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Price as a Proxy of Quality: Achieving Something Out of Nothing through the Placebo Effect

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ABSTRACT The purpose of the present paper is to critique the concept 'placebo effect' as applied in marketing. Most of the researches explain this concept largely by drawing on the expectancy and classical conditioning theories, which theories, together with the consideration of extrinsic and intrinsic product attributes, have largely shaped the price-quality relationship, hence the concept of placebo effect. A variety of literature, albeit not most recent, is reviewed from both the medical and marketing perspectives in order to create a rich expose. It is concluded that despite the ubiquity of price and consumers' substantial experience with this attribute, a strong convergent support for the prediction that utility judgments are more precise and preferences are more stable, when price is considered as a proxy of quality. Future researches should transgress from expectations, beliefs and theories of conditioning to assessing how demand-related factors such as income, influence this phenomenon within the marketing field.

INTRODUCTION

When firms incorporate findings from psychology and consumer behavior research into their pricing strategy, they may boost their profitability, even beyond the "profit maximizing" results from economic theory (Larson 2014). In addition, higher prices can be linked with higher product quality and with perceived superior performance when buyers desire and expect it (Larson 2014). The history of the concept of the 'placebo effect' and research into its quantification and mechanisms continue to intrigue many researchers (Kaplan and Wirtz 2014). Several medical researchers (Stewart et al. 2004) observed that placebo is a substance or procedure that has no inherent power to produce an effect that is sought or expected. While the afore-mentioned perspectives may certainly provide useful insights into theoretical and practical questions on how consumers are influenced by price, it is not clear whether these effects are unique to this attribute or if they apply to other attributes as well. Obtaining a clearer understanding of when and why price (vs. attribute information) influences quality inferences is of obvious importance to both consumer researchers and those seeking to influence quality perceptions (Wright et al. 2012). The present paper seeks to extend the understanding of the processes that reinforces the placebo effect, by reviewing literature to provide fresh insights into the role played by marketing placebos in influencing consumer behavior. This will be done through a critique of the literature, albeit seemingly dated yet necessary, aligned to the use of price as a proxy of quality in the study of marketing placebo effects.

The placebo effect has been a topic of interest in scientific, as well as clinical communities, for many years (Price et al. 2008). Until the 1930s, physicians used placebos to substitute an inert treatment for a real but dangerous drug or to reassure patients when no actual treatment intervention yet existed. The placebo effect was first scientifically documented by Beecher (1955), who found that soldiers in the Second World War experienced an analgesic effect with saline, which was given because of depleted morphine stocks. The actual intervention that elicits the placebo effect is referred to as the placebo. Many non-specific aspects of treatment can help to determine the direction and size of the placebo effect. This can be any clinical intervention including words, gestures, pills, devices, and surgery. Each of these can play a part in conveying the practitioner's confidence in a treatment, em-

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pathy with the patient, and professional status. Non-specific aspects of the placebo remedy itself can also have a powerful influence. In fact, the more invasive it is, or the more actively it involves the patient/client, the larger the placebo effect.

Shiv et al. (2005) demonstrated that price was a salient piece of information because it affected behavior. They aforementioned researchers documented for the first time that non-conscious expectations about the relationship between quality and price can impact consumers in a 'placebo-like' manner. Even when the price paid for goods or services has absolutely no relationship to its actual quality, consumers' non-conscious beliefs about the price-quality relationship change their actual experience with the product.

The Price-Quality Relationship

Pricing is an important decision area of marketing and it is the only element of the marketing mix that generates revenue, since all the other elements involve cost (Elder and Krishna 2010). In spite of its importance, however, pricing has been an area of little theoretical understanding and even less operating precision. Price is an important index of quality and the word 'cheap' usually means inferior quality. Product quality judgments are typically viewed as inferences regarding an unobservable dimension based on observable product features (Rao et al. 1999). Such judgments can be in the nature of either abstract, summary inferences of a product's "goodness" or more specific inferences regarding an un-described dimension, for example, inferring the taste of a food on the basis of extrinsic features such as package attractiveness (Elder and Krishna 2010).

Table 1 summarizes the literature that was reviewed to understand the price-quality relationship as a prelude to gaining insight into the concept of the placebo effect in marketing. The literature, drawn chronologically from the very early studies of the concept to more recent studies helps in the conceptualization of the placebo effect.

Theories of the Placebo Mechanism

Expectancy Theory

The expectancy theory is now widely accepted as the most popular explanation for placebo effects, and an expectation is a belief about the chances associated with a future state of affairs (Geers et al. 2005). The expectancy theory has gained ground over recent years, and the expectancy construct has largely replaced related mentalist constructs in the placebo field, such as faith and hope (Peck and Coleman 1991). The expectancy theory embodies a common understanding of the placebo effect, and according to this view, placebo effects are a subcategory of expectancy effects, and placebos, an expectancy manipulation. The expectancy interpretation of the placebo effect has a number of interesting implications one being, that drug advertising may lead to more powerful placebo effects. Walsh et al. (2002) reported that the response to both antidepressant medication and placebos in trials of antidepressant medication has increased over the years, perhaps because of an increased belief among members of the public in the efficacy of drugs. Rao and Monroe (1989) ascertained that the brand name (an extrinsic cue) is seen as being able to activate beliefs about the product's superior quality. Furthermore, given that consumers often believe that price levels tend to reflect quality, the price discount (another extrinsic cue) may trigger beliefs that the product's quality is inferior.

Classical Conditioning Theory

The second major approach to the placebo effect stems from the classical conditioning paradigm which was first proposed by Pavlov (1972) in an experiment with dogs as subjects. In the experiment, a bell is rung after which food is given. Bruewer (1974) elaborated on the traditional classical conditioning hypothesis, and explained that the repeated conditioned stimulus (CS) with unconditioned stimulus (US) in the unconscious state causes the Conditioning Stimulus to be triggered by a conditioned response (CR). Shimp (1991) also explained restricted learning as signifying that when an animal or human experiences the different environmentally-produced coupling, the special stimulation produces new reactions, one after another. Gorn (1982) applied the classical conditioning experiment to consumer products. He let subjects observe a slide show of different color pens (CS) while they listened to their favorite (UR) music (US). The results showed that when subjects heard pleasant music they formed a pen preference (CR). Classical conditioning theory can be

Table 1: Summary of literature on price-quality relationships

Topic	*Title*	*Author*	*Source*	*Summary content*
The Price-Quality Relationship	A Note on Some Experimental Findings about the Meaning of Price.	Leavitt J (1954)	*Journal of Business,* 27(2): 205-210	Leavitt (1954) who observed the behaviour of consumers as they selected product brands priced differently found that brands priced highly increased the buyer readiness to purchase than those with low prices.
The Price-Quality Relationship	The Price-Quality Relationship in an Experimental Setting.	McConnell JD (1968)	*Journal of Marketing Research,* 5(3): 300-334	McConnell (1968) who examined the relationship between price and the quality of beer which is a frequently-purchased consumer product found that the buyers used price as an indicator of product quality. With a homogeneous product and various unknown brand names, buyers perceived the highest-priced brand to be of better quality than the other two brands. He concluded that price, without any other cue, was an effective measure for brand evaluation.
The Price-Quality Relationship	Perceived Risk and Price Reliance Schema as Price-perceived Quality mediators	Peterson RA, Wilson WR (1985)	*In: J Jacoby, J Olson, (Eds.): Perceived Quality: How Consumers View Stores and Merchandise* (pp. 247-268)	Peterson and Wilson (1985) found that consumers could be classified into groups—''schematics'' and ''aschematics''—based on their belief of the price–quality relationship. Schematics generally perceive a stronger relationship between price and quality than aschematics.
The Price-Quality Relationship	Is there a Generalized Price-Quality Relationship?	Gardener M (1971)	*Journal of Marketing Research,* 8(2): 241-243	Gardener (1971), in his experimental study explored the degree of price-quality relationship for three identified products and concluded that consumer willingness to purchase is closely influenced by the price of s product. However, he also concluded that price had no effect on product perception.
The Price Qquality relationship	Prices as Signals of Quality.	Farrell, J (1980)	*PhD Thesis, Brasenose College, Oxford*	Farrell (1980) went one step further and showed that it is the presence of informed buyers that attracts high quality producers and thereby establishes the price as a quality signal to uninformed buyers.
The Price-Quality Relationship	Price and Advertising Signals of product Quality.	Milgrom P, Roberts J (1986)	*Journal of Political Economy,* 94: 796-821	In an attempt to model the price-quality relationship Milgrom and Roberts (1986) considered a two-period, game where buyers became informed of quality in the second period. They concluded that if the price of a high quality product is set so high that there is very little demand at that price, then a seller of a low quality product will not want to mimic the high price.

Table 1: Contd...

Topic	*Title*	*Author*	*Source*	*Summary content*
The Price-Quality Relationship	The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review.	Rao R, Monroe B (1989).	*Journal of Marketing Research,* 26(3), 351-357	Rao and Monroe (1989) integrated the previous research on the influence of price, brand name, and/or store name on buyers' evaluation of product quality. They found that, for consumer products, the relationship between price and perceived quality and between brand name and perceived quality was positive and statistically significant, and the effect of store name on perceived quality was small and not statistically significant.
The Price-Quality Relationship	Marketing Actions can Modulate Neural Representations of Experienced Pleasantness.	Plassmann H et al. (2008)	*Proceedings of the National Academy of Sciences of the United States of America,* 105(3), 1050-1054	Plassmann et al. (2008) found that reporting a higher price for a wine increases consumers' experienced pleasantness from drinking the wine. Almenberg and Dreber (2009) found a similar placebo effect of the price of wine, but find it only occurs for more expensive wines and only when subjects are given price information before consumption.
The Price-Quality Relationship	Distance Lends Structure to the View: Temporal Construal and Value Perceptions.	Thomas M, Chandran S, Trope Y (2005),	*Advances in Consumer Research*, Vol. 32, I[st] Edition pp. 82–84	Thomas et al. (2005) hypothesized and found that the influence of price (a feasibility concern) on purchase intentions was greater for immediate than for more distant purchases, while the influence of attribute favorability (a desirability concern) was greater for distant than for immediate purchases.
The price-quality relationship	Pricing: Making Profitable Decisions. The Three Faces of Price Promotions: Economic, Informative and Affective.	Monroe B (2003) Raghubir P, Inman J, Grande H (2004),	*3[rd] Edition New York: McGraw-Hill California Management Review,* 46 (4): 1–19	As several scholars have pointed out, price carries both an implication of perceived sacrifice that is, having to part with monetary resources) and one of perceived "goodness" (that is, as a signal of quality; Monroe 2003; Raghubir, Inman, and Grande 2004).
The Price-Quality Relationship	Neglect of Opportunity Costs in Consumer Decisions.	Frederick S et al. (2007)	*Working Paper, Yale School of Management*	Recent studies by Frederick et. al. (2007) suggest that consumers might in fact struggle to use price effectively. Consumers might simply dissociate monetary assessments from utility judgments altogether, they revealed.
The Price-Quality Relationship	The Dissociation between Monetary Assessments and Predicted Utility.	Amir O, Ariely D, Carmon Z (2008)	*Journal of Marketing Science* 27 (6): 55-64 ,	Amir et al. (2008), for instance, demonstrate that monetary assessments (for example willingness to pay for a concert ticket) often depend on irrelevant tramsaction cues (for xample the cost incurred by the promoter to stage the event) but are less affected by factors that actually influence one's experience with the product or service (for example the temperature inside the venue).
Placebo Effects of Marketing	Placebo Effects of Marketing Actions: Consumers May Get What They Pay For	Shiv et al. (2005)	*Journal of Marketing Research,* (42): 383–393	After conducting a series of experiments, the researchers found that non-conscious expectations about the price-quality relation can influence consumers and encourage placebo effect. Discounted products, they observed produces greater placebo effect than paying more for a product.

used to understand/explain the effect of advertising, according to Smith et al. (1998). With the combined exposure of conditioning stimulus and unconditioned stimulus, participants learn that a special unconditioned stimulus appears conditionally accompanied by a special conditioning stimulus. This restriction/unconditioned stimulus pairing characteristic of the discrimination is called the accidental perception (Shimp 1991). Besides, when consumers are used to finding highly priced products to be quality products, they condition their minds to this and expect, in future that any highly priced products should be quality and vice versa.

The Psychology of Price

Suggestive evidence for the uniqueness of price in influencing consumer decision-making and, in particular its possible negative effects on quality decisions, comes from several streams of research. Perhaps the most compelling indication is the anchoring bias observed in monetary evaluations (Ariely et al. 2003; Nunes and Boatwright 2004). Ariely et al. (2003) found that people's willingness to pay for everyday products and experiences could easily be influenced by irrelevant numerical information (for example, the last two digits of a participant's social security number). Importantly, this influence did not carry over to direct product comparisons in which money was absent, suggesting that preferences are particularly malleable when price is part of the consumer's purchase decision. One plausible explanation for this effect is that price is an attribute that is intrinsically hard to evaluate and, consequently, consumers tend to rely on or are swayed by external cues and anchors. Further, evidences suggesting that thinking about money may be uniquely complex can be found in research on opportunity-cost neglect (Frederick et al. 2009), showing that the fact money can be used to purchase an infinite variety of goods causes difficulty in evaluating tradeoffs between benefits and costs. Moreover, studies have shown that consumers are less sensitive to price changes in percentage than in absolute terms, that they perceive nine-ending prices to be significantly lower than they actually are (Thomas and Morwitz 2005), or that their demand increases when an expense is partitioned into a series of mandatory charges (Bertini and Wathieu 2008).

In some cases, researchers have even found that consumers might simply dissociate monetary assessments from utility judgments altogether (Amir et al. 2008). The aforementioned researchers demonstrate that monetary assessments (for example, willingness to pay for a concert ticket), often depend on irrelevant transaction cues (for example, the cost incurred by the promoter to stage the event), but are less affected by factors that actually influence one's experience with the product or service (for example, the temperature inside the venue). It is evident from the abovementioned studies that compared to other attributes, price not only has unique effects on behavior, but also the quality of people's decisions.

OBSERVATIONS AND DISCUSSION

With respect to consumers, one clear implication of the findings based primarily on the literature, is that preference consistency can be improved by focusing on a well-defined yardstick or benchmark for price when making utility judgments. Given that consumers are unlikely to be cognitively aware of the negative effect of price on their preference consistency, they would thus be unlikely to spontaneously adopt any corrective measures such as the one proposed in this paper. Thus, there seems to be considerable value for consumers to internalize and adopt a well-defined, albeit narrow, interpretation of the money while evaluating products and experiences with different prices.

Marketing actions such as price discounts can influence not only consumer purchase behavior or their subjective experiences, but also the actual efficacy of the marketed products. Due to the expectancy factor and its role on the placebo effect, marketers may use the placebo effect to influence the outcome of marketing activities and increase their revenue streams. The findings suggest that from an economic perspective, price consideration in product choice could lead to more irrational decisions. The aforementioned is contrary to what the economic theory and lay beliefs might predict that providing people with easily described information (in our case, price) should enhance, rather than degrade the quality of their product decisions. While price does not affect the perception of product quality (whether branded or not), it affects the willingness to buy. The literature survey also revealed that the theories of classical conditioning and expectancy theory give rise to placebo and must not be separated.

Implications for Marketing

In the economics-oriented literature, as well as in the emerging empirical tradition in Marketing and Consumer Behavior, it is becoming increasingly apparent that consumers frequently employed price as a proxy for product quality. The application of the placebo effect in marketing was perhaps popularized by the work of Shiv et al. (2005), who conducted a series of experiments to show the influence of marketing actions (in particular, price promotions) on the actual efficacy of products. The aforementioned researchers demonstrated that price was important because it affected behavior. In addition, conclusions were drawn to the effect that nonconscious expectations about the relationship between quality and price can impact consumers in a placebo-like manner. The aforementioned authors also revealed a number of important issues regarding the placebo effect in marketing: buying products at a discounted price produces greater placebo effect than paying more for a product. Favorable ads can reinforce negative price-quality perceptions; and drawing attention to positive marketing claims (encouraging expectations) stimulates the amplitude of the placebo effect.

Rao (2005) considered the research of Shiv et al. (2005) and developed the concept of the placebo effect in marketing by focusing on the price-quality relationship. In another study, Plassman et al. (2008) showed that increasing the price of a wine boosted subjective reports of flavor pleasantness as well as activity in medial orbito-frontal cortex, an area of the brain that is thought to encode experienced pleasure during experiential tasks. Other research has found evidence of a similar placebo effect of prices. For example, Waber (2008) found that subjects who consumed a sugar pill that they believed was a painkiller can tolerate more pain if the pill was described as an expensive drug than when it was presented as inexpensive. Plassmann et al. (2008) find that reporting a higher price for a wine increases consumers' experienced pleasantness from drinking the wine, and Almenberg and Dreber (2009) found a similar placebo effect of the price of wine, but it only occurred for more expensive wines, and only when subjects are given price information before consumption.

The main focus of Stewart-Williams and Podd (2005) was to understand which of the two main theories that are believed to contribute to the placebo effect, namely classical conditioning and expectancy theory, are the basis of placebo processes. The main conclusion was that one shouldn't separate these two theories but that they should be used to complement each other. The results suggest that perceptions arise primarily with the help of marketing actions rather than from physical product differences. From a managerial point of view, it means that repetitive adherence to high quality associated with high price will guarantee success for the company even when in future products of a somewhat lower quality are produced by the company; consumers would have already been conditioned to high quality. Through a deeper understating of this concept, the concept of family line branding can be enhanced further especially for those companies who would have achieved success with their first products into the market.

CONCLUSION

The literature on the placebo effect informs that a placebo can be utilized to the benefit of marketers, since it became apparent that price is salient information which affects consumer behavior. Even when the price paid for goods or services has absolutely no relationship to its actual quality, consumers' non-conscious beliefs about the price-quality relationship change their actual experience with the product. Thus, despite the ubiquity of price and consumers' substantial experience with this attribute, we find strong convergent support for the prediction that utility judgments are more precise and preferences more stable when price is considered as a proxy of quality.

RECOMMENDATIONS

On the basis of the literature, it may be recommended that organizations should manage consumer perceptions. The perceptions of the modern consumer are developed primarily with the help of marketing, rather than from physical product differences. It means that physical product differences have little to do with the various brands' relative success or failure in the market.

It is becoming increasingly apparent that consumers frequently employ price as a proxy for product quality, giving rise to the concept of marketing placebo. Management is thus recommended to use knowledge of this concept for product branding, promotion and pricing in order to maximize profits and improve organizational performance.

FUTURE RESEARCH

Renewed research interest should focus on the broader issue of the formation of consumer beliefs and how they affect consumer behavior as it relates to product performance, since this is fundamental to consumer behavior and marketing strategy. Further, more recent studies are needed to elucidate the role of personality and expectation on the placebo effect, since most of the studies were conducted long ago. Therefore, there remains room for further investigation into how conditioning influences response to marketing intervention especially with respect to advertising. Relevant to the current research, if price can increase expected value, then in the case of products it may be able to modify not merely perception but the actual product performance via the placebo effect. Since expectations and beliefs are the main drivers of the placebo response, it is possible that marketing factors may modify the placebo response.

The placebo effect has primarily been explained by drawing on the theories of expectancy and classical conditioning, which theories together with the consideration of extrinsic and intrinsic product attributes, have largely shaped the price-quality relationship and hence the concept of placebo. However, how demand related factors such as income shape the placebo concept remain unexplored.

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