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Price Reframing: Role of Price Familiarity in Consumer Choice

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PRICE REFRAMING:
ROLE OF PRICE FAMILIARITY IN CONSUMER CHOICE
BY
MIRI CHUNG

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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DOCTOR OF PHILOSOPHY DISSERTATION
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ABSTRACT

A framing strategies that marketers widely employ in pricing is a Pennies-a-Day (PAD) strategy. This decomposes the total price in order to frame it into a smaller, more palatable daily amounts. To date, several theoretical perspectives were investigated in an attempt to identify mediators of PAD effectiveness: perceived triviality, perceived benefits, and the feeling of being misled.

Interestingly, despite evidence suggesting consumer response to PAD pricing is more complex, the extant literature has not investigated moderators of PAD effectiveness. Based on studies in information processing, the current study suggests that consumers' price familiarity could act in a moderating role on the effectiveness of the PAD strategy.

More specifically, the current study hypothesizes that consumers who have low price familiarity will develop a greater purchase intention when the target product is presented in a daily price frame than in an aggregate price frame if the requested daily amount is small due to low levels of perceived cost. Further, it is hypothesized that their purchase intention toward the target product depends on their attitudes toward a comparison product when the product is displayed along with the target transaction in the advertisement to demonstrate the affordability of an advertised product.

In contrast, the levels of perceived cost and perceived benefits of consumers who have high price familiarity will not be influenced by the price framing strategy regardless of the amount requested as well as regardless of their attitude toward the comparison product. Instead, the current study hypothesizes that when consumers

have high price familiarity, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame, due to the feeling of being misled.

Exploratory studies were conducted and showed a moderating effect of price familiarity on PAD effectiveness on product attitude. In a series of studies across a variety of product categories, the moderating role of price familiarity was found; when consumers have high price familiarity, their purchase intention was not influenced by frame. However purchase intention was not influenced by attitude toward the comparison product. Interestingly, perceived cost in a daily price frame was lower than in an aggregate price frame at both low and high levels of price familiarity. A daily price frame generates higher levels of the feeling of being misled, compared to an aggregate frame. Especially, the negative effect of a daily frame was larger when participants have high price familiarity. The effect on perceived benefits was not consistent across studies.

This research adds value to the growing body of literature in price reframing by enhancing and better understanding the underlying mechanisms of the PAD strategy by providing an alternative view to past research. Although a daily price frame has been shown to be beneficial, in a long-term strategic perspective, marketing managers might need to be cautious about potential negative effects since a daily framing is likely to generate higher levels of feeling of being misled. This dissertation supports the need to monitor promotional communications and consumer education to limit the potential for marketers to manipulate the perception of cost and purchase decision making.

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CHAPTER 1

INTRODUCTION

1.1 Background

Pricing has been one of the predominant components of marketers' decision making because it is directly related to revenue and profit. Over the years, research in marketing has examined the different behavioral pricing strategies, which incorporate behavioral and psychological approaches to understand consumers' reactions to the tactics (Monroe and Petroschius 1981; Rao 2009). Examples of behavioral pricing include odd endings, reference prices, perceived price fairness, price-promotion presentation effects, and competitive prices.

Among various behavioral pricing strategies, price framing, a strategy which presents a logically equivalent alternative phrase to deliver price information with the same cost being requested, has been used in marketing to influence consumers' judgment and decision making under various contexts (Tversky and Kahneman 1981). For example, Xia and Monroe (2004) found that partitioning the total price of the offer into multiple fees or surcharges, such as taxes and handling fees, may enhance the consumers' purchase intentions because consumers are likely to fail to adjust for the surcharge. In the context of a price reduction, Chen et al. (1998) showed that consumers perceived savings to be larger for low-price products when price promotions were framed in percentage-off terms than in dollars-off terms. However,

whereas a price reduction in dollars-off terms was considered more significant than in percentage-off terms for high-price products.

One of the framing strategies marketers widely employ in pricing is a Pennies-a-Day (PAD) strategy, which decomposes the total price in order to frame it into a smaller, more palatable daily amounts (Gourville 1998). The PAD strategy has been found to increase intention to purchase by encouraging consumers to interpret the daily cost as trivial and by discouraging them to pay attention to the large total amount of money; consumers are likely to regard spending a small daily amount as manageable, whereas they might be reluctant to consider spending a large sum at once since it seems to be substantial and possibly impact finances. For example, Gourville (1998) showed that framing a total cost in daily terms influenced consumers' likelihood of donation. He showed that, because a daily frame results in the perception of a cost as more trivial and affordable than an aggregated price frame does, consumers were more likely to comply with a year-pledge donation when it was presented as a series of expenses (\$1/day), rather than one large expense (\$360/year). Several theoretical perspectives were investigated in an attempt to identify mediators of the effectiveness of the PAD strategy; perceived triviality, perceived benefits, and the feeling of being misled.

First, Gourville (1998, 2003) assumed that perceived triviality of the reframed daily amount is an important factor. The PAD strategy is generally effective because consumers view the small, ongoing expenses as an insignificant routine, like buying a cup of coffee. That is to say that, if consumers think that the reframed amounts of money are somehow too large to pay on a daily basis, the PAD strategy would

backfire. Gourville showed that small daily amounts (\$1/day) increased consumers' donation likelihoods compared to those at the equivalent yearly amount (\$360/year), but large daily amounts (\$4/day) decreased their donation likelihoods compared to those at the equivalent aggregate amount (\$1,400/year).

Second, based on cost–benefit theory, in which the relative level of perceived benefits per cost influence consumers' preferences, Atlas and Bartels (2014) suggested perceived benefits as a mediator of effectiveness of daily framing. They showed that even though a daily amount is not small and not perceived to be trivial (\$20/day for a luxury car), presenting the cost in a daily frame still can increase purchase intention compared to an aggregate frame. They argued that a small cost per day frame magnifies the relative level of perceived benefits, and this high level of perceived benefits is likely to be generalized across the rest of the period, which eventually exaggerate consumers' perceived benefits, leading to increase purchase intentions.

Third, researchers have also investigated the negative response to the PAD strategy. For example, studies have shown that consumers develop a suspicion to price-setting strategies such as price framing or price promotion, when they recognize marketers' attempts to influence their purchases (Hardesty et al. 2007). As Bambauer-Sachse and Grewal (2011) have argued, the PAD strategy may increase a consumers' feeling that he or she has been misled when presented with the manipulated price amount within a temporal frame.

PAD is an appealing strategy to marketers and researchers because it is not about “what price to charge,” but about “how to charge.” The PAD strategy is known to be effective because consumers are *cognitive misers*, who limit their cognitive efforts and

avoid complex and time-consuming thinking (Payne et al. 1993). In a similar vein, Slovic (1972) proposed the concreteness principle stating that consumers are not likely to allocate the cognitive resources required for changing the format of presented information. Rather, they prefer to use only the information in the form in which it is explicitly displayed in the stimuli. Consequently, consumers might have different preferences and decide contingently depending on how the information is presented.

Hence, for marketers, PAD strategies can increase consumers purchase intentions without sacrificing the profit margin by encouraging certain interpretations and by discouraging others without changing the actual facts. The extensive use of PAD strategies by marketers has caught researchers' attention because the PAD strategy produces a counterproductive effect on two prominent theories of decision making, one is standard economic theory¹ and another is prospect theory² (Gourville 1998).

1.2 Research Gap

Interestingly, despite evidence suggesting consumer response to PAD pricing is more complex, the extant literature has not investigated moderators of PAD effectiveness. An extension of the argument that consumers are cognitive misers so they are not likely to change the given format of information suggests one contingency, restructuring of price information display by consumers; if consumers assure that change of price information helps them to make a better decision and

¹ The PAD strategy violates the normative principle of descriptive invariance, which stating consumers' purchase intention should not vary as a function of the way of information presented (i.e., Descriptive Invariance, Tversky, Sattath, and Slovic (1988)).

² According to prospect theory (Thaler, 1985), consumers would prefer to integrate losses. Because spending money is considered as "loss", applied to the PAD strategy, consumers should prefer one large amount expense to several small amount expenses.

recognize the way to transform the presented price information format, they may create a new format of price information from the display, which may dilute the impact of the PAD strategy.

The fundamental postulate of the current study is that price familiarity with the offer is an important determinant of whether consumers will be motivated to change the format of price information. This study defines price familiarity as the extent of a consumer's awareness of/experience with price information of a product. This price familiarity is accumulated through either direct experience such as purchase, or indirect experience such as through advertisement or provision of competitors' prices.

Generally, studies on price perception have dealt with price information focusing on the absolute amount. However, a number of studies of price reframing have also examined the effect of price timeframe as well as the absolute price amount in price information (Gourville 2003; Gourville 1998; Lambrecht and Tucker 2012). In these studies, price information is presented in diverse formats by modifying the price level along with a specific timeframe. For example, the annual membership of Amazon Prime can be presented as \$99 a year, \$8.25 a month, or \$0.275 a day. Studies in price reframing showed that price perception can be influenced not only by the price amount, but also by the timeframe associated with the price amount. Since purchase of the product is typically associated with a specific payment timeframe, it is reasonable to expect that consumers who have experience with price information of a product (i.e., high price familiarity) are likely to be familiar with a specific timeframe along with the price level of the product.

Several studies that involve assumptions regarding the impact of consumers' familiarity, expertise, and framing strategies attempt to explain how well-informed consumers are likely to edit the presented information.

Studies in information processing have suggested that familiarity with an entity helps consumers form a knowledge structure about it (Alba and Hutchinson 1987; Beattie 1982). This knowledge structure serves as a basis for judgment when consumers encounter a problem to solve; consumers are likely to map/align the presented information to the knowledge structure of the target entity in memory (Fiske and Pavelchak 1986; Gregan-Paxton and John 1997). The perception of incongruity occurs when consumers notice that an aspect of the presented information is inconsistent with the knowledge of the target entity in memory (Mantonakis et al, 2008). Mantonakis et al (2008) notes that when consumers perceive incongruity, they are likely to focus on the incongruent aspect and try to correct the errors. One of the chief reactions in error correction is restructuring/editing of the presented information from the display.

The Effort-Accuracy Tradeoff model (Payne et al. 1993) also supports the relationship between familiarity and restricting information by stating that people sometimes put effort into changing the format of presentation to reduce the chance of decision errors. A similar argument has been offered by Coupey (1994) to illustrate that consumers are likely to construct new information displays by changing the format of given information without affecting the size of the problem to help make difficult decision problems more manageable. For example, Hardesty et al. (2007) found that consumers who have high levels of knowledge of pricing tactics were less

susceptible to pricing presentation strategies because they elaborate the presented price-setting structure. In the experiment, they exposed consumers to the surcharge pricing tactic using a bottle of ketchup selection scenario, and found that consumers who have high levels of pricing tactic persuasion knowledge were likely to consider a unit price information (i.e., prices-per-oz). This research showed that consumers with higher levels of pricing tactic knowledge were less likely to be persuaded by the way information is presented, which results in moderating the impact of marketers' persuasion attempts. For similar reasons, Bettman and Sujan (1987) implicitly assumed that the framing would influence novice consumers of a product category more than expert consumers. This would be due to the novices' lack of a well-formulated decision criteria. Similarly, Wirtz and Kimes (2007) found that consumers' familiarity with revenue management pricing might moderate the framing condition on consumers' fairness perception.

Together these arguments suggest that consumers' price familiarity could play a moderating role on price framing effectiveness.

1.3 Research Question

Consistent with the underlying premises of the restructuring information, the current study will address the research question; would price familiarity moderate the effectiveness of the PAD strategy³? More specifically, it is hypothesized that consumers who have low price familiarity will develop the greater product attitude and purchase intention when the target product is presented in a daily frame than in an

³ Gourville (1998) briefly commented a boundary condition of the effectiveness of the PAD strategy in terms of lack of familiarity. However, there is no discussion on the role of price familiarity in the PAD strategy research.

aggregate frame if the requested daily amount is small. In contrast, purchase intention of consumers who have high price familiarity will be less influenced by the price framing strategy, regardless of the amount requested.

As a purchase of the product is typically associated with a payment timeframe of payment (one time, monthly, annually, etc.), it is expected that consumers who are familiar with the price of the product are likely to have an idea of what price timeframe to expect in order to evaluate price information for the target transaction (Fiske and Pavelchak 1986; Marks and Olson 1981). So, it is expected that, if the presented timeframe of price in the advertisement (e.g., price in daily timeframe) is not match to the familiar timeframe (e.g., price in monthly timeframe), consumers are likely to be motivated to calculate the advertised price information. Imagine that a consumer who wants to buy a new broadband communication service is provided a price of the transaction in either \$2/day or \$720/year frames. If she is used to paying on a monthly basis, or her reference price for the similar service is in a monthly frame, she may reconstruct the daily frame to a her familiar monthly frame (\$60/month) through simple math. Hence, the attempts to encourage consumers to interpret the cost of the offer as a palatable expense by framing the total cost (\$720) in daily amounts (\$2) are not likely to have greater influence when consumers transform the price amount in a personally preferred timeframe, but would influence when consumers process the information as it is displayed.

To better understand the effect of price familiarity on the PAD strategy, the current study also examines whether price familiarity moderates the mediating role of perceived triviality, perceived benefits, and the feeling of being misled.

1.4 Structure of the Dissertation

The remainder of this dissertation is organized as follows; Chapter 2 reviews the literature on price familiarity and its impact on behavior and psychological constructs that relate to the PAD strategy. Specifically, a set of hypotheses are proposed to describe the moderating effects of price familiarity on purchase intention, perceived triviality, perceived benefits, and the feeling of being misled. In Chapter 3, three experiments with methodology are reported with related hypotheses. Chapter 4 provides the results of the three studies in support of the hypotheses. Chapter 5 discusses the results with theoretical and managerial contributions. Limitations and future directions for the area of research also are provided in this section.

CHAPTER 2

REVIEW OF LITERATURE

Chapter 2 reviews several theories to support the argument and hypotheses of the present study. This chapter begins by discussing the psychological mechanisms that have been proposed to explain the PAD strategy. This leads to the research questions: whether consumers' price familiarity moderates the effectiveness of the PAD strategy. Next, the literature about price familiarity and its impact on information processing is reviewed, focusing on information restructuring. The remainder of this section provides theoretical support for hypotheses concerning price familiarity and its impact on purchase intention as well as its impact of three mediators, perceived triviality, perceived benefits, and the feeling of being misled.

2.1 Framing

The consumer decision making literature has explored various contexts of framing that have important implications for consumers, marketers, and policy makers. Here, consumers' evaluation of a situation is shown to be influenced by how information is presented (framed) (Tversky and Kahneman 1981). Framing is the process of constructing the mental set, which serves as a criterion or viewpoint that aids consumers in construing the problem. This mental set tends to constrain the way to interpret the problem. Hence, depending on the frame applied to a problem, the

importance an individual assigns to specific aspects of an issue shifts, resulting in a contingent evaluation.

Framing of an issue takes the variations of information display, which includes the format of information (e.g., units, decimals, visual symbols), the organization of information (e.g., hierarchy, pattern) or the sequence of information display (e.g., size, amount, chronological order) (Kleinmuntz and Schkade 1993). For example, consumers are likely to evaluate Ground beef labeled 75% lean more positively than beef labeled 25% fat (Levin and Gaeth 1988). Consumers also tend to perceive the difference between ratings of 7 and 9 on a 0-10 scale as smaller than the difference between 700 and 900 on a 0-1,000 scale (Pandelaere et al. 2011). Price differences between regular menu and weekend dinner menus can be framed either as a premium (i.e., position the weekend dinner as a premium over regular menu prices) or a discount (i.e., position the regular menu price as a discount from the higher weekend prices). According to prospect theory, the discount frame would be perceived as a consumer gain and the premium frame would be perceived as a consumer loss. Consequently, consumers' perceptions of fairness for prices are likely to be different, even if their situations are economically equivalent (Chen et al. 1998; Kahneman and Tversky 1979). These examples show that even though alternative frames present what can be equivalent information, they may be interpreted differently and one might have a different understanding depending on how the information is displayed. This dependence of information display goes against the normative principle of descriptive invariance, which predicts that the way information is presented should not change the evaluation of the issue. However, behavioral research provides the explanation that

consumers are not rational actors as predicted by classic economic theory and, they are cognitive misers who limit their cognitive efforts and response adaptively to variations in information displays (Kleinmuntz and Schkade 1993).

The dependence of preferences on the framing of decision problems is a significant concern for marketing practitioners, especially for pricing decision. With the same price information being used as a base, marketers might decrease perceived cost by changing the price information display. Consistent with this view, previous studies in pricing strategy have shown clearly that consumers construe a given purchase problem in response to variations in the price information display.

For example, price bundling has been effectively used in many service settings to increase the perceptions of value. Soman and Gourville (2001) found that bundling minimizes cognitive effort and reduce the direct association between costs and benefits (i.e., Transaction Decoupling). Further, Janiszewski and Cunha (2004) proposed that the perceived value of the discount of the bundle can be changed depending on which product in a bundle is framed to be discounted; people are more sensitive to a discount on the less valued product in a bundle than an equivalent discount on the more valued product in a bundle. Similarly, separating the discounts into multiple savings might also be useful in enhancing customers' value perception (Ha 2006; Johnson et al. 1999).

Other researchers have found that marketers can benefit from partitioning price, which is primarily concerned with how consumers evaluate a transaction which itself is made of multiple sub-components yielding the total price. Morwitz et al. (1998) showed that dividing a product's total price into several mandatory parts, the base

price and surcharges, increased demand, and profits for the company, rather than presenting it as one combined price. They found that dividing up the price of a product is likely to reduce consumers' price sensitivity.

Parallel evidence to the above can be found in the area of multi-dimensional pricing, in which payment is made for multiple times such as prices quoted in terms of the monthly payments, rather than a single lump-sum dollar amount. Estelami (1997) found that, when consumers are required to pay on a monthly basis, they are likely to weigh on the monthly payment amount more than other aspects of the transaction, such as the number of payments or total cost of the transaction. Hence, consumers' perceived level of the expensiveness of the target transaction and their purchase intentions can be influenced by its division of total cost.

The same logic may explain why reframing a lump-sum expense into a series of smaller expenses can positively influence purchase intention, what is known as the 'Pennies-a-Day strategy' (Gourville 2003; Gourville 1998; Nagle et al. 2011). This strategy has been found successful in magazine subscription and charitable donations (Gourville 1998). One explanation may be that a small amount of daily expense is likely to be deemed trivial.

These above findings have demonstrated the robust influence of framing on consumers' reaction.

While considerable research in the pricing framing strategy has been carried out, little attention has been given to the Pennies-a-Day (PAD) strategy. Especially, a question that has not been investigated is whether the effect of the PAD strategy can be diluted, and if so, by what moderator. Hence the current study explores the

moderator of the effectiveness of the PAD strategy, and its underlying psychological mechanism.

2.2 Mechanisms of the PAD Strategy

To explain the PAD effectiveness, Gourville (1998) proposed a two-step model.

Step 1 is a categorization and comparison retrieval process. When consumers are asked to judge a single-alternative transaction (i.e., there are no other alternatives provided apart from the offer at the moment of purchase), they are likely to classify the transaction to a category of comparable expenses from their memory, and then retrieve some standard of comparison from the category (Schwarz and Bless 1992). This categorization of the target transaction is a contextual-dependent process. That is, the context of an encounter with an event or option temporally affects the level of abstraction of elements and features of a target transaction, resulting in a contingent classification of the target transaction into a category (Barsalou 1982; Henderson and Peterson 1992). This categorization of stimuli takes consumers to recognize a congruence between the presented information of the stimuli and the information of its prospective category encoded in memory (Alba and Hutchinson 1987). Applied to the PAD strategy, one such salient contextual influence is the “ongoing daily” expense. Hence, Gourville argued that, when consumers face a daily framing of a transaction, they are encouraged to classify the transaction to the category of expenses which are confronted on an ongoing basis. Next, from the chosen category, consumers are likely to retrieve some standards of comparison, such as a cup of coffee, a daily newspaper, or lunch. Contrary, an aggregate framing of a transaction leads consumers to

categorize it to a class of infrequent expenses, and fosters the retrieval of standard of comparisons, such as an airline tickets or a new suit.

Step 2 is a transaction evaluation process. In step 2, consumers develop evaluation criteria based on the common salient features of the retrieved standard of comparisons from step 1. For example, characteristics of infrequent expenses are typically thought of as significant and financially important decisions. Hence, in the case of an aggregate framed transaction, when consumers are faced with the target transaction which presents a somewhat unaffordable total cost, they are likely to avoid or delay the purchase.

However, the characteristics of daily expenses are typically thought to be trivial, palatable, and affordable. Therefore, the evaluation criterion for the daily framed target transaction is how much the daily amount is perceived as small and out-of-pocket. For this reason, Gourville (1998, 2003) argued that there is a monetary upper limit to PAD effectiveness. Because spending a large amount on a daily basis is unlikely to happen and unfeasible, consumers who are faced with a transaction which is framed with a large daily amount are likely to perceive it as extremely unattractive.

As a result, with the financially equivalent cost being requested, the transaction framed with a small daily request would be perceived as a more attractive offering than the transaction framed with an aggregate amount. However, Gourville argued that, for larger daily dollar amount, the effectiveness of PAD framing decreases relative to a financially equivalent aggregate framing.

Using a charitable-donation scenario, Gourville (1998) showed that, in the case of small daily amounts (\$1/day), subjects reported the comparable expenditures to the

donation amount requested as the “routinely encountered, petty-cash types of expenditures,” such as coffee, lunch, and taxi fare. On the contrary, in the case of an aggregate donation transaction (\$365 for a year), subjects reported the “infrequently encountered, major expenditures,” such as suits and vacation. Gourville found that the likelihood of donation under \$1 per day (PAD frame) condition was significantly higher than an equivalent aggregate frame (\$ 360 per year) condition. However, at a higher level of daily dollar request (\$4/day), the effectiveness of PAD framing was decreased, leading to a higher level of donation compliance under the aggregate framing (\$1,400 for a year) than under the PAD framing.

Gourville confirmed that the temporal frame of cost in advertisement systematically influences the nature of standard of expenses that consumers retrieve for the purpose of evaluation of the target transaction. Also, he emphasized that perceived triviality of the reframed daily amount is an important factor in PAD effectiveness.

Further, Gourville (1999) explored a variation where marketers are able to induce the PAD effectiveness under the aggregate framing. He suggested that, because PAD effectiveness depends on the types of comparisons consumers employ, marketers might enforce consumers to engage in the evaluation process which consumers would employ when they face the transactions involving the PAD framing. To do so, marketers offer a class of comparable daily expenses explicitly in the advertisement along with the target transaction. An example of such a strategy includes the advertisement claims such as “if you can afford this (an example of petty cash expense)” or “for less than the cost of (some standard of typical daily expenses).”

Gourville argued that, even though the target transaction is accompanied with an aggregate cost frame, the presence of some petty cash expense as a similar comparable expense in advertisement is likely to promote consumers to think of the petty-cash examples as a comparable expense to the target transaction, and construe the cost of the target transaction from the “per day” perspective. To test his argument, Gourville designed an experiment where the price of the target product (cellular telephone service) was explicitly compared to the cost of a petty cash expense (one’s morning coffee) accompanying phrase “For the Cost of Your Morning Coffee at ____ dollars”. As he expected, the addition of the morning coffee feature significantly increased subjects’ perceived value, especially when the price of the target transaction is framed as aggregate amount.

Despite this previous research that attempted to answer the question why PAD strategies are effective, there are several interesting questions raised with regard to the psychological process involved, especially those that may moderate PAD effectiveness.

First, as Gourville (1998, 1999) addressed, the critical psychological process for the success of the PAD strategy is Step 1, a categorization of the target transaction and retrieval of the standards of comparisons process. The fundamental postulation of the PAD strategy is that the categorization of the target transaction depends on the temporal frame that the target transaction accompanies, either a daily price frame or an aggregate price frame. However, consumers may classify the target transaction to a category not based on the time-frame spending (i.e., daily spending) but based on the attributes of the target product (i.e., function and performance of the product). In this

case, they may retrieve alternatives to the product, rather than comparable expenses, for the purpose of evaluation of the target product. Further, could consumers voluntarily transform the presented price format to a price format that is familiar to them? This would facilitate the comparison of the target transaction to the alternatives' prices. In other words, price familiarity of the target product might encourage consumers to restructure the temporal framed price in the advertisement into the familiar price format. During this transforming process, consumers may be likely to ignore the temporal framed price information (i.e. daily or aggregate amount), which would dilute the influence of the temporal frame in consumers' judgment.

Second, Gourville (1999) revealed the effect of a provision of petty cash expenses in advertisement along with the target transaction. However he neglected the possibility that consumers might compare the target transaction to the explicit comparison expense in terms of abstract attributes such as pleasure, need, or function. The current study raises the question whether the attitude toward the comparison expense provided explicitly in advertisement by marketers moderates the PAD effectiveness.

In addressing these questions, this dissertation explores whether price familiarity with the target transaction moderates the effectiveness of the PAD strategy, as well as how it influences mediators, which previous research has suggested to explain PAD effectiveness. In addition, how price familiarity and attitude of the explicit comparison expense interact to influence purchase intention are explored.

2.3 Price familiarity

Familiarity is the acquaintance with an entity or stimulus that has been encountered earlier or is known. Familiarity allows consumers to retrieve information related to a stimulus from memory (Jacoby et al. 1989).

The familiarity of an entity is developed through accumulating a number of both direct and indirect product-related experiences (Alba and Hutchinson 1987). As consumers become more familiar with an entity, they store the associated properties, perceptual features, functions and relationships to other concepts in memory as a form of associative network (Anderson and Bower 2014; Anderson and Spellman 1995; Keller 1987).

According to Associative Network Memory Models, when two concepts are frequently encountered together, then consumers are likely to consider them as being associated, and store these two concepts as one event in their memory. For example, a purchase of the product is typically associated with the payment timeframe (i.e., one-time frame of payment for a counseling session, a monthly frame of payment for cable fees, annual frame of payment for credit-card membership fees, etc.) When consumers have direct/indirect experience with the purchase of the product, then they are likely to accumulate payment experience (both the price and timeframe of payment) in their memory. Hence the more purchase experience with a product and its associated payment timeframe, the stronger these two concepts are related in the consumer's memory.

In addition to knowledge of a payment timeframe, purchase experience leads to development of a reference price for the product category. This is often conceptualized

as price expectations which is used as a standard of comparison for evaluating product price (Helgeson and Sharon 1987; Kalwani and Yim 1992; Kalwani et al. 1990; Kalyanaram and Little 1994; Mazumdar et al. 2005; Winer 1986).

Hence price familiarity is defined as the extent to which consumers' perceive that they have price information in memory related to the product that has been accumulated through either direct experience such as purchase, or indirect experience such as advertisement or provision of competitors' price, etc. The current study outlines a reference price with its associated payment timeframe as a requisite for consumers to be highly familiar with the pricing of products. As such, high levels of price familiarity with the product will be referred to when she or he has reference price for the product, which with certain types of price presentation format (i.e. payment timeframe).

For example, when consumers encounter \$1,000 rental amount for a one-bedroom apartment, they are likely to assume the price to be a monthly amount, unless the price is specified as a certain period, such as weekly or bi-monthly. At the same time, based on their reference price for such apartments, they judge whether the monthly rent of \$1,000 for the apartment is expensive or not. In this case, these consumers are considered to be highly familiar with the pricing of renting one-bedroom apartments.

On the other hand, when consumers consider renting a condo for a summer vacation for the first time, they would not know what timeframe of payment they should expect to encounter (e.g., daily, weekly, or monthly). Even if they know the typical timeframe of payment for renting a condo, unless they know the reasonable price for the offer, the knowledge of payment timeframe could not help consumers to

judge the price they were requested to pay. In this case, these consumers are considered as to be unfamiliar with the pricing of renting condos for summer time.

2.4 Familiarity and restructuring information

The strong association of a payment timeframe to a product is likely to influence information processing related to the product when it is encountered at a later time (Jacoby and Dallas 1981). Because stimuli that have previously been encountered are processed more efficiently and fluently (Moscovitch 2000), it is expected that when consumers are faced the purchase of product in which the price information is in the form of a familiar timeframe of payment (e.g., a monthly price for renting an apartment), the judgment about expensiveness of the target product would be relative immediately. However, if consumers are asked to consider a purchase for a product presented with an unfamiliar timeframe (e.g. price for renting an apartment in a day frame), they are likely to make the cognitive effort to restructure the presented price information in a familiar price timeframe (e.g. price for renting an apartment in a month frame), in order to reduce the comparison difficulty between their reference price level and the one encountered (Coupey 1994; Payne et al. 1993). Restructuring information occurs when consumers are able to notice characteristics of the received information that can be transformed, and are motivated to make better decisions (Coupey 1994). In other words, consumers are aware of the alternative display-form of price information in their stored memory, and should be able to recognize how to transform the received price information. This type of information restructuring could take the form of a simple math calculation, such as multiplying or dividing. The end

result of restructuring the provided price information is the formation of a new price information presentation, without affecting the price magnitude of the target transaction, which will then serve as the basis for evaluation of it. In this way, despite the demands on cognitive effort to carry out restructuring, consumers can reduce decision difficulty by increasing the ability to compare and process information about price.

Applied to the PAD strategy, it is expected that if a price in daily frame or price in an aggregate frame is not comparable with the consumer's familiar timeframe of price information for the product, the consumer is likely to change the presented daily or aggregate price information into the familiar frame of amount, potentially attenuating the effectiveness of the PAD strategy.

2.5 Price familiarity and PAD effectiveness

To sum up, the current study argues that consumers' familiarity with price information will moderate the impact of the temporal framing of the target offer on purchase intention for two reasons: (1) type of standard of comparison, and (2) information restructuring. It is expected that when consumers have high price familiarity, they use the reference price of similar products in the product category as a standard of comparison, and are willing to restructure the price information if it does not match to their familiar timeframe of price information. However, as Gourville (1998, 1999) argued, when consumers have low price familiarity, they use the similar-expense exemplar as a standard of comparison, and are not willing to restructure the

given price information because there is no preferred display that allows judgment of the price information to be compared.

If consumers have purchase experience with the product, then they are likely to categorize the product into its associated category straightforwardly, based on product attributes and functions. From their direct/indirect experience with such transactions, consumers are likely to form a reference price to use it as the basis for evaluation of the transaction. The amount of reference price is typically associated with a routine timeframe of payment. Hence, when the timeframe of the target transaction is the same as its reference price, consumers are able to evaluate the expensiveness of the target transaction promptly by comparing the amount of cost only. However, when the price information is hardly comparable due to the different timeframe of payment between the reference price and the target transaction, consumers are likely to restructure the presented price information to make it more comparable. In the case of the PAD strategy, consumers who are familiar with the monthly price information of the target transaction might not always find the given daily or aggregate price information processable, leading them to construct a new price information display by transforming the presented information (e.g., daily or yearly cost) into a familiar form (e.g., monthly cost) so as to compare it with reference price (Coupey 1994). Such transformation of price information inhibits consumers' tendency to process presented price information, which marketers intend to influence. Consequently, consumers' evaluation of the target transaction is not contingent on whether the given price information is reframed as daily or aggregate.

However, an unfamiliar product defies straightforward classification because there is no category to which it belongs to or no exemplar with similar product attributes or functions. Therefore, when faced with unfamiliar product purchasing, as Gourville (1998) described, consumers attempt to evaluate the target transaction based on the cost aspects. As Gourville described in the two-step model to explain PAD effectiveness, when consumers are asked for a judgment about a purchase of an unfamiliar product, they are likely to classify the transaction to a category based on the types of expenses in terms of the cost and the pattern of payment. As a result, if the target transaction is displayed with a small amount of daily patterned payment, such as \$2 per day, consumers are likely to retrieve the standard of comparisons from the category consistent with the similar expenses which are consumed on an ongoing basis, such as a cup of coffee, daily newspaper, or lunch. Contrary, when consumers are asked to evaluate a transaction for an unfamiliar product which includes a large amount of annual patterned payment such as \$700 for a year, they are likely to classify the transaction into a category of infrequent expense, and retrieve the standard of comparisons, such as airline tickets or a new suit. Because consumers are not familiar with the price of the target product, they are not likely to have the familiar timeframe of payment for the target product. Consequently, consumers who have low price familiarity are not likely to restructure the received information, resulting in the process of price information of the product as communication intended.

Accordingly price familiarity is expected to be a moderator of PAD effectiveness.

2.6 Hypothesis development

Several studies have attempted to identify the mediator which may contribute to the effectiveness of the PAD strategy. Three mediators were explored in the context where the temporal reframing of price influenced purchase intention: perceived cost (Gourville 1998), perceived benefits (Atlas and Bartels 2014), and the feeling of being misled (Bambauer-Sachse and Grewal 2011). This study explores whether price familiarity moderates the impact of temporal frame of price on these mediators, which eventually leads to purchase intention.

2.6.1 Perceived cost

Perceived cost is defined as a person's belief that the advertised price for a product is high or low, the assessment made can be highly context dependent (Nowlis and Simonson 1997). In other words, consumers' perception of product cost differs depending on what reference they compare it to.

Accepting the importance of context in the assessment of price, Gourville (1998) states that the perception of cost is an important factor in explaining the effectiveness of the PAD strategy. Because consumers are not likely to change the given format of information (i.e., Cognitive miser, Concreteness principle), especially for consumers who are not familiar with the price of the target product, the temporal frame presented (i.e., daily or aggregate) systematically influences the types of comparison expenses consumers retrieve from their memory, which will serve as a basis for assessment of advertised price for the product. When consumers who have low price familiarity are faced with a daily-cost frame transaction, they are likely to retrieve comparison expenses that are consumed on an ongoing basis, such a cup of coffee or daily

newspaper, whereas when they are faced with an aggregate cost framed transaction, they are likely to retrieve comparison expenses which are consumed infrequently, such as airline tickets or furniture (Gourville, 1998). Next, consumers assess the cost of the target transaction by matching the expectations they have toward the retrieved comparisons. If the match is good, then consumers transfer the perception they have toward the retrieved comparisons to the target transaction (Gregan-Paxton and John 1997; Schwarz and Bless 1992).

For example, consumers expect the cost of daily-ongoing expenses to be small and affordable. Hence, if consumers were faced the daily cost framed transaction, in which the daily cost is small, such as “\$1 per day”, then they are likely to feel that the target transaction is well matched to the expectation of daily-ongoing expenses. Therefore, they are likely to perceive the target transaction to be trivial, affordable, or palatable. Consequently, with a financially equivalent cost, the transaction framed with a small daily request would produce a lower perceived cost than the transaction framed with an aggregate amount.

However, as Gourville (1998) argued, if consumers who have low price familiarity confront a daily cost frame for a large amount such as \$4 per day, they are likely to feel that the target transaction does not conform the general expectation of daily-ongoing expenses, which makes it seem like an extremely unaffordable transaction. When framed as an aggregate frame for a large amount, however, Gourville argued that, the amount is still likely to be viewed as consistent with the large infrequent expenses one might retrieve, and this would influence the price to be perceived acceptable. Hence, although financially equivalent, consumers are likely to

perceive a higher level of cost if they confront the transaction framed with a large daily amount than the transaction framed with an aggregate amount.

However, it is expected that if consumers have a routine payment timeframe, or are familiar with price information in a certain timeframe, they are likely to rely on the familiar formatted price information. Hence it is expected that if consumers find that the given daily or aggregate price information is not helpful to assess the cost of target transaction due to the unfamiliar time-frame of cost information, they are likely to change the reframed price to their preferred price format. In this case, consumers are likely to ignore the reframed price information and to rely on the restructured price information to develop the perception of cost toward the target transaction. For example, when consumers evaluate a long-term contract service, such as a cell phone or the Internet, they are likely to evaluate the cost using payment period-level bracketing (monthly), rather than the overall cost for the total contract period (Lambrecht and Tucker 2012). Hence, regardless of the frame that consumers face in the advertisement, the price information that they process would be the same, which a restructured price information they created from the given reframed price.

Also, it is expected that when consumers have high price familiarity, the level of the daily price frame amount in the advertisement is not likely to influence the standards of comparisons consumers use to assess the cost of the target transaction. As stated in section 2.5, when consumers have experienced the transaction of the product, they are likely to choose the standards of comparisons from its associated product category based on product attributes and functions. Therefore, the level of price familiarity will moderate the effect of the interaction between the frame and the level

of amount on perceived cost. Specifically, the current study expects that the impact of the interaction between the frame and price level on perceived cost, which the relationships Gourville (1998) assumed⁴, will be observed only when consumers have low price familiarity. However, when consumers have high price familiarity, frame and amount will neither interact nor affect resulting in that their levels of perceived cost will not differ between two frames, regardless of the levels of amount.

H1a: when consumers have low price familiarity AND the price amount is small, the level of perceived cost for a daily price frame will be lower than for an aggregate price frame.

H1b: when consumers have low price familiarity AND the price amount is large, the level of perceived cost for a daily price frame will be higher than for an aggregate price frame.

H1c: when consumers have high price familiarity AND the price amount is small, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.

H1d: when consumers have high price familiarity AND the price amount is large, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.



Figure 1 Expected Results of H1a ~ H1d

2.6.2 Perceived benefits

⁴ Although Gourville (1998) showed that the PAD framing of a donation request resulted in significantly higher compliance than a financially equivalent aggregate price frame at small amount condition, but resulted in reverse at large amount condition, he did not directly measure the levels of perceived cost and its impact on the likelihood of donation.

Daily framing encourages consumers to evaluate the target transaction from the perspective that “something happens during a day”, whereas an aggregate framing encourages them to do it from the perspective that “something happens during a total period of the contract”. Regarding the effect of the temporal frame on perception, Monga and Bagchi (2012) argue that the size of the unit of time affects consumers’ inferences about the size of a change. This is termed a Unitosity effect. According to the conversational norms (Grice 1975), people usually communicate small changes via small units and large changes via large units. For example, a short delay of delivery from Monday to Wednesday is likely to be communicated as a 2-day delay rather than as a 2/30 month delay. Similarly, a long delay is likely to be expressed as in 2-month delay, rather than a 60-day delay. It is expected that the size of a change would be matched with the size of a unit of time. Ülkümen et al. (2008) found that individuals underestimate expected expenses when they budget for a month rather than for a year. Monga and Bagchi (2012) also found that when participants were encouraged to focus on units of time, a perceived change was magnified when expressed in large units compared to smaller ones (change of weeks > change of days).

Applied to the context of the PAD strategy, when consumers have low price familiarity, a unit-based inference may yield a different level of perceived benefits⁵ depending on the temporal frame consumers received in the advertisement. For example, if consumers are encouraged to assess the target transaction from a “day” perspective due to the salience of “daily price frame,” they are likely to consider the benefits they get from the purchase of product as small and insignificant. Contrary, if

⁵ Given that consumers have at least a rudimentary knowledge about most products through indirect experience, even though they are not familiar with price of it, there is a chance that they are able to anticipate the benefits of a target product.

consumers evaluate the target transaction from the total period of time due to the salience of “aggregate price frame,” the perceived benefits may be viewed large and important.

However, if consumers are used to purchasing the target transaction in distinct time periods (i.e., payment timeframe), they are likely to evaluate benefits using period-level bracketing (Lambrecht and Tucker 2012). Lambrecht and Tucker (2012) showed that when customers are faced with a contract, they evaluate payments and benefits in individual timeframe that are associated with the customary billing cycle, instead of evaluating the full contract as a whole. Their results support the argument of the current study that, regardless of frame displayed in an advertisement, consumers who are familiar with the price of the product are likely to evaluate benefits using their familiar payment timeframe. This will diminish the influence of temporal frame. Hence, at both small and large amounts, frame and price familiarity will interact to influence the perception of benefits.

H2a: when consumers have low price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.

H2b: when consumers have low price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.

H2c: when consumers have high price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

H2d: when consumers have high price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.



Figure 2 Expected Results of H2a ~ H2d

2.6.3 Feeling of being misled

When consumers assess the target transaction, they generally expect to see concise yet comprehensive price information (Biswas et al. 1999). Since multi-dimensional pricing tactics are likely to increase the price complexity, such a strategy reduces consumers' ability to evaluate prices at a glance, resulting in the feeling of being deceptive (Estelami 2003). In a similar vein, Bambauer-Sachse and Christina Mangold (2009) explored consumer skepticism about advertised price offers in the context of the PAD strategy. They showed that consumers' perceived complexity of the price structure is higher when they are faced with prices that are reframed, compared to an aggregate price frame. Furthermore, Bambauer-Sachse and Grewal (2011) found that the feeling of being misled increases for a daily price frame compared with the feeling for an aggregate price frame.

The current study, moreover, expects that the negative effect of daily price frame on the feeling of being misled would be stronger when consumers have high price familiarity than when they have low price familiarity. Consumers who have high price familiarity are likely to have an idea of what timeframe of price information for the product to expect, they might notice immediately that the advertised price is expressed unusually. Research on pricing technique effects has shown that consumers are likely to speculate about the marketers' motivation of providing unusual information,

resulting in suspicion of an attempt at being misled by marketers (Biswas et al. 1999). Thus, it is expected that, the more price familiarity consumers have, the stronger the feeling of being misled by marketers for displaying the daily price framed price information.

As a result, the current study expects to observe the effect of frame on the feeling of being misled, in which the magnitude of effect is stronger when consumers have high price familiarity than they have low price familiarity. The results of Bambauer-Sachse and Christina Mangold (2009) will be reaffirmed. Also the moderating role of price familiarity on the feeling of being misled will be tested.

H3a: Consumers' feeling of being misled will be higher for a daily price frame than for an aggregate price frame.

H3b: The discrepancy of consumers' feelings of being misled between a daily price frame and an aggregate price frame will be larger when consumers have high price familiarity than when they have low price familiarity.

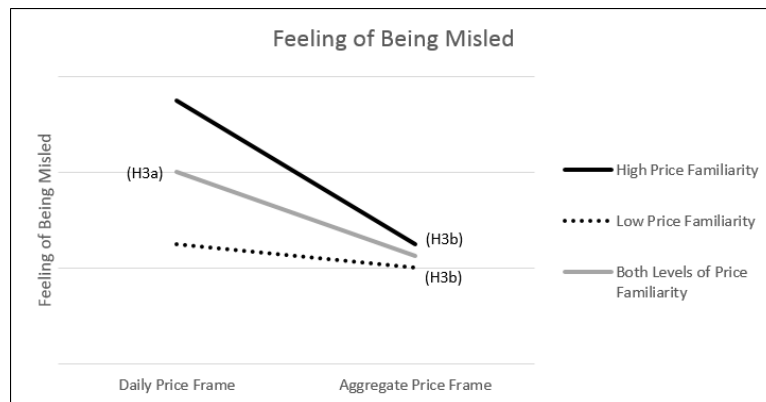


Figure 3 Expected Results of H3a ~ H3b

2.6.4 Purchase intention

Purchase intention is likely to be influenced by the levels of perceived cost, perceived benefits, and the feeling of being misled. Further, the current study expects,

the importance weight on each mediator consumers assign to make a purchase decision would differ depending on their levels of price familiarity.

In the case of consumers who have low price familiarity, the current study expects that perceived cost will receive greater importance on purchase intention than the perceptions of benefits or the feeling of being misled do. According to Zeithaml (1988), when consumers are not able to assess the reasonableness of price for the offer, they are more likely to rely on the perception of cost than on the perception of benefits, because costs are easier to assess than benefits. Moreover, the low level of price familiarity yields low confidence in judging whether the given price of the product is reasonable (Alba and Hutchinson 1987). This low confidence makes the cost aspects more salient than other considerations.

To the contrary, when consumers have high price familiarity, they are likely to restructure the reframed price information displayed in the advertisement to their familiar time-framed price information. Thus, regardless of the type of frame that such consumers confront, the current study expects that they will use the common time-framed price information to make purchase decision. This yields the levels of perceptions of cost and benefits which are not different between two frames. However, since a daily price frame would produce the higher levels of the feeling of being misled than an aggregate price frame would, it is expected that the purchase intention would be higher when consumers are faced with an aggregate price framed price than with a daily price framed price. This argument is supported by the experiment of Bambauer-Sachse and Christina Mangold (2009) where the authors used products and services that were familiar to subjects (health club membership, car leasing, and

insurance), and also found that the overall effect of a daily price frame on product evaluation was negative, despite the higher price attractiveness, because of the strong negative effect of the feeling of being misled.

Hence,

H4a: when consumers have low price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be higher than in an aggregate price frame.

H4b: when consumers have low price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4c: when consumers have high price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4d: when consumers have high price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.



Figure 4 Expected Results of H4a ~ H4d

2.6.5 Effect of the explicit comparison expense on purchase intention

When consumers lack familiarity with an object, they are likely to process the information regarding the object holistically, rather than analytically (Alba and Hutchinson 1987). That is, consumers who are not familiar with the price of a target product are likely to use accessible information in the advertisement they may employ

to assess the price, regardless of its importance or relevance to the target transaction. Hence, in the PAD strategy, marketers sometimes take steps to further encourage consumers to employ petty-cash expenses as appropriate comparisons for the target transaction; they provide a picture of specific petty-cash expenses, along with the target transaction in the advertisement to demonstrate the affordability of an advertised product. For example, Kellogg's ran a print advertisement that informed consumers that "for less than the cost of a postage stamp, you can address a bowl of Kellogg's Corn Flakes." Gourville (1999) explained the reason for this is that, a picture of specific petty-cash expenses directly leads consumers to assess the target transaction as if a "per day" framing had been provided. In his experiment, Gourville (1999) provided the advertisement for a Cellular telephone (i.e. target transaction) along with a picture of cups of coffee (i.e., comparison) with the phrase "for the cost of your morning coffee." He found the effect of an explicit comparison to a petty cash expense on the transaction, in that the addition of the picture of cups of coffee significantly increased participants' perceived value of the aggregate price framed transaction, compared to the context in which without the picture of the explicit comparison.

The current research extends Gourville's (1999) work by showing that even though the presence of petty-cash comparisons enhance the perception of triviality of the target transaction, consumers' attitude toward the petty-cash comparisons could influence purchase intention of the target product.

Research in the area of preference reversals has shown that consumers' preference is highly context dependent; preference is constructed ad hoc and possibly

reversed depending on what alternatives compare to the target product. That is, because preference is developed “on the fly,” the characteristics of alternatives composed the choice set determines the relative value of an option (Bettman et al. 1998).

For example, Huber et al. (1982) showed that adding a superior alternative in the choice set increase perceptions of the maximum range of the quality of a certain attribute. This results in the target being perceived as less attractive when the superior alternative is added in the choice set. Similarly, they proposed that marketers position the target product to be superior in the choice set by including decoy alternatives that contain less preferable attributes than the target product.

When the attributes of the target product are difficult to assess in isolation, providing other alternatives for comparison enhances the evaluability of the target (Hsee and Leclerc 1998; Hsee et al. 1999). Because consumers can easily tell which option is better on which attribute through comparison process, the more they feel it is difficult to evaluate the target transaction, the stronger the tendency to rely on the relative levels of value between the target transaction and the comparisons which are juxtaposed at the moment of making decisions.

The question raised in order to apply the preference reversals to the text of the PAD strategy is that the petty-cash comparison expense is neither an alternative of the target transaction, nor a member of same product category. To answer this question, the current research refers to another line of research related to the context-dependent decision making and the processing of noncomparable choice making.

Research in the area of semantic cues has showed that, even if the comparisons are not considered alternatives to the target product, consumers' evaluation of the target transaction is temporally influenced by the comparisons that marketers intentionally provide (Compeau et al. 2004; Lichtenstein et al. 1991). Price information such as the previous price (e.g., "Was \$49.95, Now Only \$29.95") of the product, or as other stores' price (e.g., "Seen Elsewhere for \$10.99, Our Price \$9.99") serves as a reference point, the target product is perceived relatively more valuable.

Related to the concerns that the comparison expense is not a member of same product category of the target transaction, research has shown that consumers are able to compare the two. Even if consumers face across-category evaluation involving a single product from different product categories, these products should be comparable on the basis of basic needs or other abstract attributes such as desirability or necessity (Johnson 1989). For example, two bicycles may be described and compared directly on size and price level, a guitar and a bicycle may be compared directly on entertainment value and usefulness. The tendency to use abstract attributes in order to compare the two alternatives is stronger when consumers are less knowledgeable about them (Bettman and Sujan 1987). Because abstract attributes are common across product categories, even if consumers are not knowledgeable about concrete attributes that are inherent in the stimulus object, they might find it relatively easy to use the abstract attributes and construct the relative attitude comparing options.

To sum up, purchase intention regarding the target transaction will be higher when consumers have a lower attitude toward the comparison product than when they have a higher attitude toward the comparison product.

H5: Purchase intention will be higher when consumers have a low attitude toward the comparison product than when they have a high attitude toward the comparison product.



Figure 5 Expected Results of H5

Further, due to the Unitosity effect caused by a temporal frame in the PAD strategy, the current study expects that the effect of relative attitude toward explicit comparison expenses would interact with frame on purchase intention toward the target transaction. As Monga and Bagchi (2012) found, consumers are likely to perceive small changes when they face smaller size of unit (i.e. event of days) whereas they are likely to perceive large changes when they face larger size of unit (i.e., event of the year). That is, a disparity between the target transaction and the comparison expense could be perceived larger when consumers are encouraged to assess the target transaction from the “total period” perspective (i.e. aggregate price frame) than from the “a day” perspective (i.e., daily price frame).

For consumers who have high price familiarity, however, purchase intention to the target transaction would not be influenced by the attitude toward the comparison expense exhibited in the advertisement. Alba and Hutchinson (1987) said that

consumers who have the familiarity are more likely to engage in analytic processing, in which they pay attention to certain information selectively, and can rule out the irrelevant information to complete the task. For consumers who have high price familiarity, the standard of comparisons that serve as a basis for assessment of advertised price is comparable expenses from its associated product category stored in their memory. Hence the presence of explicit comparison product in the advertisement is assumed to have contributions on neither retrieving the types of standard of comparisons, nor changing the levels of reference price of the target transaction. As stated in section 2.6.4, the current study expects that, to consumers who have high price familiarity, purchase intention will be lower when they were faced a daily price frame than an aggregate price frame due to the feeling of being misled, regardless of the types of explicit comparison expense exhibited along with the target transaction.

H6a: when consumers have low price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention will be higher in a daily price frame than in an aggregate price frame.

H6b: when consumers have low price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase intention will be lower in a daily price frame than in an aggregate price frame.

H6c: when consumers have high price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention will be lower than in an aggregate price frame.

H6d: when consumers have high price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase intention will be lower than in an aggregate price frame.

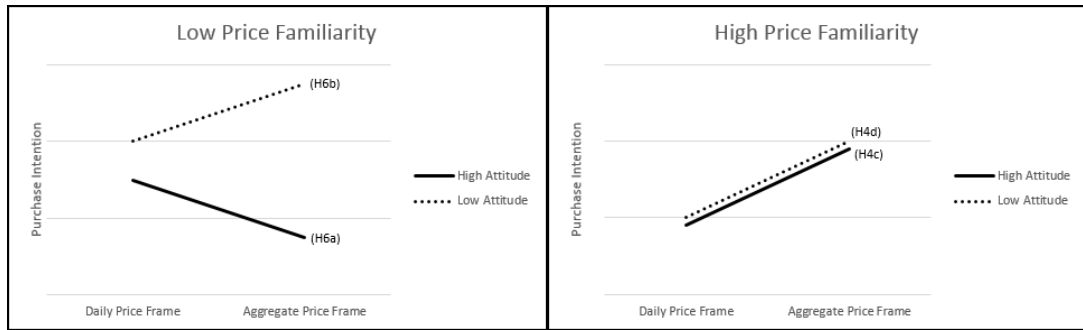


Figure 6 Expected Results of H6a ~ H6d

CHAPTER 3

METHODOLOGY

The objective of the dissertation is to examine whether consumers' price familiarity moderates the effectiveness of the PAD strategy. Previous research has demonstrated that consumers' purchase intention under the PAD framing of price is significantly higher than a financially equivalent aggregate framing of price, because the PAD framing increases the perceived triviality (Gourville 1998) and perceived benefits (Atlas and Bartels 2014). Gourville also found that, as the requested daily amount increased, the PAD effectiveness became less positive, and possibly reversed.

This study extends the understanding of the effectiveness of the PAD strategy by suggesting a moderator, price familiarity, and explores its role in the underlying psychological mechanism in which perceived cost and perceived benefits have been known as mediators. In addition, this study explores whether consumers who have high price familiarity with an offer would have higher levels of the feeling of being misled, compared to consumers who have low price familiarity.

Specifically, Study 1 aims to replicate Gourville's (1998) study and extends it by including additional measurements of price familiarity of the target offers.

Study 2 replicates and extends the results of Gourville's (1998) study by manipulating the levels of price familiarity. Also Study 2 provides the understanding how three mediators simultaneously affect product attitude.

Study 3 replicates and extends the results of Gourville's (1999) study by manipulating the levels of price familiarity, as well as attitude toward the comparison product in the advertisement.

The remainder of this chapter provides details including participants, measures, materials, and procedures for each study.

3.1 STUDY 1

Study 1 replicates and extends the results of Gourville's (1998) study. Whereas Gourville used likelihood to purchase as a dependent variable, the current study measures product attitude as a substitute⁶.

Study 1 includes Frame, Amount, and Price familiarity. The Frame and Amount variables are manipulated following the design of Gourville (1998, 2001), and Price familiarity was the measured variable.

The fixed treatments were Amount (small: \$3 per day (or \$540 total) vs. large: \$10 per day (or \$1,800 total)) × Frame (Daily frame (=PAD) vs. Aggregate frame

⁶ In the first experiment, I uses product attitude as a dependent variable, not purchase intention, which Gourville (1998) used as a dependent variable. Previous studies showed that product attitude is a good predictor of purchase intention. But at the same time, purchase intention could be strongly influenced by other factors, such as attitude toward the purchase outcome, subjective norm of purchase, and controllability of performing the purchase (Ajzen and Fishbein, 1980). Hence Study 1 uses product attitude, rather than purchase intention, as an indicator of the effectiveness of the PAD strategy.

(=AGG)). Another independent variable (moderator), the level of familiarity with pricing of the target offer, was measured. To justify the use of price familiarity as a potential moderator on the effectiveness of the PAD strategy, Study 1 measures the levels of price familiarity of each subject as a continuous independent variable, and explores whether the interaction between frame and amount on product attitude differs across various levels of price familiarity. Figure 7 below provides the flow of Study 1 including stimuli and measures.

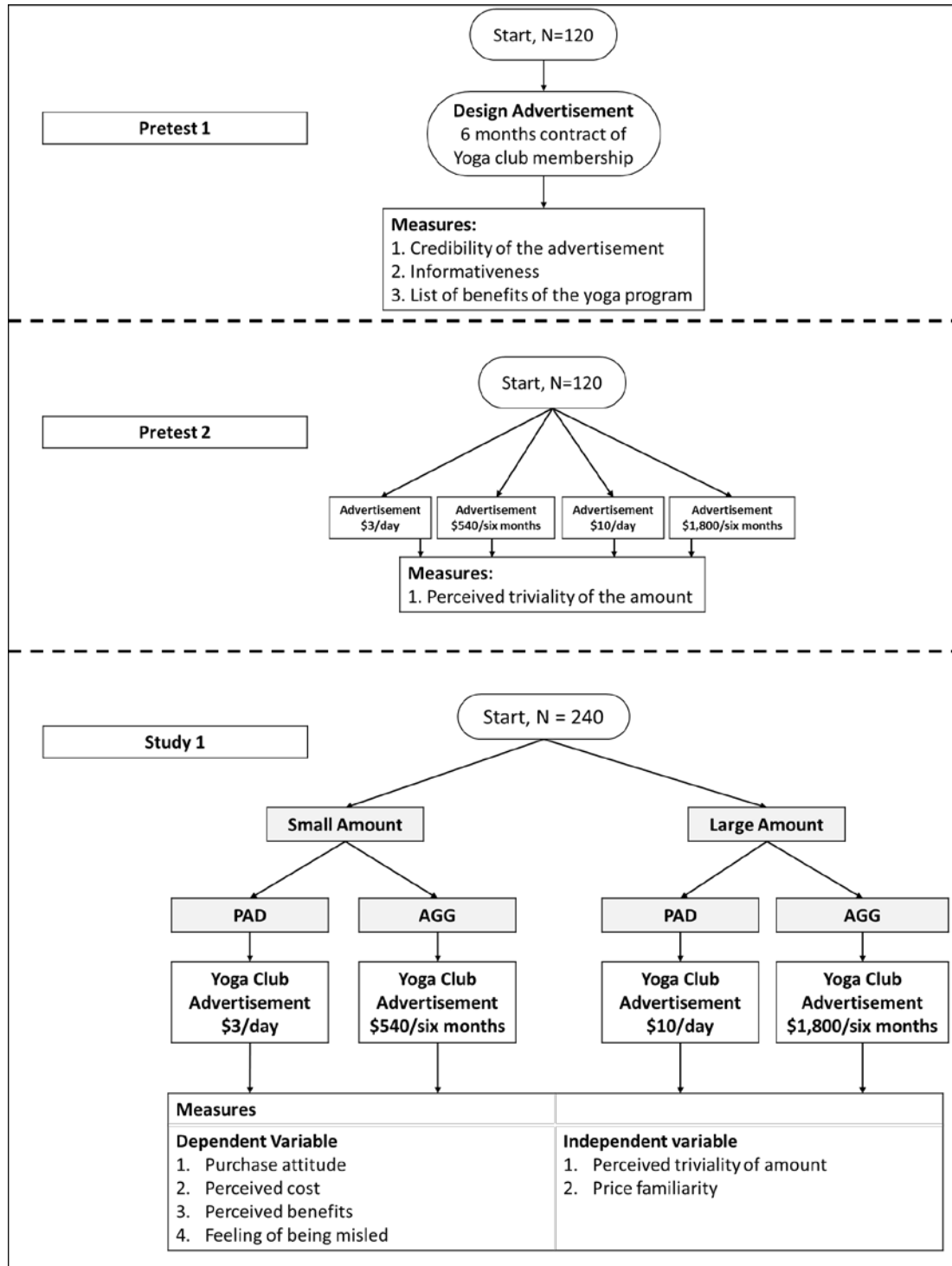


Figure 7 Flow of Study 1

The scenario of a six month contract for a Yoga Club membership was employed.

Figure 8 provides one of the treatments.

More Yoga More Life

Bring your body into balance and reduce stress

6-Months Registered Unlimited Therapeutic Yoga course Membership!

You can choose your own time as we offer 10 sessions per day starting at 5:00 am till 7:00 pm

We are committed to serving those who wish to benefit from yoga but don't feel comfortable in a regular yoga class. We offer a very specialized class. We only take 10 registrants per session so you can get the attention you need to benefit from the yoga postures. A small group session designed to meet your needs!!

- **Pranayama**; Discipline controlled Yogic breathing. This helps in expanding the human faculties and retarding degeneration.
- **Meditation**: Meditation helps in connecting the body, mind and spirit. Daily yoga meditation helps in mental purification and offers clarity of thought. It increases concentration and focus.
- **Beginner's Yoga**: foundations of the practice: basic asana, principles of alignment, and breathing techniques. The aim is to build strength, flexibility, balance, and confidence. The course runs in six-week repeating cycles; join the class at any time.
- **Yin/Psychic Development**: Practicing yoga in a deep, slow, mindful way increases our awareness of what it means to be embodied. Through long-held seated postures interspersed with counterposing backbends, we will open the primeval back body and relax deeply.
- **Dharma's Gentle Yoga**: For anybody who wishes to add some healing yoga into their lives. We move the body through the classical poses slowly, gently, and conscientiously. We rest between poses as the body moves toward introspection, concentration, and meditation.

Explore the benefits of therapeutic yoga. This class is designed to give you the tools to help you on your journey towards better health and mobility in your body.

As low as \$ 3 per day!!

Payment due monthly - Cash, Check, Credit card, Debit card are welcome!

Register online or at the front desk.

Figure 8 Advertisement for Small Amount & Daily Price Frame Condition

The Yoga Club membership provides five types of yoga classes that members can choose as much, or as little as they want. All participants were informed the contract engagement is for a six month term, and the payment was due monthly which equated the timing of payments across PAD and AGG framings as in Gourville's (1998) study.

3.1.1 Pretest 1

Goals of pretest 1 are twofold.

First, the pretest measures the credibility and informativeness of the advertisement used in Study 1. According to Beltramini (1988), the lack of credibility and informativeness of the advertisement could potentially affect the relationship between the dependent variable and the independent variables of primary interests.

Second, the pretest identifies potential benefits that participants would expect to get from the offer to use them as measurements for perceived benefits in Study 1.

For Pretest 1, a total of 20 participants were hired from the Mechanical-Turk (Amazon.com) online panel, with a guaranteed monetary incentive. A total of 120 participants were hired for Pretest 2. All participants were instructed to provide their opinion about the advertisement and the product in the advertisement.

First, participants were given the advertisement and asked to rate its levels of credibility and informativeness on seven-point Likert scales. Next, they were asked to list anticipated benefits of the Yoga Club membership program to be used in the main study as measurements of perceived benefits. Measurements are provided in Table 72 in Appendix.

3.1.2 Pretest 2

Pretest 2 attempts to determine whether two levels of amount treatment (\$3/day or \$540 for six months vs. \$10/day or \$1,800 for six month) are perceived as being significantly different. The perceived triviality of four price amounts: \$3/day, \$10/day, \$540/six months, and \$1,800/six months. Measurements are provided in Table 72 in Appendix.

3.1.3 Main Study

Participants were asked to imagine that they were considering purchase of the six month contract of Yoga Club membership.

A total of 240 subjects hired from Amazon Mechanical Turk and were randomly assigned one of four fixed condition group, Amount (Small vs. Large) × Frame (Daily price frame vs. Aggregate price frame). Details of treatments for each group are shown in Table 1.

Table 1 Group Information in Study 1

		Amount	
		Small	Large
Frame	<u>PAD</u>	<i>As low as \$3 per day</i>	<i>As low as \$10 per day</i>
	<u>AGG</u>	<i>\$540 for six months</i>	<i>\$1,800 for six months</i>

Participants were asked to imagine that they were considering the six month of the Yoga Club membership contract featured in the advertisement. Next, each subject in the small amount condition was presented with an advertisement that included either the phrase “as low as \$3 per day!” or “price \$540 for six months!” Subjects in the large amount condition were presented with either the phrase "as low as \$10 per day!" or “price \$1,800 for six months!”

Participants were then asked to complete a set of measurements provided in Table 72 in Appendix. Figure 36 ~ Figure 39 in Appendix provide all advertisements used in Study 1.

3.2 STUDY 2

Study 2 replicates and extends the results of Gourville's (1998)'s study.

Study 1 measures the level of pricing of the target offer, whereas Study 2 manipulates subjects' price familiarity via providing the competitors' monthly price information. Following Gourville's study, the current study measures purchase intention. Specifically, Study 2 examines whether and how the interaction effect of frame and amount on purchase intention and the three mediators (perceived cost, perceived benefit, and the feeling of being misled) differ according to the level of price familiarity (H1a ~ H4d). Also Study 2 provides the understanding how three mediators simultaneously affect product attitude as well as how the indirect effects of three mediators between frame and purchase intention change across different level of price familiarity.

Study 2 conducts a three way factorial ANOVA, manipulating Frame (Daily frame vs. Aggregate frame), Amount (Small vs. Large), and Price familiarity (High vs. Low). A total of 240 subjects were randomly assigned one of eight groups.

Figure 9 provides the flow of Study 2 including stimuli and measures.

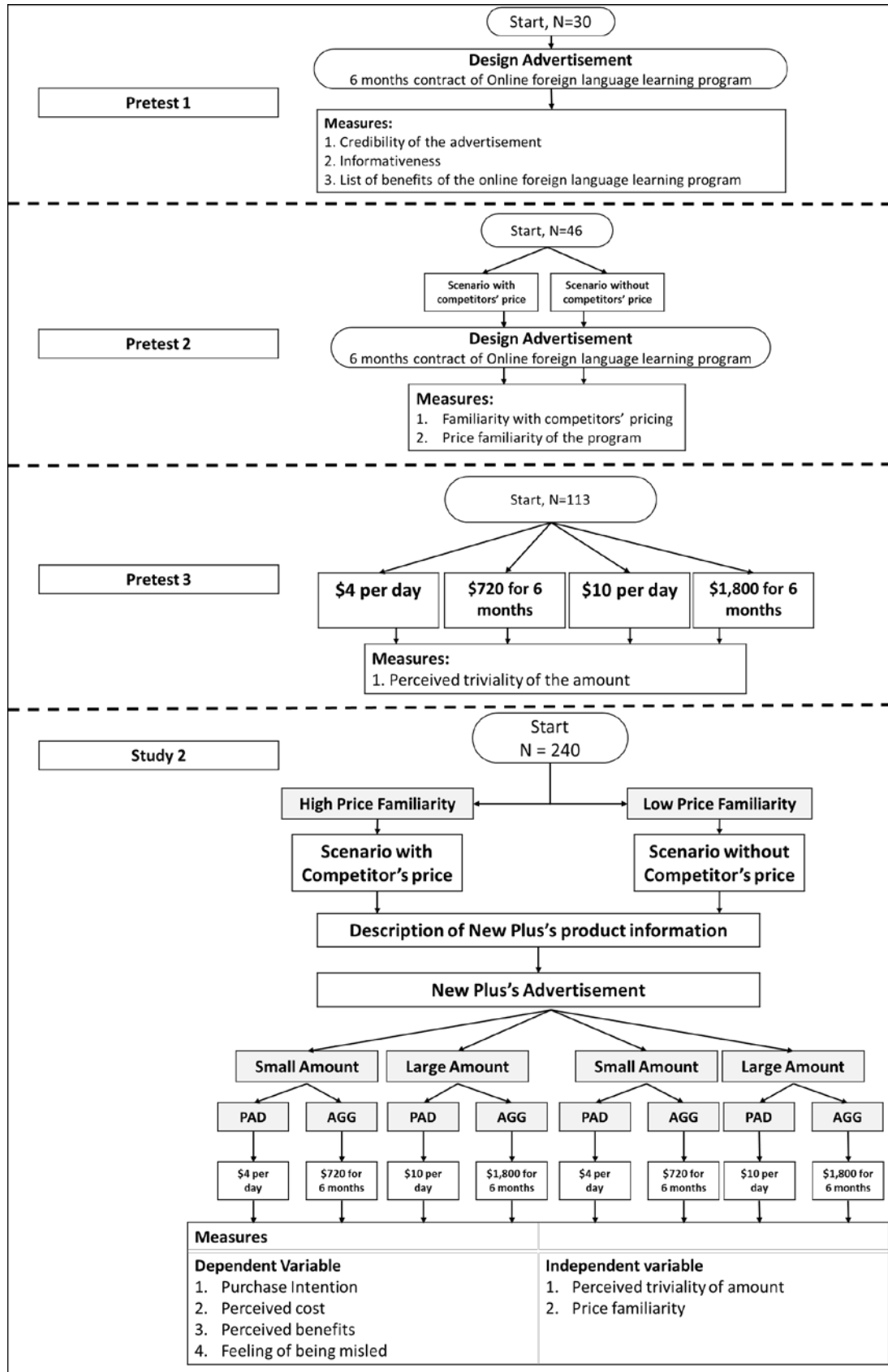


Figure 9 Flow of Study 2

Study 2 designs the purchase situation of an online-foreign language program. Participants were asked to imagine that they are interested in learning a foreign language for career purposes and, for reasons of schedule flexibility, they have decided to take an online-language course. To set the identical level of background knowledge related to the purchase situation, Study 2 first provided (1) the name of two major providers of online-language learning, (2) the average length of daily lesson time (45 minutes), and (3) inflexible lesson time (7pm – 7:45pm) of providers.

Price familiarity was manipulated in this page. Half of the participants were provided the competitors' monthly price at \$75 (high price familiarity), and the other participants were not provided the competitors' price information (low price familiarity). Stimuli are provided in Figure 10.

Please assume that you are interested in learning a foreign language for career purposes. Since you want to have schedule flexibility, you have decided to take an online-language course. From *Consumer Reports* and online reviews, you have found that,

- 1. The two major providers in online-language learning are "United International" and "OLC".**
- 2. Their average monthly price is \$75.**
- 3. Their daily lesson time is 45 minutes.**
- 4. Their lessons run from 7:00 p.m. – 7:45 p.m.**

Figure 10 Stimuli: Competitors' Information in Study 2

On the next page, all participants were provided information about the target product (Figure 11); the provider is New Plus, another well-known online-language course provider.

After further online search, you found New Plus, another well-known online-language course provider. The New Plus offer has the following distinctive features:

- 1) A 60-minute daily lesson.
- 2) Unlike other providers, your daily lesson can start anytime during the day or night so you can fit the lesson to your schedule.
- 3) You can practice your language skills in real-time with a licensed native-language tutor. No other provider offers interaction with native-language tutors.
- 4) You will receive a proficiency certification upon course completion. This allows you to verify your language competency with prospective employers. New Plus is the only provider to issue a proficiency certification.

Figure 11 Stimuli: Target product's Information in Study 2

Study 2 sets New Plus's product quality to be higher than its competitors, so that participants' purchase intention toward the target product would not be contaminated by the relatively lower product quality compared to its competitors, but only influenced by the three factors, Frame, Amount, and Price familiarity.

After reviewing the above information, all participants were presented with the New Plus's advertisement. Figure 12 provides one of the treatments.

Up to 60 minutes daily lessons for 6 months at only \$10 per day!
(*Payment due Monthly)

Learn from 23 Languages
Spanish, Chinese, French, Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★★	★★★★

Join now for \$10 per day!
I would like to learn

Figure 12 Advertisement for *Large Amount, Daily Price Frame, & High Price Familiarity Condition*

In the advertisement above, Frame was manipulated by changing the timeframe of New Plus's price information; participants in the treatment of a daily frame received the price information as "at only \$ ____ per day", whereas participants in the treatment of an aggregate frame received the price information as "at only \$ ____ total", in which the levels of price changed according to the levels of amount. As in Study 1, all participants were informed the contract engagement is for a six month term, and the payment was due monthly which thereby equated the timing of payments across PAD and AGG framings as in Gourville's (1998) study.

3.2.1 Pretest 1

The first pretest attempts to achieve two goals. First, identical to Study 1, the pretest measures the perceived credibility and informativeness of the advertisement. Second, the pretest identifies potential benefits that participants would expect to receive from the offer, so that these can be used as measurements for perceived benefits in Study 2.

A total of 30 participants were hired from the Mechanical-Turk (Amazon.com) online panel, with a guaranteed monetary incentive. All participants were instructed to provide their opinion about the advertisement and the product in the advertisement.

First, participants were given the advertisement and asked to rate its level of credibility and informativeness with the items that were used in the previous study. Next, they were asked to list five anticipated benefits of New Plus' product. Measurements are provided in Table 73 in Appendix.

3.2.2 Pretest 2

The second pretest attempts to check whether the presence of competitors' price information (i.e., "the monthly price of "United International" and "OLC" is \$75") in the scenario generates significantly higher levels of price familiarity than the absence of competitors' price information.

A total of 46 participants were hired from the Mechanical-Turk (Amazon.com) online panel, with a guaranteed monetary incentive. First participants were provided the mind-set scenario, which include competitor's service attributes. Half of participants were provided the competitor's monthly price at \$75, and the other half were not provided the competitor's price information. Next, participants were treated with the New Plus advertisement.

On the following page, participants were asked to report their levels of familiarity with the competitors' price by rating three items on seven-point Likert scales.

An additional pretest was performed using the same scenario to measure whether provision of competitors' price information increased the levels of price familiarity with the target product. Measurements are provided in Table 73 in Appendix.

3.2.3 Pretest 3

The third pretest attempts to determine whether two levels of amount treatment (\$4 per day/\$720 for six months vs. \$10 per day/\$1,800 for six month) are perceived as significantly different.

The perceived triviality of requested amount (\$4 per day/\$720 for six months vs. \$10 per day/\$1,800 for six months) was measured by three items that were used in Study 1. Measurements are provided in Table 73 in Appendix.

3.2.4 Main Study

The main study asked 240 online subjects to participate in return for a guaranteed monetary incentive.

Participants first were asked to imagine that they were interested in learning a foreign language for career purposes, and then read the mind-set scenario, which includes information about competitors' products. In the competitors' product description, the level of price familiarity was manipulated. Specifically, half of participants were provided the competitors monthly price at \$75 (high price familiarity), and the other half were not provided the competitors' price information at all (low price familiarity).

Next, each subject in the daily frame and small amount treatment was presented with an advertisement that included the phrase "Up to 60 minutes daily lessons for 6 months at only \$4 per day!", whereas the subject in the aggregate frame and small amount treatment was presented the phrase "Up to 60 minutes daily lessons for 6 months at only \$720 total!". For large amount treatment, each subject in the daily frame was presented "at only \$10 per day!" whereas in the aggregate frame was presented "at only 1,800 total!" Figure 40 ~ Figure 47 in Appendix provide all advertisements used in Study 2. Details of treatments for each group are shown in Table 2.

Table 2 Group Information in Study 2

		Price familiarity			
		<u>High</u> Presence of competitor's monthly price at \$75		<u>Low</u> Absence of competitor's price information	
Frame		Amount			
		<u>Small</u>	<u>Large</u>	<u>Small</u>	<u>Large</u>
<u>PAD</u>		\$ 4 per day	\$10 per day	\$ 4 per day	\$10 per day
<u>AGG</u>		\$ 720 total	\$1,800 total	\$720 total	\$1,800 total

Next, participants were asked to complete a survey to measure the (1) dependent variables, purchase intention, perceived cost, perceived benefits and the feeling of being misled, and (2) manipulation checks questions, price familiarity and perceived triviality of amount on the Likert scale. The order of items within each factor was randomized. Measurements are provided in Table 73 in Appendix.

3.3 STUDY 3

The purpose of study 3 is to extend Gourville's (1999)'s study by exploring whether purchase intention for the target product would differ depending on the attitude toward the explicit comparison expense exhibited along with the target transaction in the advertisement. To test hypothesis 5 and 6, Study 3 explores the effect of how attitude toward the explicit comparison expenses would interact with frame on purchase intention toward the target transaction due to the Unitosity effect. In addition, the moderating role of price familiarity is explored.

To do so, Study 3 involves a three way factorial ANOVA including Frame (Daily vs. Aggregate), Attitude toward the explicit comparison product (High vs. Low) and Price familiarity (High vs. Low) design in which all treatments were manipulated.

Since Study 3 includes small level of amount, only the hypotheses associated with a small amount condition were tested.

Study 3 manipulates price familiarity using the same method used in study 2, in which the competitor's monthly price information is present or absent.

Figure 13 provides the flow of study 3 including stimuli and measures.

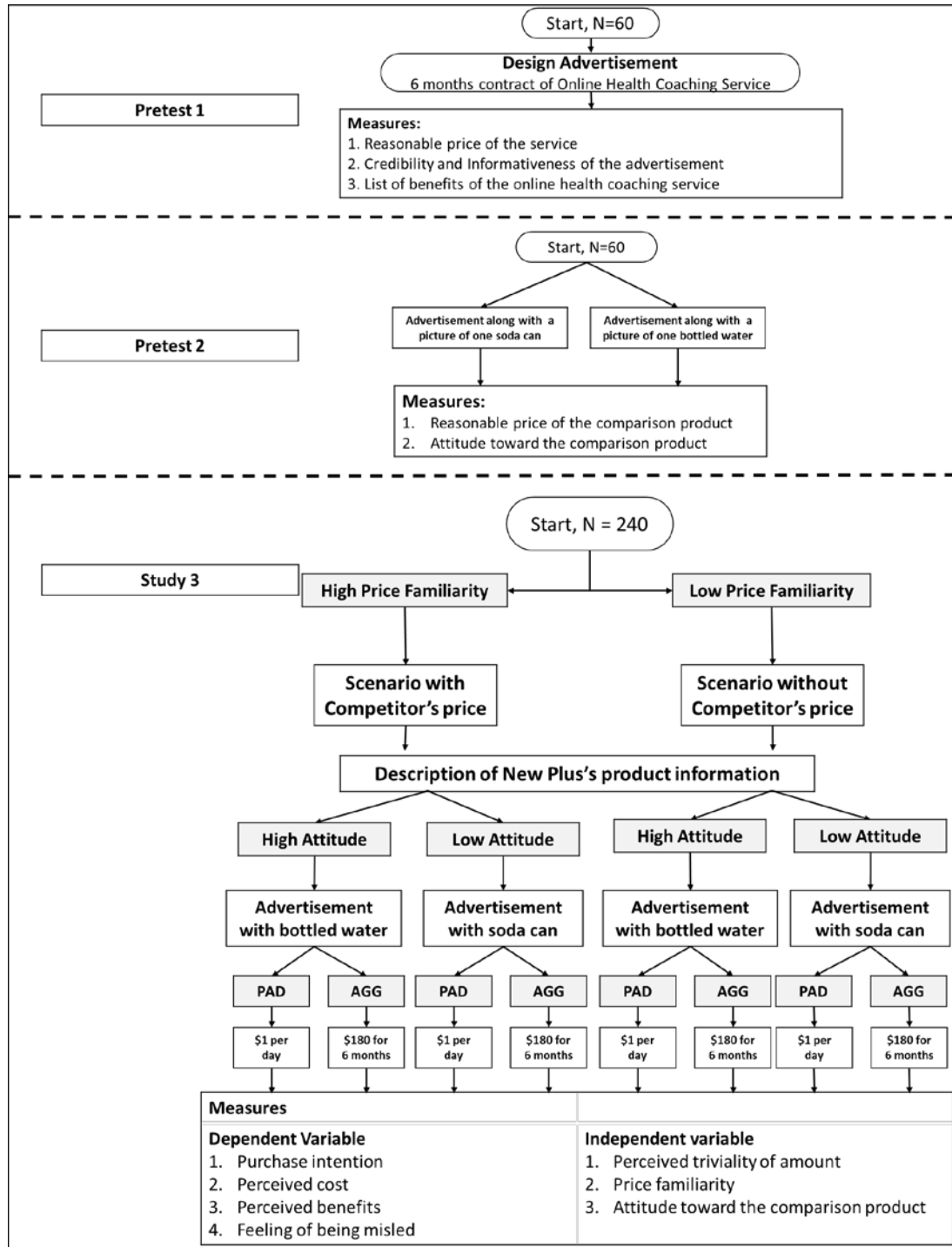


Figure 13 Flow of Study 3

Study 3 employs the purchase scenario of six month contracts for an online health coaching service. Participants were asked to imagine that they are interested in getting

a health coaching service and that they have decided to take an online-language course. In order to set the identical background knowledge regarding the purchase situation, Study 3 first provided (1) the name of two major providers in online health coaching service, (2) the common services, and (3) the means of communication delivery (email and secure chat rooms). Stimuli are presented in Figure 14.

Please assume that you are interested in getting a health coaching service. Since you want to have schedule flexibility, you have decided to choose an online program that provides one-on-one sessions with a certified coach. From Consumer Reports and online reviews, you have found the following:

- 1. The two major providers in online health coaching service are “United International” and “OLC”.**
- 2. Their price is \$20 per month.**
- 3. The two common services they provide are nutrition advice and a fitness plan.**
- 4. Their service is delivered via email and secure chat rooms once a week.**

Figure 14 Stimuli: Competitors' Information in Study 3

In this page, similar with the procedure of Study 2, half of the participants were provided the competitors' price in a monthly form (\$20 per month, high price familiarity) and the other participants were not provided the competitors' price information (low price familiarity).

On the next page, all participants were provided the information about New Plus' product, which is the target product of Study 3 (Figure 15).

After further search, you found New Plus, a well-known provider of online health coaching programs provider. Unlike other providers of online health coaching, New Plus offers the following distinctive features:

1. A personal coach system with one-on-one tutorials.
2. All personal coaches have earned ACE Health Coach Certification, the only health coach certification approved by the National Commission for Certifying Agencies.
3. Personal consultations are delivered via video calls in addition to email and secure chat rooms once a week.

Figure 15 Stimuli: Target Product's Information in Study 3

Identical to Study 2, the quality of New Plus was higher than its competitors in that, all personal coaches have the certification, and New Plus delivered their service via video chat in addition to email and secure chat room.

After reviewing the above information, participants were presented with New Plus's advertisement. Figure 16 provides an example of the treatments.

Live Online health Coaching
at only \$1 per day for 6 months!
 (Payment due Monthly)

Enjoy our service for the cost of water,
 \$1 per day

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Infl	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 16 Advertisement for *High Attitude* toward Comparison Product AND *Daily Price* Frame Condition

The second factor, *attitude toward the explicit comparison product*, was manipulated by providing different comparison products in the advertisement. Participants in the high-attitude group were provided a picture of bottled water, whereas participants in the low-attitude group were provided a picture of a soda can.

Frame was manipulated by changing the timeframe of New Plus's price information: participants in the treatment of a daily frame received the price information as "at only \$ ___ per day for 6 months" whereas participants in the treatment of an aggregate frame received the price information as "at only \$ ___ total." Following the design of Gourville's (1999) study, a daily-framed advertisement showed one bottled water (or one soda can) with its price in a daily frame, whereas an aggregate framed advertisement showed many bottles of water (or many soda cans) with its price shown in an aggregate frame.

Similar to Study 1 and 2, all participants were informed the contract engagement is for a six month term, and the payment was due monthly.

3.3.1 Pretest 1

The first pretest attempts to achieve three goals. First, the current pretest measures perceived credibility and informativeness of advertisement. Second, the pretest identifies potential benefits that participants would expect to get from the offer. Third, the pretest measures a reasonable monthly price for the stimuli, so that it could be used in the main study.

A total of 30 participants were hired from the Mechanical-Turk (Amazon.com) online panel, with a guaranteed monetary incentive. All participants were instructed to provide their opinion about the advertisement and the product in the advertisement.

First, participants were given the advertisement and were asked to provide a reasonable monthly price they would consider of the offer.

Second, participants were asked to rate its level of credibility and informativeness with the items that were used in the previous study. Next, they were asked to list five anticipated benefits of New Plus' product. Measurements are provided in Table 74 in Appendix.

3.3.2 Pretest 2

The second pretest measured attitude toward the explicit comparison product in the advertisement, and requested an estimate of a reasonable price for the comparison product.

A total of 60 participants were hired from the Mechanical-Turk (Amazon.com) online panel, with a guaranteed monetary incentive. All participants were provided the mind-set scenario with advertisement. Then, half of the participants were provided bottled water as an explicit comparison product and the other half were provided a soda can as an explicit comparison product.

On the following page, participants were asked to report their levels of attitude toward the comparison product by rating four items on seven-point Likert scales. Measurements are provided in Table 74 in Appendix.

3.3.3 Main Study

The main study asked 320 online subjects to participate in return for a guaranteed monetary incentive. In the scenario, participants were asked to imagine that they were interested in getting a health coaching service, and to read the information regarding competitors' information. Half were provided the competitors' price information in a monthly form (high price familiarity), whereas the other half were not provided this information (low price familiarity).

The advertisement of New Plus' product was provided on the following page. The bottled water comparison product was provided to participants in high levels of attitude toward the explicit comparison product, whereas the soda can advertisement was provided to participants in low attitude levels of treatment.

Participants in a daily frame received the advertisement that included the daily framed price information (i.e., \$1 per day for 6 months) along with the image of the explicit comparison product, either one bottled water or one soda can. Participants in the aggregate frame were provided the advertisement that included the aggregate price information (i.e., "\$180 for 6 months) along with the image of the explicit comparison product, either many bottled water or many soda cans. Details of treatments for each group are shown in Table 3.

Table 3 Group Information in Study 3

		Price familiarity			
		<u>High</u> Presence of competitor's monthly price at \$20		<u>Low</u> Absence of competitor's price	
Frame		Attitude toward the explicit comparison product			
		<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>
	<u>PAD</u>	\$ 1 per day with the image of one bottled water	\$ 1 per day with the image of one soda can	\$ 1 per day with the image of one bottled water	\$ 1 per day with the image of one soda can
	<u>AGG</u>	\$ 180 with the image of many bottled water	\$ 180 with the image of many soda cans	\$ 180 with the image of many bottled water	\$ 180 with the image of many soda cans

Next, participants were asked to respond to measures of (1) dependent variables: purchase intention, perceived cost, perceived benefits and the feeling of being misled, and then (2) manipulation checks questions: price familiarity and attitude toward the comparison product on the Likert scales. Measurements are provided in Table 74 in Appendix. Figure 48 ~ Figure 55 in Appendix provide all advertisements used in Study 3.

CHAPTER 4

FINDINGS

This chapter presents results of hypotheses tests and further analyses, which were not proposed in the hypotheses section but carried out. The SPSS statistical packet (SPSS 22) was used to test the hypotheses, and SPSS macro PROCESS was used to test for mediation (Hayes 2013).

STUDY 1

To test hypotheses 1a – 3a, Study 1 includes Frame (Daily vs. Aggregate), Amount (Small vs. Large), and Price familiarity (High vs. Low), in which the *frame* and *amount* variables were manipulated as Gourville (1998) did, and *price familiarity* was measured.

4.1.1 Pretest

4.1.1.1 Credibility and Informativeness

The pretests were administered to measure the credibility and informativeness of the advertisement. In addition, perceived triviality was measured for each reframed price. Participants also identified potential benefits of the advertised yoga program.

Table 4 presents the means, standard deviations, and normality for each measure.

The mean values of credibility and informativeness were above 5.0 point, which were higher than the median value 4.0. Three items which measured the

informativeness of the advertisement have Skewness greater than an absolute value of 1.0 and Kurtosis greater than 2.0, which indicates the values lacked symmetry and distinctly peaked near the mean value. This non-normality could be due to the small sample size and the high levels of informativeness.

Table 4 Descriptive Statistics of Credibility and Informativeness of the Advertisement in the Pretest for Study 1

Items	N	Mean	Std. Deviation	Skewness	Kurtosis
This advertisement is believable.	20	6.00	.85	-.55	-.08
This advertisement is credible.	20	5.55	1.09	-.27	-1.20
This advertisement is realistic.	20	5.80	1.05	-1.04	1.33
This advertisement is informative.	20	6.00	1.07	-1.40	2.17
The information in advertisement is easy to understand.	20	5.80	1.23	-1.60	3.59

The normality test was performed to see whether the data distribution was normal. The p-values from the Shapiro-Wilk test of normality were lower than 0.05, which implies that it was not acceptable to assume that the values of credibility and informativeness were normally distributed. Due to a non-normality of the data, the current study could not perform the one-sample t-test, which compares the sample mean of each item to the median of scales, 4.0. However, based on the highly negative skewness and mean values, the credibility and the informativeness of the advertisement were deemed high enough to use in the main study.

4.1.1.2 Anticipated Benefits

Each subject listed three benefits of the yoga program in the advertisement. A total of 60 answers are listed in Table 69 in Appendix.

The current study grouped the similar benefits together and chose five benefits which were the most frequently mentioned. As a result, the following five benefits were selected: body flexibility (10 times mentioned), stress reduced (6 times), peace and relaxation (8 times), body shape (7 times), and concentration (3 times). Using these benefits, five items were created to measure the levels of perceived benefits to use in the main study.

4.1.1.3 Perceived Triviality

With regard to amount condition, the pretest provided a \$3/day (or \$540 for six months) for a small amount treatment, and a \$10/day (or \$1,800 for six months) for a large amount treatment. Details of treatments for each group are shown in Table 5.

Table 5 Group Information for the Pretest for Study 1

		Amount	
		Small	Large
Frame	<u>PAD</u>	Group 1 (\$ 3 per day) N=27	Group 2 (\$10 per day) N=33
	<u>AGG</u>	Group 3 (\$ 540 for six months) N=31	Group 4 (\$1,800 for six months) N=29

Table 6 presents the normality, means, and standard deviations for each manifest variable of perceived triviality across four groups. As expected, the mean value of the manifest variable was highest when the amount was small & framed as a daily amount (\$3/day), whereas the mean values were lowest when the amount was large & framed as a total amount (\$1,800 for six months). None of the variables have skewness greater than an absolute value of 1.0, or Kurtosis greater than 2.0, which implies that it was acceptable to assume that the distribution was normal.

Table 6 Descriptive Statistics of Perceived Triviality across Four Groups in the Pretest for Study 1

Group	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Group 1 <i>(\$ 3 per day)</i>	\$3 is not affordable amount for a daily expense. (R)	27	5.30	1.589	-.902	-.335
	\$3 is a trivial amount for a daily expense.	27	4.63	2.060	-.542	-.995
	\$3 is a small amount for a daily expense.	27	5.04	1.480	-1.067	1.071
Group 2 <i>(\$ 10 per day)</i>	\$10 is not affordable amount for a daily expense. (R)	33	3.94	1.802	-.245	.798
	\$10 is a trivial amount for a daily expense.	33	3.21	1.635	.093	.798
	\$10 is a small amount for a daily expense.	33	3.64	1.884	-.151	.798
Group 3 <i>(\$540 for six months)</i>	\$540 is not affordable amount for once every six months expense. (R)	31	4.06	1.965	-.068	-1.401
	\$540 is a trivial amount for once every six months expense.	31	3.42	1.803	.340	-1.194
	\$540 is a small amount for once every six months.	31	3.55	1.729	.389	-1.016
Group 4 <i>(\$1,800 for six months)</i>	\$1,800 is not affordable amount for once every six months expense. (R)	29	3.24	1.527	.079	-.901
	\$1,800 is a trivial amount for once every six months expense.	29	2.24	1.215	.785	-.076
	\$1,800 is a small amount for once every six months.	29	2.69	1.538	.691	-.375

Reliability analysis was conducted using Cronbach's alpha (Table 7).

Table 7 Reliability Analysis: Cronbach's Alpha for Perceived Triviality in the pretest for Study 1

Reliability Statistics	Cronbach's Alpha		Standardized Items' Cronbach's Alpha		
	.803		.803		
Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Amount is not an affordable (R).	7.05	11.695	.561	.329	.821
Amount is a trivial amount.	7.81	10.728	.659	.494	.720
Amount is a small amount.	7.46	10.217	.734	.556	.640

Overall, Cronbach's alpha value for perceived triviality was 0.803, indicating a high degree of internal consistency. For the overall scale of directive guidance, the mean score responses following item deletion were stable with averages ranging from 7.05 to 7.81. Corrected item-total correlations were positive and strongly acceptable

with values from .561 to .734. Based on results of the internal reliability, three manifest variables were averaged to perform an independent t-test.

First, an independent t-test was conducted to see whether spending a small daily amount (\$3 per day) is perceived as more trivial than spending a large daily amount (\$10 per day). Next, an independent t-test was conducted to see whether spending a small aggregate amount (\$540 for six months) was perceived as more trivial than spending a large aggregate amount (\$1,800 for six months). Results are provided in Table 8.

Table 8 Group Differences in Perceived Triviality between Groups that received Small or Large Amount across Frames in The Pretest for Study 1

	M	SD	M	SD	df	t	p	Cohen's d
Group 1 Vs. Group 2	<u>Small Daily Amount</u>		<u>Large Daily Amount</u>					
	4.98	1.38	3.59	1.46	58	3.75	.00	0.97
Group 3 Vs. Group 4	<u>Small Aggregate Amount</u>		<u>Large Aggregate Amount</u>					
	3.67	1.48	2.72	1.15	58	2.76	.01	0.71

A critical assumption of an independent t-test is homogeneity of variance. Levene's test for equality of variances confirmed a non-significant difference in variance across two groups ($F=0.524$, $p=0.472 > 0.05$). On average, participants in group 1 who were given "small daily amount" perceived the amount of spending as more trivial ($M=4.98$, $SE=0.26$) than those in group 2 who were given "large daily amount" ($M=3.59$, $SE = 0.25$). This difference was significant $t(58) = 3.75$, $p < 0.01$, with Cohen's $d=0.9774$, indicating a large-sized effect.

On average, participants in group 3 who were given "small aggregate amount" perceived the amount of spending as more trivial ($M=3.67$, $SE=0.36$) than those in group 4 who were given "large aggregate amount" ($M=2.72$, $SE = 0.21$). This

difference was significant $t(58) = 2.76, p < 0.01$, with Cohen's $d = 0.71$, indicating a medium-sized effect. These results suggested that the manipulation of amount was effective.

4.1.2 Main Study

A total of 240 participants were hired from online Mechanical-Turk, and were randomly assigned one of four fixed condition groups. The fixed treatments were Frame (Day frame vs. Aggregate price frame) \times Amount (Small vs. Large). Three participants were omitted for quality purposes; two of them participated more than one time, and one of them did not complete the study. As a result, there were 237 participants in Study 1, 62% males and 38% females. The average age of participants was 32 and ranged from 18 to 72. The number of participants for each treatment are provided in Table 9.

Table 9 Group Information in Study 1

		Amount	
		<u>Small</u>	<u>Large</u>
Frame	<u>PAD</u>	<i>Group 1</i> \$ 3 per day N=57	<i>Group 2</i> \$10 per day N=61
	<u>AGG</u>	<i>Group 3</i> \$ 540 for six months N=61	<i>Group 4</i> \$1,800 for six months N=58

4.1.2.1 Descriptive Statistics

Table 10 presents the normality, means, and standard deviations for each measure. None of the variables have skewness greater than an absolute value of 1.0, or kurtosis greater than 2.0, indicating that the data distribution was normal.

Table 10 Descriptive Statistics of Measurements in Study 1

Variable	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Product Attitude	The yoga program in this advertisement is attractive.	237	4.60	1.43	-.63	-.09
	It is a good yoga program	237	4.78	1.18	-.51	1.08
	I like this yoga program.	237	4.56	1.37	-.53	.14
Perceived cost	The advertised price for this yoga program is high.	237	4.53	1.89	-.25	-1.26
	I feel that the yoga program is expensive.	237	4.61	1.92	-.33	-1.25
	I feel that the provider's advertised price for the yoga program is high.	237	4.58	1.87	-.27	-1.23
Perceived benefits	If I participate in this yoga program, I will feel less stressed.	237	5.22	1.25	-.86	.77
	If I participate in this yoga program, my body will feel more flexible.	237	5.69	0.93	-.70	1.25
	If I participate in this yoga program, my mind will feel more at peace.	237	5.14	1.26	-.62	.27
	If I participate in this yoga program, I will be able to concentrate better on my work.	237	5.00	1.20	-.36	-.23
	If I participate in this yoga program, my body will be in a better shape.	237	5.55	1.03	-.74	.84
Price familiarity	In general, I am familiar with the pricing of yoga programs.	237	3.41	1.73	.42	-1.02
	In general, I am informed about the pricing of yoga programs.	237	3.43	1.75	.39	-1.09
	In general, I am knowledgeable about the pricing of yoga programs.	237	3.36	1.73	.42	-1.07
Feeling of being misled	The presentation of the price is unclear.	237	3.39	1.82	.50	-.92
	I cannot understand this price at a glance.	237	3.22	1.81	.55	-.86
	The price information is quite complex.	237	3.11	1.61	.55	-.68
	This yoga program provider has the intention of misleading.	237	3.01	1.50	.69	-.22
Perceived triviality	In general, the amount is not an affordable. (R)	237	3.35	1.91	.38	-1.16
	In general, the amount is trivial.	237	2.93	1.77	.64	-.67
	In general, the amount is small.	237	3.25	1.88	.44	-1.06

4.1.2.2 Manipulation Check

Manipulations for the amount condition were successful. Three manifest variables were averaged to perform an independent t-test between the small amount and large amount across frames (Table 11).

As expected, spending a small daily amount was perceived as more trivial ($M=4.77$, $SE=0.18$) than spending a large daily amount ($M=3.15$, $SE=0.18$). This difference was significant $t(116) = 6.15$, $p < 0.01$, with Cohen's $d = 1.135$, indicating

that the difference between the two means was larger than one standard deviation, which is a large-sized effect. Details are provided below.

Also, as expected, spending a small aggregate amount was perceived as more trivial ($M=2.81$, $SE=0.17$) than spending a large aggregate amount ($M=2.01$, $SE=0.15$). This difference was significant $t(117) = 3.45$, $p < 0.01$, with Cohen's $d = 0.63$, indicating a medium-sized effect.

Table 11 Group Differences in Perceived Triviality between Groups that received Small or Large amount across Frames in Study 1

	M	SD	M	SD	df	t	p	Cohen's d
Group 1 Vs. Group 2	<u>Small Daily Amount</u> 4.78	1.39	<u>Large Daily Amount</u> 3.16	1.46	116	6.16	.00	1.135
Group 3 Vs. Group 4	<u>Small Aggregate Amount</u> 2.81	1.35	<u>Large Aggregate Amount</u> 2.02	1.15	117	3.46	.00	0.63

4.1.2.3 Factor Analysis and Reliability Analysis

Before testing the hypotheses, an exploratory factor analysis was conducted in order to get evidence for the measurement discriminant validity. A total of 18 items were considered in the factor analysis. Principal components factor analysis was used with a Varimax rotation to determine the number of factors with eigenvalues greater than 1. As can be seen in Table 12, five factors emerged with eigenvalues greater than 1, accounting for 82.86 percent of the variance. Communalities after extraction were greater than 0.5.

Table 12 Summary of Items and Factor loadings for Varimax Orthogonal Five-factor solution in Study 1

	Component					Communalities
	1	2	3	4	5	
If I participate in this yoga program, I will feel less stressed.	0.827	-0.209	0.023	-0.034	0.15	0.752
If I participate in this yoga program, my body will feel more flexible.	0.812	0.062	0.018	-0.086	0.151	0.694
If I participate in this yoga program, my mind will feel more at peace.	0.864	-0.14	0.045	-0.003	0.19	0.805
If I participate in this yoga program, I will be able to concentrate better on my work.	0.808	-0.212	0.048	-0.098	0.16	0.736
If I participate in this yoga program, my body will be in a better shape.	0.775	0.055	0.015	-0.073	0.186	0.643
The advertised price for this yoga program is high.	-0.111	0.946	-0.087	0.105	-0.196	0.965
I feel that the yoga program is expensive.	-0.095	0.938	-0.117	0.125	-0.17	0.947
I feel that the provider's advertised price for the yoga program is high.	-0.123	0.942	-0.057	0.101	-0.197	0.954
In general, I am familiar with the pricing of yoga programs.	0.025	-0.082	0.972	-0.063	0.084	0.963
In general, I am informed about the pricing of yoga programs.	0.043	-0.081	0.968	-0.096	0.093	0.963
In general, I am knowledgeable about the pricing of yoga programs.	0.045	-0.08	0.974	-0.081	0.083	0.97
The presentation of the price is unclear.	-0.045	-0.015	-0.091	0.875	-0.175	0.807
I cannot understand this price at a glance.	-0.08	0.078	-0.211	0.832	0.025	0.749
The price information is quite complex.	0.068	0.156	0.023	0.836	-0.019	0.73
This yoga program provider has the intention of misleading.	-0.253	0.117	0.011	0.73	-0.213	0.656
The yoga program in this advertisement is attractive.	0.235	-0.225	0.05	-0.174	0.839	0.841
It is a good yoga program	0.317	-0.177	0.132	-0.09	0.84	0.863
I like this yoga program.	0.357	-0.272	0.152	-0.123	0.799	0.879
Eigenvalue	6.329	2.938	2.323	2.182	1.144	
Percentage of variance explained	35.16	16.323	12.907	12.122	6.356	

Five items loaded onto Factor 1 related to perceived benefits. This related to the benefits participants expected from purchasing the target product.

Three items loaded onto Factor 2 related to perceived cost.

Three items related to price familiarity with yoga programs were loaded onto Factor 3.

Four items loaded onto Factor 4 are intended to measure the feeling of being misled.

Finally, three items loaded onto Factor 5 related to attitude toward the yoga program in the advertisement.

Cronbach's alpha was computed for each of the five factors (product attitude, perceived cost, perceived benefits, the feeling of being misled, and price familiarity) to explore internal consistency estimates of reliability based on the average inter-item correlation. The alpha coefficient for the factors ranged from 0.855 to 0.983, indicating a high degree of internal consistency of items within their associated factor. Results are presented in Table 13.

Table 13 Reliability Analysis in Study 1: Cronbach's Alpha for Product Attitude, Perceived Cost, Perceived Benefits, The Feeling of Being Misled, and Price familiarity

Factor	Cronbach's Alpha	Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Product Attitude	.912	The yoga program in this advertisement is attractive.	9.338	5.919	.804	.896
		It is a good yoga program	9.156	6.980	.832	.876
		I like this yoga program.	9.380	6.008	.853	.850
Perceived cost	.980	The advertised price for this yoga program is high.	9.194	13.92	.967	.963
		I feel that the yoga program is expensive.	9.114	13.87	.945	.978
		I feel that the provider's advertised price for the yoga program is high.	9.143	14.13	.957	.970
Perceived benefits	.896	If I participate in this yoga program, I will feel less stressed.	21.37	14.15	.776	.867
		If I participate in this yoga program, my body will feel more flexible.	20.90	16.72	.707	.884
		If I participate in this yoga program, my mind will feel more at peace.	21.45	13.65	.833	.853
		If I participate in this yoga program, I will be able to concentrate better on my work.	21.59	14.56	.763	.870
		If I participate in this yoga program, my body will be in a better shape.	21.04	16.35	.668	.890
Feeling of being misled	.855	The presentation of the price is unclear.	9.342	16.93	.782	.779
		I cannot understand this price at a glance.	9.515	17.80	.712	.811
		The price information is quite complex.	9.620	19.60	.684	.822
		This yoga program provider has the intention of misleading.	9.726	21.06	.626	.845
Price familiarity	.983	In general, I am familiar with the pricing of yoga programs.	6.789	11.82	.960	.977
		In general, I am informed about the pricing of yoga programs.	6.768	11.65	.961	.976
		In general, I am knowledgeable about the pricing of yoga programs.	6.831	11.74	.968	.972

4.1.2.4 Replication of Gourville (1998)

This study attempted to replicate Gourville's (1998) findings: at a small daily dollar amount, a daily price frame results in significantly higher product attitude toward the yoga program in the advertisement than a financially equivalent aggregate price frame does. However, at a larger daily dollar amount, the effectiveness of PAD framing decreases relative to a financially equivalent aggregate price frame.

Following Gourville (1998), Study 1 analyzed subjects' responses in a 2 (Frame) \times 2 (Amount) ANOVA. The interaction between frame and amount was not significant ($F(1,233) = 1.13, p=0.28$, Table 14).

Table 14 Two-way Analysis of Variance for Product Attitude in Study 1

Source	<i>df</i>	MS	F	P	Partial η^2
Frame	1	8.899	6.057	.015	.025
Amount	1	3.733	2.541	.112	.011
Frame \times Amount	1	1.664	1.132	.288	.005
Error	233	1.469			

a. R Squared = .039 (Adjusted R Squared = .027)

However, as he demonstrated, in the small amount condition, the mean product attitude value was higher for subjects receiving a daily price frame condition ($M=5.05, SE=0.16$) than for those receiving an aggregate price frame condition ($M=4.49, SE=0.17$). A planned contrast revealed this main effect to be significant ($F(1, 233)=6.186, p=0.014<0.05$) with partial eta squared=0.026, indicating a large-sized effect. This supports the effectiveness of a PAD frame for small daily dollar amounts.

In the large amount condition, however, the mean product attitude value was not significantly different between subjects receiving a daily price frame condition ($M=4.63, SE=0.14$) and those receiving an aggregate price frame ($M=4.41, SE = 0.14$), $F(1, 233)=0.650$. Table 15 provides the summary of pairwise comparisons.

Table 15 Pairwise Comparisons between a Daily Price Frame and an Aggregate Price Frame across Amounts on Product Attitude

Amount	Frame	Estimates			Univariate Tests					
		Mean	Std. Error		Sum of Squares	df	MS	F	Sig.	Partial η^2
Small	Daily	5.053	0.161	Contrast	9.08	1	9.088	6.18	0.014	0.026
	Aggregate	4.497	0.155	Error	342.31	233	1.469			
Large	Daily	4.634	0.155	Contrast	1.44	1	1.44	0.98	0.323	0.004
	Aggregate	4.414	0.159	Error	342.31	233	1.469			

Results showed that the frame has an effect on product attitude when the amount was small, but the effect reduced as the amount increased. Figure 17 displays the regression of product attitude on frame at both levels of amount.

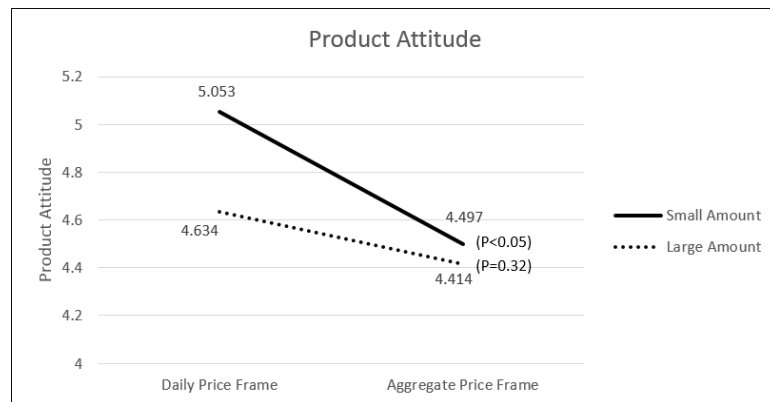


Figure 17 Group Differences in Product Attitude between two Frames across Amounts

4.1.2.5 Hypotheses testing

Figure 18 displays the sample size and the mean values of perceived cost, perceived benefits, the feeling of being misled, and product attitude for each condition (Frame \times Amount \times Price familiarity).

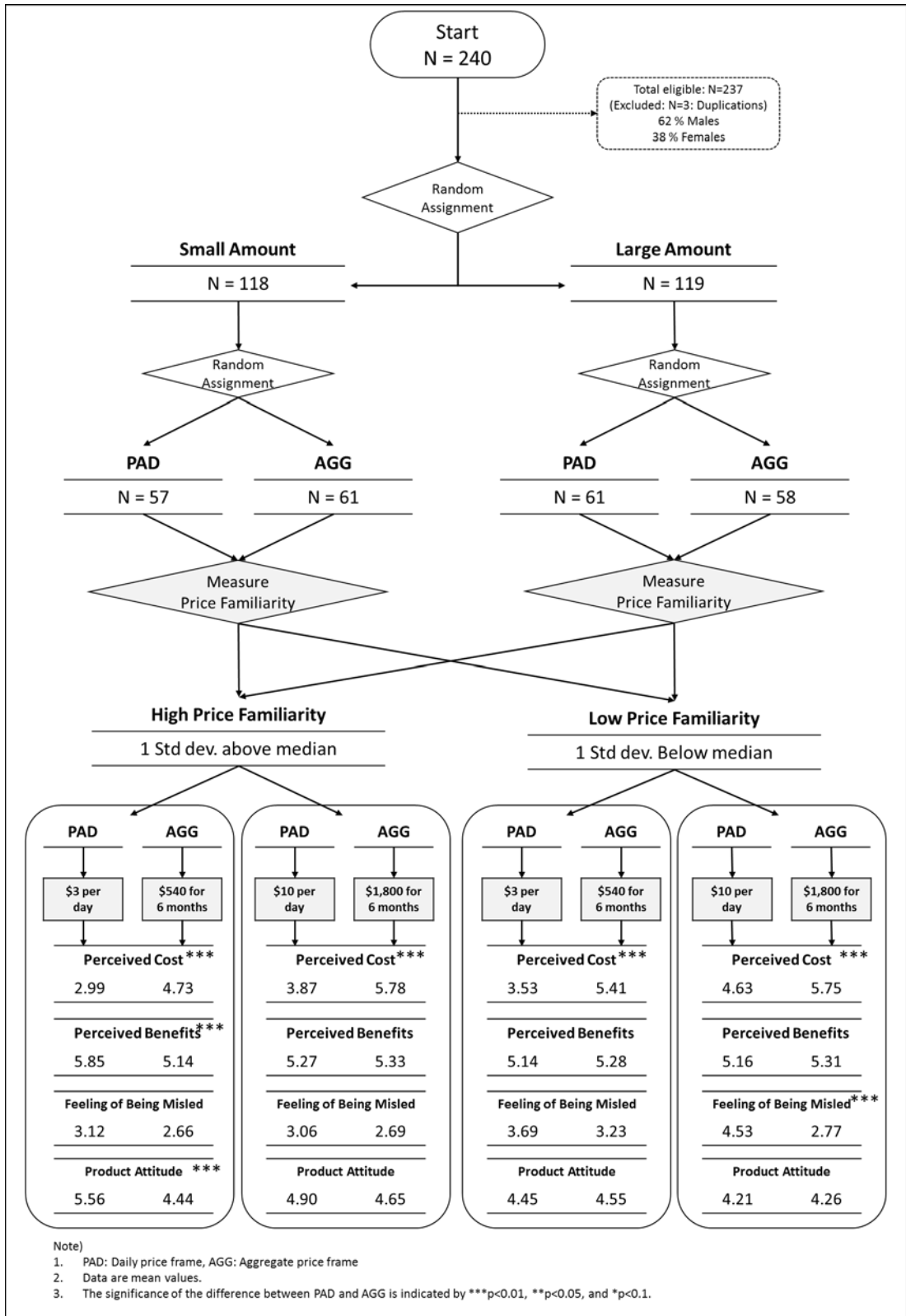


Figure 18 Sample Size and the Mean Values for Each Condition

To test the hypotheses, the value of the manifest variable on its associated latent variable was averaged to form a composite measure scale. Since price familiarity, was continuous, the current study regressed product attitude on price familiarity, frame, amount, and their interactions (Fitzsimons 2008)⁷. Following the procedure proposed by Aiken et al. (1991), the price familiarity score was centered (i.e., the mean is zero). To test the differences across treatment, a “spotlight” analysis was performed at one standard deviations (1.70) above and below the mean value of price familiarity (3.39) across four groups of frame (Daily price frame vs Aggregate price frame) x amount (Small vs. Large).

4.1.2.5.1 Perceived Cost

Three items were averaged to form a composite measure of perceived cost (Chronbach’s Alpha=0.98). Perceived cost was then regressed on frame, amount, and price familiarity of yoga programs, and their interactions. The hypotheses tested were:

- H1a: when consumers have low price familiarity AND the price amount is small, the level of perceived cost for a daily price frame will be lower than for an aggregate price frame.
- H1b: when consumers have low price familiarity AND the price amount is large, the level of perceived cost for a daily price frame will be higher than for an aggregate price frame.
- H1c: when consumers have high price familiarity AND the price amount is small, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.
- H1d: when consumers have high price familiarity AND the price amount is large, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.

⁷ Fitzsimons (2008) suggested that researchers not dichotomize a continuous independent variable (referred as median splitting) for two reasons: first, dichotomizing continuous independent variables reduces the statistical power available to test hypotheses (Irwin and McClelland 2003). Second, inappropriate dichotomizing of continuous data creates spurious significant results if the independent variables are correlated (Maxwell and Delaney 1993).

The results are provided in Table 16.

Table 16 Regression Analysis Summary for Frame, Amount, and Price familiarity predicting Perceived Cost

Variables	B	SE	β	t	p
(Constant)	3.263	.213		15.348	.000
Frame	1.806	.296	.486	6.092	.000
Amount	.985	.300	.265	3.288	.001
Price familiarity	-.156	.116	-.143	-1.344	.180
Frame \times Amount	-.286	.422	-.066	-.678	.498
Frame \times Price familiarity	-.044	.175	-.027	-.251	.802
Amount \times Price familiarity	-.069	.171	-.044	-.401	.689
Frame \times Amount \times Price familiarity	.277	.249	.127	1.112	.267

Note. $R^2=0.282$ (N=237, $p<0.01$)

Results showed that frame and amount have a main effect on perceived cost, and have positive unstandardized coefficients of 1.806 and .985 respectively. That is, as expected, participants perceived lower levels of cost when they faced a daily price frame, compared to an aggregate price frame. Also, participants perceived higher levels of cost when they faced a product having a large cost than one having a small cost.

The best-fitting model generated by the regression analysis is,

$$\begin{aligned} \text{Perceived cost} = & 3.263 + 1.806 \times \text{Frame} + 0.985 \times \text{Amount} - 0.156 \times \text{Price} \\ & \text{familiarity} - 0.286 \times \text{Frame} \times \text{Amount} - 0.044 \times \text{Frame} \times \text{Price familiarity} - 0.069 \times \\ & \text{Amount} \times \text{Price familiarity} + 0.277 \times \text{Frame} \times \text{Amount} \times \text{Price familiarity} \end{aligned}$$

Values for each condition were calculated by substituting (i) Frame: daily price frame=0, aggregate price frame=1, (ii) Amount: Small=0, Large=1, and (iii) FP: High = 1.705 (1 Std. above), Low= -1.705 (1 Std. below) in the above formula. The calculated estimates are shown in Table 17. Figure 19 displays the regression of perceived cost on frame at the two levels of costs within each group, with each group

confined to one standard deviation below and above the mean value of price familiarity.

Table 17 Pairwise Comparisons: Conditional Effect of Frame on Perceived Cost at Values of Amount × Price Familiarity

Price familiarity	Amount	Frame	Mean	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Low	Small	Daily	3.53	1.881	0.415	4.537	0.000	1.064	2.698
		Aggregate	5.41						
	Large	Daily	4.63	1.122	0.430	2.609	0.010	0.275	1.970
		Aggregate	5.75						
High	Small	Daily	2.99	1.731	0.426	4.062	0.000	0.891	2.570
		Aggregate	4.73						
	Large	Daily	3.87	1.917	0.424	4.526	0.000	1.082	2.751
		Aggregate	5.78						

* Low FP = 1 std dev. (=1.705) below median
 * High FP = 1 std dev. (=1.705) above median
 * 95% LLCI: Lower Limit of the B 95% Confidence Interval
 * 95% ULCI: Upper Limit of the B 95% Confidence Interval

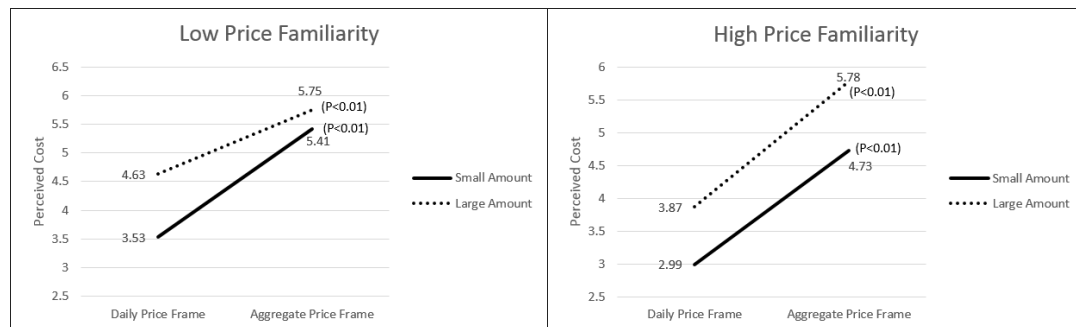


Figure 19 Values of Perceived Cost on Frames at the Levels of Amount within Each Group, with Each Group Confined to One Standard Deviations Above and Below The Mean Value of Price Familiarity

To test the hypotheses 1a ~ 1d, the conditional effect of Frame and Amount on perceived cost at each level of price familiarity was explored (Table 18).

Table 18 Conditional Effect of Interaction between Two Frames and Amount on Perceived Cost at The Levels of Price Familiarity

Price familiarity	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Low	-0.759	0.597	-1.27	0.205	-1.94	0.419
High	0.186	0.601	0.309	0.757	-0.99	1.37

* Low PF = 1 std dev. (=1.705) below median
 * High PF = 1 std dev. (=1.705) above median
 * 95% LLCI: Lower Limit of the B 95% Confidence Interval
 * 95% ULCI: Upper Limit of the B 95% Confidence Interval

The interaction effect of frame and amount on perceived cost was not significant at both a low and high level of price familiarity. These results indicated that perceived cost was perceived lower in a daily price frame than in an aggregate price frame, regardless of the levels of amount and price familiarity.

Hypotheses related to the levels of perceived cost were partially supported in that, when consumers have low price familiarity, the level of perceived cost in a daily price frame was lower than in an aggregate price frame at both a small amount (H1a supported) and a large amount (H1b rejected). These patterns were observed when consumers have high price familiarity. The level of perceived cost in a daily price frame was lower than in an aggregate price frame at both a small amount (H1c rejected) and a large amount (H1d rejected).

4.1.2.5.2 Perceived Benefits

To test the hypotheses, five items were averaged and then analyzed as a composite variable (Chronbach's Alpha=0.896). The hypotheses tested were:

- H2a: when consumers have low price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.
- H2b: when consumers have low price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.
- H2c: when consumers have high price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.
- H2d: when consumers have high price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

Table 19 shows results of regression analysis, in which perceived benefits were regressed on frame, amount, and price familiarity of yoga programs, and their interactions.

Table 19 Regression Analysis Summary for Frame, Amount, and Price familiarity predicting Perceived Benefits

Variables	B	SE	β	t	p
(Constant)	5.495	.126		43.743	.000
Frame	-.283	.175	-.148	-1.619	.107
Amount	-.278	.177	-.146	-1.573	.117
Price familiarity	.209	.068	.373	3.064	.002
Frame \times Amount	.383	.250	.172	1.535	.126
Frame \times Price familiarity	-.252	.103	-.306	-2.442	.015
Amount \times Price familiarity	-.176	.101	-.221	-1.738	.083
Frame \times Amount \times Price familiarity	.224	.147	.199	1.525	.129

Note. $R^2=0.057$ (N=237, p0.059)

Results showed that price familiarity has a main effect on perceived benefits, and has positive unstandardized coefficient of .209, such that respondents who have higher levels of price familiarity were likely to perceive higher levels of benefits. This main effect was qualified, however, by the significant interaction between frame and price familiarity ($t=-2.442$, $p=.015<.05$). Based on results of regression analysis, the current study generated the best-fitting model:

$$\begin{aligned} \text{Perceived benefits} = & 5.495 + (-0.283 \times \text{Frame} - 0.278 \times \text{Amount} + 0.209 \times \text{Price} \\ & \text{familiarity} + 0.383 \times \text{Frame} \times \text{Amount} - 0.252 \times \text{Frame} \times \text{Price familiarity} - 0.176 \times \\ & \text{Amount} \times \text{Price familiarity} + 0.224 \times \text{Frame} \times \text{Amount} \times \text{Price familiarity} \end{aligned}$$

Values for each treatment were calculated by substituting (i) Frame: daily price frame=0, aggregate price frame=1, (ii) Amount: Small=0, Large=1, and (iii) FP: High = 1.705 (1 Std. above), Low= -1.705 (1 Std. below) in the above formula.

Results of the conditional effect of frame on perceived benefits in Table 20 and Table 21 showed that, when consumers have low levels of price familiarity, their perceived benefits were not significantly different between two frames at both a small (H2a rejected) and a large (H2b rejected) amount. However, when consumers have high levels of price familiarity, the level of perceived benefits was significantly higher when the cost was framed as a daily expense than as an aggregate expense (H2c rejected), whereas the level of perceived benefits was not significantly different between two frames when the amount was large (H2d supported). This interactive effect of frame and amount on perceived benefits at high level of price familiarity was significant ($t=2.15$, $p=0.03<0.05$).

Table 20 Pairwise Comparisons: Conditional effect of Frame on Perceived Benefits at Values of Amount × Price Familiarity

Price familiarity	Amount	Frame	Mean	Effect	SE	<i>t</i>	p	LLCI	ULCI
Low	Small	Daily	5.14	0.147	0.245	0.545	0.586	-0.336	0.629
		Aggregate	5.28						
	Large	Daily	5.16	0.147	0.254	0.541	0.589	-0.354	0.648
		Aggregate	5.31						
High	Small	Daily	5.85	-0.714	0.252	-2.404	0.017	-1.210	-0.218
		Aggregate	5.14						
	Large	Daily	5.27	0.052	0.250	0.202	0.840	-0.441	0.545
		Aggregate	5.33						

* Low FP = 1 std dev. (=1.705) below median

* High FP = 1 std dev. (=1.705) above median

* 95% LLCI: Lower Limit of the B 95% Confidence Interval

* 95% ULCI: Upper Limit of the B 95% Confidence Interval

Table 21 Conditional Effect of Interaction between Two Frames and Amount on Perceived Benefits at The Levels of Price Familiarity

Price familiarity	Effect	SE	<i>t</i>	p	LLCI	ULCI
Low	0.001	0.353	0.002	0.999	-0.695	0.696
High	0.766	0.355	2.158	0.032	0.067	1.465

* Low FP = 1 std dev. (=1.705) below median

* High FP = 1 std dev. (=1.705) above median

* 95% LLCI: Lower Limit of the B 95% Confidence Interval

* 95% ULCI: Upper Limit of the B 95% Confidence Interval

Figure 20 displays the regression of perceived benefits on frame at the levels of amount within each group, with each group confined to one level of price familiarity.

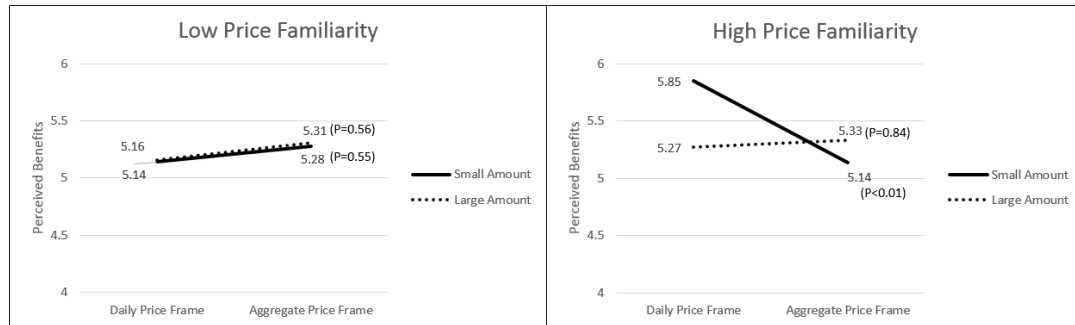


Figure 20 Values of Perceived Benefits on Frames at the Levels of Amount within Each Group, with Each Group Confined to One Standard Deviations Above and Below The Mean Value Of Price Familiarity

4.1.2.5.3 Feeling of Being Misled

Four items were averaged to form a composite measure of the feeling of being misled (Chronbach's Alpha =0.855).

H3a: Consumers' feeling of being misled will be higher for a daily price frame than for an aggregate price frame.

H3b: The discrepancy of consumers' feelings of being misled between a daily price frame and an aggregate price frame will be larger when consumers have high price familiarity than when they have low price familiarity.

Before testing these hypotheses, the feeling of being misled was regressed on frame and price familiarity of yoga programs, and their interaction.

Table 22 Regression Analysis Summary for Frame and Price familiarity predicting The Feeling of Being Misled

Variables	B	SE	β	t	p
(Constant)	3.587	.125		28.767	.000
Frame	-.750	.176	-.266	-4.261	.000
Price familiarity	-.280	.071	-.338	-3.939	.000
Frame \times Price familiarity	.191	.104	.157	1.841	.067

Note. $R^2=0.117$ (N=237, $p<0.01$)

Results in Table 22 shows a significant main effect of frame on feeling of being misled ($t=-4.361$, $p<0.01$). The negative unstandardized coefficient ($B=-0.280$)

confirmed hypothesis 3a that the feeling of being misled was higher in a daily price frame than in an aggregate price frame (H3a supported).

Unexpectedly, consumers developed higher levels of the feeling of being misled when they were less familiar to the pricing of yoga programs ($B=-.280$, $t=-3.939$, $p<0.01$). The marginally significant interaction between frame and price familiarity was observed ($t=1.841$, $p=0.067$). Based on results of the regression analysis, the best-fitting model was generated:

$$\text{Feeling of being misled} = 3.587 - 0.750 \times \text{Frame} - 0.280 \times \text{Price familiarity} - 0.191 \times \text{Frame} \times \text{Price familiarity}$$

Values for each condition were calculated by substituting (i) Frame: daily price frame=0, aggregate price frame=1 and (ii) Price familiarity: High = 1.705 (1 Std. above), Low= -1.705 (1 Std. below) in the above formula. The calculated estimates are shown in Table 23.

Table 23 Pairwise Comparisons: Conditional effect of Frame on The Feeling of Being Misled at Values of Price familiarity

Price familiarity	Frame	Mean	Effect	SE	<i>t</i>	p	LLCI	ULCI
	Daily	3.508	-.647	.179	-3.612	.000	-1.000	-.294
	Aggregate	2.861						
Low	Daily	4.06	-1.076	0.248	-4.331	0.000	-1.565	-0.587
	Aggregate	2.99						
High	Daily	3.11	-0.425	0.251	-1.696	0.091	-0.919	0.069
	Aggregate	2.68						

* Low FP = 1 std dev. (=1.705) below median

* High FP = 1 std dev. (=1.705) above median

* 95% LLCI: Lower Limit of the B 95% Confidence Interval

* 95% ULCI: Upper Limit of the B 95% Confidence Interval

Results showed that frame has an effect when consumers have low price familiarity ($t=-4.33$, $p<0.01$), but not when they have high price familiarity ($t=1.69$, $p=0.1$). This result rejects hypothesis 3a in that, the discrepancy of the feeling of being misled between a daily price frame and an aggregate price frame was higher when consumers have low price familiarity than when they have high price familiarity (H3b rejected).



Figure 21 Values of the Feeling of Being Misled on Frames at One Standard Deviations Above and Below the Mean Value of Price Familiarity

4.1.3 Discussion

Study 1 found that the level of perceived cost in a daily price frame was lower than in an aggregate price frame regardless of the levels of price familiarity and the levels of amount. These results were not expected based on the original hypotheses. They may have been produced through an operational flow in the study since the target product was a yoga program. In the experiment, participants who reported they have higher levels of price familiarity were expected to have the same payment time-frame knowledge toward yoga programs, as well as similar levels of reference price for the target product. However, due to the variety of payment time-frame and program schedule of available yoga programs in the market, even though participants

believe that they have high price familiarity of the target product in the experiment, their background knowledge to judge the target product could have been different. This is evident with yoga programs offering price frames in yearly, monthly, hourly, per session, and per package rates to consumers. In fact, among participants who actually have paid for a yoga program, only 29% of them paid monthly, and rest of them paid per session (33%), per week (18%), per package (18%), and per hour (2%). Further, even if they have same time-frame of payment, due to the heterogeneity of price levels associated with the types of yoga program, Study 1 recognized that participants had different levels of reference price for the advertised yoga program. As a result, consumers who reported higher levels of price familiarity with yoga programs might react similarly to the consumers who reported the lower levels of price familiarity: they were likely to assess the cost within the provided temporal frame (daily or six months) rather than to restructure the reframed price information displayed in the advertisement to their familiar time-framed price information.

The heterogeneity of payment timeframes of yoga programs also influenced the testing of the hypotheses regarding subjects' the feeling of being misled. Although the feeling of being misled due to the temporal frame was significantly higher when the price information was in a daily price frame than in an aggregate price frame, the discrepancy of the feeling of being misled between a daily price frame and an aggregate price frame was larger when participants have lower price familiarity than when they have higher price familiarity. This also can be explained by the heterogeneity of payment timeframes in that, participants who have higher price

familiarity with yoga programs were likely to acknowledge the various ways of pricing, leading to low levels of the feeling of being misled.

Although the difference was insignificant, Study 1 found the expected direction of the perceived benefits between two frames when consumers have low pricing knowledge. In this condition the level perceived benefits in an aggregate price frame was slightly higher than in a daily price frame. This could reflect the Unitosity effect in that, when participants evaluate the target transaction from a perspective of the total period of time, benefits may be viewed as larger than from a perspective of a day. Unexpectedly, however, when consumers have high price familiarity, their perception of benefits was significantly higher when the amount was small.

Study 2 plans to manipulate the payment time-frame and reference price, in addition to frame and amount levels, so that participants in the group of high price familiarity apply the same time-frame and reference price to judge the advertised product.

STUDY 2

Study 2 conducted a three way factorial ANOVA including *Frame* (Daily vs. Aggregate), *Amount* (Small vs. Large) and *Price familiarity* (High vs. Low) to test hypotheses 1a – 4d. Three types of pretests were administered: the first measured perceived credibility and informativeness of the advertisement. Participants were also requested to list three potential benefits that they would expect to get from the offer. The second pretest measured levels of price familiarity. The third pretest measured the perceived triviality of price amount.

4.2.1 Pretests

4.2.1.1 Credibility and Informativeness

Table 24 presents the normality, means, and standard deviations for each measure.

Table 24 Descriptive Statistics of Credibility and Informativeness of the advertisement in the Pretest for Study 2

Items	N	Mean	Std. Deviation	Skewness	Kurtosis
The information about the New Plus' course is believable.	61	5.361	1.0005	-.479	.819
The information about the New Plus' course is trustworthy.	61	5.115	1.0504	.210	-.685
The information about the New Plus' course is convincing.	61	5.295	.9547	-.277	-.241
The information about the New Plus' course is not credible. (R)	61	5.295	1.2158	-.480	-.236
The information about the New Plus' course is reasonable.	61	5.557	.8067	-.192	-.356
The information about the New Plus' course is informative.	61	5.492	.8684	-.684	.923
The information about the New Plus' course is hard to understand. (R)	61	5.525	1.1344	-.877	.023

None of the variables have skewness greater than an absolute value of 1.0, or kurtosis greater than 2.0. The mean values of credibility were above 5.1.

A one-sample t-test yielded a statistically significant difference between the sample mean and the assumed null value of 4.0, $t(60) = 13.730$, $p < .01$. There was not a significant effect for price familiarity in the levels of credibility, $t(59) = -1.199$, $p = 0.235$, indicating that the provision of additional information of competitors' pricing did not produce increases in perceived credibility and informativeness (Table 25).

Table 25 Group Differences in Credibility between Groups that with Competitors' Price Information (High Price Familiarity) or Without Competitors' Price Information (Low Price Familiarity)

Measure	High Price familiarity		Low Price familiarity		df	t	p	Cohen's d
	M	SD	M	SD				
Credibility	5.25	0.79	5.49	0.78	59	-1.199	0.235	0.3

4.2.1.2 Anticipated Benefits

Each subject listed three benefits that they would expect from the online-foreign language program in the advertisement. A total of 100 answers are listed in Table 70 in Appendix.

Similar to Study 1, the similar benefits were grouped together and chose six benefits which were most frequently mentioned: increasing communication ability (8 times), personal enrichment (8 times), enhancing proficiency (5 times), suitable for a job (5 times), competency in the foreign language (4 times), and the sense of accomplishment (2 times). Based on these benefits, the pretest created six items to measure the levels of perceived benefits for the main study.

4.2.1.3 Perceived Triviality

With the regard to amount condition, the pretest provided \$4/day (or \$720 for six months) value for the small amount treatment, and provided \$10/day (or \$1,800 for six months) value for the large amount treatment. Details of each condition of pretest are shown in Table 26.

Table 26 Group Information in the Pretest for Study 2

		Amount	
		Small	Large
Frame	<u>PAD</u>	Group 1 (\$ 4 per day) N=29	Group 2 (\$10 per day) N=28
	<u>AGG</u>	Group 3 (\$ 720 for six months) N=29	Group 4 (\$1,800 for six months) N=31

Table 27 presents the normality, means, and standard deviations for each measure across four groups.

Table 27 Descriptive Statistics of Perceived Triviality across Four groups in the Pretest

Group	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Group 1 <i>(\$ 4 per day)</i>	In general, \$4 is an affordable amount for a daily expense.	29	4.41	2.01	-0.19	-1.31
	In general, \$4 is a small amount for a daily expense.	29	4.66	1.91	-0.32	-0.98
	In general, \$4 is a lot of money for a daily expense. (R)	29	5.21	1.59	-0.31	-1.38
Group 2 <i>(\$ 10 per day)</i>	In general, \$10 is an affordable amount for a daily expense.	28	4.07	1.65	0.04	-1.22
	In general, \$10 is a small amount for a daily expense.	28	3.68	1.98	0.24	-1.33
	In general, \$10 is a lot of money for a daily expense. (R)	28	3.75	2.01	0.40	-1.21
Group 3 <i>(\$ 720 for six months)</i>	In general, \$720 is an affordable amount for once every six months expense.	29	4.14	1.85	-0.22	-1.12
	In general, \$720 is a small amount for once every six months expense.	29	3.72	1.96	0.51	-0.87
	In general, \$720 is a lot of money for once every six months expense. (R)	29	3.93	2.03	0.26	-1.28
Group 4 <i>(\$ 1,800 for six months)</i>	In general, \$1,800 is an affordable amount for once every six months expense.	31	3.13	1.91	0.54	-1.13
	In general, \$1,800 is a small amount for once every six months expense.	31	2.55	1.71	1.24	0.90
	In general, \$1,800 is a lot of money for once every six months expense. (R)	31	2.48	1.55	1.25	1.48

As expected, mean values of the manifest variables for perceived triviality were highest when the amount was small & framed as a daily amount (\$4 per day), whereas the mean values were lowest when the amount was large & framed as an aggregate amount (\$1,800 for six months). None of the variables have skewness greater than an absolute value of 1.0, or Kurtosis greater than 2.0, implying the distribution was normal. Reliability analysis was conducted using Cronbach's alpha (Table 28).

Table 28 Reliability Analysis: Cronbach's Alpha for Perceived Triviality in the Pretest

Reliability Statistics	Cronbach's Alpha		Standardized Items' Cronbach's Alpha		
	.804		.803		
Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
In general, it is an affordable amount.	7.453	14.353	.520	.281	.858
In general, it is a small amount.	7.744	11.244	.753	.608	.621
In general, it is a lot amount. (R)	7.556	11.697	.694	.570	.686

Overall, Cronbach's alpha value for perceived triviality was 0.804, indicating a high degree of internal consistency. For the overall scale of directive guidance, the mean score responses following item deletion were stable with averages ranging from 7.45 to 7.74. Corrected item-total correlations were positive and strongly acceptable with values from .520 to .753. Based on the results of the internal reliability test, three manifest variables of perceived triviality were averaged to perform an independent t-test.

First, participants perceived spending a small daily amount (\$4 per day) as more trivial ($M=4.75$, $SE=0.25$) than spending a large daily amount (\$10 per day) ($M=3.83$, $SE = 0.32$). This difference was significant $t(51.384) = 2.263$, $p=0.028 < 0.05$, with Cohen's $d=0.60$, indicating a medium-sized effect. Similarly participants perceived spending a small aggregate amount (\$720 for six months) as more trivial ($M=3.93$, $SE=0.29$) than spending a large aggregate amount (\$1,800 for six months) ($M=2.72$, $SE = 0.26$). This difference was significant $t(58) = 3.069$, $p < 0.01$, with Cohen's $d=0.79$, indicating a large-sized effect. These results suggested that the manipulation of amount was effective.

4.2.1.4 Price familiarity

The pretest investigated whether the provision of competitor's price information produces high levels of price familiarity. First, the focus here is to confirm the provision of competitors' price information in the scenario is noticeable in that, participants who received the competitors' price information in the scenario reported that they were familiar with competitors' pricing (Table 29, $t(45) = 5.50$, $p < 0.01$).

Also, as expected, the sample mean of price familiarity was significantly higher when participants were provided the competitors' price information than when they were not ($t(59)=2.025, p=0.047<0.05$). This result showed that the provision of competitors' price information increases the levels of price familiarity with the pricing of the online language courses described in the stimuli.

Table 29 Group Differences in Price Familiarity between Groups that with Competitors' Price Information (Presence) or Without Competitors' Price Information (Absence)

Measure	<u>Presence</u>		<u>Absence</u>		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Competitors' price familiarity	5.96	1.16	3.24	2.14	45	5.505	0.00	1.57
Price familiarity	5.64	1.06	4.96	1.52	59	2.025	0.047	0.52

4.2.2 Main Study

A total of 240 participants were hired from online Mechanical-Turk, and were randomly assigned one of eight fixed condition groups. The fixed condition is Frame (Day frame vs. Aggregate price frame) \times Amount (Small vs. Large) \times Price familiarity (High vs. Low). Eight participants were omitted for quality purposes: they failed to the attention check the required option on scales. As a result, there were 232 participants in Study 2, 48.7% males and 51.3% females. The average age of participants was 34 and ranged from 18 to 75. The number of participants for each treatment are provided in Table 30.

Table 30 Group Information in Study 2

	High Price familiarity		Low Price familiarity	
	Amount		Amount	
	<u>Small</u>	<u>Large</u>	<u>Small</u>	<u>Large</u>
<u>PAD</u>	<i>Group 1</i> (\$ 4 per day) <i>N=27</i>	<i>Group 2</i> \$10 per day <i>N=28</i>	<i>Group 5</i> (\$ 4 per day) <i>N=25</i>	<i>Group 6</i> \$10 per day <i>N=30</i>
Frame				
<u>AGG</u>	<i>Group 3</i> (\$ 720 for six months) <i>N=30</i>	<i>Group 4</i> (\$1,800 for six months) <i>N=29</i>	<i>Group 7</i> (\$ 720 for six months) <i>N=31</i>	<i>Group 8</i> (\$1,800 for six months) <i>N=32</i>

4.2.2.1 Descriptive Statistics

Table 31 presents the normality, means, and standard deviations for each measure.

None of the variables have skewness greater than an absolute value of 1.0, or kurtosis greater than 2.0, except one measurement related to perceived benefits.

Table 31 Descriptive Statistics of Measurements in Study 2

Variable	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Perceived Triviality	In general, the amount is affordable.	232	3.55	1.69	0.11	-1.04
	In general, the amount is small.	232	2.91	1.54	0.71	-0.48
	In general, the amount is a lot of money.	232	3.06	1.65	0.63	-0.57
Price familiarity	I am informed about the prices of New Plus's competitors.	232	4.13	2.23	-0.22	-1.56
	I am knowledgeable about the prices of New Plus's competitors.	232	4.02	2.23	-0.11	-1.57
	I am familiar with the prices of New Plus's competitors.	232	4.00	2.24	-0.10	-1.59
Purchase Intention	If I needed to learn a foreign language for career purposes, I would purchase New Plus's course.	232	5.03	1.54	-0.85	0.10
Perceived Cost	The advertised price for New Plus's course is high.	232	4.83	1.73	-0.48	-0.82
	I feel that New Plus's course is expensive.	232	4.96	1.67	-0.58	-0.71
Perceived benefits	I would be competent in the foreign language I studied.	232	5.33	1.10	-0.75	0.60
	I would not be better suited for jobs requiring knowledge of the language I studied. (R)	232	5.75	1.10	-1.37	3.36
	I would improve my ability to communicate better with people from countries speaking the language I studied.	232	5.83	0.86	-0.77	1.32
	I would enhance my foreign language proficiency.	232	5.85	0.80	-0.49	0.22
	I would have a sense of accomplishment from completing a difficult task.	232	5.80	0.90	-0.56	-0.02
	I would enjoy the feeling of personal enrichment.	232	5.81	0.91	-0.69	0.70
Feeling of being misled	New Plus is attempting to mislead consumers with its price.	232	3.25	1.51	0.54	-0.38
	New Plus intends to manipulate my perception of its price.	232	3.52	1.65	0.40	-0.81
	New Plus wants to get more sales by tricking consumers with its price.	232	3.27	1.51	0.46	-0.58

4.2.2.2 Manipulation Check

4.2.2.2.1 Perceived Triviality

Manipulations for the amount condition were successful. Three manifest variables were averaged to perform an independent t-test between the small amount and large

amount. Table 32 shows that the difference in perceived triviality was significant ($t(230) = 4.728, p < 0.01$; perceived triviality was lower for the small amount treatment ($M = 3.36, SE = 0.14$) than for the large amount treatment ($M = 2.73, SE = 0.12$). Cohen's d was 0.619, indicating a medium sized effect.

Table 32 Group Differences in Perceived Triviality between Groups that Received Small or Large Amount across Frames in Study 2

M	SD	M	SD	df	t	p	Cohen's d
<u>\$ 4 / \$720 (Small amount)</u>		<u>\$ 10 / \$1,800 (Large amount)</u>					
3.63	1.54	2.74	1.32	230	4.728	.00	0.62
<u>\$4 per day</u>		<u>\$10 per day</u>					
4.44	1.32	2.89	1.42	108	5.874	0.00	1.12
<u>\$720 for six months</u>		<u>\$1,800 for six months</u>					
2.93	1.37	2.59	1.21	120	1.473	0.143	0.27

An independent t-test was performed between two amounts across frames. As expected, spending a small daily amount is perceived as more trivial ($M = 4.43, SE = 0.18$) than spending a large daily amount ($M = 2.18, SE = 0.18$). This difference was significant $t(108) = 5.87, p < 0.01$, with Cohen's $d = 1.124$, indicating that the difference between the two means is larger than one standard deviation, which is a large-sized effect. Also, as expected, spending a small aggregate amount is perceived as more trivial ($M = 2.93, SE = 0.17$) than spending a large aggregate amount ($M = 2.25, SE = 0.15$). However, this difference was not significant, $t(120) = 1.473, p = 0.14$.

4.2.2.2.2 Price familiarity

Manipulation of price familiarity was successful in that, participants in the high price familiarity (vs. low price familiarity) responded that they were more familiar with the price of competitors' product ($M_{High} PF = 5.81$ vs $M_{Low} PF = 2.35; t(230) = 19.376, p < 0.01$). This result suggests that the manipulation of price familiarity was effective (Table 33).

Table 33 Group Differences in Price Familiarity between Groups that with Competitors' Price Information (Presence) or Without Competitors' Price Information (Absence)

Presence		Absence		df	t	p	Cohen's d
M	SD	M	SD				
5.81	1.18	2.35	1.51	230	19.376	0.00	2.55

4.2.2.3 Factor Analysis and Reliability Analysis

An exploratory factor analysis was conducted in order to get evidence for the measurement discriminant validity. Twelve items were considered in the factor analysis. Principal components factor analysis was used with a Varimax rotation to determine the number of factors with eigenvalues greater than 1. As can be seen in Table 34, three factors emerged with eigenvalues greater than 1, accounting for 77.69 percent of the variance. Communalities after extraction were greater than 0.5.

Table 34 Summary of Items and Factor Loadings for Varimax Orthogonal Three-Factor Solution in Study 2

	Component			Communalities
	1	2	3	
If I needed to learn a foreign language for career purposes, I would purchase New Plus's course.	0.447	-0.156	-0.527	0.502
I would be competent in the foreign language I studied.	0.768	-0.072	-0.15	0.617
I would not be better suited for jobs requiring knowledge of the language I studied. (R)	0.728	-0.112	-0.119	0.557
I would improve my ability to communicate better with people from countries speaking the language I studied.	0.891	-0.068	-0.057	0.801
I would enhance my foreign language proficiency.	0.88	-0.107	-0.073	0.791
I would have a sense of accomplishment from completing a difficult task.	0.847	-0.165	-0.042	0.747
I would enjoy the feeling of personal enrichment.	0.808	-0.231	-0.048	0.708
New Plus is attempting to mislead consumers with its price.	-0.157	0.94	0.143	0.929
New Plus intends to manipulate my perception of its price.	-0.141	0.917	0.213	0.907
New Plus wants to get more sales by tricking consumers with its price.	-0.188	0.923	0.107	0.899
The advertised price for New Plus's course is high.	-0.069	0.143	0.952	0.932
I feel that New Plus's course is expensive.	-0.039	0.176	0.949	0.934
Eigenvalue	5.355	2.391	1.578	
Percentage of variance explained	44.627	19.922	13.149	

Six items loaded onto Factor 1 related to perceived benefits. This related to the benefits participants expected from purchasing the target product. Three items loaded

onto Factor 2 related to the feeling of being misled. Two items loaded onto Factor 3. These two items relate to perceived cost.

The item relating to purchase intention was not significantly loaded onto any Factor. This result confirmed that the single measurement of purchase intention is orthogonal to other factors, allowing it to be used as a dependent variable.

Based on factor analysis results, Cronbach's alpha was computed for each of the three factors (perceived cost, perceived benefits, the feeling of being misled) to obtain internal consistency estimates of reliability based on the average inter-item correlation. The alpha coefficient for the factors ranged from 0.906 to 0.965, indicating a high degree of internal consistency of items within their associated factor. Results are presented in Table 35.

Table 35 Reliability analysis: Cronbach's Alpha for Perceived Cost, Perceived Benefits, and The Feeling of Being Misled

Factor	Cronbach's Alpha	Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Perceived Cost	.965	The advertised price for New Plus's course is high.	4.961	2.791	0.933	.
		I feel that New Plus's course is expensive.	4.832	2.998	0.933	.
Perceived benefits	.906	I would be competent in the foreign language I studied.	29.039	15.241	0.684	0.901
		I would not be better suited for jobs requiring knowledge of the language I studied. (R)	28.625	15.370	0.661	0.905
		I would improve my ability to communicate better with people from countries speaking the language I studied.	28.543	15.851	0.836	0.878
		I would enhance my foreign language proficiency.	28.517	16.329	0.824	0.881
		I would have a sense of accomplishment from completing a difficult task.	28.573	15.891	0.782	0.884
Feeling of being misled	.950	I would enjoy the feeling of personal enrichment.	28.556	16.066	0.739	0.890
		New Plus is attempting to mislead consumers with its price.	6.789	9.198	0.918	0.911
		New Plus intends to manipulate my perception of its price.	6.522	8.545	0.894	0.931
		New Plus wants to get more sales by tricking consumers with its price.	6.776	9.421	0.878	0.940

4.2.2.4 Replication of Gourville (1998)

Following Gourville's analysis, Study 2 analyzed subjects' responses in a 2 (Frame) × 2 (Amount) ANOVA. Results of Gourville's study were not replicated in that the interaction between frame and amount was not significant, (Table 36, $F(1,228) = 1.767, p=0.185$).

Table 36 Two-way Analysis of Variance for Purchase Intention in Study 2

Source	<i>df</i>	MS	F	P	Partial η^2
Frame	1	2.550	1.088	.298	.005
Amount	1	7.743	3.304	.070	.014
Frame × Amount	1	4.142	1.767	.185	.008
Error	228	2.344			

a. R Squared = .025 (Adjusted R Squared = .012)

Table 37 and Figure 22 show that, at a small amount treatment, a daily price frame results in higher purchase intention ($M=5.46, SE=0.2$) than an aggregate price frame does ($M=4.98, SE=0.19$). This difference, however, was not significant ($F(1, 228) = 2.736, p=0.1$). At a larger amount treatment, the effectiveness of PAD framing decreases relative to a financially equivalent aggregate framing in that, purchase intention in a daily price frame was almost at the same level as with it in an aggregate price frame ($M_{PAD}=4.82, M_{AGG}=4.88, F(1, 228) = 0.042, p=0.840$)

Table 37 Pairwise Comparisons between Two Frames across Amounts on Purchase Intention

Amount	Frame	Estimates			Univariate Tests					
		Mean	Std. Error		Sum of Squares	<i>df</i>	MS	F	Sig.	Partial η^2
Small	Daily	5.46	.212	Contrast	6.41	1	6.412	2.73	.10	.012
	Aggregate	4.98	.196	Error	534.3	228	2.344			
Large	Daily	4.83	.201	Contrast	.099	1	.099	.042	.84	.000
	Aggregate	4.89	.196	Error	534.3	228	2.344			

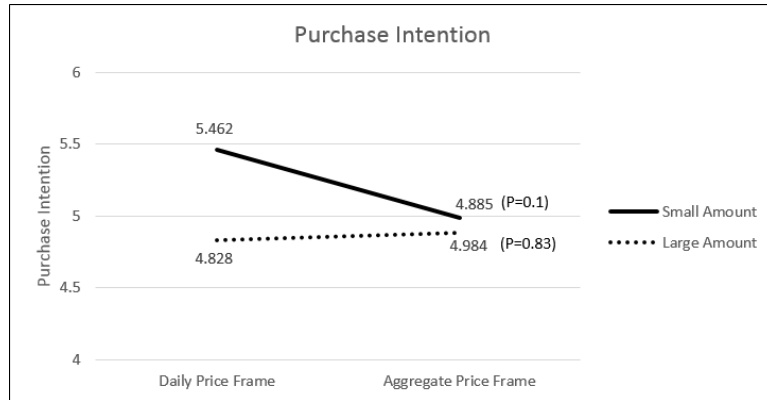


Figure 22 Values of Purchase Intention on Frames at the Levels of Amount

However, under the low price familiarity condition, Gourville's (1998) findings were replicated. Details are provided in section 4.2.2.5.4 - Purchase Intention.

4.2.2.5 Hypotheses testing

Figure 23 displayed the sample size and the mean values of perceived cost, perceived benefits, the feeling of being misled, and purchase intention for each condition (Frame \times Amount \times Price familiarity).

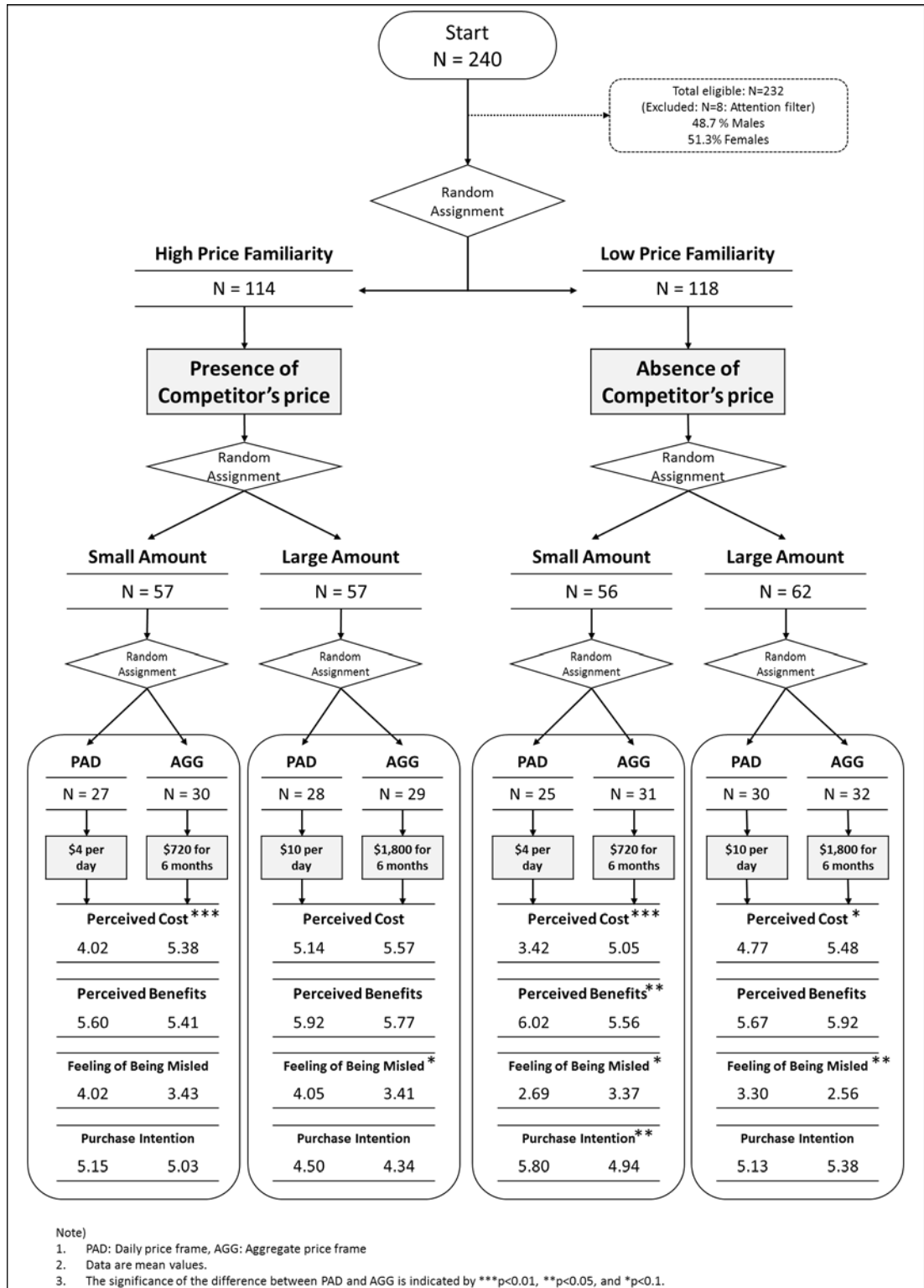


Figure 23 Sample Size And the Mean Values for Each Condition

To test the hypotheses the value of the manifest variable on its associated latent variable was averaged to form a composite measure.

4.2.2.5.1 Perceived Cost

Two items were averaged to form a composite measure of perceived cost (Chronbach's Alpha =0.965), with a higher score being higher level of perceived cost.

The hypotheses tested were:

- H1a: when consumers have low price familiarity AND the price amount is small, the level of perceived cost for a daily price frame will be lower than for an aggregate price frame.
- H1b: when consumers have low price familiarity AND the price amount is large, the level of perceived cost for a daily price frame will be higher than for an aggregate price frame.
- H1c: when consumers have high price familiarity AND the price amount is small, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.
- H1d: when consumers have high price familiarity AND the price amount is large, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.

Three way ANOVA was used to test for differences among independent groups.

Results are provided in Table 38.

Table 38 Three-way Analysis of Variance for Perceived Cost

Source	<i>df</i>	MS	F	P	Partial η^2
Frame	1	61.696	25.759	.000	.103
Amount	1	34.477	14.395	.000	.060
Price familiarity	1	7.007	2.926	.089	.013
Frame \times Amount	1	12.329	5.148	.024	.022
Frame \times Price familiarity	1	1.111	.464	.497	.002
Amount \times Price familiarity	1	.805	.336	.563	.001
Frame \times Amount \times Price familiarity	1	.003	.001	.973	.000
Error	224	2.395			

a. R Squared = .170 (Adjusted R Squared = .144)

Study 2 could not find a significant 3-way interaction, $F(1, 224)=0.01$, $p=0.973$. But there was a significant 2-way interaction of frame and amount ($F(1, 224)=5.148$, $p=0.024<0.05$). That is, this interaction of frame and amount was observed at both a high and a low level of price familiarity, where the larger amount reduces the effect of frame on the perception of cost.

To test the hypotheses, pairwise comparisons were performed. The results confirmed hypothesis 1a, but not 1b in that, when participants have low price familiarity, the level of perceived cost in a daily price frame was significantly lower than in an aggregate price frame at a small amount ($M_{PAD}=3.42$, $M_{AGG}=5.04$, $F(1, 224)=15.322$, $p<0.01$, H1a supported), whereas the level of perceived cost in a daily price frame was not significantly higher than in an aggregate price frame at a large amount ($M_{PAD}=4.76$, $M_{AGG}=5.48$, $F(1, 224)=3.33$, $p=0.069$, H1b rejected). However, these results showed that the effectiveness of PAD framing is reduced as the amount increased.

Study 2 did not support hypothesis 1c in that, when participants have high price familiarity, the level of perceived cost in a daily price frame was significantly higher than in an aggregate price frame at a small amount ($M_{PAD}=4.01$, $M_{AGG}=5.38$, $F(1, 224)=11.052$, $p<0.01$, H1c rejected). Hypothesis 1d was supported in that, the level of perceived cost in a daily price frame and in an aggregate price frame was not different at a large amount ($M_{PAD}=5.14$, $M_{AGG}=5.356$, $F(1, 224)=1.080$, $p=0.3$, H1d supported). Details are provided in Table 39 and Figure 24.

Table 39 Pairwise Comparisons between Two Frames across Amounts × Price Familiarity on Perceived Cost

Price familiarity	Amount	Frame	Estimates		Univariate Tests						
			Mean	SE	Sum of Squares	df	MS	F	Sig.	Partial η^2	
Low	Small	Daily	3.42	0.31	Contrast	36.697	1	36.697	15.322	.000	.064
		Aggregate	5.05	0.28	Error	536.499	224	2.395			
	Large	Daily	4.77	0.28	Contrast	7.976	1	7.976	3.330	.069	.015
		Aggregate	5.48	0.27	Error	536.499	224	2.395			
High	Small	Daily	4.02	0.30	Contrast	26.470	1	26.470	11.052	.001	.047
		Aggregate	5.38	0.28	Error	536.499	224	2.395			
	Large	Daily	5.14	0.29	Contrast	2.587	1	2.587	1.080	.300	.005
		Aggregate	5.57	0.29	Error	536.499	224	2.395			

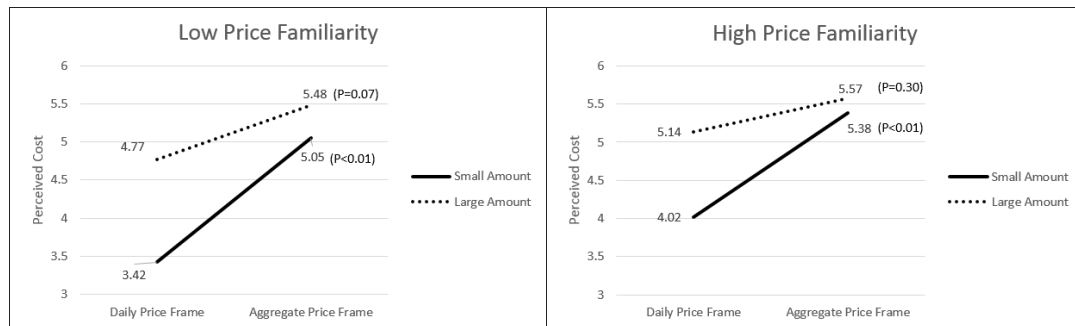


Figure 24 Values of Perceived Cost on Frames at the Levels of Amount within Each Level of Price Familiarity

4.2.2.5.2 Perceived Benefits

Six items were averaged to form a composite measure of perceived benefits

(Chronbach's Alpha =0.906), with a higher score meaning higher level of perceived

benefits. The hypotheses tested were:

H2a: when consumers have low price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.

H2b: when consumers have low price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.

H2c: when consumers have high price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

H2d: when consumers have high price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

Three way ANOVA was used to test for differences among independent groups.

The results are provided in Table 40.

Table 40 Three-way Analysis of Variance for Perceived Benefits

Source		<i>df</i>	MS	F	P	Partial η^2
	Frame	1	1.074	1.791	.182	.008
	Amount	1	1.727	2.881	.091	.013
	Price familiarity	1	.780	1.300	.255	.006
	Frame \times Amount	1	2.034	3.393	.067	.015
	Frame \times Price familiarity	1	.065	.109	.742	.000
	Amount \times Price familiarity	1	1.635	2.727	.100	.012
	Frame \times Amount \times Price familiarity	1	1.671	2.787	.096	.012
	Error	224	.600			

a. R Squared = .062 (Adjusted R Squared = .033)

The 3-way interaction was not significant, ($F(1, 224)=2.787, p=0.096$), whereas a 2-way interaction of frame and amount was marginally significant ($F(1, 224)=3.39, p=0.067$). That is, this interaction of frame and amount was likely to be observed at both a high and a low level of price familiarity.

To test the hypotheses, pairwise comparisons were performed (Table 41, Figure 25). When participants have low price familiarity, this interaction of frame and amount on perceived benefits was significant ($F(1,114) = 6.419, p=0.01$), with partial eta squared=0.053, indicating a large-sized effect. That is, the larger amount reduces the effect of frame on the perception of benefits. The results did not support both hypotheses 2a and 2b in that, when participants have low price familiarity, the level of perceived benefits in a daily price frame was significantly higher than in an aggregate price frame at a small amount ($M_{PAD}=6.02, M_{AGG}=5.55, F(1, 224)=0.028, p<0.01$, H2a rejected), whereas the level of perceived benefits in a daily price frame was not significantly higher than in an aggregate price frame at a large amount ($M_{PAD}=5.66, M_{AGG}=5.92, F(1, 224)=2.682, p=0.196$, H1b rejected).

With regard to the group with high price familiarity, hypotheses 2c and 2d were supported in that, when participants have high price familiarity, levels of perceived benefits in a daily price frame and in an aggregate price frame were not significantly different at both a small amount ($M_{PAD}=5.59$, $M_{AGG}=5.41$, $F(1, 224)=0.835$, $p=0.362$, H2c supported) and a large amount ($M_{PAD}=5.92$, $M_{AGG}=5.77$, $F(1, 224)=0.553$, $p=0.458$, H2d supported).

Table 41 Pairwise Comparisons between Two Frames across Amounts \times Price Familiarity on Perceived Benefits

Price familiarity	Amount	Frame	Estimates		Univariate Tests						
			Mean	SE	Sum of Squares	df	MS	F	Sig.	Partial η^2	
Low	Small	Daily	6.02	0.15	Contrast	2.939	1	2.939	4.90	.028	.021
		Aggregate	5.56	0.14	Error	134.319	224	.600			
	Large	Daily	5.67	0.14	Contrast	1.008	1	1.008	1.68	.196	.007
		Aggregate	5.92	0.14	Error	134.319	224	.600			
High	Small	Daily	5.60	0.15	Contrast	.500	1	.500	.83	.362	.004
		Aggregate	5.41	0.14	Error	134.319	224	.600			
	Large	Daily	5.92	0.15	Contrast	.331	1	.331	.55	.458	.002
		Aggregate	5.77	0.14	Error	134.319	224	.600			

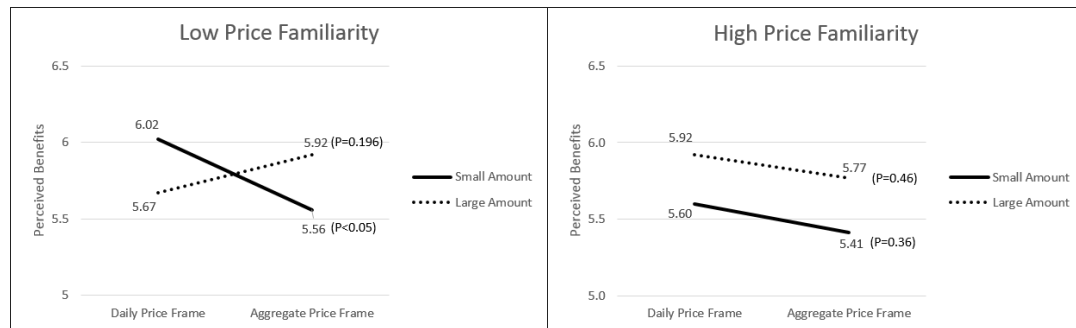


Figure 25 Values of Perceived Benefits on Frames at the Levels of Amount within Each Level of Price Familiarity

4.2.2.5.3 Feeling of Being Misled

Three items were averaged to form a composite measure of the feeling of being misled (Chronbach's Alpha =0.950). The hypotheses tested were:

H3a: Consumers' feeling of being misled will be higher for a daily price frame than for an aggregate price frame.

H3b: The discrepancy of consumers' feelings of being misled between a daily price frame and an aggregate price frame will be larger when consumers have high price familiarity than when they have low price familiarity.

Two way ANOVA was used to test for differences. Results are provided in Table 42.

Table 42 Two-way Analysis of Variance for the Feeling of Being Misled

Source		<i>df</i>	MS	F	P	Partial η^2
	Frame	1	6.668	3.246	.073	.014
	Price familiarity	1	31.582	15.372	.000	.063
	Frame \times Price familiarity	1	4.310	2.098	.149	.009
	Error	228	2.054			

a. R Squared = .082 (Adjusted R Squared = .070)

The 2-way interaction of frame and price familiarity was not significant ($F(1, 228) = 2.098, p=0.149$). Price familiarity has a main effect in that, participants who have a higher level of price familiarity perceive significantly higher levels of the feeling of being misled than participants who have a lower level of price familiarity ($M_{High}=3.736, M_{Low}=2.98, F(1, 224)=16.01, p<0.01$). To test the hypotheses, pairwise comparisons were performed (Table 43).

Table 43 Pairwise Comparisons between Two Frames across the Levels of Price Familiarity on the Feeling of Being Misled

Price familiarity	Estimates				Univariate Tests					
	Frame	Mean	SE		Sum of Squares	<i>df</i>	MS	F	Sig.	Partial η^2
High		3.73	.13	Contrast	31.582	1	31.582	15.372	.000	.063
		2.99	.13	Error	468.411	228	2.054			
Low	Daily	3.53	.14	Contrast	6.668	1	6.668	3.246	.073	.014
	Aggregate	3.19	.13	Error	468.411	228	2.054			
High	Daily	4.04	.19	Contrast	10.683	1	10.683	5.200	.024	.022
	Aggregate	3.42	.19	Error	468.411	228	2.054			
Low	Daily	3.02	.19	Contrast	.130	1	.130	.063	.802	.000
	Aggregate	2.96	.18	Error	468.411	228	2.054			

Results marginally supported hypothesis 3a in that, the feeling of being misled was higher in a daily price frame (M=3.516, SE=0.136) than in an aggregate price frame (M=3.194, SE=0.129), with $F(1,244)=2.96$, $p=0.086$, Partial Eta Squared=0.013, indicating a small-sized effect.

Hypothesis 3b was supported in that, the discrepancy of the feeling of being misled between a daily price frame and an aggregate price frame was significant when participants had high price familiarity ($F(1,224)=5.278$, $p=0.023$), but not significant when participants had low price familiarity ($F(1,224)=0.015$, $p=0.901$). Figure 26 describes the values of the feeling of being misled on frames at the levels of price familiarity.



Figure 26 Values of the Feeling of Being Misled On Frames at the Levels of Price Familiarity

4.2.2.5.4 Purchase Intention

A single measurement was used to measure purchase intention of the target product. The hypotheses tested were:

- H4a: when consumers have low price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be higher than in an aggregate price frame.
- H4b: when consumers have low price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4c: when consumers have high price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4d: when consumers have high price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

Three way ANOVA was used to test for differences among independent groups.

Results are provided in Table 44.

Table 44 Three-Way Analysis of Variance for Purchase Intention

Source	<i>df</i>	MS	F	P	Partial η^2
Frame	1	2.874	1.270	.261	.006
Amount	1	8.815	3.897	.050	.017
Price familiarity	1	17.726	7.835	.006	.034
Frame \times Amount	1	4.095	1.810	.180	.008
Frame \times Price familiarity	1	.449	.198	.656	.001
Amount \times Price familiarity	1	4.437	1.961	.163	.009
Frame \times Amount \times Price familiarity	1	4.739	2.095	.149	.009
Error	224	2.262			

a. R Squared = .075 (Adjusted R Squared = .046)

Neither 3-way interaction was significant, ($F(1, 224)=2.095, p=0.149$), nor were the 2-way interactions. Price familiarity has a main effect in that, participants who have low price familiarity showed significantly higher purchase intention ($M=5.3, SE=0.13$) than those who have high price familiarity ($M=4.75, SE=0.14$), $F(1, 224)=7.83, p<0.01$. Unsurprisingly, amount has a main effect in that, participants who were given a small amount offer showed significantly higher purchase intention ($M=5.22, SE=0.14$) than those who were given a large amount offer ($M=4.83, SE=0.13$), $F(1, 244)=3.89, p=0.05$. To test the hypotheses, pairwise comparisons were performed (Table 45).

Table 45 Pairwise Comparisons between Two Frames across Amounts × Price Familiarity on Purchase Intention

Price familiarity	Amount	Frame	Estimates		Univariate Tests						
			Mean	SE	Sum of Squares	df	MS	F	Sig.	Partial η^2	
Low	Small	Daily	5.80	0.30	Contrast	10.34	1	10.343	4.572	.034	.020
		Aggregate	4.94	0.27	Error	506.76	224	2.262			
	Large	Daily	5.13	0.27	Contrast	.90	1	.904	.400	.528	.002
		Aggregate	5.38	0.27	Error	506.76	224	2.262			
High	Small	Daily	5.15	0.29	Contrast	.18	1	.187	.083	.774	.000
		Aggregate	5.03	0.27	Error	506.76	224	2.262			
	Large	Daily	4.50	0.28	Contrast	.34	1	.343	.152	.697	.001
		Aggregate	4.34	0.28	Error	506.76	224	2.262			

Results supported hypothesis 4a, but not 4b in that, when participants have low price familiarity, at a small amount condition, the level of purchase intention in a daily price frame was significantly higher than in an aggregate price frame ($M_{PAD}=5.8$, $M_{AGG}=4.9$, $F(1, 224)=4.58$, $p=0.03<0.05$, H4a supported), whereas at a large amount condition, the level of purchase intention in a daily price frame was not significantly higher than in an aggregate price frame ($M_{PAD}=5.13$, $M_{AGG}=5.37$, $F(1, 224)=0.904$, $p=0.4$, H4b rejected). That is, the larger amount reduces the effect of frame on purchase intention. The interaction of frame and amount on purchase intention was significant ($F(1,114) = 5.179$, $p=0.025<0.05$), with partial eta squared=0.043, indicating a small to medium-sized effect.

With regard to participants with high price familiarity, hypotheses 4c and 4d were not supported in that, when participants have high price familiarity, the levels of purchase intention in a daily price frame and in an aggregate price frame were not significantly different at both a small amount ($M_{PAD}=5.14$, $M_{AGG}=5.03$, $F(1, 224) =$

0.835, $p=0.774$, H4c rejected) and a large amount ($M_{PAD}=4.5$, $M_{AGG}=4.34$, $F(1.244)=0.400$, $p=0.528$, H4d rejected).

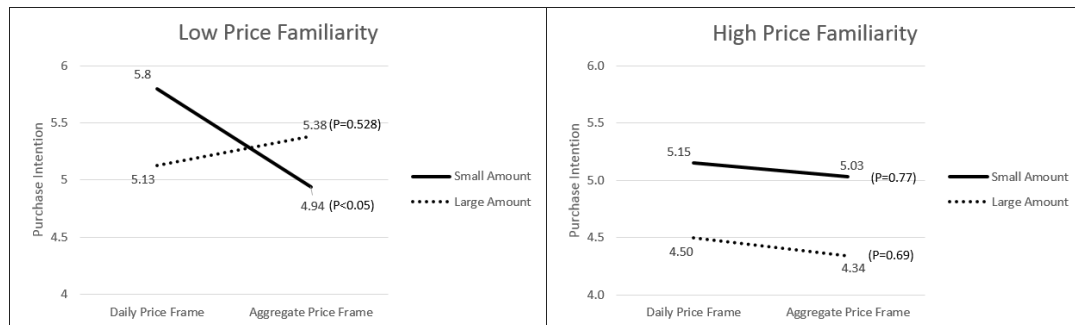


Figure 27 Values of Purchase Intention on Frames at the Levels of Amount within Each Level of Price Familiarity

4.2.2.5.5 Multiple Mediation Analysis

Multiple mediation analyses was conducted to further explain whether the three mediators of perceived cost, perceived benefits, and the feeling of being misled significantly mediated the relationship between frame and purchase intention at each level of price familiarity across two levels of amount. Specifically, the focus here is to determine both if an overall effect exists for all mediators (total indirect effect) and the effect of each mediator (specific indirect effects). This way, the current study can also determine the unique effect of each mediator while controlling the other mediators.

A bootstrapping procedure estimated the indirect effect of frame of purchase intention through perceived cost, perceived benefits, and the feeling of being misled following the procedure of Preacher and Hayes (2008). Figure 28 provides the results of the analysis at each level of price familiarity across amounts. Regression coefficients, standard errors, and other statistics pertinent to the model are summarized in Table 75 in the Appendix.

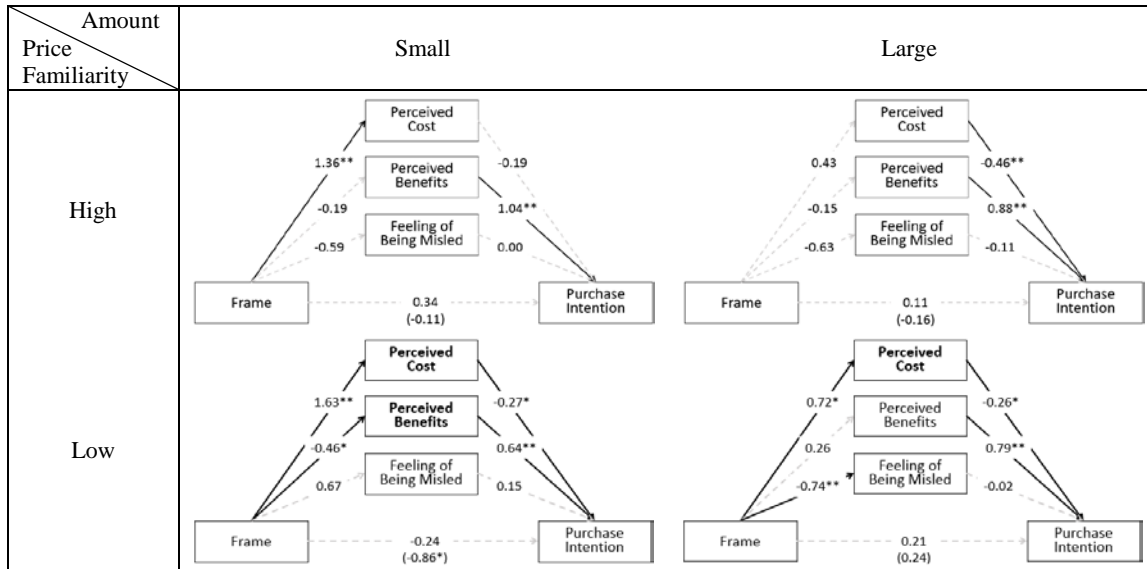


Figure 28 Statistical Diagrams of the Parallel Multiple Mediator Model for Purchase Intention

In the case of high price familiarity, regardless of the levels of amount, none of the three factors mediated the effect of frame on purchase intention. Although frame influenced perceived cost at a small amount, purchase intention was not influenced by perceived cost. That is, the indirect effect of frame on purchase intention through perceived cost was not significant ($ab = -0.26$, 95% confidence interval = $[-0.74, 0.08]$). Among the three mediators, purchase intention was influenced by the levels of perceived benefits. However, the effect of frame on perceived benefits was not significant, resulting in the insignificant indirect effect of frame on purchase intention through perceived benefits ($ab = -0.20$, 95% confidence interval = $[-0.80, 0.22]$). The feeling of being misled neither influenced purchase intention, nor was it influenced by frame, resulting in a non-significant indirect effect ($ab = 0.00$, 95% confidence interval = $[-0.17, 0.2]$). The total effect and direct effect of frame on purchase intention were not significant.

Similarly, in the case of high price familiarity & large amount, this study could not find the significant indirect effect of frame on purchase intention through perceived cost ($ab=-0.20$, 95% confidence interval = $[-0.72, 0.22]$), perceived benefits ($ab=-0.13$, 95% confidence interval = $[-0.66, 0.12]$), and the feeling of being misled ($ab=0.07$, 95% confidence interval = $[-0.06, 0.46]$).

That is, regardless of the levels of amount, there was no evidence that participants purchase intention differs between a daily price frame and an aggregate price frame through perceived cost, perceive benefits and the feeling of being misled.

In the case of low price familiarity, the significant indirect effect of perceived cost frame on purchase intention at the small amount was found, while marginally significant indirect effect of frame on purchase intention at a large amount was found.

At the small amount, the indirect effect of frame on purchase intention through perceived cost was estimated as -0.43 , which was significant at the 0.05 level ($ab=-0.43$, 95% confidence interval = $[-0.23, -0.1]$), indicating that participants who received price information in an aggregate frame have weaker purchase intention as a result of the results of increased perceived cost ($a=1.63$, $p<0.01$), which in turn was negatively related to their purchase intention ($b=-0.27$, $p<0.05$). Similarly, perceived benefits mediated the relationship between frame and purchase intention at marginal level ($ab=-.29$, 95% confidence interval = $[-0.86, -0.01]$, $p=0.11$). The negative indirect effect of frame on purchase intention through perceived benefits indicated that participants who received price information in an aggregate price frame have weaker purchase intention; although perceived benefits increased purchase intention ($b=0.64$, $p<0.01$), an aggregate price frame decreased the levels of perceived benefits ($a=-0.46$,

$p < 0.05$). The feeling of being misled did not mediate between frame and purchase intention ($ab = 0.1$, 95% confidence interval = $[-0.02, 0.53]$). The specific indirect effect of frame on purchase intention through perceived cost was not statistically different from the specific indirect effect through perceived benefits (95% confidence interval = $[-1.01, 0.60]$, $p = 0.61$).

At the large amount, the significant indirect effect of frame on purchase intention was observed only through perceived cost at marginal levels of significance ($ab = -0.18$, 95% confidence interval = $[-0.48, -0.01]$, $p = 0.11$), but not through perceived benefits ($ab = 0.2$, 95% confidence interval = $[-0.07, 0.6]$) and not through the feeling of being misled ($ab = 0.01$, 95% confidence interval = $[-0.17, 0.29]$).

4.2.3 Discussion

Although Study 2 did not produce a reversed perceived cost between a daily price frame and an aggregate price frame, when participants have low price familiarity the effectiveness of a daily price frame on perceived cost decreased as the amount increased. Unexpectedly, this pattern was also observed in high levels of price familiarity. The possible reason for this unexpected finding is that, even though the majority of participants in high price familiarity treatment reported that they calculated the monthly price of the target product (83% participants), daily price information might elicit them to think about the triviality of amount which they have not previously thought about, leading to the different levels of perceived cost compared to an aggregate price information. This inference is supported by the levels of perceived triviality of spending between a daily price frame and an aggregate price frame in that,

for both a low and a high level of price familiarity, participants perceived significantly lower levels of triviality for the amount in a daily price frame than in an aggregate price frame in the small amount scenario ($M_{\text{High PF, PAD, Small}}=4.40$ vs $M_{\text{High PF, AGG, Small}}=2.76$, $t(55)=4.956$, $p<0.01$; $M_{\text{Low PF, PAD, Small}}=4.46$ vs $M_{\text{Low PF, AGG, Small}}=3.09$, $t(54)=3.507$, $p<0.01$), whereas they perceived a non-significant different levels of triviality for the amount between two frames in the large amount scenario ($M_{\text{High PF, PAD, Large}}=2.71$ vs $M_{\text{High PF, AGG, Large}}=2.52$, $t(55)=0.519$, $p=0.606$; $M_{\text{Low PF, PAD, Large}}=3.05$ vs $M_{\text{Low PF, AGG, Large}}=2.64$, $t(60)=1.241$, $p=.220$).

Hence this study concludes that, even if consumers use price information in a familiar time-frame as a criteria of price judgment, there is a possibility that the reframed price (a daily price, or an aggregate price) information could influence the consumer to perceive the price differently by having a new viewpoint of the price.

As expected, Study 2 found that, when participants have high price familiarity, their perceived benefits in a daily price frame and in an aggregate price frame were not significantly different. However, the direction of the difference was opposite to that which it was hypothesized in that, the levels of perceived benefits were slightly higher in a daily price frame than in an aggregate price frame. This direction was also observed that when participants have low price familiarity in that, in a small amount condition, the level of perceived benefits in a daily price frame was significantly higher than in an aggregate price frame. Similar to the result in Study 1, when participants have low price familiarity, the levels of perceived benefits between two frames were not significantly different, but the level of perceived benefits was slightly higher in an aggregate price frame than in a daily price frame.

Hypotheses regarding the feeling of being misled were all supported in that, the feeling of being misled was higher in a daily price frame than in an aggregate price frame. Also as expected, this negative effect of daily price frame on the feeling of being misled was stronger when participants have high price familiarity than when they have low price familiarity.

With regard to purchase intention, although the reversed purchase intention between a daily price frame and an aggregate price frame was not observed, when participants have low price familiarity, the effectiveness of a daily price frame on perceived cost decreased as the amount increased. Specifically, when participants have low price familiarity, the levels of purchase intention was significantly higher in a daily price frame than in an aggregate price frame. However, the effect of daily price frame decreased as amount increased in that, there was not difference in purchase intention between two frames when the amount was large. These results were consistent with Gourville's (1998) study.

Unexpectedly, participants who have high price familiarity showed a non-significant difference in purchase intention between two frames regardless of the levels of amount. This result supported the assumption that when consumers were familiar with a particular time-frame of payment and reference price to judge the target transaction, the effect of the PAD strategy is likely to be attenuated.

Mediation analysis revealed that, perceived cost mediates the relationship between frame and purchase intention when consumers have low price familiarity, but not when they have high price familiarity. Surprisingly, even though a daily price

frame generated the feeling of being misled, especially when consumers have high price familiarity, purchase intention was not influenced by it.

STUDY 3

Study 3 conducted a three way factorial ANOVA including *Frame* (Daily vs. Aggregate), *Attitude toward the comparison product* (High vs. Low) and *Price familiarity* (High vs. Low) to test hypotheses 5a – 6d. Two types of pretest were administered: the first pretest focused on the anticipated benefits of New Plus' product. Similar to Study 1 and Study 2, credibility and informativeness of the advertisement were also measured. In addition, a reasonable price to use for the New Plus product was explored. The second pretest measured levels of attitude toward two comparison products, bottled water and soda. Also, perceptions of a reasonable price for the comparison product was measure so as to compare it with the price of New Plus' product.

4.3.1 Pretest

4.3.1.1 Credibility and Informativeness

To see whether the overall credibility and informativeness is high enough to be used, the pretest measured credibility and informativeness of the advertisement. In addition, the mean values of credibility and informativeness across two groups, one with bottled water and another with soda, were compared to see whether the types of comparison product influenced the levels of credibility and informativeness.

Table 46 presents the normality, mean, and standard deviation result for each measure.

Table 46 Descriptive Statistics of Credibility and Informativeness of the Advertisement in the Pretest for Study 3

Variable	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Credibility	This advertisement is believable.	60	4.900	1.4106	-1.016	.357
	This advertisement is credible.	60	4.700	1.4532	-.516	-.273
	This advertisement is realistic.	60	4.850	1.4709	-.360	-.896
Informativeness	This advertisement is informative.	60	4.767	1.6710	-.654	-.387
	The information in advertisement is easy to understand.	60	5.567	1.2125	-.810	.274

A one-sample t-test yielded a statistically significant difference between the sample mean of credibility and the assumed null value of 4.0, $t(59) = 4.752$, $p < .01$. The sample mean of informativeness was also significantly higher than the assumed null value of 4.0, $t(59) = 6.879$, $p < 0.01$.

There was neither a significant effect of attitude toward the comparison product in credibility, $t(58) = 0.853$, $p = .397$, nor in informativeness, $t(58) = 0.589$, $p = 0.558$, indicating that the different levels of attitude toward bottled water and soda did not produce the difference in credibility and informativeness (Table 47).

Table 47 Group Differences for Credibility and Informativeness between Groups That Received Bottled Water (High Comparison Product Attitude) or Soda (Low Comparison Product Attitude)

Measure	Bottled Water		Soda		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	M	SD	M	SD				
Credibility	4.95	1.32	4.65	1.35	58	.853	.397	0.22
Informativeness	5.26	1.32	5.06	1.32	58	.589	.558	0.15

4.3.1.2 Anticipated Benefits

Each subject listed three benefits that they would expect to result from the online health coaching program described in the advertisement. A total of 96 answers are listed in Table 71 in the Appendix.

Similar to Study 2, the pretest grouped the similar benefits together and chose four benefits which were most frequently mentioned: weight loss (15 times), healthier lifestyle (14 times), motivation (5 times), and feeling better (5 times). Based on these benefits, four items were created to measure the levels of perceived benefits for Study 3.

4.3.1.3 Reasonable price for the target product

A total of 32 participants indicated their perception of a reasonable monthly price for New Plus' product. The average monthly price reported was \$19.78, ranging from \$5 ~ \$50. The monthly price of the New Plus product was at \$30 per month (which equals to \$1 per day, or \$180 for six months) for the Unitosity effect; if the monthly price is less than \$30 per month, a daily price information will be expressed either with different currency unit (cents) or with decimal point. Instead, Study 3 designed New Plus' product with better service attributes. The reported price level, \$20 per month, was used for the competitors' price level.

4.3.1.4 Reasonable price for the comparison product

A total of 51 participants were asked to provide a reasonable monthly price for the comparison product (either soda can or bottled water) used in the advertisement.

This was not different between *soda* (M= \$ 0.97, SE=0.08) and *water* (M= \$ 0.99, SE=0.06), $t(49) = 0.241$, $p=0.811$ (Table 48). This result also indicated that the levels of reported price for the comparison and the price of target product (\$1 per day) were not significantly different.

Table 48 Differences in the Reasonable Price for the Comparison Product (Bottled Water vs. Soda)

M	SD	M	SD	<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
<u>Bottled Water</u>		<u>Soda</u>					
0.998	0.37	0.97	0.40	49	0.241	0.811	0.067

4.3.1.5 Attitude toward the comparison product

Study 3 provided bottled water on the advertisement for high attitude condition, and soda for low attitude condition. A total of 60 participants were randomly assigned to one of two groups where the advertisement was shown along with either a bottle of water or soda can as a comparison product.

Table 49 presents the normality test, mean, and standard deviation results for each measure across two groups.

Table 49 Descriptive Statistics of Attitude toward Bottled Water and Attitude toward Soda

Group	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Group 1 (<i>Bottled Water</i>)	The comparison item is attractive to me.	33	4.636	1.4752	-.378	-.428
	The comparison item is a good product.	33	5.424	1.1734	-1.042	1.533
	I don't like the comparison item. (R)	33	5.48	1.439	-1.342	1.304
	I have a positive impression about the comparison item.	33	5.030	1.5509	-1.017	.570
Group 2 (<i>Soda Can</i>)	The comparison item is attractive to me.	27	3.741	1.5340	-.149	-.958
	The comparison item is a good product.	27	3.926	1.8171	-.172	-1.176
	I don't like the comparison item. (R)	27	4.07	1.960	.087	-1.264
	I have a positive impression about the comparison item.	27	3.778	1.7394	.037	-1.216

As expected, the mean values of the manifest variables for product attitude were high when the comparison product was bottled water, whereas the mean values were low when the comparison product was a soda can. The values of Skewness and Kurtosis showed that it is acceptable to assume that the distribution is normal.

Reliability analysis was conducted using Cronbach’s alpha (Table 50).

Table 50 Reliability Analysis: Cronbach's Alpha for Attitude toward the Comparison Product

Reliability Statistics	Cronbach's Alpha		Standardized Items' Cronbach's Alpha		
	.899		.900		
Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
The comparison item is attractive to me.	14.067	21.623	.788	.624	.868
The comparison item is a good product.	13.550	21.608	.715	.513	.891
I don't like the comparison item. (R)	13.450	19.438	.790	.637	.866
I have a positive impression about the comparison item.	13.833	19.734	.819	.678	.854

Overall, Cronbach’s alpha value for product attitude was 0.899, indicating a high degree of internal consistency. The mean score responses following item deletion were stable with averages ranging from 13.450 to 14.067. Corrected item-total correlations were positive and strongly acceptable with values from .715 to .819.

Based on the results of the internal reliability, three manifest variables were averaged to perform an independent t-test that will compare two sample means of attitude toward bottled water and soda (Table 51).

Table 51 Group Differences in Attitude toward the Comparison Product between Groups that Received Bottled Water or Soda

M	SD	M	SD	df	t	p	Cohen's d
<u>Bottled Water</u>		<u>Soda</u>					
5.14	1.17	3.88	1.56	47.383	3.488	0.001	0.91

On average, participants in the group who were exposed to bottled water have higher product attitude ($M=5.14$, $SE=0.02$) than those in the group who were exposed to a soda can ($M=3.88$, $SE = 0.30$). This difference was significant $t(47.383) = 3.88$, $p=0.01$, with Cohen’s $d=0.91$, indicating a large-sized effect.

4.3.2 Main Study

A total of 320 participants were hired from online Mechanical-Turk, and were randomly assigned one of eight fixed condition groups. The fixed treatment is Frame (Day frame vs. Aggregate price frame) \times Attitude toward the comparison product (High vs. Low) \times Price familiarity (High vs. Low). Thirty-one participants were omitted for quality purposes; seventeen of them participated more than one time, and fourteen of them failed to check the required option on scales. As a result, there were 289 participants remained; 44.3% males and 55.7% females. The average age of participants was 37, ranging from 18 to 75. Details of each condition are provided in Table 52.

Table 52 Group Information in Study 3

		High Price familiarity		Low Price familiarity	
		Attitude toward the comparison product		Attitude toward the comparison product	
		Low	High	Low	High
<u>PAD</u>	<i>Group 1</i>	<i>Group 2</i>	<i>Group 5</i>	<i>Group 6</i>	
	<i>(\$ 1 per day + Soda can)</i>	<i>(\$ 1 per day + Bottled Water)</i>	<i>(\$ 1 per day + Soda can)</i>	<i>(\$ 1 per day + Bottled Water)</i>	
	<i>N=33</i>	<i>N=37</i>	<i>N=36</i>	<i>N=39</i>	
Frame	<i>Group 3</i>	<i>Group 4</i>	<i>Group 7</i>	<i>Group 8</i>	
	<i>(\$ 180 for six months + many soda cans)</i>	<i>(\$ 180 for six months + many bottled water)</i>	<i>(\$ 180 for six months + many soda cans)</i>	<i>(\$ 180 for six months + many bottled water)</i>	
<u>AGG</u>	<i>N=36</i>	<i>N=38</i>	<i>N=38</i>	<i>N=32</i>	

4.3.2.1 Descriptive Statistics

Table 53 presents the normality, means, and standard deviations for measures

Table 53 Descriptive Statistics of Measurements in Study 3

Variable	Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Attitude toward the comparison product	The comparison product is attractive to me.	289	4.10	1.863	-.261	-1.142
	The comparison product is a good product.	289	4.07	1.833	-.152	-1.070
	I don't like the comparison product. (R)	289	4.761	2.0468	-.631	-1.002
	I have a positive impression about the comparison product.	289	3.98	1.834	-.114	-1.111
Competitor's Price familiarity	I am informed about the prices of New Plus's competitors.	289	4.38	1.931	-.408	-1.151
	I am knowledgeable about the prices of New Plus's competitors.	289	4.30	1.897	-.314	-1.204
	I am familiar with the prices of New Plus's competitors.	289	4.29	1.891	-.312	-1.228
Product Price familiarity	I feel familiar with the price of the online health coaching service described.	289	4.95	1.434	-.933	.339
	I feel informed about the price of the online health coaching service described.	289	4.97	1.388	-.846	.274
	I feel knowledgeable about the price of the online health coaching service described.	289	4.89	1.453	-.859	.213
Purchase Intention	If I need to get an online life coaching service, I would purchase New Plus's service.	289	4.80	1.519	-.828	-.007
Perceived Cost	The advertised price for New Plus's service is high.	289	3.78	1.601	.202	-.866
	I feel New Plus's service is expensive.	289	3.83	1.604	.112	-.906
	I feel New Plus's advertised price for the service is not high. (R)	289	3.841	1.6316	.249	-1.055
Perceived benefits	I would feel better about myself.	289	4.66	1.442	-.588	.025
	I would lose my desired weight.	289	4.54	1.343	-.577	.498
	I would not be more motivated to continue to participate. (R)	289	4.958	1.4948	-.795	-.027
	I would have a healthier lifestyle.	289	4.90	1.355	-.923	.838
Feeling of being misled	New Plus is attempting to mislead consumers with its price.	289	3.35	1.559	.352	-.720
	New Plus intends to manipulate my perception of its price.	289	3.82	1.674	.047	-.956
	New Plus wants to get more sales by tricking consumers with its price.	289	3.44	1.585	.342	-.633

4.3.2.2 Manipulation Check

4.3.2.2.1 Attitude toward the comparison product

Manipulations for the levels of attitude levels toward the comparison product were successful. Four manifest variables were averaged to perform an independent

t-test between product attitude toward bottled water and soda (Table 54). As expected, the difference in product attitude was significant ($t(287) = 3.205, p < 0.01$), with bottled water received higher levels of product attitude ($M = 4.54, SE = 0.14$) than soda ($M = 3.90, SE = 0.14$). Cohen's d was 0.38, indicating a small to medium sized effect.

Table 54 Group Differences in Attitude toward the Compression Product between Groups That Received Bottled Water or Soda

Bottled Water		Soda		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
4.54	1.70	3.90	1.72	287	3.205	.002	0.38

4.3.2.2.2 Price familiarity

Manipulation of price familiarity was successful in that, participants in the high price familiarity condition responded that they were more familiar with the price of competitors' product than participants in the low price familiarity condition (Table 55, $M_{High} PF = 5.28$ vs $M_{Low} PF = 3.37, t(287) = 10.06, p < 0.01$). Further, participants in the high price familiarity (vs. low price familiarity) felt more familiar with the price of the online health coaching service (Table 55, $M_{High} PF = 5.16$ vs $M_{Low} PF = 4.71, t(287) = 2.836, p < 0.01$). These results suggest that the manipulation of price familiarity was effective.

Table 55 Group Differences in Price Familiarity between Groups that with Competitors' Price Information (Presence) or Without Competitors' Price Information (Absence)

Measure	Presence		Absence		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Competitors' price familiarity	5.28	1.46	3.37	1.74	287	10.060	.000	1.19
Product Price familiarity	5.16	1.22	4.71	1.46	287	2.836	.005	0.33

4.3.2.3 Factor Analysis and Reliability Analysis

An exploratory factor analysis was conducted in order to get evidence for the measurement discriminant validity. A total of eleven items were considered in the factor analysis. Principal components factor analysis was used with a Varimax rotation to determine the number of factors with eigenvalues greater than 1. As can be seen in Table 56, three factors emerged with eigenvalues greater than 1, accounting for 79.396 percent of the variance. Communalities after extraction were greater than 0.5.

Table 56 Summary of Items and Factor Loadings for Varimax Orthogonal Three-Factor Solution in Study 3

	Component			Communalities
	1	2	3	
If I need to get an online life coaching service, I would purchase New Plus's service.	.568	-.345	-.287	.524
I would have a healthier lifestyle.	.899	-.145	-.175	.859
I would feel better about myself.	.873	-.142	-.154	.807
I would lose my desired weight.	.845	-.170	-.094	.752
I would not be more motivated to continue to participate. (R)	.739	-.133	-.201	.604
The advertised price for New Plus's service is high.	-.218	.905	.171	.895
I feel New Plus's advertised price for the service is not high. (R)	-.156	.897	.135	.847
I feel New Plus's service is expensive.	-.206	.877	.234	.867
New Plus wants to get more sales by tricking consumers with its price.	-.244	.156	.905	.902
New Plus is attempting to mislead consumers with its price.	-.177	.186	.899	.874
New Plus intends to manipulate my perception of its price.	-.179	.195	.857	.804
Eigenvalue	5.481	1.728	1.525	
Percentage of variance explained	49.823	15.713	13.860	

Note) Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations.

Four items loaded onto Factor 1 related to perceived benefits.

Three items loaded onto Factor 2 related to the perception of cost.

Three items loaded onto Factor 3 related to the feeling of being misled.

The item relating to purchase intention was not significantly loaded onto any factor. This result confirmed that the single measurement of purchase intention is orthogonal to other factors, allowing it to be used as a dependent variable.

A Cronbach's alpha was computed for each of the three factors (perceived cost, perceived benefits, and the feeling of being misled) to obtain internal consistency estimates of reliability based on the average inter-item correlation. The alpha coefficient for the factors ranged from 0.893 to 0.925, indicating a high degree of internal consistency of items within their associated factor. Results are presented in Table 57.

Table 57 Reliability Analysis: Cronbach's Alpha for Perceived Cost, Perceived Benefits, and The Feeling of Being Misled

Factor	Cronbach's Alpha	Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Perceived Cost	.925	The advertised price for New Plus's service is high.	7.668	9.230	.881	.865
		I feel New Plus's service is expensive.	7.619	9.438	.847	.893
		I feel New Plus's advertised price for the service is not high. (R)	7.606	9.490	.816	.918
Perceived benefits	0.893	I would feel better about myself.	14.398	13.504	.801	.847
		I would lose my desired weight.	14.519	14.452	.765	.862
		I would not be more motivated to continue to participate. (R)	14.104	14.475	.647	.907
		I would have a healthier lifestyle.	14.166	13.667	.855	.829
Feeling of being misled	0.918	New Plus is attempting to mislead consumers with its price.	7.26	9.450	.843	.875
		New Plus intends to manipulate my perception of its price.	6.79	9.172	.788	.923
		New Plus is attempting to mislead consumers with its price.	7.17	9.083	.876	.848

4.3.2.4 Replication of Gourville (1999)

Following Gourville's analysis, subjects' purchase intention in a daily price frame was compared to those an aggregate price frame. Results were similar to Gourville

(1999)'s findings⁸ in that, purchase intention between two frames was not significantly different (Table 58, $F(1,287) = 0.188, p=0.665$). As expected, a daily price frame did not result in higher purchase intention toward the online health coaching program ($M=4.834, SE=0.126$) than an aggregate price frame did ($M=4.757, SE=0.127$). That is, the provision of an explicit petty cash comparison in the advertisement was sufficient to foster a “petty cash” perspective, especially in the context of an aggregate price frame.

Table 58 Comparisons between Two Frames on Purchase Intention

Frame	Estimates			Sum of Squares	Univariate Tests				
	Mean	Std. Error			<i>df</i>	MS	F	Sig.	Partial η^2
Daily	4.834	.126	Contrast	.434	1	.434	.188	.665	.001
Aggregate	4.757	.127	Error	664.521	287	2.315			

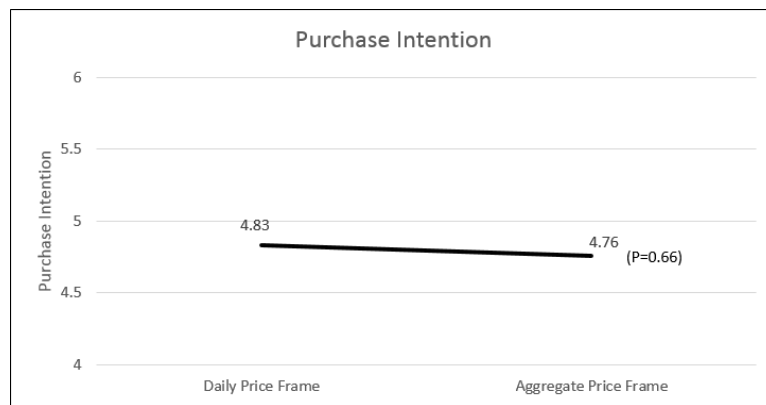


Figure 29 Values of Purchase Intention on Frames

4.3.2.5 Hypotheses testing

Figure 30 displayed the sample size and the mean values of perceived cost, perceived benefits, the feeling of being misled, and product attitude for each condition (Frame \times Attitude toward the comparison product \times Price familiarity).

⁸ Whereas Gourville used “perceive value” as a dependent variable, Stidu 3 measured “purchase intention” as a dependent variable.

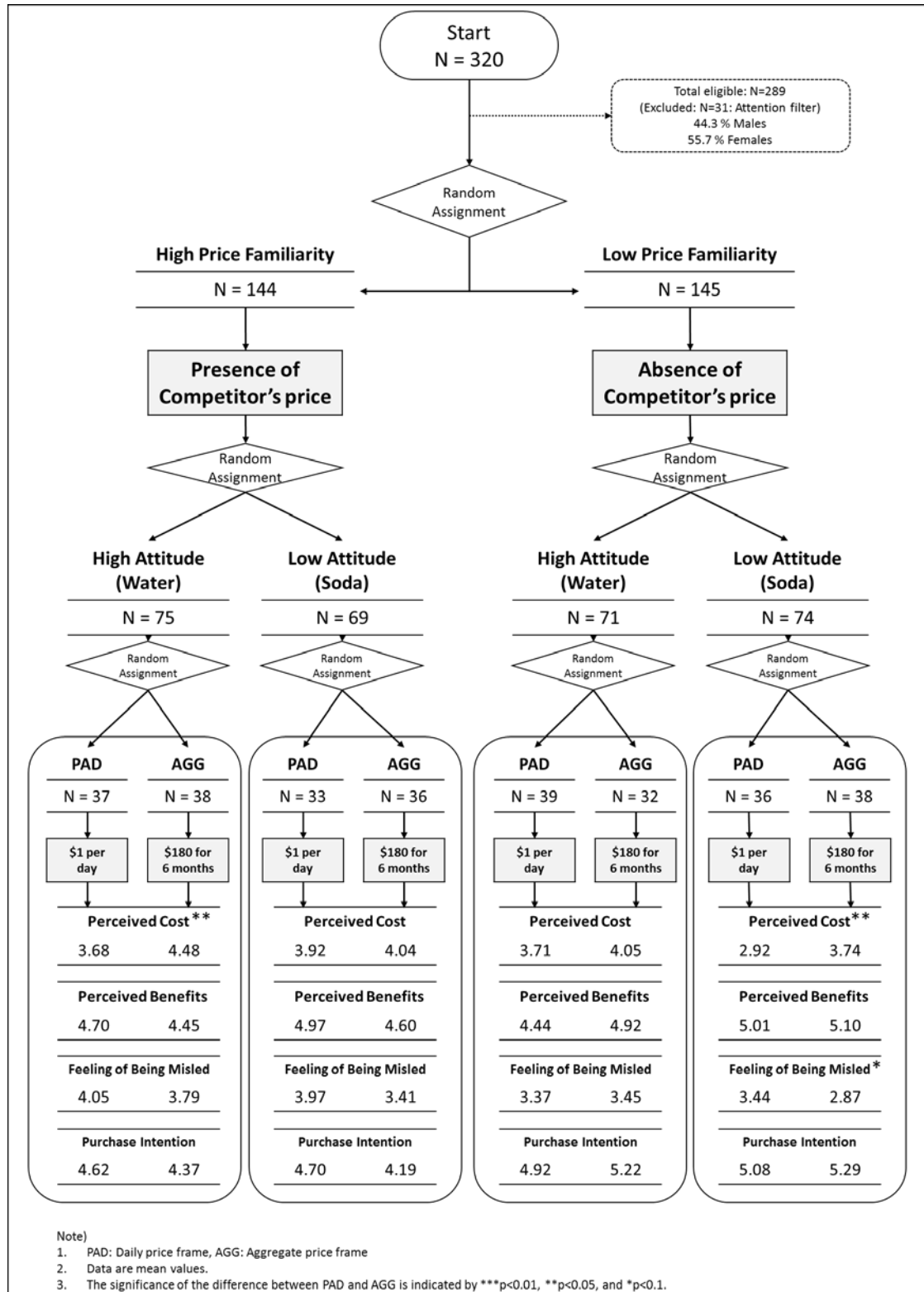


Figure 30 Sample Size and the Mean Values for Each Condition

To test the hypotheses, the value of the manifest variable on its associated latent variable was averaged to form a composite measure scale.

4.3.2.5.1 Perceived Cost

Three items were averaged to form a composite measure of perceived cost (Chronbach's Alpha =0.925), with a higher score being higher level of perceived cost. Since Study 3 includes only one level of amount (\$1/day, or \$180 for a six months), the hypotheses associated with a small amount were tested. The hypotheses were:

- H1a: when consumers have low price familiarity AND the price amount is small, the level of perceived cost for a daily price frame will be lower than for an aggregate price frame.
- H1c: when consumers have high price familiarity AND the price amount is small, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.

Two way ANOVA was used to test for differences among independent groups.

The results are provided in Table 59.

Table 59 Two-way Analysis of Variance for Perceived Cost

Source	<i>df</i>	MS	F	P	Partial η^2
Frame	1	18.869	8.696	.003	.030
Price familiarity	1	13.073	6.025	.015	.021
Frame \times Price familiarity	1	.120	.055	.814	.000
Error	285	2.170			

a. R Squared = .051 (Adjusted R Squared = .041)

I could not find a significant interaction, $F(1, 285) = 0.055$, $p=0.814$, but there were main effects for both of factors, frame ($F(1, 285) = 8.696$, $p=0.003<0.01$) and price familiarity ($F(1, 285) = 6.025$, $p=0.015<0.05$).

The level of perceived cost was higher in a daily price frame than in an aggregate price frame, at both groups who have low price familiarity (Table 60,

$M_{PAD}=3.329$, $M_{AGG}=3.881$ $F(1, 285)=5.086$, $p=0.025$, H1a supported) and who have high price familiarity ($M_{PAD}=3.795$, $M_{AGG}=4.266$ $F(1, 285)=3.670$, $p=0.056$, H1c rejected). Although, the differences in perceived cost in a daily price frame and in an aggregate price frame was smaller when participants have high price familiarity, compared to who have low price familiarity.

Table 60 Pairwise Comparisons between Two Frames across the Levels of Price Familiarity on Perceived Cost

Price familiarity	Estimates				Univariate Tests					
	Frame	Mean	SE		Sum of Squares	df	MS	F	Sig.	Partial η^2
Low	Daily	3.329	.170	Contrast	11.035	1	11.035	5.086	.025	.018
	Aggregate	3.881	.176	Error	618.400	285	2.170			
High	Daily	3.795	.176	Contrast	7.964	1	7.964	3.670	.056	.013
	Aggregate	4.266	.171	Error	618.400	285	2.170			

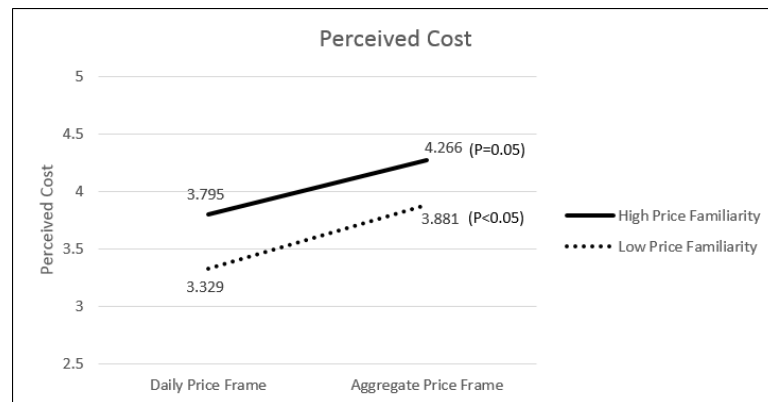


Figure 31 Values of Perceived Cost on Frames at the Levels of Price Familiarity

4.3.2.5.2 Perceived Benefits

Four items were averaged to form a composite measure of perceived benefits (Chronbach's Alpha =0.893), with a higher score meaning higher levels of perceived benefits. Since Study 3 only has a condition of small amount, the hypotheses tested were:

H2a: when consumers have low price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.

H2c: when consumers have high price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

Two-way ANOVA was used to test for differences among independent groups.

The results are provided in Table 61.

Table 61 Two-way Analysis of Variance for Perceived Benefits

Source		<i>df</i>	MS	F	P	Partial η^2
	Frame	1	.002	.001	.973	.000
	Price familiarity	1	2.549	1.713	.192	.006
	Frame \times Price familiarity	1	6.623	4.450	.036	.015
	Error	285	1.488			

a. R Squared = .021 (Adjusted R Squared = .011)

A significant interaction was found ($F(1, 285) = 4.450, p=0.036$) in that, the level of perceived benefits was higher in a daily price frame than in an aggregate price frame when participants have high price familiarity ($M_{PAD}=4.825, M_{AGG}=4.527$), whereas the level of perceived benefits was higher in an aggregate price frame than in a daily price frame when participants have low price familiarity (Table 62, Figure 32, $M_{PAD}=4.710, M_{AGG}=5.018$). However, these differences were not significant in both groups where participants have low price familiarity ($F(1, 285)=2.306, p=0.130$) and where participants have high price familiarity ($F(1, 285)=2.146, p=0.144$).

Table 62 Pairwise Comparisons between Two Frames across Price Familiarity on Perceived Cost

Price familiarity	Estimates			Univariate Tests						
	Frame	Mean	SE		Sum of Squares	<i>df</i>	MS	F	Sig.	Partial η^2
Low	Daily	4.710	.141	Contrast	3.432	1	3.432	2.306	.130	.008
	Aggregate	5.018	.146	Error	424.160	285	1.488			
High	Daily	4.825	.146	Contrast	3.194	1	3.194	2.146	.144	.007
	Aggregate	4.527	.142	Error	424.160	285	1.488			

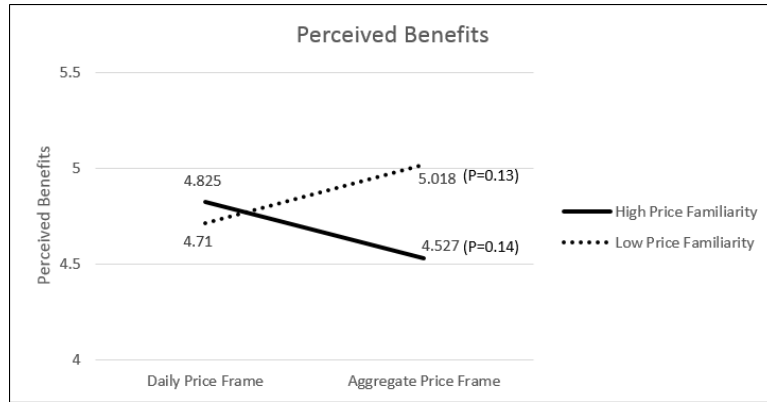


Figure 32 Values of Perceived Benefits on Frames at the Levels of Price Familiarity

4.3.2.5.3 Feeling of Being Misled

Three items were averaged to form a composite measure of the feeling of being misled (Chronbach's Alpha =0.918). The hypotheses tested were:

- H3a: Consumers' feeling of being misled will be higher for a daily price frame than for an aggregate price frame.
- H3b: The discrepancy of consumers' feelings of being misled between a daily price frame and an aggregate price frame will be larger when consumers have high price familiarity than when they have low price familiarity.

Two way ANOVA was used to test for differences among independent groups.

The results are provided in Table 63.

Table 63 Two-Way Analysis of Variance for the Feeling of Being Misled

Source	df	MS	F	P	Partial η^2
Frame	1	8.279	3.870	.050	.013
Price familiarity	1	21.225	9.922	.002	.034
Frame \times Price familiarity	1	.374	.175	.676	.001
Error	285	2.139			

a. R Squared = .046 (Adjusted R Squared = .035)

A 2-way interaction of frame and price familiarity was not significant ($F(1, 285) = 0.175, p=0.676$). Price familiarity has a main effect in that, participants who have a higher levels of price familiarity perceived significantly higher levels of the feeling of being misled than participants who have lower levels of price familiarity ($M_{High}=3.809, M_{Low}=3.267, F(1, 285)=9.922, p<0.01$). To test the hypotheses, pairwise comparisons were employed (Table 64).

Table 64 Pairwise Comparisons between Two Frames across the Levels of Price Familiarity on the Feeling of Being Misled

Price familiarity	Estimates			Univariate Tests						
	Frame	Mean	SE		Sum of Squares	df	MS	F	Sig.	Partial η^2
High		3.809	.122	Contrast	21.225	1	21.225	9.922	.002	.034
				Error	609.669	285	2.139			
-	Daily	3.707	.122	Contrast	8.279	1	8.279	3.870	.050	.013
	Aggregate	3.368	.122	Error	609.669	285	2.139			
High	Daily	4.014	.175	Contrast	6.067	1	6.067	2.836	.093	.010
	Aggregate	3.604	.170	Error	609.669	285	2.139			
Low	Daily	3.400	.169	Contrast	2.575	1	2.575	1.204	.274	.004
	Aggregate	3.133	.175	Error	609.669	285	2.139			

The results marginally supported hypothesis 3a in that, the feeling of being misled was higher in a daily price frame ($M=3.707, SE=0.122$) than in an aggregate price frame ($M=3.368, SE=0.122$), with $F(1, 285)=3.870, p=0.05$, Partial Eta Squared=0.013, indicating a small-sized effect.

Hypothesis 3b was supported in that, the discrepancy of the feeling of being misled between a daily price frame and an aggregate price frame was marginally significant when participants have high price familiarity ($F(1, 285)=2.836, p=0.093$), whereas it was not significant when participants have low price familiarity ($F(1, 285)=1.204, p=0.274$). Figure 33 describes the values of the feeling of being misled on frames at the levels of price familiarity.

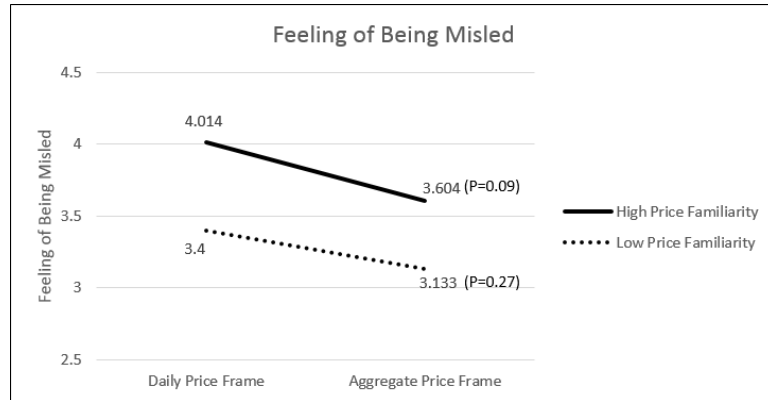


Figure 33 Values of the Feeling of Being Misled on Frames at the Levels of Price Familiarity

4.3.2.5.4 Purchase Intention

A single measurement was used to measure purchase intention of the target product. The hypotheses tested were:

H4a: when consumers have low price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be higher than in an aggregate price frame.

H4c: when consumers have high price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

Two way ANOVA was used to test for differences among independent groups.

The results are provided in Table 65.

Table 65 Two-way Analysis of Variance for Purchase Intention

Source	df	MS	F	P	Partial η^2
Frame	1	.244	.111	.739	.000
Price familiarity	1	31.261	14.228	.000	.048
Frame \times Price familiarity	1	7.173	3.265	.072	.011
Error	285	2.197			

a. R Squared = .021 (Adjusted R Squared = .011)

A marginally significant interaction was found, $F(1, 285) = 3.265$, $p=0.072$ in that, purchase intention was higher in a daily price frame than in an aggregate price frame when participants have high price familiarity (Table 66, $M_{PAD}=4.657$, $M_{AGG}=4.284$), whereas purchase intention was higher in an aggregate price frame than

in a daily price frame when participants have low price familiarity ($M_{PAD}=5.00$, $M_{AGG}=5.257$). However, these differences were not significant in both groups where participants have low price familiarity ($F(1, 285)=2.394$, $p=0.297$) and where participants have high price familiarity ($F(1, 285)=2.282$, $p=0.132$).

Table 66 Pairwise Comparisons between Two Frames across Price Familiarity on Purchase Intention

Price familiarity	Estimates			Univariate Tests						
	Frame	Mean	SE		Sum of Squares	df	MS	F	Sig.	Partial η^2
Low	Daily	5.00	0.17	Contrast	2.394	1	2.394	1.090	.297	.004
	Aggregate	5.26	0.18	Error	626.183	285	2.197			
High	Daily	4.66	0.18	Contrast	5.014	1	5.014	2.282	.132	.008
	Aggregate	4.28	0.17	Error	626.183	285	2.197			

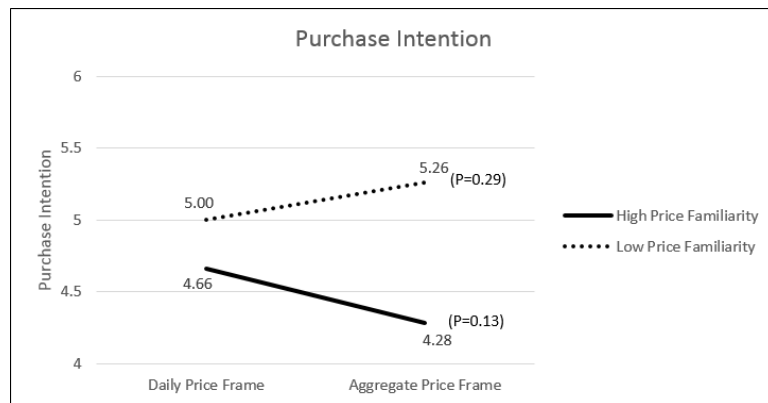


Figure 34 Values of Purchase Intention on Frames at the Levels of Price Familiarity

To explore the effect of attitude toward the comparison product on purchase intention, hypotheses below were tested;

- H5: Purchase intention will be higher when consumers have a low attitude toward the comparison product than when they have a high attitude toward the comparison product.
- H6a: when consumers have low price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be higher in a daily price frame than in an aggregate price frame.
- H6b: when consumers have low price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase

intention in a daily price frame will be lower in a daily price frame than in an aggregate price frame.

H6c: when consumers have high price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H6d: when consumers have high price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

Three-way ANOVA was performed (Table 67).

Table 67 Three-way Analysis of Variance for Purchase Intention

Source	df	MS	F	P	Partial η^2
Frame	1	.290	.130	.718	.000
Attitude	1	.079	.035	.851	.000
Price familiarity	1	31.175	14.017	.000	.048
Frame \times Attitude	1	.516	.232	.630	.001
Frame \times Price familiarity	1	7.110	3.197	.075	.011
Attitude \times Price familiarity	1	.488	.220	.640	.001
Frame \times Attitude \times Price familiarity	1	.115	.052	.820	.000
Error	281	2.224			

a. R Squared = .060 (Adjusted R Squared = .037)

b. Attitude = Attitude toward the comparison product

The 3-way interaction was significant, ($F(1, 281)=0.52, p=0.82$). The 2-way interaction of frame and price familiarity was marginally significant ($F(1, 281) = 3.197, p=0.075 < 0.1$). Price familiarity has a main effect in that, participants who have low price familiarity showed significantly higher purchase intention ($M=5.13, SE=0.124$) than those who have high price familiarity ($M=4.47, SE=0.124$), $F(1, 281)=14.017, p<0.01$.

Unexpectedly, attitude toward the comparison product does not have a main effect in that, participants who have lower attitude toward the comparison product showed non-significantly different levels of purchase intention (Soda, $M=4.81, SE=0.125$) than participants who have higher attitude toward the comparison product

(Bottled water, M=4.78, SE=0.24), $F(1, 281)=0.035$ $p=0.851$. Hence hypothesis 5 was not supported.

To test the hypotheses, pairwise comparisons was conducted (Table 68). The results did not support hypotheses 6a – 6d in that, in any of the conditions combining price familiarity and attitude toward the comparison product, purchase intention in a daily price frame was not significantly different from purchase intention in an aggregate price frame.

Table 68 Pairwise Comparisons between Two Frames across Attitude toward the Comparison Product × Price Familiarity on Purchase Intention

Price familiarity	Comparison product Attitude	Estimates			Univariate Tests						
		Frame	Mean	SE		Sum of Squares	df	MS	F	Sig.	Partial η^2
Low	High	Daily	4.92	0.24	Contrast	1.537	1	1.537	.691	.407	.002
		Aggregate	5.22	0.26	Error	624.957	281	2.224			
	Low	Daily	5.08	0.25	Contrast	.786	1	.786	.353	.553	.001
		Aggregate	5.29	0.24	Error	624.957	281	2.224			
High	High	Daily	4.62	0.25	Contrast	1.202	1	1.202	.540	.463	.002
		Aggregate	4.37	0.24	Error	624.957	281	2.224			
	Low	Daily	4.70	0.26	Contrast	4.348	1	4.348	1.955	.163	.007
		Aggregate	4.19	0.25	Error	624.957	281	2.224			

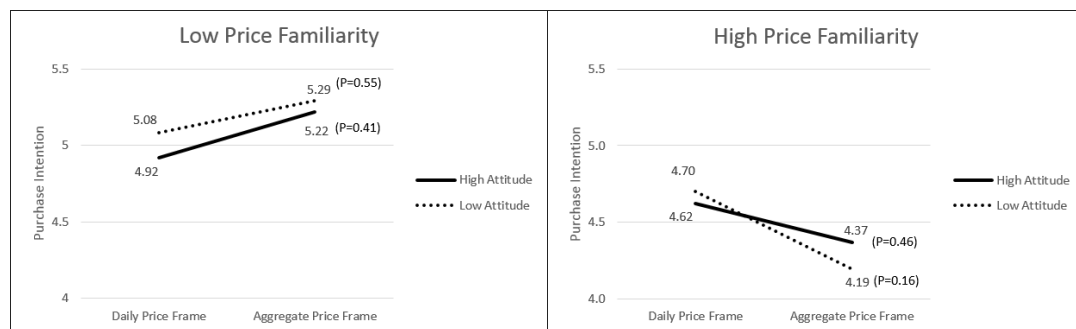


Figure 35 Values of Purchase Intention on Frames at the Levels of Attitude toward the Comparison Product within Each Level of Price Familiarity

4.3.3 Discussion

Results of Study 3 are consistent with Gourville's (1999) study in that, adding the petty-cash comparison in an aggregate price-framed advertisement is likely to enhance purchase intention, which is not significantly different from purchase intention in a daily price frame. Gourville assumed the reason for this result would be that use of the comparison product was sufficient to foster a petty cash perspective. However, Study 3 could not find support for his expectation; consistent with the results of Study 1 and Study 2, the level of perceived cost was still significantly higher when the advertisement was in an aggregate price frame than in a daily price frame.

Another factor which influenced a non-significant difference in purchase intention between two frames could be the levels of perceived benefits. When consumers have low price familiarity, the perception of benefits was slightly higher in an aggregate price frame than in a daily price frame. Although this difference was not significant, the direction of difference was consistent with it was in Study 1 and Study 2.

As expected, when consumers have high price familiarity, the level of perceived benefits was not significantly different between two frames. Also consistent with the results Study 2, the level was slightly higher in a daily price frame than in an aggregate price frame, which was the opposite of the prediction of the Unitosity effect.

Hypotheses 3a and 3b were supported in that, the level of the feeling of being misled was significantly higher in a daily price frame than an aggregate price frame, and the magnitude of differences was larger when consumers have high price familiarity than when they have low price familiarity.

Although Study 3 found the impact of the explicit comparison product in purchase intention, the prediction of the attitude toward the comparison product was not confirmed; participants' purchase intention was not influenced by the attitude toward the comparison product. Hence, regardless of the types of comparison product, their purchase intention was not significantly different between the two frames conditions.

CHAPTER 5

CONCLUSION

5.1 General Discussion

The PAD strategy has been effectively used in many service settings, yet relatively few studies have been devoted to exploring its psychological mechanisms and possible moderators. Hence, the research question whether price familiarity moderate the effectiveness of PAD strategy was explored. In a series of studies across a variety of product categories, the research has provided general support for PAD effectiveness and the moderating role of price familiarity. Table 76 summarizes the results of hypotheses testing and additional findings.

In three studies, it was shown that the PAD framing decreased the perception of cost relative to aggregate framing, thereby affecting purchase intention. In Study 2 and Study 3 however, the PAD effectiveness on purchase intention was moderated by price familiarity.

The results of Study 3 showed that purchase intention is not influenced by attitude toward the comparison product that marketers provide to demonstrate the affordability of an advertised service. This is unexpected, but consistent with what Gourville (1999) found; although he did not provide reasons, he employed two petty cash comparisons in his experiment, one's morning coffee or an afternoon snack drink. Similar to results of the current study, the specific petty cash comparison employed in his study did not prove to be significant in any of the analyses conducted.

Study 2 further explored the underlying mechanism to understand how price familiarity influences the effectiveness of the PAD strategy.

The current study found that perceived cost in a daily price frame was lower than in an aggregate price frame at both low and high levels of price familiarity. This effectiveness, however, is limited by the monetary size of the target transaction in that as the amount increases, the levels of perceived cost between two frames become insignificantly different. The levels of perception of cost are influenced by the perception of triviality of spending money which is displayed in the advertisement. This might be another aspect of the daily price frame; even if consumers are familiar with another frame of pricing (e.g., monthly, or 6 months), the reframed price could provide a new viewpoint of the price.

The results regarding perceived benefits were not consistent across studies. In Study 1, the levels of perceived benefits between two frames were not significantly different when participants had low price familiarity. However in Study 2, the opposite results were found as the levels of perceived benefits were not significantly different when consumers have high price familiarity. In Study 3, perceived benefits were not significantly different for both high and low price familiarity groups. It is interesting, though, this study found that, across three studies, the levels of perceived benefits was likely to be higher for a daily frame than for an aggregate frame when consumers have high price familiarity, whereas the levels of perceived benefits was likely to be lower for a daily frame than for an aggregate frame when consumers have low price familiarity.

In Study 2 and Study 3, where participants in high price familiarity condition have competitors' price information including frame and reference price, it was clearly seen that a daily price frame generates higher levels of the feeling of being misled, compared to an aggregate price frame. Especially, the negative effect of a daily price frame was larger when participants have high price familiarity. However the feeling of being misled did not influence purchase intention. One possibility is that consumers might decide their purchase intention is based more on self-interest than on affective component. Urbany, Madden, and Dickson's (1989) study found that the negative feelings caused by unfair pricing tactics is more likely to generate a personal complaint, but not significantly affect purchase intention, especially when the purchase is beneficial to them. A rather different possibility is that consumer learning could explain why the feeling of being misled did not influence purchase intention. Because the PAD strategies have been used widely, consumers might be getting more familiar with the tactic. As a consequence of this learning, the PAD strategy might generate the feeling of being misled, but it could become acceptable.

As a whole, these results provide evidence that PAD strategies can be effective when consumers have low price familiarity, but not when they have high price familiarity.

5.2 Limitation and Future Research

As with all experiments, there were limitations which reduce the generalizability of the findings. First, stimuli in the experiments employed were artificial in the sense that the transactions did not exist. Further, the product category chosen for the

experiments were possibly not one that participants felt personal relevance toward. This could have severely limited the participants' involvement with the topic, especially in regard to the purchase decision. Hence measuring purchase intention might not reflect the impact of frame, amount, and price familiarity. Future research might consider the measure of involvement and use it as a covariate, as well as develop a situation where participants might be highly involved. Also measuring other outcome variables, such as product attitude or evaluation of the product, would help to understand the impact of the PAD strategy.

Second, the sample was drawn from Amazon Mechanical Turk. Although research have shown that data from Mechanical Turk is almost indistinguishable from laboratory data (Casler et al. 2013; Sprouse 2011), the subject pools are very diverse in terms of age, occupation, income level, and ethnicity. A population made up entirely of similarly situated subjects may give more homogenous responses to a usability questionnaire than a more diverse group. Thus, the future research is encouraged to use a homogenous sample and explore the impact of the PAD strategy and price familiarity.

This study used a single item to measure the levels of purchase intention. The intention of using a single measurement was to follow the procedure of Gourville's (1998) study and replicate its results. However, using multi-item measures is usually superior to a single for reliability⁹ and validity¹⁰ (Liu 2014).

⁹ Since a multi-item measure has several questions targeting the same construct domain, participants are less likely to give inconsistent answers over time.

¹⁰ Multi-item measures will be necessary to cover more content of the measured characteristic and to fully and completely reflect the construct domain.

With regard to the impact of an explicit comparison, a potential confound in the experiment design should be noted. The care was taken to provide one of two comparison products which yield different levels of product attitude from each other where the attitude difference is caused by health concerns. However, due to the comparison-based approach, water and soda may have varied systematically on congruence of the advertisement. For instance, participants reported that bottled water seemed more fit and relevant to the message of New Plus's advertisement than soda did. Message congruency influences cognitive and affective responses (Kellaris et al. 1993; Mantel and Kellaris 2003), which possibly change the purchase intention. This potential confound should be controlled for in future research. In addition, although the impact of the explicit comparison product on purchase intention has been explored, the underlying mechanism remains uncertain. Future research is warranted studying the mediators between the use of the explicit comparison product and purchase intention under the context of the PAD strategy.

In addition to addressing the issues and limitation identified above, future research is needed to explore the complexity of the information display.

Researchers have recently provided evidence that units or scales influence the perception of size or magnitude (Maglio and Trope 2011; Monga and Bagchi 2012). This Unitosity effect provides an insight for the future research. When display price information, the amount of money is usually characterized not only by numbers, but also by currency units (i.e., cents or dollars). Hence there might be a situation where the PAD strategy conveys the change of currency unit, such as 0.5 dollars to 50 cents. In future, it would be interesting to test the Unitosity effect in the context of the PAD

strategy to see if consumers' reaction toward the transaction changes according to currency units.

Despite a daily frame generating the feeling of being misled, this negative feeling did not directly influence purchase decision. It might be interesting to explore why the negative effects of temporally reframed prices is not strong enough to cancel out other positive effects.

Finally, the current study and other research on the PAD strategy identified price familiarity and monetary magnitude as factors that moderates PAD effectiveness. Unexpectedly, the moderating role of attitude toward the comparison product in the advertisement was not found. Future research should explore additional factors that may moderate or mediate this effectiveness.

5.3 Contributions

This research adds value to the growing body of literature in price reframing by enhancing understanding of the underlying mechanisms of the PAD strategy. In addition to reaffirm that the PAD strategy has been shown to have a positive impact on consumers' perception of cost, perceived benefits, and the feeling of being misled, the current research provides an alternative view to research in the PAD strategy by exploring the moderating role of price familiarity. Results of this study also contribute to framing theory, in which relatively few studies have investigated the potential moderators of the framing effectiveness.

5.3.1 Managerial Implication

On the basis of the present research, it appears that the use of PAD strategies would not discourage purchase intention for both consumers groups that have different levels of price familiarity; purchase intention in a daily frame was either higher than in an aggregate frame, or not significantly different. Also a daily frame could be effective at lowering the perception of cost by making that payment seem more trivial.

Although a daily frame has been shown to be beneficial, in a long-term strategic perspective, marketing managers might need to be cautious about potential negative effects in that a daily framing is likely to generate the higher levels of the feeling of being misled. Considering that loyal consumers are likely to have higher levels of price familiarity, the use of the PAD might require an additional treatment to reduce negative effects.

5.3.2 Policy Implication

The present research not only enhances our understanding of consumers' price familiarity and reactions to price framing strategies, it also has public policy implications since the use of price reframing strategies could result in a reasonable consumer misinterpretation the price and thus influence purchase behavior. Grewal et al. (1998) and Hardesty et al. (2007) showed that consumers who lack price knowledge are likely to be deceived by pricing tactics. This dissertation supports the need to monitor promotional communications and consumer education to limit the potential for marketers to manipulate the perception of cost and purchase decision making.

APPENDIX

More Yoga More Life
Bring your body into balance and reduce stress

6-Months Registered Unlimited Therapeutic Yoga course Membership!
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We are committed to serving those who wish to benefit from yoga but don't feel comfortable in a regular yoga class. We offer a very specialized class. We only take 10 registrants per session so you can get the attention you need to benefit from the yoga postures. A small group session designed to meet your needs!!

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- **Meditation**: Mediation helps in connecting the body, mind and spirit. Daily yoga meditation helps in mental purification and offers clarity of thought. It increases concentration and focus.
- **Beginner's Yoga**: foundations of the practice: basic asana, principles of alignment, and breathing techniques. The aim is to build strength, flexibility, balance, and confidence. The course runs in six-week repeating cycles; join the class at any time.
- **Yin/Psychic Development**: Practicing yoga in a deep, slow, mindful way increases our awareness of what it means to be embodied. Through long-held seated postures interspersed with counterposing backbends, we will open the primeval back body and relax deeply.
- **Dharma's Gentle Yoga**: For anybody who wishes to add some healing yoga into their lives. We move the body through the classical poses slowly, gently, and conscientiously. We rest between poses as the body moves toward introspection, concentration, and meditation.

Explore the benefits of therapeutic yoga. This class is designed to give you the tools to help you on your journey towards better health and mobility in your body.

As low as \$ 3 per day!!
Payment due monthly - Cash, Check, Credit card, Debit card are welcome!

Register online or at the front desk.

Figure 36 Study 1: Advertisement for Small Amount AND Daily Price Frame Condition

More Yoga More Life

Bring your body into balance and reduce stress

6-Months Registered Unlimited Therapeutic Yoga course Membership!

You can choose your own time as we offer 10 sessions per day starting at 5:00 am till 7:00 pm

We are committed to serving those who wish to benefit from yoga but don't feel comfortable in a regular yoga class. We offer a very specialized class. We only take 10 registrants per session so you can get the attention you need to benefit from the yoga postures. A small group session designed to meet your needs!!

- **Pranayama:** Discipline controlled Yogic breathing. This helps in expanding the human faculties and retarding degeneration.
- **Meditation:** Meditation helps in connecting the body, mind and spirit. Daily yoga meditation helps in mental purification and offers clarity of thought. It increases concentration and focus.
- **Beginner's Yoga:** foundations of the practice: basic asana, principles of alignment, and breathing techniques. The aim is to build strength, flexibility, balance, and confidence. The course runs in six-week repeating cycles; join the class at any time.
- **Yin/Psychic Development:** Practicing yoga in a deep, slow, mindful way increases our awareness of what it means to be embodied. Through long-held seated postures interspersed with counterposing backbends, we will open the primeval back body and relax deeply.
- **Dharma's Gentle Yoga:** For anybody who wishes to add some healing yoga into their lives. We move the body through the classical poses slowly, gently, and conscientiously. We rest between poses as the body moves toward introspection, concentration, and meditation.

Explore the benefits of therapeutic yoga. This class is designed to give you the tools to help you on your journey towards better health and mobility in your body.

As low as \$ 10 per day!!

Payment due monthly - Cash, Check, Credit card, Debit card are welcome!

Register online or at the front desk.

Figure 37 Study 1: Advertisement for Large Amount AND Daily Price Frame Condition

More Yoga More Life

Bring your body into balance and reduce stress

6-Months Registered Unlimited Therapeutic Yoga course Membership!

You can choose your own time as we offer 10 sessions per day starting at 5:00 am till 7:00 pm

We are committed to serving those who wish to benefit from yoga but don't feel comfortable in a regular yoga class. We offer a very specialized class. We only take 10 registrants per session so you can get the attention you need to benefit from the yoga postures. A small group session designed to meet your needs!!

- **Pranayama:** Discipline controlled Yogic breathing. This helps in expanding the human faculties and retarding degeneration.
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- **Yin/Psychic Development:** Practicing yoga in a deep, slow, mindful way increases our awareness of what it means to be embodied. Through long-held seated postures interspersed with counterposing backbends, we will open the primeval back body and relax deeply.
- **Dharma's Gentle Yoga:** For anybody who wishes to add some healing yoga into their lives. We move the body through the classical poses slowly, gently, and conscientiously. We rest between poses as the body moves toward introspection, concentration, and meditation.

Explore the benefits of therapeutic yoga. This class is designed to give you the tools to help you on your journey towards better health and mobility in your body.

Price \$ 540 for six months!!

Payment due monthly - Cash, Check, Credit card, Debit card are welcome!

Register online or at the front desk.

Figure 38 Study 1: Advertisement for Small Amount AND Aggregate Price Frame Condition

More Yoga More Life

Bring your body into balance and reduce stress

6-Months Registered Unlimited Therapeutic Yoga course Membership!

You can choose your own time as we offer 10 sessions per day starting at 5:00 am till 7:00 pm

We are committed to serving those who wish to benefit from yoga but don't feel comfortable in a regular yoga class. We offer a very specialized class. We only take 10 registrants per session so you can get the attention you need to benefit from the yoga postures. A small group session designed to meet your needs!!

- **Pranayama:** Discipline controlled Yogic breathing. This helps in expanding the human faculties and retarding degeneration.
- **Meditation:** Meditation helps in connecting the body, mind and spirit. Daily yoga meditation helps in mental purification and offers clarity of thought. It increases concentration and focus.
- **Beginner's Yoga:** foundations of the practice: basic asana, principles of alignment, and breathing techniques. The aim is to build strength, flexibility, balance, and confidence. The course runs in six-week repeating cycles; join the class at any time.
- **Yin/Psychic Development:** Practicing yoga in a deep, slow, mindful way increases our awareness of what it means to be embodied. Through long-held seated postures interspersed with counterposing backbends, we will open the primeval back body and relax deeply.
- **Dharma's Gentle Yoga:** For anybody who wishes to add some healing yoga into their lives. We move the body through the classical poses slowly, gently, and conscientiously. We rest between poses as the body moves toward introspection, concentration, and meditation.

Explore the benefits of therapeutic yoga. This class is designed to give you the tools to help you on your journey towards better health and mobility in your body.

Price \$ 1800 for six months!!

Payment due monthly - Cash, Check, Credit card, Debit card are welcome!

Register online or at the front desk.

Figure 39 Study 1: Advertisement for Large Amount AND Aggregate Price Frame Condition

English Tour Log In Login with Facebook

Up to 60 minutes daily lessons for 6 months
at only \$4 per day!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★★	★★★★

Join now for \$4 per day!

I would like to learn

Figure 40 Study 2: Advertisement for Small Amount, Daily Price Frame, AND High Price Familiarity Condition

English Tour Log In Login with Facebook

Up to 60 minutes daily lessons for 6 months
at only \$4 per day!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months	6 months
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★★	★★★★

Join now for \$4 per day!

I would like to learn

Figure 41 Study 2: Advertisement for Small Amount, Daily Price Frame, AND Low Price Familiarity Condition

English

Up to 60 minutes daily lessons for 6 months
at only \$720 total!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★★	★★★★

Join now for \$720 total!
 I would like to learn

Figure 42 Study 2: Advertisement for Small Amount, Aggregate Price Frame, AND High Price Familiarity Condition

English

Up to 60 minutes daily lessons for 6 months
at only \$720 total!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months	6 months
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★★	★★★★

Join now for \$720 total!
 I would like to learn

Figure 43 Study 2: Advertisement for Small Amount, Aggregate Price Frame, AND Low Price Familiarity Condition

English ▼ [Tour](#) [Log in](#) [Login with Facebook](#)

Up to 60 minutes daily lessons for 6 months
at only \$10 per day!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times
 that are convenient to your
 schedule.

Certificate in Languages
 that verifies your language
 competency!

One-to-one Live conversation
 up to 60 minutes per session
 with licensed tutors!

Not sure it's for you? Compare the value to
 other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★★	★★★★★	★★★★★

Join now for \$10 per day!

I would like to learn

Figure 44 Study 2: Advertisement for Large Amount, Daily Price Frame, AND High Price Familiarity Condition

English ▼ [Tour](#) [Log in](#) [Login with Facebook](#)

Up to 60 minutes daily lessons for 6 months
at only \$10 per day!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French,
 Italian & many more!

Arrange lesson times
 that are convenient to your
 schedule.

Certificate in Languages
 that verifies your language
 competency!

One-to-one Live conversation
 up to 60 minutes per session
 with licensed tutors!

Not sure it's for you? Compare the value to
 other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★★	★★★★★	★★★★★

Join now for \$10 per day!

I would like to learn

Figure 45 Study 2: Advertisement for Large Amount, Daily Price Frame, AND Low Price Familiarity Condition

English Tour Log in Login with Facebook

Up to 60 minutes daily lessons for 6 months
at only \$1,800 total!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French, Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★	★★★

Join now for \$1,800 total!

I would like to learn

Figure 46 Study 2: Advertisement for Large Amount, Aggregate Price Frame, AND High Price Familiarity Condition

English Tour Log in Login with Facebook

Up to 60 minutes daily lessons for 6 months
at only \$1,800 total!
 (*Payment due Monthly)

Learn from 23 Languages
 Spanish, Chinese, French, Italian & many more!

Arrange lesson times that are convenient to your schedule.

Certificate in Languages that verifies your language competency!

One-to-one Live conversation up to 60 minutes per session with licensed tutors!

Not sure it's for you? Compare the value to other language courses out there:

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$75/ Mon)	6 months (\$75/ Mon)
Lesson Minutes	60 min.	45 min.	45 min.
Review Rating	★★★★	★★★	★★★

Join now for \$1,800 total!

I would like to learn

Figure 47 Study 2: Advertisement for Large Amount, Aggregate Price Frame, AND Low Price Familiarity Condition

Live Online health Coaching
at only \$1 per day for 6 months!
 (Payment due Monthly)

Enjoy our service for the cost of water,
 \$1 per day

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure if's for you? Compare the value to others!

	New Plus	United Int'l	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 48 Study 3: Advertisement for Daily Price Frame, High Attitude toward the Comparison Product (Water), AND High Price Familiarity

Live Online health Coaching
at only \$1 per day for 6 months!
 (Payment due Monthly)

Enjoy our service for the cost of water,
 \$1 per day

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure if's for you? Compare the value to others!

	New Plus	United Int'l	OLC
Period	6 Months	6 months	6 months
Review Rating	★★★★	★★★	★★★

Figure 49 Study 3: Advertisement for Daily Price Frame, High Attitude toward the Comparison Product (Water), AND Low Price Familiarity

Live Online health Coaching
at only \$1 per day for 6 months!
 (Payment due Monthly)

Enjoy our service for the cost of soda,
 \$1 per day

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 50 Study 3: Advertisement for Daily Price Frame, Low Attitude toward the Comparison Product (Soda), AND High Price Familiarity

Live Online health Coaching
at only \$1 per day for 6 months!
 (Payment due Monthly)

Enjoy our service for the cost of soda,
 \$1 per day

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months	6 months
Review Rating	★★★★	★★★	★★★

Figure 51 Study 3: Advertisement for Daily Price Frame, Low Attitude toward the Comparison Product (Soda), AND Low Price Familiarity

Live Online health Coaching
at only \$180 for 6 months !
 (Payment due Monthly)

Enjoy our service for the cost of water,
 \$180 for 6 months

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 52 Study 3: Advertisement for Aggregate Price Frame, High Attitude toward the Comparison Product (Water), AND High Price Familiarity

Live Online health Coaching
at only \$180 for 6 months !
 (Payment due Monthly)

Enjoy our service for the cost of water,
 \$180 for 6 months

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months	6 months
Review Rating	★★★★	★★★	★★★

Figure 53 Study 3: Advertisement for Aggregate Price Frame, High Attitude toward the Comparison Product (Water), AND Low Price Familiarity

Live Online health Coaching
at only \$180 for 6 months !
 (Payment due Monthly)

Enjoy our service for the cost of soda,
\$180 for 6 months

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 54 Study 3: Advertisement for Aggregate Price Frame, Low Attitude toward the Comparison Product (Soda), AND High Price Familiarity

Live Online health Coaching
at only \$180 for 6 months !
 (Payment due Monthly)

Enjoy our service for the cost of soda,
\$180 for 6 months

New Plus's service includes:

- Secure video call with a certified personal coach
- Personalized nutrition and diet advice
- Comprehensive fitness plan

Not sure it's for you? Compare the value to others!

	New Plus	United Inf'l	OLC
Period	6 Months	6 months (\$20 / month)	6 months (\$20 / month)
Review Rating	★★★★	★★★	★★★

Figure 55 Study 3: Advertisement for Aggregate Price Frame, Low Attitude toward the Comparison Product (Soda), AND Low Price Familiarity

Table 69 List of Potential Benefits from the Yoga Program in Study 1

Participant #	Benefit 1	Benefit 2	Benefit 3
1	Stress reduction	Keeping the blood pressure in check	Improvement in general health
2	Increased flexibility	Relaxation	Discipline
3	Increased health and fitness	Reduced stress and anxiety	Opportunity to meet new people
4	Improve health	Improve concentration	Improve mental well-being
5	Better body shape/toning	relaxation methods	increased flexibility
6	flexibility	improved breathing	improved posture
7	flexibility	better health	better focus
8	flexibility	strength	conditioning
9	stress control	relaxation	healthy
10	Stronger	Better heart health	Better looks
11	lose weight	sharper mind	more confidence
12	flexibility	less stress	awareness
13	exercise	learning yoga	getting in shape
14	Get in shape	Relax	Make friends
15	Relaxation	Flexibility	Lighter wallet
16	strength	less stress	increased concentration
17	Exercise	Stress Relief	A feeling of well-being
18	flexibility	strength	relaxation
19	Better posture	Improved flexibility	Improved mobility
20	peace	calm	flexibility

Note: The order of listing does not reflect their relative importance.

Table 70 List of Potential Benefits from the Online Foreign Language Program in Study 2

Participant #	Benefit 1	Benefit 2	Benefit 3	Benefit 4	Benefit 5
1	Near fluency in another language.	Real life practice	Actual proof (certificate) of completion	Flexibility of courses	A wide choice of languages to learn
2	Language of my choice out of 23	Live conversations	6 months of lessons	60 minute lessons	Get a certificate I can hang on my wall and show others
3	I would be able to enhance my ability to learn	I would be able to learn at least the languages that they have listed	I would have a better job opportunities to me after learning these skills	I would have proof that I have finished the course	I would be able to teach my children something new
4	I would learn Spanish and be able to communicate with Spanish speakers better.	I would be able to pick up an attractive Spanish woman when I travel to Spain this summer.	I would be better suited for certain jobs know that I will know a second language.	It would help stretch my brain and make me smarter.	I would be doing something constructive during my free time.
5	I can arrange my lessons around my own schedule, so I don't create conflicts in my personal or professional life	I could learn a new language with at least basic competency	I could meet new friends from abroad talking online with their native speakers	I could put on my resume that I have competency in a new foreign language	I might be able to communicate better when traveling abroad
6	Professional tutor	Learn to speak other languages	Build job resume	Work around your schedule	Allows you to communicate with more people easier travel
7	well versed individual	it's on promo	online	convenient	Very useful in future travels.
8	Increased language proficiency.	Enhanced ability to communicate with non-English speakers.	Sense of accomplishment from completing a difficult task.	Personal feeling of enrichment.	My own horizons expanded.
9	Expand my native language vocabulary.	Learn a new language.	Be able to communicate with people from other countries in their native language.	Be able to understand lyrics/movies in other languages.	Possibility of working as a translator for another language.
10	learning a new language	converse with tutors	use free time efficiently Gives you the capability to network with people you otherwise wouldn't be able to.	get certified	talk to people
11	Learn a new language.	Be able to understand other cultures better.	I would be able to get a certificate to verify my language competency for future jobs.	Have a better experience if you travel to a Country where that language is native.	Obtain a better understanding of language in general.
12	I would be able to learn a language.	I would be able to practice the language with a licensed tutor in a one-to-one live conversation.	I would be able to get a certificate to verify my language competency for future jobs.	I would be able to learn a language based around my own schedule.	I would be able to link my language learning with Facebook.
13	learn new	feel better about	talk to new people	understand more	be more awesome

	language	self		shows/books	
14	I would be competent in a foreign language.	I would have personalized tutoring to aid in my success.	It's cheaper, and provides better results than other similar programs.	It works around my schedule.	Offers many more languages than the free ones do.
15	Quick learning of language.	Set lesson times convenient to me.	one on one chat with live tutors	Many languages to choose from	Get certificate in language
16	learn a new language	enrich myself	spend time doing something constructive	get a certificate for learning a language	improve a language i already know
17	Learn multiple languages.	Learn at your own time.	23 languages available.	Live conversation sessions.	Licensed tutors.
18	Becoming fluent in a new language.	Being able to learn quickly.	Being able to schedule convenient times.	Having a way to measure my progress.	Have certainty that I am proficient in a language.
19	you can learn up to 23 languages	you will have experience working with licensed tutors	you could take a trip to the country of origin for the language	you could become more fluent than before	you will have had real conversation experience with a tutor
20	learn new languages	get certificates for your languages learned	6 months of it	60 minutes a day of learning	be able to travel to the places that speak the languages you learned

Note: The order of listing does not reflect their relative importance.

Table 71 List of Potential Benefits from the Online Health Coaching Program in Study 3

Participant #	Benefit 1	Benefit 2	Benefit 3
1	Weight loss	More organized diet	Learn your lessons with websites that con you out of money
2	Understanding of nutrition	How to read nutrition labels	Optimal calorie intake
3	Weight Loss	Eating Healthier	Better lifestyle
4	better diet	accountability	more motivation
5	Weight loss	Improved fitness	Better social life
6	eat better	exercise more	make better life choices
7	better at networking	better sleep	better relationships
8	weight-loss	life in order	fitness improvement
9	Healthier lifestyle	More organized life	Weight loss
10	weight loss	personal coaching	nutrition plan
11	It seems as if there are various workouts	The one-on-one feedback	It seems convenient
12	Health	Personality	Fitness
13	better health	motivation	nutrition info
14	weight loss	confidence	motivation
15	coaching	nutrition help	socializing
16	Weight loss	Increased confidence	Increased self esteem
17	food plan	schedule	exercise
18	Good schedules	Good Coach	Good Support
19	lose weight	have a support person	personalize system for each person
20	Nutrition routine	Diet balance	Weight loss program
21	weight loss	healthier lifestyle	coach
22	one on one consultation	weight loss	fitness help and plans
23	motivation	weight loss	confidence
24	fitness plan	someone to talk to	nutrition guide
25	weight loss	good nutrition	motivation
26	weight loss	fitness	encouragement
27	interaction	support	ease of use
28	Losing Weight	Eating Better	Feeling Better about Yourself
29	information	better health	feel better
30	One-on-one catering to your needs.	Helpful tips you might not have thought off.	Positive feedback and reinforcement.
31	personal gain	better nutrition	healthier
32	security	price	legitimacy

Note: The order of listing does not reflect their relative importance.

Table 72 Definitions of Variables and Items in Study 1

Study	Variable	Definition	Measurements	Source
Pretest 1	Credibility	The degree to which participants view the presented advertisement to be credible.	This advertisement is believable. This advertisement is credible. This advertisement is realistic.	Williams and Drolet (2005) Beltramini (1988)
	Informativeness	The degree that participants perceive the presented advertisement to be informative and easy to understand.	This advertisement is informative. The information in this advertisement is easy to understand.	Stafford (1998)
	Perceived Benefits	Benefits that participants expect to get from participating in the yoga program.	What benefits do you expect to result from practicing Yoga? Please describe three benefits.	Created.
Pretest 2	Perceived Triviality	The degree to which participants perceive the degree to which the reframed amount (daily amount, or aggregate amount) is trivial.	<p><i><Daily price frame AND small amount condition></i> In general, \$3 is not an affordable amount for a daily.(R) In general, \$3 is a trivial amount for a daily expense. In general, \$3 is a small amount for a daily expense.</p> <p><i><Daily price frame AND large amount condition></i> In general, \$10 is not an affordable amount for a daily.(R) In general, \$10 is a trivial amount for a daily expense. In general, \$10 is a small amount for a daily expense.</p> <p><i><Aggregate price frame AND small amount condition></i> In general, \$540 is not an affordable amount for once every six months expense.(R) In general, \$540 is a trivial amount for once every six months expense. In general, \$540 is a small amount for once every six months expense.</p> <p><i><Aggregate price frame AND large amount condition></i> In general, \$1,800 is not an affordable amount for once every six months expense.(R) In general, \$1,800 is a trivial amount for once every six months expense. In general, \$1,800 is a small amount for once every six months expense.</p>	Created.
Main study	Independent Variables Perceived Triviality		The same measurement used in Pretest 2.	

Price familiarity	Familiarity with the pricing of yoga programs.	In general, I am familiar with the pricing of yoga programs. In general, I am informed about the pricing of yoga programs. In general, I am knowledgeable about the pricing of yoga programs.	Moore et al. (2005)
Dependent Variables			
Product Attitude	Participants' attitudes about the yoga program that was featured in the advertisement.	The yoga program in this advertisement is attractive. It is a good yoga program. I like this yoga program.	Lepkowska-White et al. (2003)
Perceived Cost	The degree to which participants believe that the price of the offer is expensive.	The advertised price for this yoga program is high. I feel that the yoga program is expensive. I feel that the provider's advertised price for the yoga program is high.	Suri and Monroe (2003)
Anticipated Benefits	The degree to which participants believe that that purchasing the yoga club membership has a beneficial effect on him/her.	If I participate in this yoga program, I will feel less stressed. If I participate in this yoga program, my body will feel more flexible. If I participate in this yoga program, my mind will feel more at peace. If I participate in this yoga program, I will be able to concentrate better on my work. If I participate in this yoga program, my body will be in a better shape. If I participate in this yoga program, I will feel less stressed.	Created.
Feeling of Being Misled	Participants' belief that a provider has done something involving its price information that misled and upset him/her.	The presentation of the price is unclear. I cannot understand this price at a glance. The price information is quite complex. My friends would judge this price as an unfair price. This yoga program provider has the intention of misleading.	Bambauer-Sachse and Grewal (2011)

* Each item was rated on a 7-point Likert scale anchored at 1 = strongly disagree and 7 = strongly agree.

** The order of items within each factor was randomized.

*** (R) = Reverse coded.

Table 73 Definitions of Variables and Items in Study 2

Study	Variable	Definition	Measurements	Source
Pretest 1	Believability	The degree to which participants view the presented advertisement to be believable.	The information about the New Plus's course is believable. The information about the New Plus's course is trustworthy. The information about the New Plus's course is convincing. The information about the New Plus's course is not credible. (R) The information about the New Plus's course is reasonable. The information about the New Plus's course is informative. The information about the New Plus's course is hard to understand.(R)	Beltramini (1988) Stafford (1998)
	Perceived Benefits	Benefits that participants expect to get from participating in the online language course.	Please assume that you purchase the New Plus's course for 6 months. What benefits/positive outcomes would you expect to result from the course? Please describe five benefits/positive outcomes.	Created.
Pretest 2	Price familiarity with Competitors	Familiarity with the pricing of competitors' product.	I am informed about the prices of New Plus' competitors. I am knowledgeable about the prices of New Plus's competitors. I am familiar with the prices of New Plus' competitors.	Moore et al. (2005)
	Price familiarity	Familiarity with the pricing of New Plus' product.	I feel familiar with the prices of the online language courses described. I feel informed about the prices of the online language courses described. I feel knowledgeable about the prices of the online language courses described.	Moore et al. (2005)
Pretest 3	Perceived Triviality	The degree to which participants perceive the degree to which the reframed amount (daily amount, or aggregate amount) is trivial.	<p><Daily price frame AND small amount condition> In general, \$4 is an affordable amount for a daily expense. In general, \$4 is a small amount for a daily expense. In general, \$4 is a lot of money for a daily expense.(R)</p> <p><Daily price frame AND large amount condition> In general, \$10 is an affordable amount for a daily expense. In general, \$10 is a small amount for a daily expense. In general, \$10 is a lot of money for a daily expense.(R)</p> <p><Aggregate price frame AND small amount condition> In general, \$720 is an affordable amount for once every six months expense. In general, \$720 is a small amount for once every six months expense. In general, \$720 is a lot of money for once every six months expense. (R)</p> <p><Aggregate price frame AND large amount condition> In general, \$1,800 is an affordable amount for once every six months expense. In general, \$1,800 is a small amount for once every six months expense. In general, \$1,800 is a lot of money for once every six months expense. (R)</p>	Created.

Main study	Independent Variables			
	Perceived Triviality		The same measurement used in Pretest 3	
	Price familiarity with Competitors	Familiarity with the pricing of competitors' product.	I am informed about the prices of New Plus' competitors. I am knowledgeable about the prices of New Plus's competitors. I am familiar with the prices of New Plus' competitors.	Moore et al. (2005)
	Dependent Variables			
	Purchase Intention	The likelihood of buying New Plus's product.	If I need to learn a foreign language for career purposes, I would purchase New Plus's course.	Created.
Perceived Cost	The degree to which participants believe that the price of the offer is expensive.	The advertised price for New Plus's course is high. I feel that New Plus's course is expensive.	Suri and Monroe (2003)	
Anticipated Benefits	The degree to which participants believe that that purchasing New Plus' course has a beneficial effect on him/her.	I would be competent in the foreign language I studied. I would not be better suited for jobs requiring knowledge of the language I studied – (R). I would improve my ability to communicate better with people from countries speaking the language I studied. I would enhance my foreign language proficiency. I would have a sense of accomplishment from completing a difficult task. I would enjoy the feeling of personal enrichment.	Created.	
Feeling of Being Misled	The degree to which participants believe that the service provider is intentionally trying to mislead price perception by manipulating its price information.	New Plus is attempting to mislead consumers with its price. New Plus intends to manipulate my perception of its price. New Plus wants to get more sales by tricking consumers with its price.	Created.	

* Each item was rated on a 7-point Likert scale anchored at 1 = strongly disagree and 7 = strongly agree.

** The order of items within each factor was randomized.

*** (R) = Reverse coded.

Table 74 Definitions of Variables and Items in Study 3

Study	Variable	Definition	Measurements	Source
Pretest 1	Credibility	The degree to which participants view the presented advertisement to be credible.	This advertisement is believable. This advertisement is credible. This advertisement is realistic.	Williams and Drolet (2005) Beltramini (1988)
	Informativeness	The degree that participants perceive the presented advertisement to be informative and easy to understand.	This advertisement is informative. The information in this advertisement is easy to understand.	Stafford (1998)
	Perceived Benefits	Benefits that participants expect to get from participating in the online health coaching program	What benefits do you expect to result from purchasing this online health coaching program? Please describe three benefits.	Created.
	Reasonable price of the service	The price point for New Plus' program that participants consider reasonable.	What would be a reasonable monthly price for the offer above?	Created.
Pretest 2	Attitude toward the comparison product	Participants' attitudes about the comparison product (Water or Soda) featured in the advertisement.	The comparison product is attractive to me. The comparison product is a good product. I don't like the comparison product. – (R). I have a positive impression about the comparison product.	Lepkowska-White et al. (2003)
	Reasonable price of the comparison product	The price point that participants consider reasonable for the comparison product in the advertisement.	What do you think would be a reasonable price for the comparison item?	Created.
Main study	Independent Variables Perceived Triviality	The degree to which participants perceive the degree to which the reframed amount (daily amount, or aggregate amount) is trivial.	<i><Daily price frame condition></i> In general, \$1 is an affordable amount for a daily expense. In general, \$1 is a small amount for a daily expense. In general, \$1 is a lot of money for a daily expense.(R) <i><Aggregate price frame condition></i> In general, \$180 is an affordable amount for once every six months expense. In general, \$180 is a small amount for once every six months expense. In general, \$180 is a lot of money for once every six months expense.(R)	Created.

Price familiarity with Competitors	Familiarity with the pricing of competitors' product.	I am informed about the prices of New Plus' competitors. I am knowledgeable about the prices of New Plus's competitors. I am familiar with the prices of New Plus' competitors.	Moore et al. (2005)
Price familiarity	Familiarity with the pricing of New Plus' product.	I feel familiar with the price of the online health coaching service described. I feel informed about the price of the online health coaching service described. I feel knowledgeable about the price of the online health coaching service described.	Moore et al. (2005)
Attitude toward the comparison product	Participants' attitudes about the comparison product (Water or Soda) featured in the advertisement.	< Bottled Water > Bottled water is attractive to me. Bottled water is a good product. I don't like bottled water.(R) I have a positive impression about bottled water. < Soda > Soda is attractive to me. Soda is a good product. I don't like soda.(R) I have a positive impression about soda.	Lepkowska-White et al. (2003)
Dependent Variables			
Purchase Intention	The likelihood of buying New Plus's product.	If I need to get an online health coaching service, I would purchase New Plus's service.	Created.
Perceived Cost	The degree to which participants believe that the price of the offer is expensive.	The advertised price for New Plus's service is high. I feel New Plus's service is expensive. I feel New Plus's advertised price for the service is not high.(R)	Suri and Monroe (2003)
Anticipated Benefits	The degree to which participants believe that that purchasing New Plus' program has a beneficial effect on him/her.	I would feel better about myself. I would lose my desired weight. I would not be more motivated to continue to participate. I would have a healthier lifestyle.	Created.
Feeling of Being Misled	The degree to which participants believe that the service provider is intentionally trying to mislead price perception by manipulating its price information.	New Plus is attempting to mislead consumers with its price. New Plus intends to manipulate my perception of its price. New Plus wants to get more sales by tricking consumers with its price.	Created.

Table 75 Output of Parallel Multiple Mediator Model

Price familiarity	Amount	Consequent																
		Antecedent	M ₁ (Perceived Cost)			M ₂ (Perceived Benefits)			M ₃ (Feeling of Being Misled)			Y (Purchase Intention)						
			B	SE	p	B	SE	p	B	SE	p	B	SE	p				
Small	High	X (Frame)	<i>a</i> ₁	1.36	0.36	0.00	<i>a</i> ₂	-0.19	0.23	0.42	<i>a</i> ₃	-0.59	0.41	0.16	<i>c'</i>	0.34	0.40	0.40
		M ₁ (Perceived Cost)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₁	-0.19	0.14	0.18
		M ₂ (Perceived Benefits)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₂	1.04	0.20	0.00
		M ₃ (Feeling of Being Misled)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₃	0.00	0.12	0.97
		Constant	<i>i</i> _{M1}	4.02	0.26	0.00	<i>i</i> _{M2}	5.6	0.17	0.00	<i>i</i> _{M3}	4.02	0.30	0.00	<i>i</i> _Y	0.08	1.47	0.96
				R ² = 0.21 F (1, 55) = 14.26, p<0.01			R ² = 0.01 F (1, 55) = 0.67, p=0.42			R ² = 0.04 F (1, 55) = 2.05, p=0.16			R ² = 0.44 F (4, 52) = 10.02, p<0.01					
	Large	X (Frame)	<i>a</i> ₁	0.43	0.48	0.38	<i>a</i> ₂	-0.15	0.18	0.41	<i>a</i> ₃	-0.63	0.43	0.15	<i>c'</i>	0.11	0.41	0.80
		M ₁ (Perceived Cost)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₁	-0.46	0.13	0.00
		M ₂ (Perceived Benefits)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₂	0.88	0.31	0.01
		M ₃ (Feeling of Being Misled)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₃	-0.11	0.15	0.49
Constant		<i>i</i> _{M1}	5.41	0.34	0.00	<i>i</i> _{M2}	5.92	0.13	0.00	<i>i</i> _{M3}	4.05	0.31	0.00	<i>i</i> _Y	2.07	2.00	0.31	
			R ² = 0.01 F (1, 55) = 0.78, p=0.38			R ² = 0.01 F (1, 55) = 0.68, p=0.41			R ² = 0.04 F (1, 55) = 2.17, p=0.15			R ² = 0.40 F (4, 52) = 8.52, p<0.01						
Small	High	X (Frame)	<i>a</i> ₁	1.63	0.45	0.00	<i>a</i> ₂	-0.46	0.22	0.04	<i>a</i> ₃	0.67	0.37	0.07	<i>c'</i>	-0.24	0.38	0.53
		M ₁ (Perceived Cost)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₁	-0.27	0.11	0.02
		M ₂ (Perceived Benefits)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₂	0.64	0.24	0.01
		M ₃ (Feeling of Being Misled)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₃	0.15	0.13	0.24
		Constant	<i>i</i> _{M1}	3.42	0.34	0.00	<i>i</i> _{M2}	6.02	0.16	0.00	<i>i</i> _{M3}	2.69	0.27	0.00	<i>i</i> _Y	2.46	1.70	0.15
				R ² = 0.19 F (1, 54) = 12.87, p<0.01			R ² = 0.08 F (1, 54) = 4.59, p<0.05			R ² = 0.06 F (1, 54) = 3.37, p=0.07			R ² = 0.35 F (4, 51) = 6.86, p<0.01					
	Large	X (Frame)	<i>a</i> ₁	0.72	0.32	0.03	<i>a</i> ₂	0.26	0.19	0.17	<i>a</i> ₃	-0.74	0.28	0.01	<i>c'</i>	0.21	0.28	0.46
		M ₁ (Perceived Cost)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₁	-0.26	0.1	0.02
		M ₂ (Perceived Benefits)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₂	0.79	0.20	0.00
		M ₃ (Feeling of Being Misled)	-	-	-	-	-	-	-	-	-	-	-	-	<i>b</i> ₃	-0.02	0.13	0.89
Constant		<i>i</i> _{M1}	4.77	0.23	0.00	<i>i</i> _{M2}	5.67	0.13	0.00	<i>i</i> _{M3}	3.30	0.20	0.00	<i>i</i> _Y	1.92	1.39	0.17	
			R ² = 0.08 F (1, 60) = 4.90, p<0.05			R ² = 0.03 F (1, 60) = 1.89, p=0.17			R ² = 0.10 F (1, 60) = 6.75, p<0.01			R ² = 0.34 F (4, 57) = 7.34, p<0.01						

Table 76 Results of Hypotheses Testing

Hypotheses	Results		
	Study 1	Study 2	Study 3
H1a: when consumers have low price familiarity AND the price amount is small, the level of perceived cost for a daily price frame will be lower than for an aggregate price frame.	H1a supported. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1a supported. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1a supported. $M_{PAD} < M_{AGG}$, Sig. $p < 0.05$
H1b: when consumers have low price familiarity AND the price amount is large, the level of perceived cost for a daily price frame will be higher than for an aggregate price frame.	H1b rejected. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1b rejected. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.69$	
H1c: when consumers have high price familiarity AND the price amount is small, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.	H1c rejected. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1c rejected. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1c supported. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.06$
H1d: when consumers have high price familiarity AND the price amount is large, the level of perceived cost for a daily price frame and for an aggregate price frame will not be different.	H1d rejected. $M_{PAD} < M_{AGG}$, Sig. $p < 0.01$	H1d supported. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.30$	
<i><Significant Effect(s) on Perceived cost></i> *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$	<i>Frame</i> *** <i>Amount</i> ***	<i>Frame</i> *** <i>Amount</i> *** <i>Price Familiarity</i> * <i>Frame × Amount</i> **	<i>Frame</i> *** <i>Price Familiarity</i> **
H2a: when consumers have low price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.	H2a rejected. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.55$	H2a rejected. $M_{PAD} > M_{AGG}$, Sig. $p < 0.05$	H2a rejected. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.13$
H2b: when consumers have low price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame will be lower than for an aggregate price frame.	H2b rejected. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.56$	H2b rejected. $M_{PAD} < M_{AGG}$, But not sig. $p = 0.19$	
H2c: when consumers have high price familiarity AND the price amount is small, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.	H2c rejected. $M_{PAD} > M_{AGG}$, Sig. $p < 0.01$	H2c supported. $M_{PAD} > M_{AGG}$, But not sig. $p = 0.36$	H2c supported. $M_{PAD} > M_{AGG}$, But not sig. $p = 0.14$

H2d: when consumers have high price familiarity AND the price amount is large, the level of perceived benefits for a daily price frame and for an aggregate price frame will not be different.

<Significant Effect(s) on Perceived Benefits>
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

H2d supported.
 $M_{PAD} < M_{AGG}$,
But not sig. $p=0.83$

Price Familiarity***
Frame×Price Fami**
Amount×Price Fami*

H2d supported.
 $M_{PAD} > M_{AGG}$,
But not sig. $p=0.46$

Amount*
Frame×Price Fami*
Frame×Amount×Price Fami*

Frame×Price Fami**

H3a: Consumers' feeling of being misled will be higher for a daily price frame than for an aggregate price frame.

H3a supported.
 $M_{PAD} > M_{AGG}$,
Sig. $p < 0.01$

H3a rejected.
 $M_{PAD} > M_{AGG}$,
But not sig. $p=0.07$

H3a supported.
 $M_{PAD} > M_{AGG}$,
Sig. $p=0.05$

H3b: The discrepancy of consumers' feelings of being misled between a daily price frame and an aggregate price frame will be larger when consumers have high price familiarity than when they have low price familiarity.

<Significant Effect(s) on the Feeling of Being Misled>
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

H3b rejected.
 $|M_{PAD}-M_{AGG}|_{High} <$
 $|M_{PAD}-M_{AGG}|_{Low}$

H3b supported.
 $|M_{PAD}-M_{AGG}|_{High} >$
 $|M_{PAD}-M_{AGG}|_{Low}$

H3b supported.
 $|M_{PAD}-M_{AGG}|_{High} >$
 $|M_{PAD}-M_{AGG}|_{Low}$

Frame***
Price Familiarity***
Frame×Price Fami*

Frame*
Price Familiarity***

Frame*
Price Familiarity***

H4a: when consumers have low price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be higher than in an aggregate price frame.

H4a supported.
 $M_{PAD} > M_{AGG}$,
Sig. $p < 0.05$

H4a rejected.
 $M_{PAD} < M_{AGG}$,
But not sig. $p=0.29$

H4b: when consumers have low price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4b rejected.
 $M_{PAD} < M_{AGG}$,
But not sig. $p=0.53$

H4c: when consumers have high price familiarity AND the price amount is small, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4c rejected.
 $M_{PAD} > M_{AGG}$,
But not sig. $p=0.77$

H4c rejected.
 $M_{PAD} > M_{AGG}$,
But not sig. $p=0.13$

H4d: when consumers have high price familiarity AND the price amount is large, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H4d rejected.
 $M_{PAD} > M_{AGG}$,
But not sig. $p=0.69$

<Significant Effect(s) on Purchase Intention>
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Amount**
 Price Familiarity***

H5: Purchase intention will be higher when consumers have a low attitude toward the comparison product than when they have a high attitude toward the comparison product.

H5 rejected.
 $M_{Low} > M_{High}$,
 But not sig. $p=0.85$

H6a: when consumers have low price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be higher in a daily price frame than in an aggregate price frame.

H6a rejected.
 $M_{PAD} < M_{AGG}$,
 But not sig. $p=0.41$

H6b: when consumers have low price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be lower in a daily price frame than in an aggregate price frame.

H6b rejected.
 $M_{PAD} < M_{AGG}$,
 But not sig. $p=0.55$

H6c: when consumers have high price familiarity AND when they have high attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H6c rejected.
 $M_{PAD} > M_{AGG}$,
 But not sig. $p=0.46$

H6d: when consumers have high price familiarity AND when they have low attitude toward the explicit comparison expense, the level of purchase intention in a daily price frame will be lower than in an aggregate price frame.

H6d rejected.
 $M_{PAD} > M_{AGG}$,
 But not sig. $p=0.16$

<Significant Effect(s) on Purchase Intention>
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Price Familiarity***
 Frame×Price Fami*

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