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Big splash, no waves? Cognitive mechanisms driving incumbent firms' responses to low-price market entry strategies

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Research Summary: Low-price market entries, aiming for rapid sales growth, tend to prompt strong competitive reactions. This research explores whether and how firms using low-price entry strategies can mitigate retaliatory incumbent reactions. An experiment with 656 managers shows that entrants can attenuate the strength of incumbents' responses by fostering perceptions of high aggressiveness or low commitment. Entrants may be able to accomplish this by adjusting their entry strategy to embed (subtle) cues of aggressiveness and (lack of) commitment. A replication experiment with university students reinforces our overall theoretical argument. However, the results also indicate that the interpretation of cues embedded in the entry strategy may be affected by the experience of incumbent firm managers. Overall, these results clarify the cognitive foundations of competitive responses to market entry.

Managerial Summary: What drives incumbents to respond strongly to market entries, and what can the entrant, if anything, do to mitigate those responses? This research offers empirical evidence and theoretical insights for managers faced with these questions by shedding light on the thinking processes preceding competitive responses. The study shows that while managers are motivated to respond strongly to market entries that appear to be highly consequential to their business, these responses may be mitigated if the entrant manages to foster perceptions of high aggressiveness or low commitment to the market. Managers form these perceptions in part on the basis of the entrant's behavior, creating an opportunity for

entrants to adjust their entry strategies in a manner that demotivates strong competitive responses.

KEY WORDS

behavioral strategy, competitive dynamics, experimental study, market entry, pricing

1 | INTRODUCTION

Entering an existing market involves balancing two goals. On the one hand, it is desirable to enter a market with a “big splash,” that is, to grow market share quickly and enjoy the associated positive feedback effects, such as “learning by doing, scale economies, network effects, information contagion, and the accumulation of complementary assets” (Sterman et al., 2007, p. 684). On the other hand, entrants would like to avoid the “waves” associated with a big splash, that is, the strong, possibly devastating competitive reactions by incumbents. These goals are often seen as contradictory; entrants must choose between making a high-impact entry and minimizing the likelihood of a counterattack (Chen & Hambrick, 1995; Chen, Smith, & Grimm, 1992; Chen, Su, & Tsai, 2007).

This study explores the possibility that this trade-off may not be that clear-cut. Indeed, prior theoretical arguments suggest that highly impactful market entry strategies may sometimes deter incumbent firm counterattacks (e.g., Fan, 2010; McGrath, Chen, & MacMillan, 1998; Wang & Shaver, 2014). Consequently, we ask if and how a firm might be able to dampen the waves associated with a big splash market entry. And, if they can, what are the cognitive mechanisms underlying a weakened competitive response of the incumbent?

We explore these issues in the context of entry pricing, focusing on what determines incumbent responses to a new competitor’s low-price market entry strategy (LPMES). Entering a market with a below-market price is appealing, as a low price offers a clear signal of economic advantage over the incumbents’ offerings, thus inducing customer switching and fueling rapid sales and market share growth (e.g., Spann, Fischer, & Tellis, 2015). However, incumbents can easily spot the low price and are likely to perceive it as threatening. As retaliatory price cuts are easy to implement, incumbents tend to rapidly cut prices in response to low-price market entries (Debruyne, Moenaert, & Griffinc, 2002; Kuester, Homburg, & Robertson, 1999), thus countering the intended positive effects of an LPMES (McCann & Vroom, 2010; Simon, 2005).

Apart from that, managers’ assessments of the entrant’s longer-term behavioral intentions might also affect the incumbent’s competitive responses. In particular, we predict that managers are likely to be less motivated to attack entrants who are expected to act *aggressively* in the market (e.g., Fan, 2010), due to a fear of triggering a destructive “race to the bottom.” Conversely, managers are more prone to attack entrants perceived as *committed* to the market (e.g., Heil & Walters, 1993), due to the belief that such entrants present a long-term competitive threat unless dealt with immediately. Thus, the incumbent’s response may be mitigated if the entrant succeeds to foster perceptions high aggressiveness or low commitment. An experiment with 656 managers supports these predictions. A replication study with 1,070 university students reveals a qualitatively similar pattern of results.

Our study also illuminates how the entrant might be able to influence the incumbent’s perceptions of aggressiveness and commitment. Building on the cue approach (e.g., Chen & MacMillan,

1992; Marcel, Barr, & Duhaime, 2011), we assume that cues embedded in the actions of the entrant may shape incumbent firm managers' information processing, and hence, their perceptions concerning the entrant. In particular, our experiments test how four alternative LPMEss (i.e., *penetration pricing*, *introductory pricing*, *price-matching guarantees* [PMG], and *bonus pricing*) affect managers' perceptions of entrant aggressiveness and commitment. In the manager sample, participants perceive entrants using introductory pricing and PMGs as more aggressive than entrants using penetration pricing. In turn, managers tend to interpret bonus pricing as a signal of low commitment to the market. These signaling effects help introductory pricing, PMGs and bonus pricing to call forth milder competitive responses than penetration pricing. However, these effects disappear in the student sample. Managers' interpretive frameworks—that determine their "reading" of the embedded cues—thus appear to develop through experience (e.g., Heil & Robertson, 1991).

Our study makes three contributions to strategic management research and practice. First, the results show how an entrant might mitigate the strength of the incumbent firm's response, without necessarily reducing the degree of market penetration. A "big splash, no waves" strategy discourages hostile incumbent reactions by signaling high aggressiveness or low commitment. This finding also adds to an emerging understanding of why firms sometimes decide against (strong) counterattack-type responses to significant competitive threats (e.g., Wang & Shaver, 2014). Second, our results clarify the cognitive mechanisms underlying incumbents' competitive reactions to market entry. Our empirical findings indicate that incumbents respond not only to (perceived) marketplace consequences of the entry (e.g., Chen & Miller, 1994; McCann & Vroom, 2010; Simon, 2005), but simultaneously consider longer-term behavioral intentions of the entrant (i.e., aggressiveness and commitment). We extend previous literature by elaborating on how these considerations differ theoretically as well as by showing how they can be disentangled empirically (e.g., Chen et al., 2007; Fan, 2010). Finally, we show how seemingly minor changes in the entry strategy (e.g., coupling a low entry price with a PMG) can serve the function of cuing the incumbent about the entrant's behavioral intentions. We complement prior research on competitive cueing (see, e.g., Marcel et al., 2011), by offering a more direct empirical testing of the cueing effects, but also by showing that the effectiveness of cues-embedded-in-actions may depend on the prior experiences of the responding firm's managers, giving rise to the possibility of cue misinterpretation (Zajac & Bazerman, 1991).

2 | RESEARCH FRAMEWORK

2.1 | A behavioral view of competitive reasoning

Our research takes a behavioral view (see, e.g., Powell, Lovallo, & Fox, 2011) on competition. Behavioral studies of competition examine how managers' cognitive processes are impacted by competitive dynamics in the market, and how the outcomes of these cognitive processes, in turn, shape managers' decisions about competitive actions (see, e.g., Kilduff, Elfenbein, & Staw, 2010; Luoma et al., 2017). We focus on how managers form beliefs about the likely behaviors of their competitors—a process sometimes called competitive reasoning (e.g., Montgomery, Moore, & Urbany, 2005)—and how those beliefs influence subsequent competitive actions.

Traditional game theoretical models of competition implicitly assume that competitive reasoning is a relatively unproblematic process as long as the managers have access to information about the payoffs of different action options available to the competitor (Chen & MacMillan, 1992). However, behaviorally oriented research shows a more nuanced story. For instance, the ability to foresee competitive (inter-) actions is not a given, but an ability that accumulates over time as competitors come

to know each other through repeated encounters in shared product markets (Tsai, Su, & Chen, 2011). A signaling perspective to competition also argues against managers as purely rational decision-makers. For instance, bluffs such as announced but non-materialized new product launches may successfully confuse competitors (Prabhu & Stewart, 2001). Accordingly, a focal firm may be able to exploit the cognitive vulnerabilities associated with bounded rationality and discourage a rival firm actions by influencing the rival's assessment of the focal firm's behavioral intentions.

2.2 | Determinants of incumbent firm reactions

We assume incumbent firm's managers incorporate two considerations into their decisions concerning competitive response to market entry (see Figure 1). First, managers consider the likely short-term *consequences* of the entry. Generally, a competitive response is more likely when the expected negative impact of a rival's action is large (e.g., Chen et al., 2007; McCann & Vroom, 2010; Simon, 2005). The purpose of the competitive response is to nullify or mitigate that negative impact. In the market entry context, incumbents try to forecast the extent to which the market entry affects their business. These inferred, but not realized, consequences of the entry capture managers' beliefs about the potential loss in sales and market share due to the new market entry—if the incumbent does not respond (e.g., Chen & Miller, 1994).

Second, managers' decisions regarding competitive reactions to market entry are based on reasoning about the entrant's longer-term behavioral intentions (including potential counter-reactions). As indicated above, this process probably lacks the sophistication of game-theoretical models, and in all likelihood, managers tend not to incorporate recent insights from competitive dynamics research in their competitive reasoning (e.g., Coyne & Horn, 2009). Yet, we assume, managers are not entirely blind to their competitors' intentions and actions either.

More specifically, managers' competitive reasoning likely focuses on two behavioral traits that capture important expectations concerning the entrant's future behavior in the market: *aggressiveness* and *commitment*. These general behavioral tendencies of the entrant provide heuristic guidance for the incumbent's response decision-making (cf. Duarte, Siegel, & Young, 2012). In general, managers tend to view competitive actions in which the ratio of incumbent cost to entrant benefit is high, or when the entrant shows willingness to sacrifice profits to beat competitors, as signals of competitive aggressiveness (Fan, 2010; Heil & Robertson, 1991; Hultink & Langerak, 2002; Lumpkin & Dess, 1996). An action sends a signal of commitment, in turn, when the receiver believes the

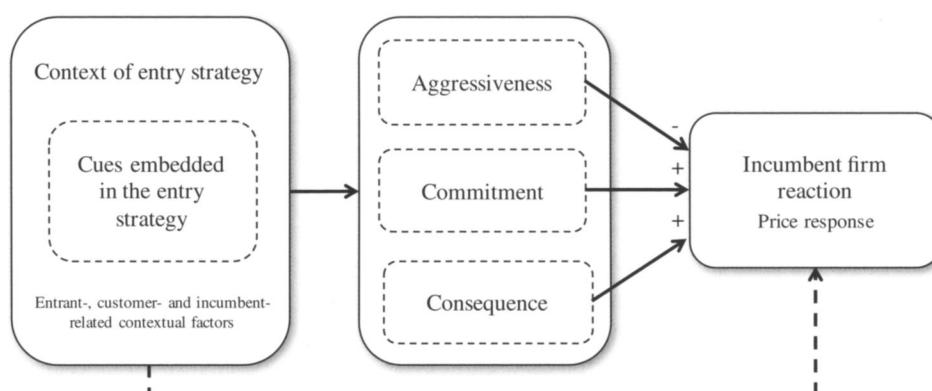


FIGURE 1 Theoretical model

sender will “stick to its market action” (Heil & Walters, 1993, p. 56; Hsieh, Tsai, & Chen, 2015)—in our case, the market entry.

While commitment clearly points to behavioral intentions (Chen, 1996; Chen & MacMillan, 1992; McGrath et al., 1998), literature sometimes understands aggressiveness in behaviorist terms, for example, as the frequency or speed of competitive actions (e.g., Chen, Lin, & Michel, 2010; Nadkarni, Chen, & Chen, 2016). However, aggressiveness, like commitment, is not only a characterization of behavior in a certain point in time, but a trait-like concept that captures *propensity* to (re-) act in certain ways in the future. This conceptualization of aggressiveness is also in line with that found in psychology (Carré, McCormick, & Mondloch, 2009). It is precisely this future-pointing nature of the entrant’s perceived aggressiveness and commitment that renders them efficacious in shaping the actions of the incumbent.

A key contribution of our work is to disentangle the three perceptual threat dimensions pertaining to market entry (i.e., perceived aggressiveness and commitment of the entrant, and the perceived consequence of the entry), and to elaborate on their differential theoretical logic and the effects they have on the incumbent’s response. Extant literature rarely makes clear distinctions between them. For example, scholars often use variables such as volume or scale of attack as predictors of competitive responses; such predictors are taken as indicators of aggressiveness (Fan, 2010), commitment (McGrath et al., 1998), or consequence (Chen et al., 2007), depending on the study. We maintain that all three perceptual dimensions are impacted by the entry, and all three influence the ensuing competitive response of the incumbent.

2.3 | Cues embedded in the entry strategy

Our empirical study also explores the antecedents of perceived aggressiveness, commitment, and consequences. We build on what Marcel et al. (2011, p. 117) call the “cue approach,” that is, the assumption that the focal firm’s “competitive actions contain embedded signals that other firms must process and evaluate.” Consequently, we test whether cues embedded in the actions of the entrant (i.e., characteristics of the selected market entry strategy) have the potential to shape the incumbent managers’ perceptions concerning the entry and the entrant’s behavioral intentions, and consequently, their competitive response. The plausibility of this general proposition is indicated by prior empirical work that has associated, for example, different action characteristics with the likelihood of response (Chen & MacMillan, 1992), and consequent survival likelihood of the initiating firm (Fan, 2010). The proposition is further reinforced by research showing the ability and tendency of people to infer each other’s behavioral intentions and traits on the basis of relatively subtle cues (Carré et al., 2009; Duarte et al., 2012). We also examine entrant-, customer-, and incumbent-related contextual factors that may influence the incumbent’s response, most important, by affecting the interpretation of the cues embedded in the entrant’s actions (Kuester et al., 1999).

Cues embedded in the entry strategy can influence both deliberate and intuitive reasoning of incumbent firm managers concerning the likely consequences of the entry, and the behavioral intentions (i.e., aggressiveness and commitment) of the entrant (e.g., Evans, 2008; Evans & Stanovich, 2013; Kahneman, 2003). Intuitive reasoning encompasses mental processes such as associative pattern matching (Gawronski & Bodenhausen, 2006), whereby behavioral cues are subconsciously associated with certain expectations regarding future behavior (e.g., aggressiveness). Such associations are embedded in semantic networks, which organize knowledge in the long-term memory (Atkinson & Shiffrin, 1968). The basis for such knowledge, in turn, is found in an individuals’ own direct experiences as well as indirect experiences, stemming from observing or hearing about the competitive behaviors of other firms and managers. Managers may also use tacit heuristics to infer

the entrant's likely intentions on the basis of cues embedded in the entrant's actions. For example, using the so-called representativeness heuristic (Kahneman & Tversky, 1972), the manager may ascribe certain behavioral intentions to the entrant because their manifest behavior "fits" the manager's mental image of a certain kind of competitor (e.g., a firm committed to the market). Finally, the incumbent firm manager might try to consciously step "in the shoes" of the entrant (Tsai et al., 2011, p. 762) in order to understand why the entrant has chosen an entry strategy. This process hinges on individuals' ability to "mentalize," which Gallagher et al. (2002, p. 814) defined as "our ability to explain and predict the behavior of others by attributing independent mental states, such as thoughts, beliefs, desires, and intentions, different from our own." Through such a process, managers reason backward from the actions of the entrant to form an understanding of their (latent) behavioral intentions (leading to the manifest actions).

3 | HYPOTHESES

The perceived aggressiveness of the entrant is likely to reduce the strength of the incumbent's response to a low-price market entry. This should hold, as managers are less motivated to take action against a rival who is expected to respond aggressively (e.g., Chen & MacMillan, 1992). As Amit, Domowitz, and Fershtman (1988, pp. 432–433) put it, "if the firm knows that any price decrease will be matched by the competitor, it has no reason to reduce prices since profits will be lost." Similarly, Chen's (1996) seminal work on competitor analysis proposed that rivals with high degree of market overlap or similar resource profiles will be unlikely to attack one another because of a mutual motivation and capability to respond, should one launch an attack against the other. A reciprocal threat of retaliation is also a central mechanism behind the "mutual forbearance" hypothesis (Heggestad & Rhoades, 1978) in the multimarket competition literature (e.g., Baum & Korn, 1996; Gimeno & Woo, 1996).

Building on this logic, to the extent the managers of the incumbent firm believe the entrant to behave aggressively, they are likely to predict that the entrant will be responsive to any competitive moves taken against them (e.g., Fan, 2010, p. 24; Lumpkin & Dess, 2001, p. 431). This implies a belief that the intended effect of a strong competitive response (e.g., protection of the incumbent's market share) will be nullified by the entrant's subsequent response (e.g., a matching or "see-and-raise" type counter-reaction). Thus, retaliation is pointless (Wang & Shaver, 2014). Looking further ahead, the incumbent might decide against such a move out of fear of a "destructive all-out war" (McGrath et al., 1998, p. 724). Consequently, perceived competitive aggressiveness will reduce the incumbent's motivation to slash prices. Thus,

Hypothesis 1 (H1) *The greater the perceived aggressiveness of the entrant, the weaker the incumbent firm manager's price response.*

The likely impact of perceived commitment on the incumbent firm's price response to entry is the opposite compared to the effect of perceived aggressiveness. In general, the chance of exit after an entry is high (e.g., Robinson & Min, 2002). From a profit-seeking standpoint, it is reasonable to refrain from responding to a new competitor in the hopes that the entrant will exit the market after disappointing performance feedback, or due to the depletion of resources needed to operate in the market during the phase when the enterprise is not yet profitable. A strong price reaction to a competitor who is just "passing through" will permanently affect the incumbent's profitability because a subsequent price increase may be hard to justify to customers. Thus, if the managers of the

incumbent firm perceive the entrant as *not* committed, they may expect the competitive threat to be transient, which motivates them to refrain from cutting prices. On the contrary, a committed entrant presents a persistent threat that calls for immediate action (Hultink & Langerak, 2002).

Additionally, mimetic isomorphism might lead the incumbent firm managers to reinforce their own mental commitment to a market upon witnessing other committed firms in the market (Hsieh et al., 2015). Contagiousness of commitment is supported, for example, by Greve's (1995) study of strategy abandonment among U.S. radio stations. Heightened commitment to the market may, in turn, motivate competitive actions that help the incumbent maintain their hold of the market. This may further increase the positive association between perceived commitment and the intensity of the incumbent's price response. Therefore,

Hypothesis 2 (H2) *The greater the perceived commitment of the entrant, the stronger the incumbent firm manager's price response.*

In addition to the depicted effects of perceived aggressiveness and commitment on incumbent managers' price reactions, managers will be more motivated to cut prices if the perceived consequences of the entry are high. A reciprocal price cut that mitigates the incumbent's loss of sales can be a rational move for two reasons. One the one hand, a price cut may help preserve the firm's scale of operations and its associated efficiency and bargaining advantages, which in turn, translate into higher contribution margins. On the other hand, a price cut may preserve *absolute* profits, even if this comes at the cost of contribution margins. This logic is in line with prior pricing research emphasizing the rational reasoning behind competitive response decision-making (Simon, 2005).

Besides these rational reasons, managers will be interested in organizational size in its own right, whether or not this is consistent with the principle of profit maximization (e.g., Greve, 2008). Finally, highly consequential market entries are likely to reinforce subjective perceptions of rivalry (Kilduff et al., 2010); in a rivalrous mindset, managers selectively focus on evaluating their performance relative to their chief competitors and overemphasize beating them (Kalra & Soberman, 2008). As a result, managers may employ (overly) aggressive pricing actions (Armstrong & Collopy, 1996). Overall, this line of reasoning suggests that

Hypothesis 3 (H3) *The greater the perceived consequence of the entry, the stronger the incumbent firm manager's price response.*

4 | EMPIRICAL RESEARCH

4.1 | Overview of the experimental approach

We tested our hypotheses in an experimental setting with managers as study participants. Our hypotheses require capturing managers' perceptions concerning the entry and the entrant as well as the decisions made on the basis of those perceptions. This is challenging, especially using the dominant methodological approaches in competitive dynamics. Prior research on incumbent response to entry mostly relies on secondary data (e.g., Simon, 2005), as does competitive dynamics research more generally. In studies based on observational, secondary data, it is difficult to capture managerial cognitions. They need to be inferred from informational sources such as annual reports or news items, which contain a lot of noise, and potentially, bias. While a survey study could overcome this problem (e.g., Kuester et al., 1999)—a retrospective evaluation of specific (past) entries by

incumbent firm managers might be biased, too (Golden, 1992). However, while an experimental approach helps address these limitations, this may come at the cost of reduced external validity. To improve external validity, we decided to recruit experienced managers in the study, most of whom had been responsible for a recent pricing decision in their firms. This increases the likelihood that their responses reflect what they would do in an actual business situation (Shah & Swaminathan, 2008: 477).

4.2 | Manipulations

Besides testing our hypotheses, we also use the experiment to examine how cues embedded in the LPMES of the entrant, or the broader context of the market entry, influence the manager's beliefs concerning the future behavioral intentions of the entrant (i.e., aggressiveness and commitment) as well as the perceived consequence of the entry. In order to enhance the external validity of our findings, we construct the LPMES-related manipulations on the basis of managerial experience, rather than by designing hypothetical entry strategies with cues embedded to maximize effect sizes. To achieve this, we conducted a qualitative pre-study encompassing 15 telephone interviews and mail surveys of 42 seasoned managers. Based on the insights gained from the qualitative pre-study, we focus on the effects of penetration pricing (i.e., an entry with a price that is lower than the current market price) (e.g., Spann et al., 2015), and its three major alternatives: introductory pricing, PMGs, and bonus pricing. Details of the pre-study are available in Appendix S1.

First, introductory pricing sets an exceptionally low promotional price for a limited and preannounced time. When the time period ends, prices increase toward the market-price level. Second, when issuing a PMG, a firm promises to refund money to customers if they find a cheaper price for the product elsewhere (Dutta, Biswas, & Grewal, 2011). Finally, bonus pricing is a market entry strategy in which firms do not lower the absolute price level, but lower the *relative* price by increasing product value through a "bonus" (e.g., larger package size).

While we do not present formal hypotheses about the effects of alternative LPMESs on the threat perceptions of the incumbent, it is plausible that the different variants of the LPMES may embed cues about aggressiveness and commitment of the entrant, or the likely consequences of the entry, which in turn shape the incumbent's competitive responses. For example, when compared with penetration pricing, PMGs provide additional cues that should reinforce the manager's perception of aggressiveness. The public announcement to undercut competitors' price signals to the market that the firm wishes to beat competitors whenever a customer is considering a purchase, regardless of the profit implication. A PMG clearly prioritizes winning the competition over profits, which is well aligned with the notion of aggressiveness. It is true that the use of PMGs may increase equilibrium prices (Edlin & Emch, 1999). That is, PMGs promote non-aggressive behaviors *ex post*. However, they do this precisely because they signal aggressiveness *ex ante* (Amit et al., 1988).

Conversely, bonus pricing should mask the aggressiveness of the entrant to a certain extent. While in terms of unit prices, bonus pricing may be just as aggressive as penetration pricing, managers need to perform conscious mental calculations to reveal that fact. Consequently, the cognitive accessibility of the aggressiveness trait in the mind of the responding firm's manager should be lower if the entrant uses bonus pricing (for a discussion about accessibility, see Kahneman, 2003, p. 699). As bonus pricing is not *automatically* associated with aggressiveness, managers are less likely to judge the entrant as possessing this behavioral trait.

Finally, incumbents might perceive introductory pricing as a sign of commitment. This should hold as introductory pricing makes explicit references to the longer-term plans of the entrant in the

market (i.e., future price increases). This talk about future actions in the market makes sense only insofar as the entrant expects to stay committed to the market.

Our manipulations hold unit prices constant across the LPMESs. The exception is introductory pricing, for which a comparable unit price cannot be determined unambiguously. The time dimension in introductory pricing makes it impossible to make unit price comparisons because the realized unit price depends on customers' timing of purchase.¹ At any rate, even in the cases where unit prices are equal, the (perceived) consequences of the LPMESs may differ. For example, when customers recognize a new supplier offering a PMG, they might expect that this will lead to further price cuts in the future. Consequently, customers could delay their purchase decisions, causing the (short-term) consequence of the entry to diminish (Horsky, 1990). However, if customers think more strategically, as discussed above, and expect a PMG to foster higher equilibrium prices, they will not delay their purchase decision. Bonus pricing, in turn, might lead to lowered perceived consequence, if the managers believe that customers experience diminishing marginal utility from obtaining a greater quantity of the same product.

Apart from the LPMESs themselves, we also manipulate the context surrounding the entrant's entry strategy. From a theoretical standpoint, the goal of these manipulations is to check whether our results concerning LPMESs are contingent on major determinants of the entrant or incumbent success in the market (Debruyne et al., 2002). Building on prior research, we manipulate contextual conditions related to the entering firm (innovativeness), customers (price sensitivity), and the incumbent (market share). For example, Kuester et al. (1999) found that the *innovativeness* of the entrant's product was associated with a weakened price response, but a strong reaction in the product dimension (e.g., product improvements). However, given that our experimental setup considers exclusively pricing responses, we expect innovativeness to elicit stronger price responses (Robinson, 1988), in line with the expectancy-valence framework (e.g., Chen & Miller 1994). In a similar vein, we expect *price sensitivity* to strengthen the incumbent's response (Kuester et al., 1999). Price sensitivity affects competitive interaction because it defines the ease with which they change to a newly introduced and cheaper product. Finally, the incumbent's *market share* may reduce the strength of its price retaliation after the entry of a new competitor (Kuester et al., 1999). It is likely that the relative size of the incumbent makes profitability goals more salient, in comparison to organizational size goals, in line with the sequential allocation of attention hypothesis in the behavioral theory of the firm (Greve, 2008).

4.3 | Experimental design and procedure

We developed a 4 (entrant's LPMES) \times 2 (entrant's relative product innovativeness) \times 2 (incumbent's market share) \times 2 (customers' price sensitivity) full factorial between-subjects experimental design, leading to 32 ($= 4 \times 2 \times 2 \times 2$) different scenarios. The design of the experiment was guided by an experimental pre-study with 248 graduate and MBA students. The pre-study used the pharmaceutical industry as the context of entry. From preliminary data analyses, external feedback, and discussions within the research team, we decided to change the industry to reduce the likelihood that competitive responses would be anchored by the managers' experience with the industry as consumers.

We asked the participants to imagine that they were the incumbent firm's product manager for Alpha, a fictional brand for specialized screws purchased by both corporate and individual customers. We told participants that Alpha was faced with a new competitor Beta that prepared to enter

¹We thank two anonymous reviewers for helping us see this point.

the market. We also told participants that the incumbent was currently selling one box containing two screws for €1.99 and that the firm profited considerably from this product. The participants were told that Alpha would use an LPMES, the specifics of which were varied.

We chose the setting to be a market for specialized screws because it represents a mass-market product for which scale economies are likely to be important. In this setting, the incumbents are motivated to protect their sales volumes, even at the cost of profit margins per product sold. For the same reasons, an LPMES is a realistic option for the entrant (Noble & Gruca, 1999; Tellis, 1986), enhancing the realism of the experimental setup. Moreover, the chosen industry is intended to represent a context with a relatively low level of product differentiation (i.e., a mature market with a market price). The purpose of this is to provide a cue to the managers that the entrants are head-to-head competitors of the incumbent firm, in the spirit of prior competitive dynamics literature (e.g., Ferrier, 2001).

In the penetration pricing condition, the entrant set a price of €1.39 for a box of two screws. Thus, the penetration pricing scenario promoted a unit price significantly below the unit price of Alpha (€.69 versus €.99). In the introductory pricing condition, the entrant charged €.99 for a box of two screws during a promotional period of four weeks before raising prices to €1.79. A simple average resulted in an average unit price of €.69. In the PMG condition, the entry price was €1.39 for a box of two screws. In addition, we indicated that the entrant guaranteed a refund (i.e., the difference between the entrant's and the competitor's price) in case customers found a similar competitor offering for a lower price. In the bonus pricing condition, the entrant charged €1.99 for a box of three screws, thus offering one more screw than the incumbent's offering. In other words, the entrant increased package size by 50%, thereby setting a unit price of €.66.

With respect to the contextual conditions, we first manipulated the entrant's relative product innovativeness as similar or superior. In the similar innovativeness condition, the competitor's product did not offer more benefits than the incumbent's product. In the superior innovativeness condition, the entrant's product offered an improved screwing mechanism and slipping protection as additional benefits. Second, Alpha's market share before market entry could be either low or high ("Your company currently has a small [large] share of the market for specialized screws"). Third, customers' price sensitivity could be either low ("Based on prior market research you know that price is a minor determinant for consumers when buying a specialized screw") or high ("Based on prior market research you know that price is a major determinant for consumers when buying a specialized screw"). Thus, each participant faced an LPMES scenario characterized by a combination of these contextual conditions (see Appendix S1 for the scenario descriptions).

After presenting the scenario, we asked participants to decide a competitive response along the price dimension of the competitive repertoire. In addition, we measured the managers' perceptions concerning aggressiveness, commitment, and consequence to obtain evidence about the behavioral mechanisms underlying the incumbent's competitive response and to test our corresponding hypotheses. Finally, we assessed a set of control variables.

4.4 | Sample

We relied on a commercial data provider to recruit participants currently employed as managers in marketing and management positions in different industries (Crilly, Ni, & Jiang, 2016). The data provider invited selected members of its online panel to participate in the study. The data provider company compensated participants with a standard fee after the completion of the study. Performance-based pay was not used because it is not possible to determine an objective

performance criterion in the situation depicted by the experiment (cf. Artinger & Powell, 2016; Cain, Moore, & Haran, 2015).

The study was conducted in Germany in 2014. Filter questions ensured that only managers with work experience of more than one year could participate. Overall, 656 managers participated in our study (69% male). Participants' average age was 44.3 years (median: 44 years), and they had on average 21.5 years of professional experience (median: 20.5 years). Participants had different functional backgrounds; most of them, however, held positions in marketing/sales (26%) and general (18%) or senior (13%) management, or were owners of the company/self-employed (12%). Finally, 65% of the participants indicated having made pricing decisions at least once in the last year.

Because of the high number of scenarios, each participant could volunteer to evaluate two alternative scenarios, which we fully randomized across participants. There were 447 (209) participants who evaluated one scenario (two scenarios). We found no evidence of order effects in case of the evaluation of two scenarios. In addition, participants evaluating one or two scenarios did not differ in their composition with regard to gender ($\chi^2(1) = 0.29, p = .59$), functional background ($\chi^2(7) = 9.28, p = .23$), experience in their current position ($\chi^2(4) = 4.87, p = .30$), or responsibility for a pricing decision at least once in the last year ($\chi^2(1) = 0.24, p = .63$). Thus, we pooled all evaluations of 865 entry scenarios in total.

4.5 | Measures

We capture the managers' perceptions of aggressiveness and commitment of the entrant, and the perceived consequences of the entry using established scales. We assess perceived aggressiveness with three items adapted from Heil and Walters (1993), Hultink and Langerak (2002), and Robertson, Eliashberg, and Rymon (1995). We measure perceived commitment with two items from Hultink and Langerak (2002). We measure the consequence of entry for the incumbent in terms of the potential loss in market share, revenue, and sales with three items adapted from Heil and Walters (1993) and Hultink and Langerak (2002). To measure the incumbent's price response, we asked participants to indicate a price response in terms of the new price for a box of two screws (in €) in an open question (for their brand Alpha). Lower (higher) prices indicate stronger (weaker) incumbent firm responses.

To test the reliability and validity of our measures, we ran an exploratory factor analysis that included all indicators. A clear factor pattern emerged. All indicators loaded highly (>0.76) on the expected factors (Gerbing & Anderson, 1988). Cronbach's α 's were greater than 0.70 for all constructs (Churchill, 1979). We also ran a confirmatory factor analysis for a measurement model that included perceived aggressiveness, perceived commitment, and perceived consequence. The results show that the measures exhibit desirable psychometric properties (Bagozzi & Yi, 1988). The overall model fit is good ($CFI = 0.99$, Tucker-Lewis index = 0.99, standardized root mean square residual = 0.02, RMSEA = 0.04). The average variance extracted is above 0.50 for all constructs (convergent validity), and above the relevant squared correlations between constructs (discriminant validity) (Fornell & Larcker, 1981). Scale items, factor loadings, and item reliabilities appear in Table 1. Table 2 reports descriptive statistics, correlations, and relevant reliability and validity measures for the constructs under investigation.

4.6 | Manipulation and realism checks

To check whether the manipulation was successful, we first asked participants to indicate the LPMESs they were confronted with from a list of the four alternative strategies. In total, 92% of

TABLE 1 Scale items for construct measures

Construct (source)	Factor loading ^a	Item reliability ^b
Perceived aggressiveness (Heil & Walters, 1993; Hultink & Langerak, 2002; Robertson et al., 1995)		
Beta's market entry is very aggressive	0.83	0.59
Beta's primary goal is to acquire a large share of the market	0.81	0.77
Beta's entry is aimed to gain sales at my expense	0.76	0.43
Perceived commitment (Hultink & Langerak, 2002)		
I believe Beta has invested a lot of time and energy in their market entry	0.88	0.47
I believe managers at Beta have high expectations toward their product	0.83	0.75
Perceived consequence (Heil & Walters, 1993; Hultink & Langerak, 2002)		
If Alpha would not react at all, Alpha would lose considerable market share	0.91	0.81
If Alpha would not react at all, Alpha would lose revenue	0.94	0.95
If Alpha would not react at all, Alpha would lose sales	0.91	0.82

^a Result of exploratory factor analysis.^b Result of confirmatory factor analysis.

participants checked the correct strategy, indicating a successful manipulation. We also checked for the manipulations of the context variables with three items (1 = *do not agree*, 7 = *fully agree*): “The competitive product is a substantial innovation compared to my product ‘Alpha’” (product innovativeness), “Price is an important decision criterion for customers in the market for specialized screws” (price sensitivity), and “‘Alpha’ currently has a small share in the market for specialized screws” (incumbent market share). All manipulation checks are significant in the intended direction, and point to large effects²: product innovativeness ($M_{low} = 2.52$, $M_{high} = 5.36$; $F(1, 863) = 571.27$, $p = .00$, $\eta^2 = 0.40$), incumbent market share ($M_{small} = 5.30$, $M_{large} = 2.97$; $F(1, 863) = 359.65$, $p = .00$, $\eta^2 = 0.29$), and price sensitivity ($M_{low} = 3.43$, $M_{high} = 5.84$; $F(1, 863) = 404.93$, $p = .00$, $\eta^2 = 0.32$). Finally, we also asked participants to indicate whether they perceived the scenario as realistic and easily imaginable (1 = *do not agree*, 7 = *fully agree*). The ratings on realism and ease of imagination are sufficiently high ($M_{realism} = 5.56$; $M_{ease of imagination} = 5.78$), and unaffected by their functional backgrounds ($F(7, 648) = 1.34$, $p = .23$, $\eta^2 = 0.01$; $F(7, 648) = 1.64$, $p = .12$, $\eta^2 = 0.02$).

5 | RESULTS

5.1 | Tests of hypotheses

To test our hypotheses, we conducted structural equation modeling (SEM) with a maximum likelihood (ML) estimator using STATA 15.1. First, we estimated a model with perceived aggressiveness (H1), perceived commitment (H2), and perceived consequence (H3) as latent independent variables and the incumbent’s price response as the dependent variable. Second, we estimated another model in which we controlled for the entry strategy context by including three dummy variables for the entrant’s product innovativeness, customer price sensitivity, and the incumbents market share as well as for the entrant’s LPMES by including three dummy variables for introductory pricing, bonus pricing, and a PMG. Finally, as robustness check we estimated corresponding regression models

²An effect size of $\eta^2 = 0.01$ is considered “small”; $\eta^2 = 0.06$, “medium”; and $\eta^2 = 0.14$, “large” (Cohen, 1988, p. 284).

TABLE 2 Correlations and scale information

Variable		Mean	Std. dev.	CA	CR	AVE	1	2	3	4	5	6	7	8	9	10
1	Price response ^a	1.59	0.33	-	-	-	1.00									
2	Perceived aggressiveness ^b	5.52	1.18	0.80	0.81	0.60	-0.01	1.00								
3	Perceived commitment ^b	4.98	1.27	0.74	0.76	0.61	-0.21	0.42	1.00							
4	Perceived consequence ^b	5.25	1.50	0.95	0.95	0.86	-0.32	0.48	0.41	1.00						
5	Entrant's product innovativeness ^c	0.48	0.50	-	-	-0.18	-0.02	0.20	0.10	1.00						
6	Customer price sensitivity ^c	0.52	0.50	-	-	-0.12	0.08	0.05	0.18	-0.03	1.00					
7	Incumbent market share ^c	0.50	0.50	-	-	0.10	0.06	0.00	-0.03	-0.06	0.07	1.00				
8	Introductory pricing ^d	0.25	0.43	-	-	0.09	0.08	0.05	0.02	-0.02	-0.01	0.05	1.00			
9	PMG ^d	0.26	0.44	-	-	0.02	0.11	-0.01	-0.02	0.00	-0.07	-0.03	-0.34	1.00		
10	Bonus pricing ^d	0.25	0.43	-	-	0.01	-0.14	-0.08	-0.05	0.04	0.04	-0.03	-0.33	-0.34	1.00	

Note. Cronbach's alpha (CA), composite reliability (CR), average variance extracted (AVE). Minimum |rl| for $p < .10 = 0.06$, for $p < .05 = 0.07$, for $p < .01 = 0.09$ (two-tailed), $n = 865$.

^a Measured in €.

^b Underlying items were assessed on seven-point Likert-type rating scales, with anchors 1 = *strongly disagree* and 7 = *strongly agree*.

^c Dummy variable (innovativeness: 0 = superior, 1 = similar; price sensitivity: 0 = low, 1 = high; market share: 0 = small, 1 = large).

^d Dummy variable (0 = no, 1 = yes).

with an ordinary least squares (OLS) estimator and heteroscedasticity-robust standard errors (see Table 3). In the regression model, we used means across construct items to capture perceived aggressiveness, commitment, and consequence.

When looking at the basic structural equation model, the results clearly show that the greater the perceived aggressiveness of the entry, the higher the incumbent's chosen price level ($B = 0.09$, $\beta = 0.31$, $p = .00$). In other words, the response of the incumbent is weaker in situations where the perceived aggressiveness of the entrant is higher. Thus, we find support for Hypothesis 1. Results point to the opposite effect for perceived commitment: The greater the perceived commitment, the stronger the price response, that is, the lower the chosen price level ($B = -0.06$, $\beta = -0.18$, $p = .00$). Therefore, Hypothesis 2 is supported. In line with Hypothesis 3, an increase in perceived consequence leads to a stronger price response. The higher the perceived consequence, the lower the incumbent's chosen price level ($B = -0.09$, $\beta = -0.40$, $p = .00$). The results with additional control variables show that introductory pricing and bonus pricing diminish the incumbent's responses, relative to penetration pricing, through mechanisms beyond those hypothesized or measured. The incumbent's market share also reduces its price response. The entrant's product innovativeness and customer price sensitivity, in turn, lead to stronger price responses through some mechanisms that are not captured by the constructs in Hypotheses 1–3. That being said, adding these control variables does not have a dramatic effect on the path or regression coefficients used to test Hypotheses 1–3, which reinforce our confidence in them.

5.2 | Cues embedded in the entry strategy

The four LPMESs foster different assessments concerning the entrant's aggressiveness and commitment, which in turn, influence the incumbent firm's competitive response. In other words, by introducing relatively minor variations to the LPMES (e.g., coupling a low price with a PMG), the entrant may foster perceptions regarding themselves in the minds of the incumbent firm's managers (e.g., high levels of aggressiveness), which subsequently de-motivate strong competitive responses to entry.

More specifically, we assessed the impact of our manipulations (LPMES and the contextual variables) on perceived aggressiveness, commitment, and consequence. For each of these dependent variables, we computed planned contrasts between penetration pricing and the three other LPMESs. That is, penetration pricing was used as the benchmark for other LPMESs. We also ran a multivariate analysis of variance (MANOVA) for the joint effects of the independent on the three dependent variables. We focus on the main effects and the two-way interactions between the LPMESs and the three context variables. We exclude higher-order interactions and interactions between the context variables.³ Including these interactions does not affect our theoretical conclusions, and only four out of these 24 additional interactions are significant at $p < .05$. Table 4 presents the ANOVA and MANOVA results. Descriptive statistics in the different experimental conditions are indicated in Appendix S1.

With respect to perceived aggressiveness, the results show a significant main effect for the entrant's LPMES ($F[3, 849] = 8.87$, $p = .01$, $\eta^2 = 0.03$). Planned contrasts indicate that incumbents perceive introductory pricing as more aggressive than penetration pricing (contrast = 0.28; 95% confidence interval [0.05; 0.50]; $F[1, 849] = 5.99$, $p = .01$). The same holds for PMGs (contrast = 0.35; 95% confidence interval [0.13; 0.57]; $F[1, 849] = 9.70$, $p = .00$). The perceived aggressiveness of bonus pricing is not significantly different from penetration pricing (contrast = -0.16; 95% confidence interval [-0.38; 0.07]; $F[1, 849] = 1.91$, $p = .17$).

³We thank an anonymous reviewer for this suggestion.

TABLE 3 Effects of incumbents' threat perceptions on incumbent price response

Dependent variable: Price response	BasicSEM				SEM including controls				Basic regression				Regression including controls				
	B (SE)		β (SE) ^a		B (SE)		β (SE)		p		β		η^2		p		
	B	SE	β	SE ^a	B	SE	β	SE	p		β		η^2	η^2	p	β	
Independent variables																	
Perceived aggressiveness	0.09 (0.01)	.00	0.08 (0.02)		.00		0.06 (0.01)		.00		0.23	0.04	0.05 (0.01)		.00	0.19	0.03
	0.31 (0.05)		0.27 (0.05)														
Perceived commitment	-0.06 (0.02)	.00	-0.05 (0.02)		.01		-0.04 (0.01)		.00		-0.15	0.02	-0.03 (0.01)		.00	-0.12	0.01
	-0.18 (0.05)		-0.15 (0.05)														
Perceived consequence	-0.09 (0.01)	.00	-0.09 (0.01)		.00		-0.08 (0.01)		.00		-0.37	0.11	-0.08 (0.01)		.00	-0.34	0.09
	-0.40 (0.04)		-0.37 (0.04)														
Controls																	
Entrant's product innovativeness ^b	-0.07 (0.02)	.00	-0.11 (0.03)										-0.08 (0.02)		.00	-0.12	0.02
	-0.05 (0.02)		.02										-0.05 (0.02)		.02	-0.08	0.01
Customer price sensitivity ^b	-0.08 (0.03)		-0.08 (0.03)														
Incumbent market share ^b	0.05 (0.02)		.03										0.05 (0.02)		.02	0.07	0.01
Introductory pricing ^c	0.07 (0.03)		0.09 (0.03)														
	0.12 (0.04)		.00										0.10 (0.03)		.00	0.13	0.01
PMG ^c	0.04 (0.03)		.22										0.05 (0.03)		.11	0.06	0.00
Bonus pricing ^c	0.05 (0.04)		0.06 (0.03)		.04		0.08 (0.04)						0.06 (0.03)		.03	0.08	0.01
Model fit																	
R ² of dependent variable	0.17		0.20										0.15				
CFI	0.99		0.98														
TLI	0.98		0.97														
RMSEA	0.06		0.04														
SRMR	0.03		0.02														

Note. Two-tailed tests, n = 865.

^a Unstandardized (B) and standardized (β) coefficients are shown.^b Dummy variable (product innovativeness: 0 = low, 1 = high; price sensitivity: 0 = low, 1 = superior; market share: 0 = small, 1 = large).^c Dummy variable (0 = no, 1 = yes).

TABLE 4 Incumbent's perceived threat of market entry and price reaction depending on LPMES and the entry strategy context: ANOVA and Multivariate ANOVA results

Independent variables	ANOVA: Dependent variable									Multivariate ANOVA	
	Perceived aggressiveness			Perceived commitment			Perceived consequence			Wilks's lambda F	p
	F	p	η^2	F	p	η^2	F	p	η^2		
Main effects											
A: Entrant's LPMES	8.87	.00	0.03	2.52	.06	0.01	1.42	.24	0.00	4.24	.00
B: Entrant's product innovativeness	0.03	.86	0.00	36.17	.00	0.04	10.01	.00	0.01	16.74	.00
C: Customer price sensitivity	6.89	.01	0.01	2.79	.10	0.00	29.79	.00	0.03	10.00	.00
D: Incumbent market share	2.15	.14	0.00	0.05	.82	0.00	1.43	.23	0.00	2.34	.07
Interaction effects											
A × B	1.90	.13	0.01	1.64	.18	0.01	1.05	.37	0.00	2.08	.03
A × C	1.32	.27	0.00	0.39	.76	0.00	1.16	.32	0.00	1.40	.18
A × D	0.07	.97	0.00	0.85	.47	0.00	0.62	.60	0.00	0.64	.76

Note. Two-tailed tests, $n = 865$.

The incumbent's perception of the commitment of the entrant is marginally affected by the entrant's LPMES ($F[3, 849] = 2.52, p = .06, \eta^2 = 0.01$). Planned contrasts show that the perceived commitment of the entrant is lower for bonus pricing than for penetration pricing (contrast = -0.28; 95% confidence interval [-0.52; -0.05]; $F[1, 849] = 5.54, p = .02$). However, perceived commitment is not significantly different for introductory pricing (contrast = 0.01; 95% confidence interval [-0.23; 0.24]; $F[1, 846] = 0.00, p = .96$) or a PMG (contrast = -0.10, 95% confidence interval [-0.33; 0.14]; $F[1, 846] = 0.63, p = .43$). With regard to the perceived consequence of the entry, the results do not indicate a significant effect of the entrant's LPMES ($F[3, 849] = 1.42, p = .24, \eta^2 = 0.00$). The same holds for all planned contrasts ($p > .05$). However, bonus pricing is perceived marginally less consequential than penetration pricing (contrast = -0.27; 95% confidence interval [-0.55; 0.01]; $F[1, 846] = 3.50, p = .06$). Some managers may expect that reducing unit prices through offering a bonus has a smaller effect on the sales than a price cut, due to the diminishing marginal utility effect on the demand side.

No significant interactions were found between the LPMESs and contextual conditions tested. Thus, the salience of the cues of aggressiveness and commitment embedded in the alternative LPMESs does not depend on the contextual conditions tested.

Finally, the main effects of the three entry context variables on managers' threat perceptions are rather intuitive. The innovativeness of the entrant's product positively affects the perceived commitment of the entrant ($F[1, 849] = 36.17, p = .00, \eta^2 = 0.04$). An innovative product is likely to be associated with greater subjective belief in the possibility of success. Knowing this, incumbent firm's managers are likely to believe that the entrant is committed to the market. Innovativeness also affects perceived consequence of the entry ($F[1, 849] = 10.01, p = .00, \eta^2 = 0.01$). Customers' price sensitivity has a positive effect on the perceived aggressiveness of the entrant ($F[1, 849] = 6.89, p = .01, \eta^2 = 0.01$). Since the competitive instrument of the entrant is price in all manipulations, price sensitivity of the customers makes the aggressiveness of the entrant more salient. Customers' price sensitivity is also associated with perceptions of high consequence ($F[1, 849] = 29.79, p = .00, \eta^2 = 0.03$). The incumbent's market share does not significantly affect any of the threat perceptions ($p > .10$). However, market share diminishes the strength of the

incumbent's response (Table 3), possibly because a high market share is reflected in a reduced salience of growth goals, and increased motivation to conserve margins (Greve, 2008).

5.3 | Discussion of effect sizes and managerial impact

It is also interesting to investigate the magnitude of effects we observe (e.g., Combs, 2010).⁴ Most important, the results show that a firm that is successful in influencing the incumbent firm's perceptions of the entrant's aggressiveness and commitment can substantially attenuate the intensity of the incumbent's response to entry. The standardized path coefficients in the SEM are moderate at 0.27 (aggressiveness) and -0.15 (commitment) in the model with all control variables (Table 3). The unstandardized coefficients indicate that a unit increase in perceived aggressiveness in terms of one Likert-scale point leads to about €0.08 decrease in the strength of the incumbent's price response. A unit decrease in perceived commitment is associated with a reduction of response strength by €0.05.⁵ A unit increase in perceived aggressiveness (or decrease in perceived commitment) leads to a 20% (13%) reduction in the intensity of the incumbent firm's price response, compared to the average price cut of €0.40.

Since the effect sizes (see planned contrasts above) relating to the impact of the LPMESs on perceived aggressiveness and commitment are between 0.28 and 0.35, the choice of entry strategy can attenuate the incumbent's price response by €0.01 to €0.03. This corresponds to about 4–7% attenuation of the incumbent's price response. This effect size is not dramatic, yet quite intuitive given the subtlety of cues embedded in the LPMES-manipulations.

When considering the effect sizes, it is important to note that an attenuation of the incumbent's price response by just few percent from the average can have substantial implications for the entrant. This is because of the lessened future downward pressure on the entrant's prices caused by the higher incumbent firm price. This has immediate economic implications for the entrant firm as well as longer-term implications for the industry in terms of reducing the likelihood of a price war (e.g., Heil & Helsen, 2001). The ability to avoid even small price drops can have substantially large effects on firm profits. Marn and Rosiello (1992) argued on the basis of COMPUSTAT data that a 1% increase in price leads to an 11% increase in operating profits, other things being equal. Hinterhuber (2004) argued on the basis of a sample of Fortune 500 firms that a 5% increase in price leads to a 22% increase earnings before interests and taxes. Such gains in profitability are of great importance for entrants during their early, precarious, and resource-scarce years in the market. Consequently, even seemingly modest effect sizes as indicated by our study can thus have significant economic implications for the entering firm. The choice between LPMESs matters.

5.4 | Replication study with a student sample

To investigate the robustness of our results, we conducted a second experiment with university students.⁶ This experiment was essentially a replication of the experiment reported above.⁷ We wanted to see which aspects of our theoretical model would replicate in a very different sample of

⁴We thank an anonymous reviewer for directing our attention to this important matter.

⁵These effect sizes are slightly larger than those obtained with ordinary least squares regression: €0.05 and -€0.03.

⁶We appreciate the comments of an anonymous reviewer who gave us the inspiration to collect these data.

⁷Besides the pure replication, we also tested alternative operationalizations of introductory pricing (changing the duration of the promotion period, and the price level after the promotion period). Briefly, we found that the post-promotion price level significantly (marginally significantly) influences the perceived consequence of the entry (aggressiveness of the entrant). The duration of the promotion period does not have a significant main effect on any of the threat perceptions. Moreover, adding these manipulations to the data set when testing Hypotheses 1–3 does not change our conclusions. Detailed results will be provided by the authors on request.

participants. The replication is also interesting because researchers often rely on student samples to test hypotheses about managerial behavior (e.g., Gary, Wood, & Pillinger, 2012).

We describe here only the most essential characteristics and findings of the replication study. The details of the experiment are available in Appendix S1. The student sample was collected using a commercial data provider in the spring of 2016. The usable sample size was 1,070 students with an average age of 23.6 years (median 23 years). The educational background of the students was heterogeneous, with 12% representing business.

The results reveal that the hypothesized effects of perceived aggressiveness and commitment as well as the impact of perceived consequence were qualitatively similar to the results obtained with the manager sample. All relevant path coefficients in the structural equation models are statistically significant (in the regression models, the largest $p = .05$) with expected signs. Thus, the impact of perceived aggressiveness, commitment, and consequence on the incumbent firm's price response is robust. It seems that people are relatively "hard wired" to guide their choice between confrontational versus evasive behaviors based on assessments of entrant's behavioral traits and entry consequences. However, the effects of the alternative LPMES on perceived aggressiveness and commitment are not statistically significant ($p > .10$), whereas perceived consequence is shaped by the LPMES ($F[3, 1,051] = 3.80, p = .01, \eta^2 = 0.01$). In other words, the students read the cues embedded in the LPMESs differently than managers.

6 | DISCUSSION AND CONCLUSION

6.1 | Contributions

Our study offers three contributions to strategic management scholarship and practice. First, this research illuminates how entrants can reduce the intensity of incumbent firm responses when using market entry strategies (e.g., LPMESs) intended to foster rapid sales growth. Our results suggest that entrants can do this by adjusting their entry strategies to signal high aggressiveness or low commitment. Since aggressiveness and commitment are distinct dimensions from the perceived consequence of the entry, the findings help understand why incumbents may sometimes decide against strong retaliatory moves, even when the entry is perceived as highly consequential (cf. Chen et al., 2007; Chen & Miller, 1994; Derfus et al., 2008). In so doing, the results advance our understanding of why firms sometimes decide against (strong) counterattack-type responses to significant competitive threats (e.g., Wang & Shaver, 2014; see also Keil, Laamanen, & McGrath, 2013).

Second, we clarify the cognitive mechanisms underlying incumbent responses to market entry. The incumbent's competitive response hinges on managers' perceptions regarding the (short-term) sales and market share impact of the entry (i.e., perceived consequence). However, the incumbent firm managers also consider the longer-term behavioral intentions of the entrant (i.e., aggressiveness and commitment). While prior competitive dynamics literature in and outside the market entry context has considered these three perceptual domains, extant studies seldom view the constructs side by side (e.g., Chen & Miller, 1994; Fan, 2010; Ferrier, 2001; McCann & Vroom, 2010; McGrath et al., 1998). Our theoretical framework and hypotheses extend existing knowledge by carefully specifying the internal logic of the three perceptual threat constructs and elaborating on how they differ in terms of driving incumbent firm response. For example, it may seem contradictory that some studies associate forceful market entries with strong incumbent reactions (Chen & Miller, 1994), while others have argued exactly the opposite (Fan, 2010). Our results clarify that different mechanisms are operative here; in the first instance, the responding firm acts on the basis of

perceived consequence, while in the latter case, the perceived aggressiveness of the entrant drives response-related decision-making.

Third, it is often assumed that firms' competitive actions may embed cues that shape the responding firm managers' competitive reasoning, and consequently, their responses to competitive threats (e.g., Chen & MacMillan, 1992; Fan, 2010; McGrath et al., 1998); for example, an action may signal to the responding firm that the initiating firm is aggressive. However, such assumptions are seldom subjected to direct empirical tests (cf. Miller & Tsang, 2011), and are rather inferred from observational data. Our experimental approach offers a way to directly test how embedded cues influence the cognitions of incumbent firm managers and their consequent competitive response decisions.

We find some support for the cue approach. According to the empirical evidence, managers perceive entrants that used PMGs or introductory pricing as more aggressive than entrants that relied on penetration pricing. PMGs seem to possess an additional cue of aggressiveness likely caused by the conditional promise of further price cuts to win customers, regardless of profit impact. Similarly, introductory pricing displays the entrant's willingness to sacrifice short-term profits for market share, a characteristic trait of an aggressive firm (Lumpkin & Dess, 1996). Introductory pricing also increases the cognitive salience of the price difference between the entrant and the incumbent, even if this remains transient. Conversely, relative to penetration pricing, managers perceive bonus pricing as a signal of low commitment. The use of bonus pricing might indicate the entrant's attempt to differentiate from the incumbent by targeting a poorly catered segment of customers (i.e., customers wishing to purchase in larger quantities). Such evasive maneuvering could imply the entrant's low commitment to meet the incumbent head on (Krider & Weinberg, 1998). These signaling effects helped PMGs, introductory pricing and bonus pricing to attenuate the incumbent's response to entry. However, the follow-up experimental study with university students did not reproduce the effects of LPMEss on the threat perceptions of the incumbent. Different interpretations of the cues are not wholly surprising, given the general lack of business experience in the student sample. Experience seems central to the cognitive mechanisms that shape the incumbent firm's managers' interpretation of the cues embedded in the LPMEss.

6.2 | Directions for future research

Our study points to several future research opportunities. First, our work opens new avenues for explaining how and why competitors respond to competitive threats, or refrain from doing so. In particular, the distinctions we make between the perceptions concerning the entrant (in terms of aggressiveness and commitment) and consequences of the market entry add theoretical granularity to our understanding of the cognitive foundations of competitive response. Besides market entry contexts, this more granular view could help explain differences in the response propensities of firms in Red Queen-type rivalries (Derfus et al., 2008) as well as the build-up and maintenance of mutual forbearance in multimarket competition (Yu & Cannella, 2013).

Second, our experimental results regarding the impact of LPMEss on perceived aggressiveness, commitment, and consequence raises interesting questions for future research. On the one hand, the results indicate that different variants (e.g., bonus pricing versus penetration pricing) of the same general entry strategy (i.e., low-price entry) can indeed induce cueing effects that shape incumbent firm managers' cognitions, and consequently, their competitive response. We offered some potential reasons for the empirical results, but a more detailed measurement of cognitions would be needed to get to the bottom of the theoretical mechanics of the cueing effects observed. On the other hand, the differences in the results obtained with the manager and student samples calls attention to the fact that cueing effects are likely to be context-dependent. This should not come as a large surprise, given that

prior knowledge and experience are so important to the interpretation of marketplace signals. More generally, individual differences and contextual factors are likely to matter a great deal in determining how managers interpret the cues embedded in the actions of their rivals (cf. Cesario, 2014).

Third, our research provides the basis for studying entry-related competitive actions as signaling tools vis-à-vis incumbents more generally. For instance, future research could seek to identify how competitive actions, beyond pricing, could be embedded with cues of aggressiveness or (the lack of) commitment. Positioning a new product using superlatives such as “top of the line” or “best value” communicates value to customers. However, to incumbents, this also signals aggressiveness in a particular dimension of competition (e.g., quality, price/quality). Competition among incumbents might also involve the use of such signals. However, this is more difficult, given that the firms know each other better.

Fourth, our research shows that there is promise in studying competitive signaling from a behavioral perspective. While standard economic theory of signaling assumes that the senders and recipients of competitive cues are fully rational, firms in fact “often misread each other’s signals” (Zajac & Bazerman, 1991, p. 45). For example, future research might explore potential signaling trade-offs. Prior research has hypothesized that building significant production capacity might signal aggressiveness to incumbent firms, which can, in turn, deter them from attacking the entrant (Fan, 2010). However, the unintended effect of a large-scale production capacity could be that incumbents will also come to perceive the entrant as highly committed because of the associated irrecoverable costs, with exactly the opposite effect on the incumbent’s motivation to attack the entrant. Along these lines, it would be interesting to examine, from a cognitive perspective, what causes managers to treat an action as a one kind of signal instead of another. While our experimental evidence indicates that entrants might be able to signal high aggressiveness (or low commitment) without simultaneously evoking perceptions of high commitment (or low aggressiveness), it would be interesting to look for additional evidence of this using other research designs (e.g., field studies, archival data).

Finally, our experimental setup has several limitations that provide opportunities for future research. We evaluated incumbent firm managers’ perceptions using three dimensions: aggressiveness, commitment, and consequence. Future studies could address additional aspects such as credibility (Robertson et al., 1995) and reputation (Prabhu & Stewart, 2001) of the entrant. It would also be interesting to compare the signaling effects produced by subtle behavioral cues (such as those embedded in the LPMESS) to not-so-subtle signals such as making large, irreversible resource commitments. The latter way of signaling is costly, and hence, should produce much larger and more robust signaling effects than those uncovered here to make normative sense. Additionally, other contextual moderators influencing cue interpretation—for instance, market dependence (Chen & Miller, 1994) or product market overlap (Chen, 1996)—would be interesting to consider. We also limited our experiment to one period, the incumbents’ initial responses. Future studies could examine several periods after market entry to analyze not only short-, but also long-term, effects of entry pricing. This could be achieved, for example, with the help of a simulated market environment (Chen et al., 2010). Understanding the longer-term effects of different competitive responses is important, not only for the involved firms, but also for competition authorities safeguarding consumer interests (Cattani, Porac, & Thomas, 2017).

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