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RESEARCH ARTICLE

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"Alexa, order me a pizza!": The mediating role of psychological power in the consumer–voice assistant interaction

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Abstract

This article investigates the consumer–voice assistant (VA) interaction in the context of food and beverage purchase choices and the role that psychological power plays in the consumer decision-making process. A series of experimental studies demonstrate that both involvement and the psychological condition of power meditate consumers' willingness to purchase. As a result, we find that consumers are more likely to purchase low involvement than high-involvement products through VA technology, particularly when experiencing high-power states. This study broadens our understanding of the role of VAs and their ability to shape the consumer decision-making process. With an explicit focus on power, this study illustrates how the success of voice commerce may largely rest on the promotion of low-involvement products that enable high-power psychological conditions which drive willingness to purchase.

KEYWORDS

artificial intelligence, consumer decision-making process, food, involvement, psychological power, smart technologies, voice assistants

1 | INTRODUCTION

We are on the cusp of a new era of rapid technological adoption. The Coronavirus disease (Covid-19) pandemic has transformed life, dramatically altering the way individuals live and work. In a world suddenly fearful of touch and dominated by online interactions, voice technology is in high demand (Research and Markets, 2020). As of Spring 2020, nearly one-quarter (24%) of adult Americans own a voice assistant (VA), up from 21% in 2019. Usage is up too, with over half (52%) of VA owners reporting they use these devices at least once a day, up from 46% at the beginning of the year (National Public Media, 2020). While much research agrees that the use of VAs remains limited to simple tasks such as search, setting alarms, reporting the weather, and playing music (Mari, 2019), voice commerce is on the rise, with sales reaching $1.8 bn in 2018 and potential to reach $40 bn by 2022 in the United States alone (Hayllar & Coode, 2018). However, despite this burgeoning marketplace, scholarship has yet to unpack the dimensionality of the VA shopping experience.

In general, research investigating consumer interactions and VAs have fallen into two disparate streams. First, research exploring how consumers engage with technology has underlined the importance of both functionality (of the technology) and control (users wield over the technology) in predicting consumer adoption and enjoyment (Bagozzi, 2007; Mick & Fournier, 1998; Nasco et al., 2008; Venkatesh et al., 2003). Specifically, when consumers feel in control and believe the technology is functional (easy to use), they will be more inclined to adopt the technology; consumers who do not feel in control, feel a certain dependency, and/or feel that the technology is challenging to use will be more resistant. What is often overlooked by these studies, however, is the dyadic relationship established between

consumers and anthropomorphized technologies (Guzman, 2019; Kim & McGill, 2011; Moriuchi, 2021) and the psychological and social mediators therein. In the current study, consumers do not interact with VAs as products to be dominated or controlled, but rather as social entities attributed to human-like characteristics, intentions, and behaviors (Moriuchi, 2021; Woods, 2018).

Second, and in contrast to the first stream, research exploring consumer–VA interactions has focused predominantly on the social and experiential dimension(s) that influence technology acceptance or rejection (Guzman, 2019; Pitardi & Marriott, 2021; Puntoni et al., 2021; Schweitzer et al., 2019; Whang & Im, 2021). In conceptualizing the consumer–VA relationship as a social interaction, socio-psychological variables, such as trust (Foehr & Germelmann, 2020; Pitardi & Marriott, 2021), attitude (Lee & Cho, 2020), and agency (Schweitzer et al., 2019) are foregrounded as important antecedents that shape the parasocial relationships consumers form with their VAs. In this stream, VAs are "not merely valued in terms of functionality," rather, consumers are believed to develop deep connections, "in which, similar to human relationships, trust in the good intentions of the other is relevant" (Schweitzer et al., 2019, p. 707). While this stream of research has shed light on the social and experiential interactions consumers form (or do not form) with their VAs, few have broached how this translates to actual purchasing behavior.

Thus, drawing on both streams and responding to Puntoni et al. (2021) call to adopt an information processing perspective to illuminate consumer experiences with artificial intelligence (AI), we investigate power as a psychological condition that shapes the consumer–VA purchase interaction. Specifically, this is studied through the concept of involvement, which has not yet been examined in the context of VA-commerce. Drawing from previous research (Tarkiainen & Sundqvist, 2009), consumer decisions based on high and low involvement product choices within the food/beverage realm are foregrounded. Food is generally considered a low involvement product, inasmuch as consumers rarely engage in an extensive decision-making process or evaluate product features and/or attributes (Tarkiainen & Sundqvist, 2009; Yeo et al., 2017). However, as Tarkiainen and Sundqvist (2009, p. 845) demonstrate, it is possible to convert low involvement products into high involvement ones by linking the product to some involving issue or personal situation (e.g., a birthday cake); by using emotionally charged advertising (e.g., often seen with champagne; Rokka, 2017); and/or by adding an important product feature to a low-involvement product (e.g., *gourmet* pizza). Given the priority consumers grant to the utilitarian and functional aspects of their technological devices (Mick & Fournier, 1998), we expect consumers are more likely to purchase low involvement (vs. high involvement) products when the consumption is led with the intervention of a VA, since low involvement purchases tend to be more habitual, transactional, and require less thought on behalf of the consumer (Moriuchi, 2019).

Psychological power too has been shown to affect an individual's information processing (Rucker & Galinsky, 2016) and can mediate the relationship consumers form with and the control they feel over technological products (Kim & McGill, 2011; Longoni et al., 2019). Unlike previous research emphasizing control, we argue that power is the more appropriate variable in the context of the consumer–VA relationship, given it is a *social* interaction (Pitardi & Marriott, 2021; Putoni et al., 2021; Schweitzer et al., 2019; Whang & Im, 2021). This is meaningful as Schweitzer et al. (2019) demonstrate that increased and more enjoyable interactions are more likely when consumers feel superior to their devices. Further, ancillary research on power suggests those in high-power positions tend to engage in more abstract and automatic processing of information and place more emphasis on the functional value of products. In summation, this leads us to surmise that perceived power mediates the willingness to purchase products with a VA intervention.

This study implements an experimental design that allows for the manipulation of conditions, such as the typology of the products and consumers' perceived sense of power. This approach allows us to observe the decision-making process through consumers' willingness to purchase.

This study contributes to scholarship on consumer behavior in the context of VAs by bringing together the two aforementioned streams of research to shed light on the VA shopping context, which, to date, remains under-studied (Whang & Im, 2021). In doing so, this study makes two additional contributions. First, the findings of this study emphasize the functional elements of VAs that drive usage, particularly in the realm of voice-commerce. While many recent studies document the social and relational roles of VAs in consumer experiences (Pitardi & Marriott, 2021; Ramadan et al., 2021; Whang & Im, 2021), the psychological mechanisms underpinning the functional usage of VAs remain under-explored (Mari, 2019; Moriuchi, 2019). This is surprising given the impact such findings warrant for marketers aiming to increase sales through voice-commerce. Second, the study illustrates the importance of empowering consumers through VAs and demonstrates its relevance in VA-purchase situations.

2 | INVOLVEMENT IN THE CONSUMER–VA INTERACTION

There are many definitions of involvement in psychology and marketing research. However, many agree that it generally refers to "a motivational state that affects the extent and focus of consumers' attention and comprehension processes, and thus the specific meanings that are produced" (Celsi & Olson, 1988, p. 210). Prior literature suggests the construct of involvement differs when applied to *advertisements*, referring to the extent to which one engages and processes information presented in a persuasive communication (Petty et al., 1983); *products*, implying product importance with notable attention paid to brand and/or product attributes (Mittal, 1989); and *purchases*, involving an extensive, emotive, and/or time intensive decision-making process (Zaichkowsky, 1985). Involvement can also be conceptualized as *situational*, that is, occurring only during specific situations or *enduring* that which transcends

situational and temporal influences (Houston & Rothschild, 1977). Across these categories, researchers typically distinguish between the conditions of *high* and *low* involvement (Barreto & Ramalho, 2019; Zaichkowsky, 1985). In high involvement situations, a customer's level of interest, risk, and personal relevance of a product, brand, firm, or ad is high; the decision-making process is often more complex, and consumers tend to attribute more significant value to the products and source(s) of information about those products (Jain, 2019). In low-involvement situations, the decision-making process tends to be easy and quick, if not habitual; in these situations, consumers are more susceptible to impulse purchases (Verplanken & Herabadi, 2001).

The consequences of perceived pertinence of a product category (high or low) include perceived risk, a search for and processing of information, as well as decision-making (Zaichkowsky, 1985). Purchase involvement refers to the importance and relevance of the purchases and psychological benefits consumers derive. This involvement defines consumers' purchasing processes and can influence relationships between marketing variables, such as music and interactive stimuli (Hwang et al., 2020), ad copy (Polyorat et al., 2007), and product labeling (Bezençon & Blili, 2011; Tarkiainen & Sundqvist, 2009), as well as (re)purchase behaviors (Sherman et al., 1997).

Increasing research has begun to explore the influence of digital interfaces and technologies on consumer involvement, largely indicating how these technologies can serve as competitive assets for marketers by enhancing the consumer experience and information search and expediating the time consumers spend on evaluating purchase alternatives (Cowan & Ketron, 2019; Hwang et al., 2020). Less research, however, has considered the intervention of the VA on the consumer decision-making process. Initial evidence seems to suggest that consumers experience ease in making certain purchases via VAs, namely, habitual purchases of low involvement products that are psychologically effortless (Mari, 2019; Moriuchi, 2019). More complex purchase decisions that are associated with high involvement products prove to be more problematic, in part, because some consumers resist automated features that reduce the psychological efforts enjoyed by high-involvement products and purchases (Leung et al., 2018). Further, the complete lack of visual cues provided by VAs may reduce the consumer's willingness to move forward with a transaction in more complex purchase decisions (Schmidt & Maier, 2019). VAs' range of responses to consumer requests may also be limited to products that are ranked in the algorithm's research filters (Voosen, 2017). Prior research postulates that the technological impositions and limits, like a VA's imperfect understanding of particular commands or misguided product suggestions, may establish misgivings in the eye of consumers regarding the quality of support provided in more complex purchase decisions. To this end, we postulate that consumers may prefer using the mediation of a VA in purchase decisions for particular product categories (i.e., low involvement) more than others. Thus, we formally hypothesize:

H1: *Consumers are more likely to purchase low involvement (vs. high involvement) products when the consumption is led with the intervention of a VA.*

3 | THE ROLE OF POWER IN VA INTERACTIONS

Power as a psychological construct is defined as an individual's relative capacity to exert asymmetric control over certain outcomes, the states of others, and/or valued resources in accordance with his or her own will (Keltner et al., 2003; Kim & McGill, 2011; Magee & Galinsky, 2008). Power does not reside within an individual per se but is instead a property of a social relationship between two or more actors (Emerson, 1962), be they human or nonhuman (Kim & McGill, 2011). Yet, we may conceptualize power as a psychological property of an individual within the context of a social relationship as the manifestation of high or low ability to control the outcomes, experiences, and/or behaviors of others (Emerson, 1962). Most research exploring the complexity of power has conceptually separated the construct from others, including confidence, uncertainty, mood, and freedom (Anderson & Galinsky, 2006; Briñol et al., 2004; Rucker et al., 2011). However, the relationship between power and control is bidirectional; feelings of control stem from the possession of power, and vice versa (Fast et al., 2009; Kim & McGill, 2011).

While power, as a construct, has been widely studied among psychologists (Carney et al., 2010; Keltner et al., 2003), less research has considered how power shapes and guides consumption and consumer behavior (Kim & McGill, 2011; Rucker & Galinsky, 2009, 2016; Rucker et al., 2011). Within this stream, research demonstrates that individuals experiencing a higher sense of power tend to act with increased self-importance (Rucker & Galinsky, 2016), tend to spend more on themselves than others (Rucker et al., 2011), and place more emphasis on the functional value of products, such as their performance and quality (Rucker & Galinsky, 2009). In contrast, individuals experiencing a lower sense of power view themselves as more dependent on others (Rucker & Galinsky, 2016), spend more money on others than themselves (Rucker et al., 2011), and place more emphasis on visible or conspicuous consumption to signal their status to others (Rucker & Galinsky, 2009). This study corresponds with scholarship examining the impact of power on information-processing, whereby those in high-power positions tend to engage in more abstract and automatic processing of information compared to those in low-power positions who tend to engage in more deliberate and effortful cognition (Keltner et al., 2003; Smith & Trope, 2006). Moreover, preliminary research seems to suggest these results are mediated by technologies (Logoni et al., 2019) and particularly, anthropomorphized technologies (Kiesler & Goetz, 2002; Kim & McGill, 2011). For example, Kiesler and Goetz (2002) find that people generally prefer cooperating and working with humanlike robots more than machinery robots. While Kim and McGill (2011, p. 104) find that "[a]nthropomorphism increases risk perception for those with low power, whereas it decreases risk perception for those with high power."

TABLE 1 Summaries of psychological power in previous invest

Domain	High-power	Low-power	Sources
Relations	Increased self-importance	Dependent on others (more communal)	Rucker and Galinsky (2016)
Spending	Spends more on self	Spends more on others	Rucker et al. (2011)
Product qualities	Emphasized functional value (performance and quality)	Emphasizes more conspicuous consumption (status)	Rucker and Galinsky (2009)
Persuasive arguments	Prefers competence-related arguments in persuasion	Prefers warmth-related arguments in persuasion	Dubois et al. (2016)
Decision-making process	Engages in more abstract and less involved thinking	Engages in more involved and effortful thinking more involvement	Keltner et al. (2003), Smith and Trope (2006)
Anthropomorphism and risk perception	Anthropomorphism decreases risk perception	Anthropomorphism increases risk perception	Kim and McGill (2011)

These findings extend that of Rucker and Galinsky (2016, p. 4) and are summarized below in Table 1.

Taken together, we surmise that power increases consumers' willingness to purchase products via a VA and thus formally hypothesize:

H2: *Higher (vs. lower) perceived power mediates the willingness to purchase products with the intervention of VAs.*

4 | OVERVIEW OF THE PRESENT RESEARCH

We present a series of separate studies testing our central premises that the contextual presence of VAs influences the consumer decision-making process, leading consumers to favor low involvement (vs. high involvement) products due to the activation of psychological power. Separate studies help capture systematic results in controlled conditions and reinforce the results' robustness and generalizability (Seltman, 2012). Following an experimental design (Morales et al., 2017), we employed independent (i.e., product categories and psychological power) and dependent variables (i.e., willingness to purchase) framed as hypothetical intentions that remained constant across all four studies. The study flow was designed to (1) showcase particular consumer behaviors during consumer–VA interactions in food and beverage purchases; and (2) to isolate the mechanism of psychological power as a mediating force on consumers' willingness to purchase. Study 1 tested whether food/beverage products were perceived as low or high involvement and the likelihood that they would be purchased through the intervention of a VA. In Study 2, we scrutinized the intervention of psychological power as a manipulated condition that may explain why some consumers are more motivated to purchase through a VA than others. Finally, Study 3 assessed the mediating role of psychological power through direct measurement (adapted from Anderson & Galinsky, 2006), which explains why low versus high involvement products are favored in the context of consumer–VA interactions. Data were collected via Amazon Mechanical Turk between April and September 2020. Respondents included those who possess and interact with a VA(s). We report all conditions and manipulations related to our hypothesis testing in each study. No respondents were excluded from the data collection and final samples sizes were determined before data analysis.

5 | STUDY 1: THE ROLE OF INVOLVEMENT

The aims of this first study are twofold: first, to ensure respondents perceive the independent variable, that is, regarding the food/beverage products as either low (basic pizza, juice) or high involvement (gourmet pizza, birthday cake, champagne) using the classification put forth by Tarkiainen and Sundqvist (2009). Second, to observe whether respondents are more likely to purchase low (vs. high) involvement products when interacting with a VA, such as Amazon's Alexa.

5.1 | Method

In three independent studies, we recruited different and separate cohorts of participants on Amazon Mechanical Turk who took part in only a single study and were paid for their time. All respondents reported that they regularly use VAs (see Table 2, for details). Respondents were initially invited to read a general statement where they were asked to imagine using a VA to purchase a food/beverage product from their home on the weekend while relaxing. The manipulated factor reported a description where respondents were invited to imagine purchasing either a low involvement product (e.g., a bottle of juice) or a high involvement product (e.g., a bottle of champagne) for home delivery from a nearby store. They were then asked—as part of a manipulation check—to rate how much attention

TABLE 2 Data summaries per study and *t*-test between conditions: low involvement versus high involvement

Study	N	Low involvement	High involvement	Demographics	T-test
1A	74	Basic pizza, $n = 37$	Gourmet pizza, $n = 37$	63.5% male; $M_{age} = 36.4$, $SD = 11.9$	$M_{low} = 4.3$, $SD = 1.8$; $M_{high} = 5.0$, $SD = 1.4$; $F(1, 72) = 2.17$ $p = 0.054$
1B	111	Basic pizza, $n = 56$	Birthday cake, $n = 55$	55.9% male $M_{age} = 30.6$ $SD = 7.9$	$M_{low} = 4.0$, $SD = 2.3$; $M_{high} = 5.2$, $SD = 2.1$; $F(1, 110) = 4.7$ $p = 0.002$
1C	111	Juice, $n = 55$	Champagne, $n = 56$	64% male $M_{age} = 38.2$ $SD = 11.2$	$M_{low} = 4.1$, $SD = 2.5$; $M_{high} = 5.2$, $SD = 1.6$; $F(1, 110) = 31.2$ $p = 0.005$

they pay when purchasing the product they saw (1 = not too much; 7 = a lot of attention). We subsequently measured their willingness to purchase the product and employed it as a dependent variable (1 = very unlikely; 7 = very likely). Finally, we asked for demographic information, such as age, gender, and marital status.

5.2 | Results and discussion

Respondents were distributed into two conditions codified as 0 = low involvement and 1 = high involvement. They were then asked to rate their willingness to purchase the product that they saw. The following table also shows that respondents perceived manipulations correctly.

We then regressed the manipulated condition with their willingness to purchase (dependent variable) to observe statistical differences (see Table 3). As forecasted, respondents presented the low involvement condition were more likely to purchase with the intervention of the VA in all three studies, therefore supporting H1.

These studies postulate that the product manipulations (low vs. high involvement) were effective and provide initial evidence for the key interaction between the nature of different products and consumers' willingness to purchase while interacting with a VA. These studies are informative because they define the area (i.e., products) of investigation and highlight the differences in purchasing decisions. In short, consumers are more likely to purchase low involvement products. Our results show that the interaction with a VA restrains consumers' willingness to purchase high-involvement products.

6 | STUDY 2: THE ROLE OF PSYCHOLOGICAL POWER

The objective of this study was to observe the underlying mechanism of psychological power using a recall task as suggested by Anderson and Galinsky (2006). The recall task's goal is to prime respondents in high versus low power (i.e., manipulate power) and observe how respondents behave when faced with purchasing low versus high involvement products while interacting with a VA.

6.1 | Method

In total, 226 owners of VAs were recruited on Amazon Mechanical Turk ($M_{age} = 34.2$, $SD = 10$; 59.2% male) in exchange for monetary compensation. Respondents were randomly assigned to a 2 (product: low involvement vs. high involvement) × 2 (power: low vs. high) condition between-subjects design. Respondents were provided with a short text that invited them to imagine having an oral exchange with a VA to conclude a purchase action while they were at home. They were then allocated to one of the low versus high involvement conditions. Respondents in the low involvement condition were asked to imagine purchasing a basic pizza for home-delivery from a

TABLE 3 Regressed values per study

Study	Regressions
1A	$M_{low} = 5.6$, $SD = 1.2$; $M_{high} = 4.7$, $SD = 1.9$; $F(1, 72) = 6.2$ $p = 0.012$
1B	$M_{low} = 5.3$, $SD = 1.6$; $M_{high} = 4.0$, $SD = 2.2$; $F(1, 110) = 16.8$ $p = 0.002$
1C	$M_{low} = 4.7$, $SD = 2$; $M_{high} = 3.5$, $SD = 2.2$; $F(1, 110) = 3.5$ $p = 0.005$

Note: Dependent variable: willingness to purchase.

local restaurant while respondents in the high-involvement condition were asked to imagine purchasing a gourmet pizza. Respondents who were assigned to the "high (low) power" manipulated condition were instructed to recall a particular incident. Specifically, respondents saw the following instructions: "Recall a particular incident in which you (someone else) had power over another individual or individuals. Power is here defined as a situation in which you (an individual) control the ability of another person or persons to get something you (they) want, or you (they) were in the position to evaluate others" (see Anderson & Galinsky, 2006). They were then asked to write down their experience in the space provided. After the recall task, respondents rated their felt level of power (1 = not powerful at all; 7 = very powerful) and expressed their willingness to purchase the product. Finally, we asked respondents to provide their demographic information.

6.2 | Results and discussion

Checking the effectiveness of the manipulation (low vs. high involvement), we found that participants correctly perceived the stimuli, $M_{low} = 3.8$, $SD = 1.6$; $M_{high} = 5.3$, $SD = 1.0$; $F(1, 226) = 17.5$ $p = 0.000$. We then scrutinized the second condition (low power vs. high power), observing that all respondents offered reasonable arguments to support their experiences when asked to report on low versus high power situations through a written comment (see Table 4). Subsequently, we observed the statistical differences between conditions through the measurement employed as a manipulation check, $M_{low\text{-}power} = 2.9$, $SD = 1.9$; $M_{high\text{-}power} = 5.3$, $SD = 1.4$; $F(1, 226) = 18.8$ $p = 0.000$. A test of homogeneity proved differences in the variance among the four conditions, Levene's test: $F(3, 224) = 0.98$, $p = 0.40$. We then performed a two-way analysisi of variance, which showed that there was not a significant main effect of the nature of the product (low vs. high involvement) and the psychological power on willingness to purchase, dependent variable; $F(1, 227) = 1.0$ p = ns.

TABLE 4 Mean differences per conditions

		Mean	*SD*	*n*
Low involvement	Low power	4.7	1.5	46
	High power	5.3	1.3	56
High involvement	Low power	4.3	1.6	65
	High power	5.3	1.5	61

Planned comparisons proved that respondents in the manipulated condition of high psychological power were more likely to purchase both low and high involvement products at a statistically significant level, $F(1, 224) = 13.5$ $p = 0.000$. This suggests psychological power plays a crucial role in encouraging consumers to act when interacting with VAs and influences their willingness to purchase. These results align with previous literature where consumers in higher power states are more motivated to take action, particularly in consumption contexts (Briñol et al., 2007; Rucker & Galinsky, 2016). We show that different magnitudes of psychological power produce behavioral asymmetry. For instance, consumers in low power states indicate less willingness to purchase using a VA, while those in high power states tend to assume agentic orientations, adopting more proactive and dominant roles, culminating with the finalization of purchase (Rucker et al., 2012). While this study proves the role of psychological power on consumers' willingness to purchase using VAs, it does not yet prove its mediating role due to the nature of the design (Pirlott & MacKinnon, 2016); this is the objective of Study 3.

7 | STUDY 3: THE MEDIATING ROLE OF PSYCHOLOGICAL POWER

In this study, we sought to replicate Study 2 and aimed to enhance the validity of our hypotheses by measuring (rather than manipulating) psychological power. Measuring psychological power is useful to prove the relevance of context specific conditions (Heatherton & Polivy, 1991). Specifically, using a measurement scale allows for the identification of the mediating role of psychological power whilst avoiding systematic variance in favor of the dependent variable (Pirlott & MacKinnon, 2016).

7.1 | Method

For this study, 241 owners of VAs were recruited on Amazon Mechanical Turk ($M_{age} = 32.5$, $SD = 8.8$; 62.2% male). Like the previous studies, all respondents were paid for their time. Respondents were randomly assigned into a condition (product: low involvement vs. high involvement) and products were classified as low (i.e., a bottle of juice) and high involvement (i.e., a bottle of champagne). After reading a short description illustrating an imaginary scenario where respondents have to buy a product with the intervention of a VA, respondents were asked to rate an

TABLE 5 Mean and *T*-test differences per conditions

		Mean	*SD*	*T*-test
Index of psychological power	Low involvement	5.5	1.9	$F(1, 239) = 22.6$ $p = 0.000$
	High involvement	4.8	1.3	
Willingness to purchase	Low involvement	5.4	1.5	$F(1, 239) = 3.2$ $p = 0.000$
	High involvement	4.5	1.8	

eight-item scale on psychological power adapted from Anderson and Galinsky (2006; see appendix A); question items employed a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). Respondents were then asked to rate the level of attention they pay when purchasing the type of product they saw (1 = not too much; 7 = a lot of attention), employed as a manipulation check. They were then asked to rate their willingness to purchase the product and to provide their demographic information.

7.2 | Results and discussion

Respondents per condition were as follows: for low involvement condition $n = 120$, for high involvement $n = 121$. First, we checked for the manipulation of the product involvement condition, observing that it was perceived as statistically different, $M_{low} = 4.8$, $SD = 1.9$; $M_{high} = 5.5$, $SD = 1.3$; $F(1, 239) = 17.3$ $p = 0.000$. Second, we averaged the items of the power scale ($\alpha = 0.85$) and used it as a mediator in the final model (Table 5).

To test H2, we employed a mediation model using the bias-corrected method (Hayes, 2017; model 4; 5000 bootstrap). The model shows a general fit relation among the variables included in the model ($R^2 = 0.02$, $p = 0.04$). Psychological power proves to have a significant effect on the whole model and in both manipulated conditions (low involvement vs. high involvement; $b = -0.36$; SE = 0.07, $t(239) = 5.9$ $p = 0.000$, 95% confidence interval (CI) = [0.30, 0.60]. Further, the direct effect of the manipulated condition shows a significant effect on the willingness to purchase, $b = -0.72$; SE = 0.20, $t(239) = -3.4$, $p = 0.000$, 95% CI = [−1.14, −0.31]. The indirect effect of psychological power on willingness to purchase was significant, $b = -0.16$, SE = 0.08, 95% CI = [−0.35, −0.02], indicating a mediation role. These results lend support for H2.

This study offers evidence that, when consumers employ VAs for their purchase, psychological power plays a mediating role. Specifically, when faced with making a purchase with different degrees of involvement (low vs. high), consumers are more likely to purchase those perceived as low involvement (H1); and this effect is driven by the presence of higher psychological power when consumers are in the low involvement condition (H2). By keeping constant the contextual condition, that is, the interaction with the VA for making a purchase, consumers in the low involvement condition indicate a higher degree of psychological power, and express a greater willingness to complete the transaction.

8 | DISCUSSION AND CONCLUSION

Voice commerce is poised to become a crucial consumer touchpoint over the next couple of years, compounded by Covid-19 restrictions forcing consumers to shop from home; and yet, research exploring purchase behavior through the intervention of VA technology remains limited. This paper's objective was to better understand how the intervention of VA technology influences the consumer decision-making process and to explore the role of psychological power. While this study cannot ultimately answer the question of whether these effects are exclusive to the VA channel (see Whang & Im, 2021) for a comparison of voice and online shopping), they are, undoubtedly, characteristic of VA-interactions. The results of the three studies offer clear support for the two hypotheses and indicate that in the context of a consumer–VA purchase interaction, both involvement and psychological power impact the consumer-decision making process.

Study 1 found that, in general, consumers express more willingness to purchase low-involvement (vs. high-involvement) products when using a VA device. This makes sense given the nature of involvement that presupposes consumers tend to evaluate low-involvement products more quickly and with less information than high-involvement products (Chung et al., 2018; Jain, 2019). It also helps explain the findings of Whang and Im (2021), who find that consumers using a VA evaluate search products (i.e., those that can be evaluated by simply reading the product information) more positively than experiential products (i.e., those that require evaluation through the senses); as well as those of Moriuchi (2019) who concludes that VAs are often used to make habitual purchases. Yet, paradoxically, these findings seem to contradict much of the current literature concerning AI that tends to emphasize the social and relational (i.e., nonfunctional) aspects of VA devices (Hoffman & Novak, 2018; Johnson et al., 2008; Pitardi & Marriott, 2021; Putoni et al., 2021; Schweitzer et al., 2019; Whang & Im, 2021; Woods, 2018).

Study 2 similarly departs from prior research focusing on technological adoption from the perspective of control (Mick & Fournier, 1998; Nasco et al., 2008) and instead examines the impact power has on consumer's willingness to purchase using a VA, which we argue is more relevant in the context of the consumer–VA interaction. The findings demonstrate that consumers experiencing states of high psychological power, that is, a perceived ability to exert asymmetric control over outcomes, people, or resources, are more willing to purchase through the intervention of a VA. This is likely because high-power states prompt abstract thinking typically associated with goal- or task-oriented shopping, in contrast to low-power states which tend to induce deliberate thinking typically associated with

TABLE 6 Key differences between experiential and functional dimensions of consumer–VA interactions

	High involvement product choices	Low involvement product choices
Condition of power for consumer	Low	High
Industry focus	Customer experience	Product functionality
Industry stance	Proactive	Passive
Connection to consumer	Relational, emotional	Transactional
Service proposition	Partnership, frictionless interaction	Lowest costs, operational efficiencies
Product quality	Branded superiority	Convenient, packaged goods

experiential-focused shopping (Büttner et al., 2013; Rucker et al., 2012). Such is particularly relevant for marketers and developers to consider in designing and executing their communicative and shopping platforms.

Study 3 expands on Studies 1 and 2 and concludes that consumers experience high-power states in low-involvement conditions. Specifically, consumers are more apt to make a purchase when they experience a higher level of psychological power (Study 2)—a state of mind achieved more readily in the context of purchasing low involvement versus high involvement food/beverage products (Study 3). These findings align with prior research that finds those experiencing a state of high psychological power tend to engage in more abstract and automatic information processing associated with low-involvement purchases (Rucker et al., 2012) and suggest that VAs seem to be well-suited for these types of purchases. Moreover, they lend support for Schweitzer et al. (2019) thesis that emphasizes the importance of empowering consumers through VA technologies.

Taken together, these findings reveal striking distinctions in consumer–VA interactions with high versus low involvement purchases that should interest both marketing theorists and practitioners. Table 6 lists the important distinctions. In brief, we argue for a more "back-to-basics" approach and suggest managers and developers invest more into the functional benefits of using VAs during shopping experiences, which may include improving usefulness, ease of use, speed, reliability, and accuracy as a way to increase consumer purchase intentions and ultimately, revenue (Kowalczuk, 2018; Moriuchi, 2019). With a sharper focus on power than many recent studies, we contend that for experiential dimensions of VAs (Pitardi & Marriott, 2021; Whang & Im, 2021) to translate to purchasing behavior, they must be leveraged into asymmetrical power conditions. Consumer–VA interactions must favor the consumer, convenience, and low involvement, rather than symmetrical conditions that result in interdependence, companionship, and high involvement (Ramadan et al., 2021).

8.1 | Theoretical contributions

Psychological power in consumer behavior represents a construct that is not easy to imagine or detect (Rucker et al., 2012). While literature suggests that consumers use VAs for purchase decisions driven by functional product benefits (Mari, 2019; Moriuchi, 2019), the underlying psychological mechanisms driving this behavior have rarely been empirically examined. Our research identifies the workings of power as one such psychological mechanism and illustrates some of the consequences of psychological power as a mediator within the consumers–VA consumption context. In so doing, we make two main theoretical contributions.

First, psychological power, in particular, emerges as a force that links consumers, VAs, and purchases and represents a valuable resource in building relationships between consumers and machines in ways that shape purchase behavior. Specifically, it creates a state of mind that envisions hierarchal preferences in products to purchase. This suggests that consumers develop psychological inferences about what they can and cannot do with the intervention and support of VAs. This advances theory on how interactions with VAs create diverse psychological states and foster different agentic orientations based on the products consumers intend to purchase (Rucker & Galinsky, 2016; Rucker et al., 2012; Schweitzer et al., 2019). Thus, this study contributes to the literature on psychology between consumers and VAs and explores how the presence of VAs guide consumers' behaviors and purchasing decisions (Bastos, 2020; Belk, 2016).

Second, this study innovates the use of power as a psychological construct by extending it beyond human social relationships (Rucker et al., 2012) to person–object relationships within the realm of technology (Inesi et al., 2011; Longoni et al., 2019). Traditionally, interactions occur in a physical context yet could be mediated by technology like the phone or the internet. Differently, our study examines interactions in a hybrid setting whereby consumers are engaging with the robotic entity of the VA as part of the consumer's social system (Rahwan et al., 2019). Our findings suggest that consumers adapt their decision-making process through both active inputs such as verbal commands, but also through passive observations based on the psychological elaboration of stimuli that derive from the relational exchange with the VA. It is important to understand that the consumer–VA relationship produces complex conditions under which consumers prove adaptive psychological reactions, which may vary depending on the nature of the consumption activity. This is relevant because differing degrees of involvement in product

choices can change the amount of power consumers feel and affect the willingness to purchase.

8.2 | Managerial implications

Experts are predicting that the future of retailing will be VA and online purchasing through voice. Despite early predictions on the potential of voice shopping, much of the preliminary discussions reveal that, so far, VA technology has not translated to more shopping (Simms, 2019). The VAs failure to deliver thus far is attributed to hiccups in the customer experience with the VAs themselves. As such, much research focuses on how to improve and create seamless and frictionless customer experiences with VAs be that through improving emotional connections (Chung et al., 2018), sensorial experiences (Mishra et al., 2020), engagement (Moriuchi, 2019), trust (Pitardi & Marriott, 2021), or companionship (Ramadan et al., 2021). This should come as no surprise considering the VAs unprecedented possibility to increase consumer convenience.

In her recent book, Kahn (2018) offers fresh insights on how companies can win customers and create value during consumer shopping experiences. Kahn points out that it is challenging to compete with branded product superiority through VA technology, in part, because of the absence of a retail environment and, in part, because of limited control of brand representation (e.g., lack of visual cues, etc.). Thus, without the in-store experience and visual cues, our insights suggest that it is not enough for VA interactions to excel in creating frictionless experiences, but that they must also leverage that advantage to serve customers beneficial product features. Our findings highlight that (1) the more power consumers feel, the more likely they will purchase and (2) consumers feel more empowered when faced with low involvement product choices. This is supported by the fact that VAs, in their current form, engender experiences that require less cognitive effort on behalf of the consumer (Laran & Buechel, 2017), who rely on algorithms and vocal guidance when making a purchase. This suggests an opportunity for managers to offer consumers low involvement products that may be purchased less out of necessity, but rather impulsively (Verplanken & Herabadi, 2001) or as add-ons (Whang & Im, 2021) using a series of verbal commands that may easily direct the conversation and related purchase(s).

8.3 | Limitations and future research

This study has several limitations; however, we preface this by suggesting some may prove fruitful avenues and opportunities for future investigations. Our studies are based on a sample of consumers that are, on average, 34.4 years old. While this supports the general idea that younger respondents are comfortable using these technologies, more research is needed to gauge older consumers' experiences, who may exhibit less confidence and/or different psychological reactions (Parida et al., 2016). Further, our study employed scenarios presented as written instructions; future research can employ real settings where there is actual interaction through listening to the VA agent. Most pointedly, this study examines a specific product category: food and beverage. While this proves relevant, given the surge of the online food delivery market (Partridge, 2021), it limits the generalizability of the findings in other product categories. Thus, there is room to explore additional product categories and relationships, such as mundane versus extraordinary, hedonic versus utilitarian, and experiential versus material (Bastos, 2020; Luomala et al., 2004). Although we theoretically expect overlap between our findings and these product categorizations, there are likely important nuances that warrant research in their own right.

While we examined low involvement and high involvement purchases, future research can fine-tune these dimensions and examine them across product categories, comparing product categories that imply varying degrees of complexity during the purchase process. Future research may identify subcategories and compare products and services of digital and nondigital products within these categories. In a similar vein, future research can address the quantity and the quality of information shared by VAs to observe whether diagnostic or nondiagnostic information significantly influences the consumer decision-making process (Tassiello & Tillotson, 2020). We also recognize the need to examine additional psychological and social mediators. For example, future research can continue to explore the concept of psychological power with the psychological feeling of control (Sprott et al., 2001), loss of control (Faraji-Rad et al., 2017; Kingshott, 2006), and trust (Morgan & Hunt, 1994; Pitardi & Marriott, 2021). The investigation of new mediators can prove the existence of other psychological paradigms and mechanisms. Certain consumers may develop feelings of uncertainty and/or skepticism toward these devices, leading to curbed consumption activities. In this case, future research can investigate how to attenuate or dissipate consumers' refusal of usage (Johnson et al., 2008; Mick & Fournier, 1998). Here, emotions could play an important role, given their impact on the psychological conditions of power (Babin & Babin, 1996). Future research could also consider moderators that belong to the marketing discipline, such as the role of brands and relationship marketing, considering social exchange theory (Emerson, 1976). To conclude, the research reported in this paper indicates that the consumer–VA interaction, particularly in the context of voice commerce, represents a fruitful area of investigation for new theories and applications.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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APPENDIX A

In my relationships with the purchase with the mediation of voice assistant:

_____I can get the voice assistant to listen to what I say.

_____My wishes do not carry much weight over the voice assistant.

_____I can get others tools to do what I want.

_____Even if I voice it, my real intention have little sway.

_____I think I have a great deal of power over the voice assistant.

_____My real product selection is often ignored by the voice assistant.

_____Even when I try, I am not able to get what I want from the interaction with the voice assistant.

_____If I want to, I get to make the decisions.

(1 = strongly disagree; 7 = strongly agree).