment—is presented. Grounded within the current study, this consumption detachment phenomenon provides a framework within which healthcare consumers may be better understood. Although other contexts may also be affected by consumption detachment, the entrenched entanglement of heuristic cues, primary perceptions of healing, secondary salience of profit motives, and the implications for physical well-being make a perfectly-suited circumstance for the phenomenon.

Also, by establishing the details of the contrast between behaviors, emotions, mindfulness, and emotion regulation strategies prior to/during the service encounter and during

the reception, processing, and resolution of healthcare financial responsibility, a dichotomous, two-staged healthcare consumption is uncovered. This dichotomy emerged, logically and naturally during the data analysis, and exists because of the context's unique attributes and the lag-time between the service encounter and receipt and reconciliation of the price (amount owed). Understanding the effect of this partitioning may prove useful to the investigation of other exchange scenarios.

Moreover, within the details of this dichotomy (i.e., divergent behaviors, emotions, and emotion regulation strategies), there are multiple theoretical advances which inform essential substantive implications. In particular, a focused and largely mindful consumer exists during healthcare exchange, although the focus vacillates depending on the stage; price-relevant behaviors are either passive or lack assertion; emotions contrast sharply between the two stages of healthcare; emotion regulation strategies are contingent upon the temporal point in the exchange. Importantly, no differences between the participants who provided data for only the initial portion of the study and the financial follow-up were identified. Common factors of attrition, such as scheduling conflicts and discontinued interest in the study account for the participants who declined the financial portion. However, no discernable difference in the data of these groups was found.

As discussed previously, the sample exhibits limitations in its racial/ethnic demographic composition. Even though this homogeneity was not necessarily detrimental to the study, for the aforementioned reasons, it remains a limitation of the participants. The lack of racial/ethnic diversity within the sample may belie the comprehensive effect of one of the essential mechanisms of the study, trust in the medical physical/healthcare industry, because of the

documented history of experimentation, mistrust, and deception by the medical establishment within some racial/ethnic communities (Jones and Tuskegee Institute 1993; Reverby 2009). This factor may moderate the influence of trust within the healthcare industry, as these sentiments persist contemporarily (Reverby 2009). Although a variable to address in future, more diverse samples, the primary theoretical contributions remain valuable for current healthcare and financial well-being discourse.

By understanding the potential pitfalls which lie within behaviors, facilitated—at times—by the level of mindfulness present in healthcare consumers, and the ways that emotion regulation strategies affect financial outcomes, measures may be taken to provide appropriate solutions. Even though barriers to effective financial decisions may be difficult to overcome, because of consumption detachment, consumer healthcare literacy, alternative training for service providers, and hospital-level (or government-level) adjustments to protocols and policy are likely to improve outcomes for consumers.

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## **Appendix A**

### **Interview Protocol**

#### **Study #1 (Simulated Recall)**

- 1a. When choosing medical care and/or medical treatment(s), how do you choose the doctor and/or hospital which will provide your care?
  - 1b. What about the [attribute(s) of physician or hospital] is most important to you?
    - 1c. Why is this important to you?
2. Typically, how many doctors and/or physicians do you visit or research prior to making a treatment decision? For your most recent visit to the doctor?
3. During your most recent doctor's visit, did you ever consider yourself as being persuaded? Why?
4. During your most recent medical consultation or doctor's appointment, did you find yourself dwelling upon or extensively contemplating the doctor's recommendation for treatment? Elaborate, please.
5. Do you usually accept a recommendation for medical care from a doctor? Please explain why or why not.
6. Please describe your thought process during a medical appointment or consultation. Are you usually focused or are your thoughts divided?
- 7a. After receiving the recommendation for a medical procedure from your doctor, how do you handle your emotions, if you have any?
  - 7b. What, in particular, about the recommendation would cause you to feel these emotions?
    - 7c. How do those emotions affect your decision? Why?
8. In general, do you express your emotions openly or hold them internally, so that no one can tell how you are feeling? Please, tell me more about that.

## **Study #2 (Think-aloud Protocol)**

1. Please describe what you are thinking as you open the envelope for your medical bill.
- 2a. Please describe, in order, which parts of the bill that you look at after opening the envelope.
  - 2b. Why do you look at the bill in this particular order?
  - 2c. Why is [aforementioned reasons] important to you?

**ARTICLE THREE: A DATA ANALYTICS APPROACH: THE RELATIONSHIP BETWEEN PRICE AND QUALITY IN HEALTHCARE AND THE INFLUENCE OF BRAND EQUITY AND BRAND IMAGE ON HEALTHCARE ORGANIZATIONS' PRICE STRATEGY**

The final article of this dissertation investigates the relationship between the strength of a healthcare organization's brand (i.e., brand equity, brand image) and price, including price premiums, of various healthcare procedures. The pricing data is sourced from the Centers for Medicare & Medicaid Services, for the years 2011-2013.

A Data Analytics Approach: The Relationship Between Price and Quality in Healthcare and the  
Influence of Brand Equity and Brand Image on Healthcare Organizations' Price Strategy

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### **Abstract**

Healthcare organizations (HCO) are a critical portion of the continually burgeoning healthcare industry. Recent revenue estimates for the industry now exceed \$3 trillion in the U.S. (Phillips 2015). As such, HCOs, embedded within a unique service context, have turned their attention and resources towards managing, cultivating, and promoting their brands. Brand equity and brand image are examined for their impact on price (i.e., "average charge price"), a dependent variable derived from data from the Centers for Medicare & Medicaid Services, and price premiums within the healthcare industry. Implications for the theory of services marketing and healthcare marketing are discussed, as well as for managers.

Keywords: healthcare, branding, brand equity, price, price premium

Estimates from 2015 place total U.S. healthcare expenditures at \$3.2 trillion, with hospitals—the leading type of healthcare organization (HCO)—claiming revenues in excess of \$988 billion (Phillips 2015). These numbers underscore, for marketing managers, researchers, and consumers, alike, the importance of understanding the role of HCOs (from a fiscal perspective, at least) within the voluminous healthcare industry. More specifically, marketing managers for HCOs have begun to divert their attention to the task of carefully managing, refining, promoting—and even extending—their brands in order to leverage valuable influence and to secure a portion of the growing industry (average annual growth projections of about 4% through 2020; Phillips 2015).

The U.S. healthcare industry is a primary component of what is deemed, by some, to be the Medical-Industrial Complex (MIC; Ehrenreich and Ehrenreich 1971), due to its size and salience within the cumulative economy. The MIC addresses the sum of the healthcare industry, including HCOs (e.g., hospitals, clinics), physicians, insurance companies, pharmaceutical producers, medical equipment manufacturers, health systems consulting, and other relevant firms (Ehrenreich and Ehrenreich 1971). The notion of the MIC is important because it conceptualizes the healthcare industry as a business institution with profitability motivations congruent to those of other service industries (e.g., entertainment services, transportation services, dining services, etc.).

As with any service industry, albeit much more recently, the importance of branding and brand influence to HCOs has become evident (Beckham 1996; Berry and Bendapudi 2007; Berry 2000; Mangini 2002; Kemp, Jillapalli, and Becerra 2014). In general, "branding plays a special role in service companies because strong brands increase customers' trust of the invisible

purchase" (Berry 2010, p. 128). Moreover, strong brands provide comfort and reassurance, as well as a reduction of perceived monetary risk for consumers when intangible services are purchased (p. 128). For healthcare services, especially when considering its distinctive impact upon multiple dimensions of consumer well-being, the role of branding is of the utmost importance.

Even with the importance of branding to healthcare service firms (and service firms, in general) tacitly and explicitly understood, the adoption of traditional brand management and promotion strategies within the healthcare industry has been trepidatious and constrained—due to the unique characteristics of this exchange context. Specifically, the healthcare industry resides at an incomparable intersection of services, consumer trade-offs (Luce, Bettman, and Payne 2001), affect (Kemp, Jilapalli, and Becerra 2014), technology and competence (Beckham 1996), heuristic-based choices (Friestad and Wright 1994), and implications for multiple iterations of well-being (e.g., physical and financial). Because of this, the intimate and sacred nature of healthcare (vulnerable physical well-being; primary perceptions of healing, as opposed to profitability; Samper and Schwartz 2013) has often left it excluded from branding strategies/advances which parallel those within other marketing exchange contexts. As explained in the words of Gapp and Merrilees (2006), not long ago "the concept of marketing healthcare and affiliated services, let alone the development of initiatives in the area of brand management, were not only foreign but seen as a questionable activity" (p. 162) for HCOs. Indeed, the brand-building strategies of the healthcare service industry must traverse a delicate line between being effective and appropriate; palatable and off-putting; proactive and professional.

Nonetheless, premier HCOs such as Johns Hopkins Hospital, Mayo Clinic, Memorial Sloan Kettering Cancer Center, Houston Methodist Hospital, Massachusetts General Hospital, Mount Sinai Hospital, Stanford University Hospital, and Cleveland Clinic have begun to carefully consider the merits of branding for their respective organizations, utilizing extant and emerging marketing knowledge to carefully and strategically nurture their brands in the minds of consumers and employees, alike (Beckham 1996; Mangini 2002; Kemp, Jillapalli, and Becerra 2014; Gapp and Merrilees 2006).

The size, growth, role, and importance of the healthcare industry to the public make it a critical institution for empirical understanding. Thus, the current research explores the effect of brand influence, specifically brand image and brand equity, upon the prices for multiple common medical procedures at HCOs with opposing strengths of brands (i.e., strong, weak).

Conventional wisdom proposes that price is stochastic (Brill 2013). Multiple studies have supported the notion that price is a function of some combination of brand equity (Keller 1993), reputation, objective and subjective quality (Dodds and Monroe 1984; Parasurman, Zeithaml, and Berry 1985), and objective and subjective perceptions of price (Jacoby and Olson 1977; Zeithaml 1988; Dodds, Monroe, and Grewal 1991). Within the healthcare industry, however, the relationship between branding and price remains elusive.

This lack of clarity regarding price is due, in part, to the unreconciled price-quality perceptions of healthcare's service (i.e., the preservation of physical well-being).

Counterintuitively to many, 71% of Americans report that higher prices are not typically an indicator of better quality medical care (Schleifer, Hagelskamp, and Rinehart 2014). However, 85% of U.S. consumers report that price will be either an extremely important or important

factor in deciding where to purchase from in the near future (NPD Group 2012). Considering the inconsistency present within this realm, the current research adds a piece to the respective puzzles of pricing, branding, and healthcare marketing. To be sure, it is a step towards untangling these complex relationships within the healthcare services industry.

Of interest are the following questions: 1) What is the nature of the relationship between brand image and brand equity and price within the healthcare industry?, 2) how do the idiosyncratic factors present within the healthcare industry affect the relationship between brand image and brand equity and price?, 3) what is the relationship between brand image and brand equity, and 4) relative to other industries, is the price premium procured greater, less than, or comparable to those gleaned within the healthcare industry?

By using multiple indicators of brand image and equity, a multi-faceted representation of financial (i.e., objective) and consumer/provider (i.e., perceptual, subjective) elements of healthcare brands can be measured. Moreover, by using pricing data derived from the CMS, the present inquiry assumes increased substantive and managerial importance, in addition to offering critical insight into a large, growing industry with great scope and pertinence.

This research contributes to an underexplored industry by: 1) showing the positive relationship between brand image and brand equity and price, 2) using pricing data from a source which has rarely been analyzed within marketing, the CMS, 3) demonstrating a positive relationship between brand image and brand equity (i.e., brand image as a driver of brand equity), and 4) showing how HCOs, with increased levels of brand equity and brand image, may glean price premiums in excess of those within other service industries.

In sum, the influence of branding can have a powerful effect upon consumers in the healthcare marketplace. In service-based industries, the general absence of a tangible product upon which consumers may build strong, favorable, and unique associations requires the brand to be managed, promoted, and reinforced carefully. For the healthcare industry, specifically, the intimate and personalized nature of the service experience further elevates the importance of the brand for a consumer's selection of a HCO. Thus, we propose that HCOs, due to several factors within this distinct exchange context, are able to leverage the influence of the brand to glean higher prices for their services. Succinctly stated, HCOs with increased levels of brand image and brand equity, relative to those with lower levels of brand image and brand equity, elicit higher prices, in general, and, in turn, generate substantial price premiums.

## **THEORETICAL BACKGROUND**

### **Services Marketing**

Within recent decades, services have become a staple of marketing attention. As the distinct needs of service firms were identified, researchers began to address these issues; the subsequent advances provided valuable substantive implications for managers and consumers, in addition to theoretical understanding for researchers (Berry and Parasuraman 1993; Fisk, Brown, and Bitner 1993; Berry 1995; Grönroos and Ravald 2011). The distention and maturation of services marketing thought has provided additional fortitude to the importance of services (see: service-dominant logic; Vargo and Lusch 2004, 2008). Still, however, one essential service sector continues to hide in plain sight—under-studied—despite being referred to as “a fertile field for service research” (Berry and Bendapudi 2007).

## **Healthcare Services**

Service firms have unique characteristics (intangibility, heterogeneity, inseparability, perishability; Lovelock and Gummesson 2004), challenges, and needs which clearly distinguish them from goods-centric firms (Berry and Parasuraman 1993; Berry 2000; Vargo and Lusch 2004). However, within the service industry, healthcare adduces its own supplemental set of well-defined idiosyncrasies; these differences, as discussed subsequently, render it worthy of further empirical attention.

Healthcare, a service which all consumers will inevitably come to need, has an irreplaceable role in society. Berry and Bendapudi (2007, p. 111), further emphasize the gravity of healthcare by suggesting that it, "...is an enormously expensive, highly complex, universally used service that significantly affects economies and the quality of daily living" (p. 111). Indeed, there is no other service which, within the parameters of such intimacy, personalization, and necessity, encompasses implications for physical, psychological, and financial well-being.

Another distinct, critical element of healthcare service is the ambiguity of price. Due to the multi-faceted pricing structure of healthcare (e.g., insurance co-pays, Medicare reimbursements, actual price), as well as the reluctance and/or inability of HCOs to provide accurate prices (Berry and Bendapudi 2007), consumers often do not know or misunderstand the prices of the services which they purchase. Thus, the topic of price—examined in the form of average charge price and price premiums for the current study—is one of the primary marketing foci through which we may better understand the realm of HCOs. Other unique characteristics of HCOs include consumers in poor health, reluctant consumers, privacy concerns, substantial risk perceptions, and highly-stressed service providers (Berry and Bendapudi 2007).

Due to these acute differences, the importance of branding to HCOs is paramount. As such, HCOs are using several strategies to carefully traverse the delicate line between marketing/branding and respecting the often sacred perception of healthcare. Several of these strategies are discussed briefly within the following section.

### **Branding in Healthcare Services**

There has been a considerable lag time for HCOs to adopt the more overt marketing management and branding strategies which are consistent with those of other industries (Gapp and Merrilees 2006). An explanation for this hesitation may be observed in healthcare's inextricable relationship with physical well-being (i.e., the halo of sacredness; Samper and Schwartz 2013). This connection may, in the minds of many consumers, seem at odds with financial objectives. Despite the substantial financial commitments within the healthcare service industry, consumer considerations of profitability motivations (as either the primary or secondary driver within the service experience) is often either uncomfortable, taboo, or the basis for cognitive dissonance.

A common, industry-level understanding, such as knowledge of the senescent physician's avowal—the Hippocratic Oath—is steeped with residuals of tradition, ethics, and history, as well as implications for morality and consumer considerations. As a clear example of the ubiquity inherent within the historically-tenuous relationship between HCOs and marketing, South Korean law forbids hospitals from advertising and/or promoting in any manner (Kim et al. 2008).

During the last three decades, however, HCOs in the United States began to implement internal and external branding efforts (Gapp and Merrilees 2006) to distinguish their services—in the minds of both consumers and employees—from those of their competitors. Importantly,

according to Mangini (2002), "Consumers no longer primarily rely on location, word-of-mouth, or a high ranking on the U.S. News and World Report's "Best Hospitals" list to make healthcare decisions" (p. 20). While all of the aforementioned criteria remain (to varying degrees) pertinent and valuable for consumers, this statement succinctly underscores the criticality of branding to HCOs. In fact, a quote by the Executive Vice President at an international advertising firm further illustrates this: "...as healthcare systems move forward, branding—a must in general marketing practices—will become increasingly important in healthcare marketing. Call it what you may, but healthcare marketing is just that—marketing" (Healthcare PR & Marketing News, 1995).

Indeed, for HCOs, navigating the challenges of service firms, as well as the intricacies of healthcare, requires that they adopt a distinct approach to brand cultivation. "Successful healthcare branding requires a solid, organized commitment to delivering unique standards of consistency through the institution's products and services (Mangini 2002, p. 20). Stated with brevity, HCOs must "walk the walk," providing service which accurately represents—and will become synonymous with—the brand's desired/established reputation. Although the indelible influence of services branding is salient daily (e.g., the blue and white globe logo of AT&T, the "Golden Arches" of McDonalds, the (now retired) slogan "What Can Brown Do For You" and brown and gold shield logo of UPS, the iconic blue and yellow bars of Visa), HCOs—perhaps more than any other type of service firm—must accurately deliver upon the brand "promise" which is made when an enduring exchange relationship commences. Although the quality of a healthcare service is often difficult for consumers to discern, even post consumption, HCOs must

provide a level of experience which is commensurate with consumer perceptions—whether the assessment is objective or subjective (i.e., outcome-based or satisfaction-based).

HCOs must also contend with challenges such as reluctant consumers (patients), privacy concerns, stressed service providers, and emotional vulnerabilities (Luce, Bettman, and Payne 2001; Berry and Bendapudi 2007). The negative affect often present within these encounters (e.g., nervousness, stress, anxiety) can also shape the approach to brand development which HCOs assume. For instance, the physical environment (e.g., facilities, temperature, appearance, and decor), the communications (e.g., brand symbol, word-of-mouth), and the price may all signal to consumers what to expect from a healthcare brand and may either quell or stimulate emotional responses (Beckham 1996).

To further establish strong brands, HCOs are well-served to position their decisions around distinct technological capabilities and clinical efficiencies. As evidenced by many of the leading healthcare brands, this strategy is effective for crafting a reliable brand with which consumers may feel comfortable. Moreover, placing the brand emphasis upon a well executed area of specialty care, as well as exhibiting a measured patience—building a healthcare brand may require decades of delivering on the brand's communicated promise—are cornerstones of building equity for HCOs (Beckham 1996).

Price, as the key managerial variable of this study, is essential to understanding how consumers perceive everything encompassed within a firm's brand. A discussion of healthcare pricing and the relationship between brand image, brand equity, and price is provided in the following sections.

## Pricing in Healthcare

As alluded to previously, the healthcare services industry remains under-researched. In large part, the impact of HCO brands is not well understood because of the overall ambiguity and dubiety present within the pricing structure of healthcare. Although the economic and fiscal gravity of healthcare is sizeable, approximately 20% of US GDP within the next five years (Robert Wood Johnson Foundation 2016a), the pricing protocols used at HCOs—which generate much of the industry’s revenue—are not well understood.

From a consumer standpoint, there is far less uncertainty—at least in the perception of price. According to the Robert Wood Johnson Foundation (2016b), 29% of Americans think of the healthcare costs which they incur as “unreasonable.” Compounding this, Ellison (2015) asserts that locating accurate (or any) healthcare pricing information is no easy task for consumers and, once (or if) found, navigating and processing the information is cumbersome. Indeed, approximately 50% of consumers who *do not* search for price information for healthcare simply are not sure how to find the information (Schleifer, Hagelskamp, and Rinehart 2015). However, a lack of pricing transparency is not a novel phenomenon; in fact, healthcare pricing information has often been considered proprietary. Davalia (2010) discusses the fact that there is a dearth of transparency regarding the prices which are negotiated between healthcare providers and insurance firms.

A rare empirical glimpse into the healthcare pricing protocol is offered by Stremersch and Van Dyck (2009). The authors modeled price as a subcomponent of critical “global market entry timing” decisions made by life-science firms (i.e., entities participating in biotechnology, pharmaceutical, and medical device industries). An assessment of responses from healthcare

payors, providers, and marketing academics found that introductory price decisions were found to be important to firms' business performance. Finally, White, Reschovsky, and Bond's (2014) evaluation of insurance claims, made in 2011 by US autoworkers in 13 Midwestern metropolitan areas, concluded that higher prices resulted from greater market power and greater negotiation power arising from a hospital's size. Prices also increased when a hospital was a member of a high market share network, offered specialized services, and had a positive reputation.

The results of academic work in HCO pricing are mixed; moreover, public/general knowledge of pricing protocols and the (real or perceived) quality encompassed within healthcare brands is not widespread. As a result, consumers tend to defer to anecdotal experiences, word-of-mouth, and informal sources (e.g., online reviews) to inform healthcare decisions. Subsequently, a discussion of brand image, brand equity, and price—and their relevance to consumer decisions—is presented.

### **Branding, Price, and Price Premiums**

The relationship between the strength of a brand—the fact that it creates value in the eyes of consumers—and the ability to leverage the brand for outcomes advantageous to the firm (e.g., Anselmsson, Johansson, and Persson 2007; Cobb-Walgren, Ruble, and Donthu 1995; Baltas and Saridakis 2010; Yoo, Donthu, and Lee 2000; Lee, James, and Kim 2014; Persson 2010; Anselmsson, Bondesson, and Johansson 2014) has been supported empirically. An in-depth elucidation of two important branding concepts, brand image and brand equity, is offered subsequently.

**Brand Image.** Brand image, "the sum of a customer's perceptions about a brand generated by the interaction of the cognitive, affective, and evaluative processes in a customer's

mind" (Lee, James, and Kim 2014, p. 8), is a marketing variable supported as having positive relationships with price/price premiums. According to Dobni and Zinkhan (1990), brand image includes the “essential strictures” of: 1) being a brand concept held by the consumer, 2) having a substantial subjective/perceptual nature, formed through either reasoned or affective interpretation, 3) being not inherent in the “technical, functional or physical concerns” of a brand, but shaped and influenced by marketing efforts, and 4) the perception of a brand’s reality having a greater gravity than the reality.

Contrary to brand equity (which has objective, financial manifestations), brand image—by definition and conceptualization—is consistently both perceptual and subjective. Marketing managers, towards the end of cultivating, promoting, and reinforcing a brand, aspire to manufacture brand images which are positive, unique, and favorable; in turn, these images transfer positively and consistently to the focal brand (Aaker 1991; Keller 1998; Lee, James, and Kim 2014).

Within the marketing literature, relative to some other branding concepts, brand image has been the subject of much less empirical attention. However, brand image has hosted an active dialogue regarding its fragmented conceptualization. Dobni and Zinkhan’s (1990) review and synthesis of brand image’s core components showed that it was previously described as “symbolic unity,” “brand character,” “personality image,” and “the psychological meaning of products.” From these studies, and multiple previously-offered definitions, the aforementioned essential strictures were identified. After two additional decades of research, Lee, James, and Kim (2014) provided a widely-accepted reconciliation of the numerous definitions (noted previously).

Due to the reconciliation of this branding construct, several relationships between brand image (and/or its core components) and price have been supported. For instance, in a study of brands within a diverse set of industries (e.g., brewing, petrochemicals, consumer packaged goods, office products), Persson (2010) established support for brand image's strong impact upon price premiums; additionally, price premiums were presented as an antecedent of brand value (the economic value of the brand to the firm with ownership). Anselmsson, Bondesson, and Johansson (2014) reported that multiple dimensions of consumers' perceptions of a brand's image (within the grocery industry)—including quality, social image, awareness, and uniqueness—were positively related to price premiums. Moreover, in a study of the financial impact of perceptual brand attributes, Mizik and Jacobson (2008) determined that the “central brand attributes” of perceived brand relevance, brand energy, and brand differentiation, for multiple publicly-traded “monobrand” (firms in which one brand represents the majority of revenues) could be accounted for in the explanation of stock returns.

As a component of a brand's signaling to consumers, Erdem and Swait (1998) used an economics lens to define a relationship between brand credibility and perceived value (for denim jeans and fruit juice), finding that credibility improved perceptions of brand attributes and increased confidence levels. Because of these perceptions, value (increased expected utility and lowered risk perceptions) was signaled more strongly to consumers. In another study of brand credibility (firms in the denim jean, frozen juice concentrate, shampoo, and personal computer industries), Erdem, Swait, and Louviere (2002) determined that these particular perceptions affected consumer choice processes by decreasing price sensitivity (i.e., price-seeking behaviors). Finally, in a bookend example of the direct relationship between brand image and

price, Sethuraman (2000) presented results of a study of national and private label grocery products. Brand image was noted as the “dominant factor” for consumers’ willingness to pay “a reasonable premium for national brands,” even when perceptions of the quality of both products are congruent (Sethuraman 2000).

Considering the aggregation of this brand image (and/or its core components) research, it is clear that these brand effects are consistent and strong, across various industries and categories of goods/products. Concurrently, what is also abundantly salient is that services—healthcare, in particular—are absent. These assessments both emphasize a need to expand the literature of branding and pricing to include healthcare services and the potential of these brand effects to influence multiple iterations of price and value (e.g., price/price premiums, stock returns, price sensitivity, expected utility). Consequently, the following hypotheses are posited for the effect of brand image upon HCO price:

**H<sub>1a</sub>:** HCO brand image will have a positive relationship with price.

**H<sub>1b</sub>:** HCO brand image will have a positive relationship with price premiums.

**H<sub>2</sub>:** HCO brand image will have a positive relationship with brand equity.

**Brand equity.** Brand equity, defined as “the differential effect of brand awareness and meaning combined on customer response to the marketing of the brand” (Keller 1993, p. 1), is an essential variable for marketing managers. Concisely, it is the value that a consumer perceives to be inherent within a brand which is above and beyond that of its competitors. As determined in the minds of consumers, brand equity may be considered positively or negatively, with respect to the specific brand (Berry 2000). When brands possess positive brand equity, they are privy to a certain measure of marketing advantage over competing brands; negative brand equity,

contrarily, is the marketing deficit experienced by a brand, respective to competitor brands (Berry 2000). Delving deeper into the composition of brand equity, Yoo and Donthu (2001) developed a multidimensional consumer-based brand equity scale, validated with data from multiple cultures (i.e., American, Korean American, Korean) and twelve brands in three product categories (e.g., athletic shoes, televisions). This study identified items which measured the core elements of brand equity, including consumers' loyalty to the brand, perceived quality, and consumers' brand awareness/associations—underscoring the key role of these perceptual components to brand equity's conceptualization and operationalization.

A perceptual, consumer-based definition of brand equity is provided here initially, because the construct is originally derived from this conceptualization (Aaker, 1991; Keller 1993). However, a financial perspective, developed primarily at the behest of accounting professionals, defines the difference between the purchase price of an asset (brand) and the actual book value of an asset (brand). In accounting terminology, this difference—the counterpart to marketing's brand equity—is commonly known as “goodwill” (Knowles 2008). Since both approaches to assessing brand equity are pertinent to the study at hand, a discussion of each follows.

When brand equity is operationalized in an objective, financial manner, methods such as the portfolio perspective (the difference between the value of a firm's tangible assets and the firm's market capitalization; Simon and Sullivan 1993) and the perpetuity perspective (total revenue less total marketing costs/weighted average cost of capital) are two standard techniques (Anderson 2011). These two methods of calculating brand equity are financial in nature and reside at the firm level of calculation. Because of the critical, informative role of these measures

to firms, particularly during the acquisition and/or sale of brands, the merit and value of brands with exemplary “equity” is apparent.

Undoubtedly, not all brands are fortunate enough or skilled enough to capture optimal levels of equity. Only those brands which make haste to capitalize upon first-mover advantages, deliver high-quality goods and/or services, effectively advertise and promote said good/service, recruit and retain valuable human capital, develop sustainable competitive advantages, etc. will reap sizable equity rewards. As an example, Nestlé was once sold to Rowntree at a price which was five multiples of its book value, and Philip Morris purchased General Foods for six times its book value at the time of sale (Knowles 2008).

Another financial determination suggests that brand equity is inherently product-centric, necessitating a focus upon customer equity—a customer-centric measure of "the total of the discounted lifetime values summed over all of the firm's current and potential customers" (Rust, Lemon, and Zeithaml 2004, p. 110). Customer equity may begin as an individual-level consumer assessment of equity, but eventually concludes with a firm-level figure which represents the overall value of the brand (based upon customer lifetime value; Rust, Lemon, and Zeithaml 2004).

Finally, a financial perspective for brand equity exists which states that the influence of a brand may be observed in the difference in unit price or total revenue between a branded good and an unbranded, benchmark good/service (Keller 1993; Anderson 2011). Often, the unbranded good/service used for the benchmark comparison manifests in the form of a generic product or private label brand, however, the dollar figure disparity in price or revenue is the key determinant of a brand's strength. From any of these diverse financial perspectives, it is possible

to obtain a reasonably accurate and objective assessment of the value and power of a brand.

Relevant consumer-level brand equity measures are now described.

Where consumer-level, perceptual (subjective) brand equity is considered, the positive relationship between it and price and/ or price premiums has been supported consistently. Similar to Yoo and Donthu's (2001) study of brand equity's primary elements, Netemeyer et al. (2004) developed and validated measures of the core facets of customer-based brand equity (i.e., perceived quality, perceived value for the cost, uniqueness, and willingness to pay a price premium for a brand) across sixteen brands and six product categories (e.g., cola, toothpaste, jeans, athletic shoes, coffee). However, through four studies on brand equity's effect upon important marketing outcomes, Netemeyer et al. (2004) reported results which support the facets of perceived quality, perceived value for the cost, and uniqueness being directly and positively related to willingness to pay a price premium; willingness to pay a price premium was suggested as an antecedent of brand purchase behavior.

Additionally, the equity of brands within two different categories (service, hotel; product, household cleanser) was found to be related positively to both consumer preferences and purchase intentions (Cobb-Walgren, Ruble, and Donthu 1995). Ailawadi, Lehmann, and Neslin (2003) provided support for revenue premiums as an outcome measure of brand equity, positively related to a brand's advertising and promotional activities and negatively related to consumer price sensitivity and perceived risk. In the study, brand equity was determined by measuring the price premium generated by a brand, as compared to a private label brand in the same category, providing a product-market assessment.

Further support for the brand equity and price relationship is offered by Anselmsson, Johansson, and Persson (2007), by showing a positive link between one of the critical components of brand equity—uniqueness—and the elicitation of premium prices for grocery products. Baltas and Saridakis (2010) identified the influence of brand equity by showing brand-name equity effects in the car market; price premiums were positively related to brands and models of automobiles with increased equity. Finally, the stable, persistent effect of brand equity upon price is fortified by Yoo, Donthu, and Lee (2000), who report a positive relationship between brand equity and higher relative prices for three divergent product categories: athletic shoes, camera film, and televisions.

Thus, from the extant literature on brand equity, the following hypotheses are posited for the influence of branding upon HCOs:

**H<sub>3a</sub>:** HCO brand equity will have a positive relationship with price.

**H<sub>3b</sub>:** HCO brand equity will have a positive relationship with price premiums.

As evidenced from the wide array of products and services supported to have a positive relationship with brand equity/brand image and price/price premiums, the effect is consistent and far ranging. Despite this empirical support, no authors have, to our knowledge, either examined this relationship within the unique healthcare service context or used actual healthcare procedure pricing data or the chargemaster price (i.e., list price) for healthcare procedures.

Moreover, by using multiple measures of brand equity and an independent, third-party measure of brand image (financial and perceptual, consumer-level and firm-level), managerial yield is optimized. As such, a novel, multi-faceted perspective on both brand image and brand equity is assumed. For brand image, a key perception of HCO image, safety, from The Leapfrog

Group, a third-party, nonprofit organization, is used. For brand equity, a financial measure of the healthcare brands is used, along with a ranking of HCOs (by treatment specialty) from the U.S. News and World Report, a third-party publisher of news and information.

Both of these measures, particularly the U.S. News and World Report data, are used in promotional literature by a wide swath of firms (e.g., education, healthcare, financial investments, travel, automobiles, legal services). For example, The U.S. News college/university, graduate school, and online degree program rankings are omnipresent on promotional materials, banners, and advertisements on campuses across the U.S. and beyond. Moreover, many HCOs, top-ranked and otherwise, prominently display their respective U.S. News rankings on their websites/landing pages. Although not fully quantified—until the current study—it is clear that marketers and their firms find value for their brands in these assessments. Prominent healthcare examples are included in Figures 8 and 9.

Figure 8: Mayo Clinic Landing Page ([www.mayoclinic.org](http://www.mayoclinic.org)) with U.S. News Ranking Promoted





Figure 9: Vidant Health™ “Awards and Honors” Page, with U.S. News Ranking Promoted

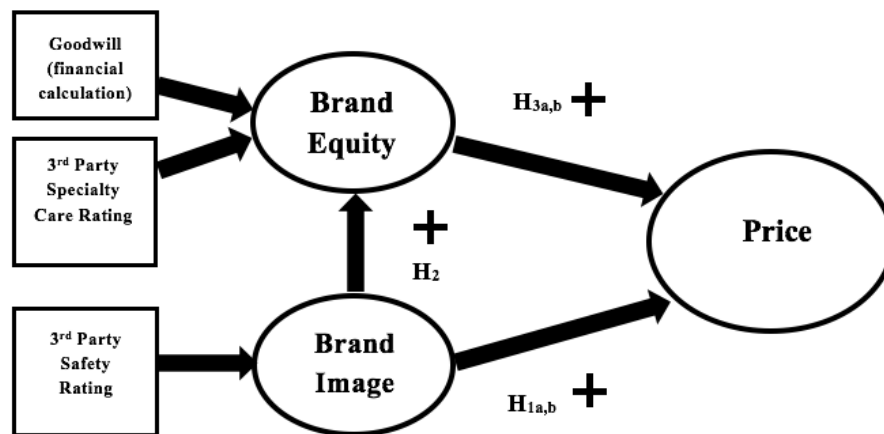


Since the value of these types of promotions to the strength of a brand are well established empirically, albeit in other exchange contexts (see: Buil, de Chernatony, and Martinez 2013, Sriram, Balachander, and Kalwani 2007, etc.), the current research will test to see if the boundaries of these effects extend to the healthcare industry. Together, these branding

measures, coupled with actual pricing data from the CMS provide valuable and varied managerial insight for the healthcare services literature.

Each of the aforementioned branding-price relationships are depicted in Figure 3. We now transition to a discussion of a unique dataset which allows an expansive, nationwide inquiry of the relationship between brand image, brand equity, and price in U.S. HCOs.

Figure 10: Brand Image and Brand Equity to Price



## METHODOLOGY

A data set containing key variables, primarily derived from publicly-available data released by the CMS (CMS.gov 2015), was used to determine the relationships between brand image and brand equity and price. Dependent variables are discussed initially, followed by independent variables, then quality and control variables. R data analysis software is used to perform a clustered standard errors regression—a traditional economic analysis which adjusts the standard error within a set of data to correct for clustering effects of correlated errors.

In May of 2013, the Centers for Medicare & Medicaid (CMS ) made chargemaster data for 100 commonly-billed and reimbursed hospital procedures available to the public (Tocknell

2013). This policy, while unprecedented, was the culmination of a long-standing discourse regarding transparency within hospital pricing.

In formal terms, the set of data is deemed “Medicare Provider Utilization and Payment Data” (Centers for Medicare & Medicaid 2015). In practical terms, the data details the prices that hospitals charge (paralleling the list or retail price) for each procedure, the average total payments collected for each procedure, and the amount paid by Medicare for each procedure. By estimating the difference between the total payments and the amount covered by Medicare, the out-of-pocket payment (i.e., price) can be determined. The data we examine are for 2011, 2012, and 2013 and represent more than 7 million procedures performed at over 3,000 hospitals. From this dataset, the dependent variables of interest are produced: charge prices, out-of-pocket costs to consumers, and total payments received (see Table 4 for definitions and descriptive statistics).

Table 4: Definitions and Descriptive Statistics

	Definition	2011 Mean (25% quartile – 75% quartile)	2012 Mean (25% quartile – 75% quartile)	2013 Mean (25% quartile – 75% quartile)	2015 Mean
<b>Dependent Variables</b>					
Charge (list price)	The average amount the hospital billed to the patient for the procedure	\$33,918  (\$15,485 to \$40,588)	\$37,579  (\$17,905 to \$44,137)	\$40,041  (\$18,716 to \$46,762)	--
<b>Independent Variables</b>					
Brand Equity (U.S. News and World Report)	Cancer Cardiology Ear, Nose, Throat Geriatric Gynecology Neurology	--	--	--	28.4 37.5 45.2 35.3 51.3 35.9
Brand Equity (goodwill)	MVE - BV	--	--	--	\$233,796,181
Brand Image (Leapfrog Group)	Safety	--	--	--	3.7
<b>Costs</b>					
Total Beds	Total number of beds in the hospital	287  (133 to 360)	279  (136 to 358)	281  (134 to 362)	--

Operating Expenses	All costs not associated directly with providing care—salaries, wages, supplies, drugs, taxes, and benefits, in thousands	\$217,523 (\$61,064 to \$275,010)	\$219,062 (\$59,080 to \$272,736)	\$231,326 (\$62,157 to \$284,472)	--
Service Capital Costs	Outpatient costs such as labs, radiology, and physical therapy, in thousands	\$1,810 <sup>a</sup> (\$474 to \$2,382)	\$1,784 <sup>a</sup> (\$465 to \$2,230)	\$1,804 (\$458 to \$2,374)	--
<b>Competition</b>					
Herfindahl-Hirschman Index	Based on the market shares (measured in revenues) of the focal county and including hospitals in contiguous counties. The measure approaches 0 when there are many hospitals of roughly equal size and 10,000 when there are no competitors. Over 2500 is deemed highly concentrated by the DOJ. (DOJ 2015)	1,636 (6 to 539)	2,448 (7 to 812)	2,434 (6 to 650)	--

AHRF—Area Health Resources Files from HRSA (Health Resources and Services Administration, Department of Health and Human Services)  
HCRIS Healthcare Cost Report Information System from Centers for Medicare and Medicaid Services

## Cleaning

In the interest of accuracy during statistical testing of hypotheses, the initial data was cleaned prior to analysis. Specifically, observations from Alaska and Hawaii were dropped—focusing the study area to the forty-eight contiguous states—and providing consistency between measures related to hospital competition across space. During the process of cleaning and merging data, 2,258 procedure/hospital observations (~1.4%) were displaced (the majority of which were from Alaska and Hawaii). After this cleaning, data was matched to eliminate HCOs for which there were no brand image or brand equity measures. At the conclusion of data cleaning and merging, 1,375 HCOs with requisite data remained, with an average of 52 procedures each. There is no solid rationale to believe that the nominal number of hospitals with missing data or which were ultimately excluded from the data set are systematically different from those without. To confirm this, an analysis of the excluded/included HCOs was performed.

As expected, no significant statistical differences in the dependent variable was found between the two groups ( $p > .05$ ).

### **Dependent Variables**

**Price.** Several measures of price were available within the CMS data set, due to the complex nature of healthcare pricing, as discussed previously. "Average charge price," a variable equivalent to the retail/list price which a patient either devoid of or with inadequate insurance may be charged, is used as the dependent variable. These average prices are calculated by procedure.

Although consumers, particularly those with comprehensive insurance coverage, do not often pay this price (and are rarely even aware of this number), HCOs may set these prices as they desire. Due to the pricing autonomy of HCOs—based in large part upon the equity of their brands—prices for the same procedure may vary widely. Thus, this measure of price provides optimal insight into the research questions relevant to the current study, as well as valuable managerial implications.

The hospital-specific price data represents over 3,000 hospitals in the U.S., from 2011-2013, which participate in the federal Medicare reimbursement program. Moreover, the inpatient data represents more than seven million discharges (60% of all such discharges) and covers the top 100 most frequently-billed procedures.

**Price Premiums.** After determining the relationship between brand image and brand equity and the chargemaster price of procedures, the dollar differential between selected healthcare procedures offered by HCOs with increased and decreased levels of brand equity and brand image (determined by designating HCOs by upper and lower quartiles) is calculated.

Specifically, HCOs designated as either being within the highest 25% or lowest 25% of each brand measure were identified and isolated. Average price differential for each procedure was calculated by subtracting the prices of HCOs in each quartile.

### **Independent Variables**

**Brand Image.** Brand image, a pertinent quality measure of HCO image, safety, is selected, due to its direct relevance to the core of the service identity within the healthcare industry. The safety measure is determined by an independent, nonprofit organization, The Leapfrog Group, which "is committed to driving quality, safety, and transparency in the U.S. health system" (The Leapfrog Group 2015). The measure consists of twenty-eight evidence-based measures of patient safety, from which a numerical score is calculated for all eligible hospitals in the U.S. These measures are divided into two categories: process and structural measures (fifteen) and outcome measures (thirteen), and each domain represents 50% of the total score.

The set of eligible hospitals includes "approximately 2,800 general, acute care hospitals for which there is sufficient publicly available data" (The Leapfrog Group 2015). The HCOs which are included within the dataset align well with those reported by CMS, because of several exclusionary criteria (e.g., long-term care facilities, mental health facilities, hospitals in U.S. territories, hospitals which are missing substantial amounts of data).

A numerical score is first calculated from the measures, then a "single, consumer-friendly composite score" (i.e., A, B, C, D, F) is assigned to each HCO. Two scores are assigned to each HCO yearly, in the spring and in the fall. For the current study, both scores from the 2015

calendar year were recorded. The scores were then assigned values on an interval scale (i.e., F = 1, A = 5), then averaged for analysis.

**Brand Equity.** Two measures of brand equity will be used to determine its relationship to price. Objectively, a financial measure of brand equity which calculates the “goodwill” within HCO brands is used (Knowles 2008). To determine goodwill, approximations of both the market value of equity (MVE; what the brand may command in a current sale) and book value (BV; accounting/book worth) were calculated. Subsequently, the difference between MVE and BV is taken as a representation of goodwill. Goodwill is a financial measure parallel to the marketing concept brand equity.

Book value was calculated by using a formula as follows:

$$BV = TA - TL$$

where TA is total assets and TL is total losses. Total asset figures are sourced from CMS. Total liabilities numbers are calculated using data, on publicly traded HCOs, from the Securities and Exchange Commission’s (SEC) 10K reports. Data from the SEC (i.e., total assets and total liabilities) is used to estimate total liabilities for HCOs in the complete data set, as these figures were not reported by CMS.

Market value of equity was determined by the following form:

$$MVE = (TA + NI) * (GR + 1)$$

in which TA is total assets, NI is net income, and GR is growth rate percentage (three-year average annual growth rate). Again, total assets and net income are taken from CMS; growth rate is calculated from the three-year change in total assets, averaged, and reported as a percentage.

Subjectively, U.S. News and World Report's (a third-party publisher of news and information) 2014-2015 ranking of "Best Hospitals" (by specialty of care) is used (U.S. News and World Report 2015). U.S. News and World Report has "published hospital rankings since 1990 to identify the best medical centers in various specialties." Although U.S. News and World Report provides a "Best Hospitals Honor Roll" (consisting of an aggregate point total from all ranked areas of care), as well as rankings of sixteen distinct areas of specialty care, we selected six common, yet diverse, specialties for analysis (i.e., cancer, cardiology, ear, nose, and throat, geriatrics, gynecology, neurology). These six specialties represent areas of care which would likely be sought by larger numbers of consumers and, importantly, where HCOs are likely to accumulate equity. Moreover, ophthalmology, psychiatry, rehabilitation, and rheumatology are not based upon any empirical data (a physician opinion survey is used solely). The "Best Hospitals Honor Roll" was excluded from analysis because it only includes HCOs with the top twenty point totals.

The data included in these rankings align well with both the CMS and Leapfrog data, because of its breadth (4,716 HCOs ranked in at least one area of specialty care) and eligibility criteria (i.e., be a teaching hospital, be affiliated with a medical school, have at least 200 beds, have at least 100 beds and provide at least four of eight required medical technologies; U.S. News and World Report 2015). Numerical scores (out of 100) are assigned based upon structural measures (which characterize the hospital environment), process measures (which represent the HCO's reputation), outcome measures (which are driven primarily by mortality), and patient safety measures (which define instances where patients are either harmed or exposed to risk but do not die).

Patient safety, as the primary representation of brand image, is encompassed within this measure of brand equity. As alluded to earlier, brand image has been theorized as a driver of brand equity. In the U.S. News and World Report ranking, patient safety is given a component weight of 10%. Although there has not been an empirical establishment of the amount of influence which brand image has upon brand equity, this is an appropriate weighting for the current data (study) because it allows for some degree of both conceptual convergent and discriminate validity.

### **Control Variables**

**Costs.** To estimate hospital costs, the following variables (all reported in the Healthcare Cost Report Information System (HCRIS); Centers for Medicare & Medicaid 2016a) were included: total beds, operating expenses, and service capital costs. Other cost-relevant variables were excluded, in favor of these more inclusive measures, because of high levels of multicollinearity (indicated by the variance inflation factor (VIF). For example, employee FTE's and operating expenses (for which  $r = .95$ ) were eliminated in favor of operating expenses.

Moreover, the correlation between total beds and total discharges was large ( $r = .95$ ); as such, total beds was retained, because discharges may also reflect the length of the stay. In other situations of high VIFs, variables with the largest variation across hospitals were selected. Thus, based on empirical findings and reasoned judgments, the total number of beds (which represents hospital size and, thus, economies of scale; c.f., Cooper, Craig, Gaynor, and Reenen 2015), operating costs, and service capital costs (which reflect outpatient costs) were selected as best representing hospital costs. (See Table 3 for definitions and descriptive statistics.)

**Competition.** A function of both the number and relative size of competitors, competition is an important consideration because hospitals generally participate in a competitive local arena. In fact, most patients travel fewer than 10 miles in seeking care (Tay 2003). Although there are exceptions (e.g., traveling to internationally recognized and respected hospitals, such as Johns Hopkins or Cleveland Clinic), the competitive set is local for most HCOs. With geolocational information about the hospitals, coupled with maps provided by the U.S. Census, the number of hospitals in a given hospital's county plus those in contiguous counties was calculated.

The Herfindahl-Hirschman Index (HHI; Department of Justice 2015) for each market was also calculated, including the hospitals within the county and in the contiguous counties. The HHI is a function of the market shares of each hospital (estimated with total patient revenue data, provided in HCRIS); it is calculated as the sum of the squared market share of each hospital in the area of competition.

**Other Control Variables.** Twenty-five control variables were included in the model. These measures are listed subsequently: five measures for low socioeconomic status (housing stress, poverty level, low employment, population loss, low education level). For each of the socioeconomic measures, variables were dummy coded with a "1" if the county in which the HCO is located carries the designation and a "0" if they do not. Four variables for the economic base of the area (manufacturing, service, mining, agriculture). Each of the four economic base measures were dummy coded, as well. Within each separate category of potential economic base, a value of 1 (yes) or 0 (no) was assigned to the HCO's county. Five variables indicated racial makeup of the county (Black, Asian, Hispanic, American Indian, Pacific Islander). Additionally,

measures of percentage of the county considered urban and percentage of the population that are veterans were also included. Median age and median household income were included to capture the demographic profile of the specific counties. Two measures, population density and water area, control for the amount of available land and land usage in the county. Four hospital identifiers (Medicare dependent, teaching, private, and non-profit) were included; each HCO received a dummy coded value, consistent with each identifier (i.e., 1 = yes; 0 = no).

## **ANALYSIS**

A hierarchical (blockwise entry) regression, wherein control variables were entered into the model initially, and brand equity measures (i.e., goodwill and U.S. News and World Report specialty score) are entered into the subsequent block. Finally, brand image (Leapfrog Group figures) are entered into the final block.

## **RESULTS**

A summary of results for the chargemaster price is available in Table 5.

Table 5: Chagemaster Price Results

	2011	2012	2013
<b>Independent Variable (Equity)</b>			
Geriatric	2.14*	1.99*	2.17*
Neurology	-2.14*	ns	ns
Cancer	ns	ns	ns
Cardiology	ns	ns	ns
Ear, Nose, Throat	ns	ns	ns
Gynecology	ns	ns	ns
<b>Independent Variable (Image)</b>			
Safety	ns	ns	ns
<b>Costs</b>			
Total Beds	ns	ns	ns
Operating Expenses	ns	ns	ns
Service Capital Costs	ns	ns	ns
<b>Competition</b>			
Herfindahl-Hirschman Index	ns	ns	ns
<b>Control</b>			
Medicare Dependent	3.14*	2.10*	2.93*
Population Density	2.03*	2.17*	ns
Median Age	2.21*	ns	ns
Median Household Income	ns	ns	ns
Socioeconomic Status (housing stress, poverty level, low employment, population loss, low education level)	ns	ns	ns
Economic Base (manufacturing, service, mining, agriculture)	ns	ns	ns
Racial Makeup (Black, Asian, Hispanic, American Indian, Pacific Islander)	ns	ns	ns
% Urban Population	ns	ns	ns
% Veteran Population	ns	ns	ns
Teaching Hospital	ns	ns	ns
Private Hospital	ns	ns	ns
Water Area	ns	ns	ns
Non-profit Hospital	ns	ns	ns
<b>adj R<sup>2</sup> with controls only</b>	.042	-.063	-.060
<b>Δ in adj R<sup>2</sup></b>	.137	.006	.026

ns = p &gt; .05

\* = p &lt; .05

H<sub>1a</sub> predicted that HCO brand image will have a positive relationship with price. The results do not support this hypothesis. For each of the three years of data, the brand image

(safety) independent variable produced no significant effect upon the chargemaster price.

Reasoning for the universal insignificance of these results are presented in the discussion section which follows. In H<sub>1b</sub>, HCO brand image was hypothesized as having a positive relationship with price premiums. Consistent with the chargemaster price dependent variable, the data provides no support for this relationship.

For H<sub>2</sub>, HCO brand image was predicted to have a positive relationship with brand equity. The data does show support for this relationship ( $F(1,1104) = 5.99, p = .01, R^2 = .0054$ ). The explained variance in this relationship, although significant, is minute. Although theoretical rationale for this relationship has been presented, the current results may merely be a product of spurious error.

HCO brand equity was hypothesized to have a positive relationship with price, according to H<sub>3a</sub>; the data also does not align with this prediction. Finally, H<sub>3b</sub> proposed that HCO brand equity would have a positive relationship with price premiums. Once again, there is no support for this relationship within the data.

## **DISCUSSION AND LIMITATIONS**

In terms of results, this study does not support many of the hypothesized relationships. These branding and pricing relationships either have strong theoretical rationale or have been established empirically in multiple other consumption contexts. Because of this, there are two likely scenarios which could explicate the insignificance of the current study's results. First, there may be error captured within the data; relatedly, there may be room for methodological refinement within the branding measures (i.e., independent variables). When diagnosing the results of this study, measurement of the independent variables as proxies to the constructs of

interest may be the primary reason for many of the unsubstantiated relationships. Both brand equity and brand image, with direct measures to capture the constructs, may support the aforementioned hypotheses. Further empirical investigation, with different “real-world” proxies (or an alternative approach to the branding measures) may provide a different perspective to the data.

Alternatively, an intriguing theoretical and practical possibility must be broached. Due to the uniqueness of healthcare’s consumption, traditional performance expectations of branding measures may not transition to this context. Indeed, there is a possibility that the unique factors within the healthcare service industry muddle these relationships—as the power of branding may clearly be observed in numerous other exchange scenarios. If this is the case, it establishes an important contribution to the branding/pricing/healthcare discourse. Researchers, healthcare administrators, and public policy makers may find their course of actions altered by confirmation of these results. For example, researchers will have contemporary, firm parameters for defining the effect of classic branding measures upon a staple of marketing—price. Through subsequent theorizing and empirical investigation, other areas may emerge where the “normal” dictums of exchange do not persist.

Even with these two potential explanations for the results, it is important to acknowledge what the data does support. To this end, significant relationships for multiple control variables (i.e., population density, Medicare dependent facility, median age), as well as multiple individual brand equity measures (i.e., geriatrics, neurology) were established with chargemaster prices. Age, Medicare, and geriatrics all reflect, logically, the aged nature of our society; however, they are of little assistance to better understanding the primary relationships—brand strength and

price. Even still, these empirical results are a nascent foundation upon which to continue future research.

The importance of this data set cannot be understated, and the potential for new exchange parameters mandates additional sourcing, development, or analysis of the relationship between branding measures and pricing in healthcare. Thus, further work with the CMS data and the branding measures—either in their current manifestation, providing additional support for the current results or with new/different iterations—is in order, to better assist managers with an informed perspective of their brands, and to provide consumers a novel, effective way to critically assess the value (real or perceived) which they are receiving in their healthcare services exchange.

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## Appendices

### Appendix A: Experimental Scenarios

#### Study 1

\*\*\*\*\*Attention\*\*\*\*\*

You have decided to have a general check-up at a local physician's office in the next seven (7) days.



You will pay all of the costs of the physician's general check-up out-of-pocket, on the day of the check-up.

\*\*\*\*\*Attention\*\*\*\*\*

You have decided to have new brakes installed on your car in the next seven (7) days.



You will pay all of the costs of the brake service on the day that your car is repaired.

\*\*\*\*\*Attention\*\*\*\*\*

You have decided to have a scan in the radiology department at a local physician's office in the next seven (7) days.



You will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan.

\*\*\*\*\*Attention\*\*\*\*\*

You have decided to buy a new laptop in the next seven (7) days.



You will pay all of the costs of the laptop on the day that you buy it.

## Study 2 Scenarios

### \*\*\*\*\*Attention\*\*\*\*\*

Imagine this. You are playing a game of basketball with your friends in the local park. It is a warm, sunny day and the sky is clear. The faint smell of freshly-bloomed flowers is in the air.

As you take (and make) the game-winning jump shot, you land awkwardly on the pavement, your knee buckles, and you feel a sharp pain. Although you are able to walk back to your car, it hurts badly enough that you decide to have your knee scanned at your local doctor's office.



You will have this scan in the next three days. Since you have not yet met your deductible, you will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan. Before your appointment, you read the following article online while looking at news headlines:

### \*\*\*\*\*Attention\*\*\*\*\*

Imagine this. You are playing a game of basketball with your friends in the local park. It is a warm, sunny day and the sky is clear. The faint smell of freshly-bloomed flowers is in the air.

As you take (and make) the game-winning jump shot, you land awkwardly on the pavement, your knee buckles, and you feel a sharp pain. Although you are able to walk back to your car, it hurts badly enough that you decide to have your knee scanned at your local doctor's office.



You will have this scan in the next three days. Since you have not yet met your deductible, you will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan. Before your appointment, you read the following article online while looking at news headlines:

## The Daily Post

Wednesday, April 12th, 2017

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### Hospital CEO Pay Rises While Americans Drown in Medical Debt

3 hours ago  
By Jonathan Smith  
Business News, USA



Healthcare debt drowns more Americans, while hospital CEO pay skyrockets, according to a study released today.

Jonathan Smith/TDP  
**According to a healthcare study released today, more Americans than ever are drowning in their medical debt, while hospital CEO pay has continued to skyrocket.**

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## The Daily Post

Wednesday, April 12th, 2017

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### Hospital CEO Pay Rises Faster Than Overall Healthcare Spending

3 hours ago  
By Jonathan Smith  
The Daily Post, USA



Healthcare spending is surpassed by hospital CEO salary, according to a new study released today.

Jonathan Smith/TDP  
**According to a healthcare study released today, hospital CEO pay has risen faster than overall healthcare spending during the last year. Estimates are that the**

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\*\*\*\*\*Attention\*\*\*\*\*

Imagine this. You are playing a game of basketball with your friends in the local park. It is a warm, sunny day and the sky is clear. The faint smell of freshly-bloomed flowers is in the air.

As you take (and make) the game-winning jump shot, you land awkwardly on the pavement, your knee buckles, and you feel a sharp pain. Although you are able to walk back to your car, it hurts badly enough that you decide to have your knee scanned at your local doctor's office.



You will have this scan in the next three days. Since you have not yet met your deductible, you will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan. Before your appointment, you read the following article online while looking at news headlines:

# The Daily Post

Wednesday, April 12th, 2017

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## Fan Excitement Builds as 2017 NFL Draft Approaches

3 hours ago  
By Jonathan Smith  
The Daily Post, USA



The 2017 NFL draft, held in Philadelphia from April 27-29, has fans excited for the beginning of a new season.

**This year, the city of Philadelphia is hosting the NFL Draft.** The annual event, held from April 27-29 this year, has fans excited about the possibility of their team

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## Study 3 Scenarios

### \*\*\*\*\*Attention\*\*\*\*\*

Imagine this. You are playing a game of basketball with your friends in the local park. It is a warm, sunny day and the sky is clear. The faint smell of freshly-bloomed flowers is in the air.

As you take (and make) the game-winning jump shot, you land awkwardly on the pavement, your knee buckles, and you feel a sharp pain. Although you are able to walk back to your car, it hurts badly enough that you decide to have your knee scanned at your local doctor's office.



You will have this scan in the next three days. Since you have not yet met your deductible, you will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan. Before your appointment, you read the following article online while looking at news headlines:

### \*\*\*\*\*Attention\*\*\*\*\*

Imagine this. You are playing a game of basketball with your friends in the local park. It is a warm, sunny day and the sky is clear. The faint smell of freshly-bloomed flowers is in the air.

As you take (and make) the game-winning jump shot, you land awkwardly on the pavement, your knee buckles, and you feel a sharp pain. Although you are able to walk back to your car, it hurts badly enough that you decide to have your knee scanned at your local doctor's office.



You will have this scan in the next three days. Since you have not yet met your deductible, you will pay all of the costs of the radiology scan out-of-pocket, on the day of the scan. Before your appointment, you read the following article online while looking at news headlines:

## The Daily Post

Wednesday, April 12th, 2017

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### Profits from Markups: The Top Ten Hospitals Profit \$163 Million from Patient Care

3 hours ago  
By Jonathan Smith  
Business News, USA



The top ten U.S. hospitals combined to make \$163 million in profits, according to a study released today.  
Jonathan Smith/TDP

According to a healthcare study released today, the top ten U.S. hospitals made \$163 million from patient care. Markups on many healthcare procedures was a primary

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## The Daily Post

Wednesday, April 12th, 2017

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### Profits From Patients: Doctors Make Money From Ordering Unnecessary Tests

3 hours ago  
By Jonathan Smith  
The Daily Post, USA



Doctors order unnecessary healthcare services for patients, to generate profits, according to a new study released today.  
Jonathan Smith/TDP

Many doctors, including 97% of those in the ER, order unnecessary imaging. Doctors compensated for volume, not the value of their services, ordered the most

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## Appendix B: Experiment Measures

NEGOTIATION BEFORE (Based upon the buying scenario which you saw previously, please rate the likelihood of the following, BEFORE receiving the bill for this checkup:)

	Extremely unlikely (1)	Moderately unlikely (2)	Slightly unlikely (3)	Neither likely nor unlikely (4)	Slightly likely (5)	Moderately likely (6)	Extremely likely (7)
Bargaining over the price of the item. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being the winner in the price negotiation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Haggling over the price of the product/service. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Submitting an offer for the purchase price of the product/service. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bargaining with an employee over the price of the product/service. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NEGOTIATION AFTER (Based upon the buying scenario which you saw previously, please rate the likelihood of the following, AFTER knowing the final price of the CT scan.)

	Extremely unlikely (1)	Moderately unlikely (2)	Slightly unlikely (3)	Neither likely nor unlikely (4)	Slightly likely (5)	Moderately likely (6)	Extremely likely (7)
Bargaining over the price of the scan. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being the winner in the price negotiation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Haggling over the price of the scan. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Submitting an offer for the purchase/retail price of the scan. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bargaining with an employee over the price of the scan. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

TRUST IN DOCTOR (In the scenario presented, as a patient, please select the answer which most accurately answers each statement.)

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
Your doctor will do whatever it takes to get you all the care you need. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes your doctor cares more about what is convenient for him/her than about your medical needs. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your doctor's medical skills are not as good as they should be. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your doctor is extremely thorough and careful. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sometimes, your doctor does not pay full attention to what you are trying to tell him/her. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your doctor is totally honest in telling you about all of the different treatment options available for your condition. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You completely trust your doctor's decisions about which treatments are best for you. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your doctor only thinks about what is best for you. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You have no worries about putting your life in your doctor's hands. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All in all, you have complete trust in your doctor. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PK MANIPULATION CHECK SCALE (Based upon the scenario presented, as a patient, please select the answer which most accurately answers each statement.)

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I learned that hospitals are a business, with the goal of making money. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learned that hospitals profit from markups on healthcare treatments. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am skeptical about the prices for service in the healthcare industry. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AK MANIPULATION CHECK SCALE In the scenario presented, as a patient, please select the answer which most accurately answers each statement.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I learned new information about the motivations of doctors that provide care. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learned new information about the intentions of doctors when treating patients. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learned new information about the credibility of doctors. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ER: REAPPRAISAL (In the scenario presented, as a patient, please select the answer which most accurately answers each statement.)

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I control my emotions by changing the way I think about the situation I'm in. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I want to feel less negative emotion, I change the way I'm thinking about the situation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I want to feel more positive emotion, I change the way I'm thinking about the situation. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ER: SUPPRESSION (In the scenario presented, as a patient, please select the answer which most accurately answers each statement.)

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I control my emotions by not expressing them. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am feeling negative emotions, I make sure not to express them. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep my emotions to myself. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am feeling positive emotions, I am careful not to express them. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PANAS (Think about how this experience would make you feel. To what extent would you feel:)

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Extremely (7)
Positive (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resentful (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hopeful (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Annoyed (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amazed (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surprised (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Astonished (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ATTITUDE CERTAINTY. (In the scenario presented, as a patient, please select the answer which most accurately answers each statement.)

	Not at All Certain (1)	Slightly Certain (2)	Somewhat Certain (3)	Neither Certain nor Uncertain (4)	Moderately Certain (5)	Very Certain (6)	Extremely Certain (7)
How certain are you of your attitude towards the healthcare service that you received? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

GENERAL RISK OF PURCHASE (Based upon the healthcare scenario presented:)

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
There is a good chance I will make a mistake if I purchase this healthcare service. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a feeling that purchasing this healthcare service will really cause me lots of trouble (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will incur some risk if I buy this healthcare service in the next twelve months. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This healthcare service is a very risky purchase. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SELF EFFICACY (Based upon the healthcare scenario provided, as a patient, please answer the following questions as accurately as possible)

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am fully capable of finding price information on healthcare treatments. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in my ability to find pricing information for healthcare treatments. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding pricing information for healthcare treatments is well within the scope of my abilities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am qualified for the task of finding pricing information for healthcare treatments. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My past experiences increase my confidence that I will be able to successfully find pricing information about healthcare treatments. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

KNOWLEDGE (Based upon the buying scenario presented:)

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I feel very knowledgeable about this healthcare service. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had to purchase this healthcare service today, I would need to gather very little information in order to make a wise decision. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel very confident about my ability to tell the difference in quality among different brands of this service. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If a friend asked me about this product, I could give them advice about different brands. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FAMILIARITY WITH SERVICE (Regarding the healthcare service in the buying scenario presented, please answer the following regarding yourself. I am:)

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)
Very unfamiliar:Very familiar (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not at all informed:Highly informed (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Know nothing at all:Know a great deal (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>