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## The Role of Fundamental Motivations in Willingness-to-Pay Online

### Abstract

This study aims to determine whether an understanding of chronic fundamental consumer motivations can help determine the mechanisms of willingness-to-pay for products online. To do so, it employs a simulated buying task on a fictional e-commerce site for a consumer product (branded either as a “new arrival” or a “classic”) to investigate the effects of two fundamental motivations (mate acquisition vs. self-protection) on willingness-to-pay for the product online. The primary focus of the paper is to investigate the capacity of mate acquisition and self-protection motives to moderate the relationship between attitude toward the product and willingness-to-pay, as well as, the effects of the motives on willingness-to-pay are considered. Through regression and interaction effect analyses, it is shown that chronic fundamental motivation for mate acquisition is directly correlated with an increased willingness-to-pay for both product types, and it moderates the relationship between attitude toward a product and willingness-to-pay. Self-protection motivation increases willingness-to-pay for classic products but not new arrivals. By offering a rare look at chronic fundamental motivation in the consumer context and potentially being the first investigation of the moderating effects of fundamental motivations, the results mostly support the notion of predictable motivation induced behavioral tendencies.

**Keywords** Motivation-preference link; Preference matching; Fundamental Motives Framework; Willingness-to-pay; Moderation analysis

### Introduction

Consider being tasked with boosting sales for an e-commerce site on a tight marketing budget. When utilizing dynamic pricing and looking for the highest yield, who do you target? Following convention, you might focus on prospective customers who seem to have the highest preference for the products on offer (Homburg et al., 2005). However, despite their love for your products, some customers will be more price sensitive than others, which affects profitability. Hence, the key to your and any marketer’s success is finding ways to predict which prospective customers would be willing to pay more for a product.

To do so, few marketers’ first instinct would be to consider evolutionary motivational mechanisms over more traditional dimensions such as branding (Augusto and Torres, 2018). This is understandable because modern consumer behavior, especially online, has evolved to contain novelties that were never encountered by our ancestors. However, consumer behavior today does follow evolutionary guidelines (Durante and Griskevicius, 2018; Kock, 2009; Miller, 2009; Saad, 2007). There has been a recent and growing interest in how evolutionary consumer motives may guide consumer behavior in various ways (Durante and Griskevicius, 2018; Saad, 2017).

Approaches based on the Fundamental Motives Framework (FMF) (Kenrick et al., 2010a, 2010b)—when applied to the consumer context (Griskevicius and Kenrick, 2013)—have been fruitful in expanding our understanding of how fundamental motives may help predict preference shifts and decision-making (e.g., Griskevicius et al., 2009; Huang et al., 2017; Li et al., 2012).

Previous research on fundamental motives in consumer settings has been rather narrow in two ways: (a) While the focus has primarily been on simple motivation-preference links (Table 1), potential moderating effects of fundamental motivation have largely been neglected, and (b) one of the key strengths of the FMF is that it distinguishes both chronic and temporally activated

motivational sources, with the former leading to rather stable individual differences (Neel et al., 2016) and the latter yielding short-term preference shifts (Kenrick et al., 2010a). Prior research has focused more on the latter than the former (Table 1). Moreover, in the larger context of consumer mindsets, a better understanding of these dynamics, which are characteristic of the FMF, is essential (Rucker and Galinsky, 2016). The FMF enables a greater number of motives than dichotomous growth (belief in the ability to change) versus fixed (belief in stable characteristics) mindsets (cf. Carnevale et al., 2018; cf. Murphy and Dweck, 2016) and offers one approach to distinguishing foundational (fundamental) mindsets in a hierarchical order (cf. Kenrick et al., 2010b; cf. Rucker and Galinsky, 2016; cf. Wagner and Rudolph, 2010).

In this research, we investigate the effects of two fundamental motives—mate acquisition (MA) and self-protection (SP)—on willingness-to-pay (WTP) in an online context from two angles. Firstly, we explore how these motives may affect WTP for a product branded either as a “new arrival” or as a “classic” in a simulated online purchase case setting. In line with prior literature (Griskevicius and Kenrick, 2013; Griskevicius et al., 2009; Li et al., 2012), we expect MA to increase and SP to decrease WTP for the new arrival version, whereas the classic version should show an opposite pattern. These expected patterns primarily rely on differing mindsets (see Rucker and Galinsky, 2016) on risk shaped by the motives. Perceived risk is a driver of WTP (Casidy and Wymer, 2016). “New arrival” products fundamentally contain more risk than “classic” products as trustworthiness has not yet been established by experience or social proof. Prior studies on MA and SP motives have revealed that SP increases risk aversion and the effectiveness of social proof claims, whereas MA shows the opposite pattern (e.g., Griskevicius et al. 2009; Li et al., 2012). Furthermore, the mechanisms driving MA relate to standing out, which may further act as catalyst to spend more as function of conspicuousness (Sundie et al., 2011). Secondly, as our primary focus we broaden the scope of prior research to include the potential moderating effects of fundamental motivations on the relationship between attitude toward a product and WTP by focusing on the effects of mate acquisition and self-protection motives. This is important for two reasons: firstly, because it expands the conceptual sphere of fundamental motives toward a motivational context, whereby motivation may guide other key relationships in consumer decision-making, and secondly because it may complement other recent investigations of the moderating and mediating effects of motivation in consumer research (Nabi et al., 2019; Shao et al., 2019). In this case, the motivational preference mechanism should be agnostic to the product type (new arrival vs. classic) yet should create a motivational context for the choice as it pertains to a generalized mechanism to decreased (vs. increased) price sensitivity and risk-taking based on the tendencies of the focal motives (Griskevicius and Kenrick, 2013).

The main results suggest there to be a multifaceted relationship between chronic fundamental (MA and SP) motivation and WTP. MA motivation significantly boosted WTP for both new arrival and classic products, whereas SP motivation only for classic products as was hypothesized. Moreover, MA motivation moderated the relationship between attitude toward a product and WTP by catalyzing the effect of attitude on WTP. However, the moderating effects of fundamental motives may be motive-specific as SP motivation did not moderate the focal relationship.

The current research makes several contributions. Firstly, it breaks new ground by investigating the moderating effects of fundamental motivation in a consumer setting. Our primary findings support the general notion of moderation effects of fundamental motives but also highlights some potential differences and nuances that are motive-specific. The results pave way to expand the knowledge of the motivation-preference link to include broader effects on consumer behavior. Secondly, we offer a rare look at the role of chronic motivation in a consumer setting. Our findings suggest that the

level of chronic MA and SP may increase WTP but in different conditions. Increased understanding here may help scholars and practitioners account for the possible long-term and/or baseline effects of motivation. In the online context, this could enable enhanced targeting based on user profiling (Salonen and Karjaluoto, 2016). Finally, by focusing on the role of fundamental motivation in the relationship between attitude toward a product and WTP, we strive to deepen and expand our understanding of the primary relationship (e.g., Ha-Brookshire and Norum, 2011; Hultman et al., 2015; Husted et al., 2014; Luzar and Cosse, 1998) by offering a psychological lens to investigate the contextual effects of the primary relationship (cf. Valle et al., 2017).

## Literature Review

### **An Overview of the Fundamental Motives Framework**

The FMF (Griskevicius and Kenrick, 2013; Kenrick et al., 2010a, 2010b) follows the principles of evolutionary psychology to explain consumer motivation (see Confer et al., 2010 for general evolutionary psychology; see Durante and Griskevicius, 2016 for consumer behavior; see Kock, 2009 for information systems research). Per the FMF, consumers' motives continue to follow cognitive, affective, and behavioral tendencies that were adaptive in ancestral conditions in the modern world (Kenrick et al., 2012; Schaller et al., 2017). At their root, evolutionary challenges involve survival and reproduction, but they manifest themselves through a number of mediating motives. The FMF's seven distinguished mediating motives include but are not restricted to the following: (i) evading physical harm, (ii) avoiding disease, (iii) making friends (or affiliation motive), (iv) attaining status, (v) acquiring a mate, (vi) keeping a mate, and (vii) caring for family (Griskevicius and Kenrick, 2013). One strength of the FMF is its capacity to predict both the behavioral tendencies per each active motive (see Griskevicius and Kenrick, 2013) and the possible interaction effects of different motives (Schaller et al., 2017).

The FMF focuses on ultimate rather than proximate motives (cf. Tinbergen, 1963), suggesting that there may be several simultaneous motives that are operating on different levels (Durante and Griskevicius, 2018). For example, although a consumer's motive to buy the new Tesla S-series may be either design or environmental friendliness on the proximate level, it is still guided by status-seeking on the fundamental level (see Griskevicius et al., 2010). Implementing the FMF could enable a complementary foundational approach to, for example, either the basic typologies of online consumer motivation (e.g., Childers et al., 2001; Lopes and Galletta, 2006; Rohm and Swaminathan, 2004) or the discussion of consumer mindsets (cf. Murphy and Dweck, 2016). For the latter, the FMF enables a potential approach that includes many of the features that have previously been outlined as important for the study of consumer mindsets (cf. Rucker and Galinsky, 2016), including insights into chronic and situational activation (Kenrick et al., 2010a; Neel et al., 2016) and a hierarchical structure (Kenrick et al., 2010b), with an increasing understanding of interaction effects between the motives (Schaller et al., 2017).

### **Applying the Fundamental Motives Framework in Consumer Studies**

The FMF has been fruitful when applied to consumer studies. In Table 1, we outline key empirical studies that have either utilized the framework or a similar approach in consumer settings. Surprisingly, many studies have addressed the increased impulsivity, risk-taking, and conspicuous consumption that are associated with the behavioral tendencies of MA motivation (Griskevicius et al., 2009; Griskevicius et al., 2006; Li et al., 2012) as well as variety-seeking and product preferences (Durante and Arsena, 2015; Durante et al., 2010). Similarly, SP motivation has been the

focal counter-part in many studies (Griskevicius et al., 2009; Li et al., 2012) because it mirrors many of the tendencies of MA, including increased loss aversion (Li et al., 2012), conformity (Griskevicius et al., 2006), and persuasiveness of social proof (Griskevicius et al., 2009). Status has been another focus in consumer studies (Griskevicius et al., 2010; Sundie et al., 2011). Other motives have gained less attention to date, but interesting findings have recently been found regarding disease avoidance (Huang et al., 2017) and caring for family (Li et al., in press). This small sample outlines the broad applicability of the FMF for many different applications.

| Source            | Durante & Arsenau (2015)  | Durante et al. (2010)  | Griskevicius et al. (2010)   | Griskevicius et al. (2009)   | Griskevicius et al. (2006)  | Huang et al. (2017)  | Li et al. (in press)  | Li et al. (2012)  | Sundie et al. (2011)  |
|-------------------|---|--|--|--|---|--|---|---|---|
| Key finding(s)    | Women in a high fertility stage prefer more variety in products than women in a low fertility stage | Women in a high fertility stage prefer appearance enhancing products | With status activated, consumers prefer "green" products when purchasing is public vs. private and the green product vs. the control is more expensive | The MA prime leads to a preference for marketing messages that highlight uniqueness /scarcity vs. social proof, whereas the SP prime has the opposite effect | SP leads to more conformity in both sexes. MA leads women to more conformity and men to more non-conformity | Disease avoidance motivation leads to lessened WTP for used products | Men are more future oriented, whereas women are more present oriented, as is evident in the temporal aspects of rewards and attitudes toward marketplace entities | SP motivation increases loss aversion in men and women; MA motivation eradicates loss aversion in men | Conspicuous consumption is led by men with a short-term mating strategy |
| Focus of interest | Variety-seeking in products   | Product type choice  | Product preference/ WTP  | Preference, attitude, intention  | Conforming vs. non-conforming behavior  | WTP  | Temporal effects in decision-making   | Loss aversion   | Conspicuous consumption   |
| FOCAL motive(s)   | MA  | MA   | Status   | MA/SP  | MA/SP   | Disease avoidance  | Caring for family   | MA/SP   | MA  |
| CUE TYPE(s)       | Hormonal fluctuation  | Hormonal fluctuation   | Contextual Priming   | Contextual Priming   | Contextual Priming  | Contextual Priming   | Contextual Priming  | Contextual Priming  | Contextual Priming  |

Table 1. Summary of key literature for consumer research utilizing either the FMF or a similar evolutionary approach.

### Potential Roles of Fundamental Motivation in Consumer Studies

Research has noted many predictable motivational effects on consumer behavior, most of which have resulted from primed motivational states. However, this leaves some important information gaps, such as the role of motivation as the long-term baseline rather than the temporally-activated

and focalized mechanism (see Neel et al., 2016). It is feasible that, compared to primed motivation, chronic motivation will lead to similar effects (Maner et al., 2005). If this is the case, the level of chronic MA motivation as a driver leads to increased willingness to stand out (Griskevicius et al., 2009) and decreased loss aversion, especially in men (Li et al., 2012). In addition, eagerness to adopt new products (Griskevicius and Kenrick, 2013) should show preference for newly arrived products and a lower preference for classic products, whereas the level of chronic SP motivation should show the opposite patterns (Griskevicius and Kenrick, 2013; Griskevicius et al., 2009; Li et al., 2012) as it is function of mitigating risks (cf. Casidy and Wymer, 2016). With a focus on WTP as the main preference measure, the following hypotheses were created:

H<sub>1A</sub>: The level of chronic MA motivation increases WTP for new products.

H<sub>1B</sub>: The level of chronic SP motivation decreases WTP for new products.

H<sub>1C</sub>: The level of chronic MA motivation decreases WTP for classic products.

H<sub>1D</sub>: The level of chronic SP motivation increases WTP for classic products.

We further hypothesized that fundamental motivation may also play a role in WTP as a moderator of other central relationships. This means that the motivational context that is created by the level of chronic fundamental motivation could enable generalized effects on choice and preference in such cases. Preliminary evidence for this was provided by Durante and Arsena (2015), who found that increased general variety-seeking leads to increased variety-seeking in products for women in the high fertility stage. While the first set of hypotheses focuses on situations wherein the choice or preference task is more or less associated with attaining the motivational goal, the moderating role could also be present when there is a lower associative strength between the choice and the motivational goal (cf. Dijksterhuis et al., 2000). Such an effect would expand the applicability of fundamental motivations.

We investigated the potential moderating role of the level of chronic fundamental motivation on the intuitive relationship between attitude toward a product and WTP for the product (Ha-Brookshire and Norum, 2011; Hultman et al., 2015; Husted et al., 2014; Luzar and Cosse, 1998). While it is possible that the product and its marketing positioning may be less associated with attaining the fundamental motivational goal in some cases, attitude toward the product is a construct that is directly related to the product. Furthermore, attitude toward the product is a relatively good proxy for WTP for the product; therefore, we expect a direct relationship there (Ha-Brookshire and Norum, 2011; Hultman et al., 2015; Husted et al., 2014; Luzar and Cosse, 1998). In our case, MA is expected to moderate the relationship between attitude toward a product and WTP by catalyzing the primary relationship, whereas SP motivation is expected to inhibit the relationship based on the general tendencies of these fundamental motives (Griskevicius and Kenrick, 2013). However, because these effects stem from generalized mechanisms, they should be agnostic to the product type (new arrival vs. classic). Hence, the following hypotheses were developed:

H<sub>2A</sub>: The level of chronic MA motivation moderates the relationship between attitude and WTP so that high MA motivation promotes WTP.

H<sub>2B</sub>: The level of chronic SP motivation moderates the relationship between attitude and WTP so that high SP motivation inhibits WTP.

## Methodology

This study was conducted as a simulated buying task online on the Qualtrics platform. We followed Huang et al. (2017) and created a mock-up version of a fictional e-commerce site, of which the participants saw one product page featuring a cabin-size suitcase. In addition to a large picture of the product, including the price and product specifications, the participants saw a highlighted text that advertised the product as either a new arrival (“New Arrival! This handy, cabin-size suitcase defines the latest surge in suitcases”) or as a classic (“Classic! This handy cabin-size suitcase defines what tried-and-tested means for suitcases”). The participants were randomly assigned to these different versions. Importantly, we utilized a white background to not cue contextual background information (cf. Maier and Dost, 2018)

The 210 participants (115 male, 95 female) were recruited via Amazon’s Mechanical Turk platform for monetary compensation. The number of participants resembles that of other similar experiments such as experiments carried out by Huang et al. (2017) which we emulated. The study procedure included three main types of questions: background questions (gender, age, relationship status, and ethnicity), product preference metrics, and a measure of the chronic motivation levels for MA and SP. For product preference metrics, both WTP as a slider option (5–15 equaling 50%–150% of the given recommended retail price) and attitude toward the product as a 5-item adjective pairing task on a 7-point scale were utilized. Finally, motivational disposition for chronic motivation on MA and SP was measured with 4 items for each motive class on a 7-point scale (1 = strongly disagree; 7 = strongly agree), which was adapted from Neel et al. (2016). We excluded 9 participants who took longer than 2 standard deviations to complete the task, leaving 201 participants for analysis (109 male, 92 female,  $M_{age} = 37.74$ ,  $SD = 11.13$ , ranging from 21–69 years). The respondents were predominantly of Caucasian origin. WTP across the population ( $N = 201$ ) was less than the recommended retail price, with the average being 7.34 or 73.4% ( $SD = 2.74$ ,  $min = 5$ ,  $max = 15$ ). For a summary of demographic information, see Table 2 below. The new arrival and classic product versions were similarly valued, meaning that there was not a predisposed difference in the WTP for the product between the product type versions ( $F(1,199) = .655$ , ns). Similarly, attitude toward the product items showed little variance across the means of the items across the product types ( $F(1,199) = 2.17$ , ns).

Table 2. Summary of sample demographics (outliers excluded)

| Gender                           | Age in cohorts<br>(range 21-69 years) | Ethnicity                      | Relationship status                   |
|----------------------------------|---------------------------------------|--------------------------------|---------------------------------------|
| <b>Female:</b><br>N = 92 / 45.8% | 21-30 years:<br>N = 66 / 33%          | Caucasian:<br>N = 168 / 83.6%  | Single:<br>N = 72 / 35.8%             |
| <b>Male:</b><br>N = 109 / 54.2%  | 31-40 years:<br>N = 65 / 31.5%        | Black/African:<br>N = 16 / 8%  | In a relationship:<br>N = 126 / 62.7% |
|                                  | 41-50 years:<br>N = 39 / 17%          | Hispanic/Latino:<br>N = 6 / 3% | Other:<br>N = 2 / 1%                  |
|                                  | 51-60 years:<br>N = 23 / 11.5%        | South Asian:<br>N = 1 / 0.5%   |                                       |
|                                  | 61- years:<br>N = 9 / 4.5%            | East Asian:<br>N = 6 / 3%      |                                       |
|                                  |                                       | Mixed:<br>N = 3 / 1.5%         |                                       |
|                                  |                                       | Other:<br>N = 1 / 0.5%         |                                       |

A general linear regression model was used to investigate H<sub>1A-D</sub>, and a linear moderation analysis was used for H<sub>2A-B</sub>. For the first set of hypotheses, the following equation can be formed

$$Y_{1,2}(WTP) = \beta_0 + \beta_1(MA) + \beta_2(SP) +$$

Where Y<sub>1,2</sub> refers to WTP for new arrival and classic products respectively. For H<sub>2A-B</sub>, the following moderation equation can be formed

$$Y(WTP) = b_0 + b_1(Attitude) + b_2(MA,SP) + b_3(Attitude \times MA,SP) +$$

Where MA,SP refers to instances where either MA or SP is considered.

To account for potential variance overlap, the scores for fundamental MA (4 items), SP (4 items) motives, and attitude toward a product (5 items) were transformed into factor scores.

## Results

The first set of hypotheses explored whether fundamental motivations can predict WTP for different product types. The first step included investigating whether MA motivation increases WTP for new products and whether SP motivation decreases it. A significant relationship between MA motivation and WTP was found ( $\beta = .277, p < 0.01$ ) suggesting that MA increases WTP for new products. In practice, this means that those high on MA motivation prefer new products and are willing to pay more compared to those that are low on MA motivation. SP motivation neither predicted WTP for a new arrival product nor predicted a lower WTP ( $\beta = .136, ns$ ). This means that those high on SP motivation are not willing to pay more for new products but also that the new arrival status of the product does not lower their WTP. The  $R^2$  value, which signifies the model's explanatory power, was low ( $R^2 = .09$ ), but the overall regression model was significant ( $F(2,99) = 4.88, p < 0.01$ ). Table 3 presents the findings below.

Table 3. Direct effect of fundamental motivation on WTP for new products

|                 | <i>B</i> | <i>se</i> | $\beta$ | <i>t</i> | <i>p</i> |
|-----------------|----------|-----------|---------|----------|----------|
| Constant        | 7.195    | .248      |         | 28.968   | .000***  |
| Motivation (MA) | .711     | .247      | .277    | 2.880    | .005***  |
| Motivation (SP) | .360     | .254      | .136    | 1.416    | .160     |

$R^2_{Model} = .09, p < .01$ . Motivation (MA) refers to a chronic level of mate acquisition. Motivation (SP) refers to a chronic level of self-protection motivation. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ . Dependent variable: WTP.

Moreover, an analysis of the classic products showed multiple significant relationships. As hypothesized (H<sub>1D</sub>), SP motivation did increase WTP for the classic products ( $\beta = .215, p < 0.05$ ). This means that whereas a product marketed as “new arrival” did not predict lower WTP under higher SP motivation, highlighting the established nature of the product as a “classic” did predict increased WTP. However, MA motivation ( $\beta = .306, p < 0.01$ ) raised WTP also in the “classic” product type, which was against the hypothesis (H<sub>1C</sub>). This finding means that MA motivation may operate on more dimensions than just the dimension of risk. The term classic refers to social status (in the form of owning classic products) which is behavioral driver of MA (see Griskevicius and



Kenrick, 2013). As in the case of new products, the regression model for the classic version produced a relatively low  $R^2$ -value (.15), but the model was significant ( $F(2,94) = 8.35, p < 0.001$ ). These results are summarized in Table 4.

Table 4. *Direct effect of fundamental motivation on WTP for classic products*

|                 | <i>B</i> | <i>se</i> | $\beta$ | <i>t</i> | <i>p</i> |
|-----------------|----------|-----------|---------|----------|----------|
| Constant        | 7.461    | .269      |         | 27.748   | .000***  |
| Motivation (MA) | .871     | .271      | .306    | 3.211    | .002***  |
| Motivation (SP) | .689     | .305      | .215    | 2.256    | .026**   |

$R^2_{Model} = .15, p < 0.001$ . Motivation (MA) refers to a chronic level of mate acquisition. Motivation (SP) refers to a chronic level of self-protection motivation. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ . Dependent variable: WTP.

These results mainly support the alternative hypotheses ( $H_{1A-D}$ ) because the MA motivation predicted WTP for new arrival products and SP motivation for classic products. However, SP motivation did not predict lower WTP for new arrival products. Additionally, MA motivation also predicted WTP for classic products which was against the hypothesis. This may be due to the conceptualization of what classic means: it is an established alternative offering safety but one with usually high esteem which also supports the drivers of MA motivation (Griskevicius and Kenrick, 2013). New arrival products are riskier; hence, there may be more contrasting effects between the focal motives (Griskevicius and Kenrick, 2013) than in the case of “classic” products which carry positive annotations both in risk reduction, as well as, social status. Combined, the results suggest that marketing messages aimed at matching with motivational goals seem to boost WTP but in the case of mismatch do not cause aversive reactions.

The second set of hypotheses ( $H_{2A-B}$ ) proposed that fundamental motivation may moderate the relationship between attitude toward the product and WTP for that product. To investigate the alternative hypotheses ( $H_{2A-B}$ ), a linear moderation analysis was carried out. The analysis revealed new findings about the moderating role of fundamental motivations on the primary relationship. Specifically, as expected, attitude toward a product had a significant and direct relationship with WTP ( $F(1,199) = 36.55, p < .001$ ) which means that a more favorable attitude towards the product increases WTP. In the case of MA motivation, a regression model ( $F(3,195) = 27.16, p < 0.001$ ) found that the motive significantly moderates the relationship between attitude and WTP ( $\beta = .243, p < .001$ ), as summarized in Table 5. The results support the notion that MA motivation strengthens the effect of attitude toward the product in determining WTP.

Table 5. *Conditional effect of attitude on WTP (MA motivation)*

|                            | <i>B</i> | <i>se(B)</i> | $\beta$ | <i>t</i> | <i>p</i> |
|----------------------------|----------|--------------|---------|----------|----------|
| Constant                   | 7.265    | .163         |         | 44.474   | .000***  |
| Attitude                   | 1.145    | .168         | .414    | 6.821    | .000***  |
| Motivation (MA)            | .684     | .163         | .253    | 4.188    | .000***  |
| Attitude x Motivation (MA) | .658     | .164         | .243    | 4.006    | .000***  |

$R^2_{Model} = .30, p < .001$ \*\*\*,  $\Delta R^2_{interaction} = .058, p < .001$ \*\*\*. Motivation (MA) refers to a chronic level of mate acquisition. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ . Dependent variable: WTP.

Figure 1 below shows the effect in visual form. The scale for WTP equals the percentage of WTP the recommended retail price (5 = 50% of RRP, 10 = 100 % of RRP). The results suggest that MA motivation significantly strengthens the relationship between attitude and WTP. The difference in WTP between the conditions (low vs. high) is considerable, suggesting that participants are willing to pay 40 percentage points or more for the same product when in a highly motivated condition. This result supports the notion that, when a product is liked, those with high, chronic MA motivation do not mind paying more money to get it.

Figure 1. The moderating effect of MA motivation on the relationship between attitude and WTP.

Conversely, the results for SP were not significant ( $\beta = -.145$ , ns). As hypothesized, the interaction effect, which suggests an inhibiting effect, was negative; however, this effect was miniscule overall. The findings are summarized in Table 6.

Table 6. *Conditional effect of attitude on WTP (SP motivation)*

|                            | <i>B</i> | <i>se(B)</i> | $\beta$ | <i>t</i> | <i>p</i> |
|----------------------------|----------|--------------|---------|----------|----------|
| Constant                   | 7.334    | .177         |         | 41.350   | .000***  |
| Attitude                   | 1.093    | .183         | .395    | 5.963    | .000***  |
| Motivation (SP)            | .326     | .191         | .112    | 1.708    | .089     |
| Attitude x Motivation (SP) | -.145    | .176         | -.054   | -.826    | .410     |

$R^2_{Model} = .18, p < .001^{***}, \Delta R^2_{interaction} = .003, ns$ . Motivation (SP) refers to a chronic level of self-protection motivation. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ . Dependent variable: WTP.

The results further suggest that the effects of SP motivation do not operate as a clear mirror image of the effects of MA motivation, and they do not necessarily even share general tendencies. For example, whereas MA motivation showed a clear moderating trend toward strengthening the effect of attitude toward a product on WTP, the effects of SP motivation did moderate the focal relationship. Thus,  $H_{2A}$  is supported, and  $H_{2B}$  is rejected.

To summarize the key results, fundamental motivation may have both predictive and moderating power. Support for predictive power was found for MA, which significantly boosts WTP for both new arrival and classic product versions. SP motivation predicted higher WTP for classic products but not for new arrivals, as hypothesized. Furthermore, support for moderating power was found where MA works as a catalyst for the relationship between attitude toward a product and WTP for the product. However, SP motivation did not moderate the focal relationship, which suggests that the moderation effects are motive-specific.

Conclusion

Fundamental motivation may not be an intuitive driver of WTP for products; however, this research shows that it may play a part in the process. In this research, fundamental motivation predicted WTP, showing categorical differences between product types, marketed either as “new arrival” or “classic”. In the case of new arrival product type, higher MA motivation increased WTP but higher SP motivation did not, as was hypothesized. However, contrary to our hypothesis, SP did not decrease WTP. Furthermore, MA motivation raised WTP in the “classic” product category. While this result acted against the hypothesis, the result was not completely unexpected. New arrival products communicate inherent risk, whereas classic products are related to not just lower risk perception through social proof but also the positive annotation of social status. Hence, as conspicuousness is one tendency of MA motivation (Griskevicius and Kenrick, 2013), MA motivation may increase WTP in the case of “classic” products too. Overall, the results of the analyses suggest that the effects of fundamental (MA and SP) motivations on WTP provide opportunities for marketers, however, in a nuanced way. The results point towards relative safety of applying motive congruence in marketing messaging: motive congruence yields increased WTP, whereas a mismatch results in baseline WTP in the worst case. However, these results should be re-confirmed by more research and in different contexts.

Moreover, an interesting connection between fundamental MA motivation and its capacity to moderate the relationship between attitude toward the product and WTP gained support. When MA was very low, the effect of attitude towards product on WTP was substantially reduced, whereas in the high MA condition, the effect was substantially strengthened. Our research suggests that there may be a generalized spillover effect, where MA operates through – potentially – risk mitigation and impulsiveness (see Durante and Arsena, 2015 for a similar concept). In high MA conditions, impulsivity may take hold of consumers and drive them to get a favored product with less consideration of price. This raises both opportunities for marketers as it raises the need for ethical considerations for utilizing MA fueled tactics. As this is the first study to look at the moderating effects of fundamental motives in consumer contexts, further research is required to explore under which conditions the moderation effect may be stronger and when it may be weakened.

## Theoretical Implications

This study contributes to the extant literature in several ways. Most importantly, it offers the first empirical evidence that supports the potential moderating effects of fundamental motives on consumer behavior measures. While previous research has investigated the narrow relationship between motivation and either preferences or decision-making under MA and/or SP priming (Griskevicius et al., 2009; Li et al., 2012), this study expands the scope to both chronic and moderating effects. These findings are important because they may expand the impact of fundamental motivation from specific situations to more general consumer settings. Additionally, the results may complement previous research based on arousal as both MA and SP motivation could be considered high arousal states (cf. Viera and Torres, 2014) Whereas this study focused on the moderating effects of fundamental motivation on the relationship between attitude toward a product and WTP, it is plausible that similar effects could be found for other key measures, such as attitude certainty (Rucker et al., 2014) and perceived switching costs (Jiang et al., 2014). This is because the behavioral tendencies of MA and SP (see Griskevicius and Kenrick, 2013) imitate those of high versus low power (cf. Jiang et al., 2014) as well as highlight different reactions toward social consensus (cf. Rucker et al., 2014). However, more research is required to validate and systematize these findings across different settings. Furthermore, this study offers rare empirical

evidence of the effects of chronic motivation in consumer settings. An understanding of such effects is essential because chronic measures have been fruitful predictors in other domains of consumer mindset studies (Anderson and Galinsky, 2006; Rucker and Galinsky, 2009). However, prior research in the FMF has neglected this dimension, even though the predictive power of chronic fundamental motivation surpasses the Big Five personality factors in some instances (Neel et al., 2016). Further understanding of chronic motivations is important because they may either operate independently in determining behavior or interact with other constructs, such as those that are situationally activated (Kopetz et al., 2012). Finally, this study offers insights into how an evolutionary approach might yield insights into a modern online consumer setting, which would enable possibilities for other areas of study, such as motivation-based web personalization (Salonen and Karjaluoto, 2016).

### Managerial Implications

For managers, this research highlights the impact of fundamental motivation on consumer behavior online. For example, MA was found to have relevance to WTP, both as a moderator and directly; therefore, managers should find ways to target customers who rank high on this motivation. Applying understanding of MA motivation to marketing creates many opportunities for practitioners. For one, MA motivation may mitigate against risk associated with new products which may make launching new product lines more successful if targeted towards consumers high on MA motivation. Targeting can be achieved either through less precise demographic screening (e.g., young adult males are more likely to be high on MA motivation) or through more fine-tuned user modelling/web personalization methods (Salonen & Karjaluoto, 2016). Additionally, impulsiveness associated with MA motivation may make consumers less price sensitive when considering buying a favored product. On the other hand, also SP motivation can be successfully applied to marketing. One way is to apply understanding how SP motivation lowers willingness to take risks and increases preference for safe and trustworthy brands (Griskevicius and Kenrick, 2013). Here, a market leader as the safe choice may wish to highlight the risk associated with changing vendors as it should increase preference for the market leader. Conversely, if a marketer's product is deemed risky, an effective way to mitigate the effect is to utilize social proof claims (Griskevicius et al., 2009). Another option is to highlight the safety features of a product or guarantees (Griskevicius and Kenrick, 2013). The key here for practitioners is that although many themes related to SP motivation are negatively valenced, SP motivation can be used to drive business results (cf. Griskevicius et al., 2009), such as increase WTP as highlighted by our results. To sum, the results of our research suggest that fundamental motives can offer opportunities for marketers in a variety of situations. In addition, these effects were found on a chronic measure of fundamental motives, which enables building enhanced long-term user profiles for web personalization and data-driven marketing that is based on the motivational tendencies. While these motivational effects may be situationally activated, the value in targeting those chronically high on MA motivation lies in a favorable baseline that is relatively stable similar to personality. Considering risk taking behavior in the online context, while it is essential to apply other risk mitigating tactics, targeting those who are less risk averse by nature is a good basis for successful marketing efforts. Focusing on fundamental motives enables such an approach. Finally, this study offers managers an in-depth approach to motivation by proposing a complementary approach to targeting the most recent cultural phenomena. Reacting to cultural phenomena is important, but

### Limitations and Suggestions for Future Research

While offering concrete contributions, there are several limitations to our research. We utilized a simulated purchase case to maintain control of the study's setting. A field experiment would be helpful to gauge the reliability of the results in a natural environment, especially because we faced

problems with setting the inclusion criteria for respondents. For example, we included a control question that asked respondents to identify whether the product they rated was advertised as either a classic or a new arrival from four different options presented. Of the 210 initial participants, a large number (53) failed to identify the product type correctly. While the moderation analyses produced similar results, independent of either excluding or including the participants who failed the control question (with SP being closer to significance by excluding the participants), the direct effects fell out of the significant range when excluding such a large number of participants. Including the full participant pool for analysis does, of course, limit the reliability of our results. However, we decided to do so for two reasons: (a) there was no manipulation of the motivation levels being carried out in the task, and (b) the control question was positioned at the end of the experiment, which means that participants may have been influenced by the product type information when rating the product but may have forgotten such secondary information after answering the multiple other questions in between. In addition, we only explored one product. As hypothesized in this article, the results could differ for other products if they are more (vs. less) directly linked with attaining motivational goals. This assumption also reveals an enticing opportunity for further research, such as seeking a systematic and predictable way to identify when a motivational goal match is greater. A further understanding of this effect would be essential in establishing both how and when fundamental motives can be best operationalized for practical purposes. Finally, an expanded approach that combines chronic and temporally activated motivations could yield interesting findings in the contexts of user profiling in web personalization and data-driven marketing, which could further reveal how the temporal dynamics of motive-preference links operate (cf. Spears et al., 2016).

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## Appendix. Table defining linear regression model variables and measurement

Table 7. Linear regression model variables and measurement

| Variable  | Variable items   | Measurement scale   | Source             |
|---|--|---|--------------------|
| Self-protection (SP) motivation<br><br><b>Description: Propensity to seek safety and make safe choices (see Griskevicius and Kenrick, 2013, pp. 376 for triggers and behavioral tendencies)</b> | i. I think a lot about how to stay safe from dangerous people.<br><br>ii. I am motivated to keep myself safe from others.<br><br>iii. I do NOT worry about keeping myself safe from others (reverse coded).<br><br>iv. I worry about dangerous people.   | 1 (not at all) – 7 (very much)  | Neel et al., 2016  |
| Mate acquisition (MA) motivation<br><br><b>Description: Willingness to attract a new mate (see Griskevicius and Kenrick, 2013, pp. 376 for triggers and behavioral tendencies)</b>              | i. I spend a lot of time thinking about ways to meet possible dating partners.<br><br>ii. I am interested in finding a new romantic/sexual partner.<br><br>iii. I am NOT interested in meeting people to flirt with or date (reverse coded).<br><br>iv. I would like to find a new romantic/sexual partner soon. | 1 (not at all) – 7 (very much)  | Neel et al., 2016  |
| Willingness-to-pay (WTP)<br><br><b>Description: Stated willingness to pay offered product as a function of recommended retail price.</b>  | i. Please indicate your willingness to pay for the product in terms of percentages of the recommended retailing price.   | 5–15 equaling 50%–150% of the given recommended retail price with a slider tool | Huang et al., 2017 |

|  |  |   |                                 |
|--|--|---|---------------------------------|
| <p>Mate acquisition (MA) motivation</p> <p><b>Description: Overall evaluation of favorableness of an object (see Ajzen and Fishbein, 2000)</b></p> | <ul style="list-style-type: none"> <li>i. Bad – Good</li> <li>ii. Negative – Positive</li> <li>iii. Undesirable – Desirable</li> <li>iv. Unfavorable – Favorable</li> <li>v. Dislike - Like</li> </ul> | <p>1 (first adjective) – 7 (second adjective)</p> | <p>Ajzen and Fishbein, 2000</p> |
|--|--|---|---------------------------------|