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Document Version
Final published version

Published in:
Psychology & Marketing

DOI:
10.1002/mar.21861

Publication date:
2023

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Citation for published version (APA):
Schäfers, T., Kessenbrock, A., Cziehso, G. P., & Kukar-Kinney, M. (2023). Asking Your Phone or a Frontline Employee? The Influence of In-store Information Source on Choice Overload, Responsibility, and Confidence Among Young Consumers. *Psychology & Marketing*, *40*(9), 1877-1893. https://doi.org/10.1002/mar.21861

Received: 2 August 2022 | Accepted: 14 June 2023

DOI: 10.1002/mar.21861

RESEARCH ARTICLE

Psychology & Marketing WILEY

Asking your phone or a frontline employee? The influence of in-store information source on choice overload, responsibility, and confidence among young consumers

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Abstract

Consumers frequently use mobile phones in a store to search for external information as an alternative to consulting with frontline employees. Mobile phone usage is especially prevalent among young consumers. Drawing on qualitative study results and existing literature, we conceptualize the effects of different in-store information sources on choice overload, responsibility, and confidence among young consumers, as well as the moderating role of product category knowledge. A field experiment suggests that when knowledge is low, consulting with frontline employees (vs. mobile phone) leads to lower choice overload and, consequently, increases choice confidence. When knowledge is high, these beneficial effects are attenuated. At the same time, young consumers perceive greater choice responsibility when their phone is the information source; however, this does not influence choice confidence. This work contributes to extant literature by extending the knowledge of customer experience at the point of sale, the role of technology usage in in-store retailing, and the role of frontline employees as an information source. It also provides managerial implications for retailers by highlighting the importance of providing an opportunity for an in-person frontline employee interaction especially when customers have low product category knowledge.

KEYWORDS

choice confidence, frontline employee, information search, in-store information source, overload, responsibility, young consumers

1 | INTRODUCTION

At the point of sale (PoS), consumers regularly use their own mobile phone as a source of purchase-related information (Grewal et al., 2018). According to a recent survey among consumers in the United States, Europe, and Australia, for example, 54% of respondents state that they often use their phone in the store to look for more information or compare prices; this behavior is especially prevalent among younger consumers (Klarna, 2023). Retailers consider such in-store search for external information as both a challenge and an opportunity. On the one hand, there is the risk of showrooming, when shoppers examine products in the store

but then purchase online (Gensler et al., 2017). Being able to access online information in the store may, to some extent, lower the need for frontline employees (FLEs) as an information source (Singh & Swait, 2017). In fact, some retailers have been reducing the number of in-store FLEs. For example, Harrison and O'Neill (2017) refer to an unnamed retailer that "figured out how the company could operate with one-third fewer employees in its stores." Even beyond the COVID pandemic, which forced retailers to reduce the number of FLEs on the floor to minimize face-to-face contact with customers, in-store usage of mobile phones is affecting the retail experience (Shankar et al., 2021).

At the same time, retailers often support in-store mobile phone usage by offering free Wi-Fi access (Vella, 2012). Enabling external search may encourage the opposite of showrooming, so-called webrooming behavior, in which consumers search for information online but purchase in the store (Chung et al., 2022). In addition to store-owned information sources, such as the information passively presented in the store (e.g., product signage) or the active presentation of information by FLEs, mobile phones let shoppers access external information. However, although extant research has examined in-store phone usage (Broeckelmann & Groeppel-Klein, 2008; Grewal et al., 2018; Sciandra et al., 2019), the differences between mobile phone use as an in-store information source and an interaction with an FLE as an in-store information source and how these different sources influence underlying cognitive mechanisms still needs further examination. Understanding these differences is important given the dissimilarity between these two information sources. For instance, FLEs can assist shoppers through personal interaction and collaborative discussion during which purchase-related information is provided, which subsequently affects purchase decisions (Sharma, 2001). In contrast, searching external online information via phone requires a greater degree of consumer autonomy, as it involves independent search activity and own responsibility for the purchase decision, while also offering access to a larger amount of information. At the same time, the vast amounts of information available online may impede rather than help decision-making (Lee & Lee, 2004). However, such information source effects are likely to depend on a consumer's level of product-related knowledge (Park & Kim, 2008). In order for the retailers to provide and encourage the use of appropriate in-store information sources for stimulating purchase behavior, it is paramount to understand the differences in consumers' use of FLEs and mobile phones as information sources and how their usage may result in different cognitive processes and behavioral outcomes.

In the context of mobile technology, young consumers represent a particularly relevant customer group worthy of investigation (Lyngdoh et al., 2023). These consumers have grown up with mobile technology and strongly value the convenience of mobile information search and shopping (Klarna, 2023; Mahapatra, 2017). They also prefer to use technology as part of an in-store shopping experience (Ameen et al., 2021). Younger consumers also have an intrinsic passion for and reliance on digital technology and value online reviews and ratings more than older consumers (Agrawal, 2022; Mangold & Smith, 2012).

To better understand the comparative role of different information sources at the PoS on cognitive reactions of young consumers, the present research employs an exploratory sequential mixed-methods design (Creswell, 2014). In this design, a qualitative research phase is used to explore a phenomenon and derive hypotheses through a combination with existing literature, followed by a quantitative phase of hypotheses testing. We draw from the literature on choice-related cognitive reactions and conduct a qualitative study to examine how different sources (i.e., mobile phone usage, FLE interaction) and consumers' product category knowledge interact in their effects on choice-related cognitive reactions. Specifically, we hypothesize how these information sources and consumers' knowledge influence perceived choice overload, choice responsibility, and, ultimately, choice confidence.

Choice confidence is important to study, because it is a highly reliable determinant of actual consumer behavior (Tormala, 2016; Tormala & Rucker, 2018). Existing research demonstrated that choice confidence impacts consumers' willingness-to-pay (Thomas & Menon, 2007). Choice confidence also lowers perceived risk of choice (Hattula et al., 2023) and increases purchase likelihood (Bhargave et al., 2016). Some research has even proposed one's likelihood of making a choice (vs. no choice) as a way to measure choice confidence (Dhar & Simonson, 2003). Most recently, choice confidence has been studied as an important dependent variable in marketing contexts where consumers are facing large choice sets (Liu et al., 2023) or making purchase decisions via a touchscreen device (Hattula et al., 2023).

We test our hypotheses in a quantitative field experiment with 390 young consumers who experienced information search at the PoS. Our findings contribute to the extant literature by extending the knowledge of customer experience at the point-of-sale, the role of technology (specifically, mobile phone) usage in in-store retailing, and the role of FLEs as an information source. The research also provides managerial implications for retailers by highlighting the importance of providing an opportunity for an in-person FLE interaction, especially when consumers are likely to have low product category knowledge.

2 | LITERATURE REVIEW

2.1 | Usage of mobile phones as an information source in retailing

Consumers' external information search is important for understanding the path to purchase (Schmidt & Spreng, 1996). In addition to the information sources provided by the store (e.g., product descriptions, FLEs), consumers' own mobile phones have become an established alternative (Jang et al., 2017). However, despite customers' widespread use of their phones at the PoS (Klarna, 2023), there is limited research that examines it as one of several information sources (see Table 1). In an early study, Broeckelmann and Groeppel-Klein (2008) found that external reference prices which shoppers obtain via a mobile device affect store perceptions. Similarly,

TABLE 1 Literature on mobile phone usage for in-store information search.

Authors (Year)	Focus	Data, method, setting	Findings	Focus on in-store information search?	Consideration of cognitive load mechanisms?	Comparison with FLE interaction?
Broeckelmann and Groeppel-Klein (2008)	External reference prices provided via a mobile device while at the PoS	Field experiment (n = 109); mock mobile price comparison site with lower/similar/higher external reference price	The greater the online price advantage, the lower the perceived pricing competence of the store and respondents' trust in store	Yes, but limited to price	No	No
Kowatsch and Maass (2010)	Use of mobile recommendation agents at the PoS	Lab study (n = 47) in a mock store environment; use of mobile devices to obtain product information	Perceived ease of use positively influences perceived usefulness and, indirectly, intention to purchase the focal product	Yes	No	No
Rippé et al. (2017)	Mobile phone usage as additional information source while speaking with a salesperson	Survey (n = 560); vignette study, with participants told to imagine wanting to buy a high-technology product at a store while using their phone for additional information	The more consumers search for product information on their phone during the interaction with a salesperson, the more they perceived to be in control, which is associated with higher purchase intentions	Yes	No	No, only a combination of mobile phone and FLE
Grewal et al. (2018)	Effects of general in-store mobile phone usage on shopping behavior	Eye-tracking field study (n = 294) and field experiment (n = 117), with the latter comparing mobile phone use to no mobile phone use	Mobile phone use distracts consumers, which leads to diversion from conventional shopping paths, more time spent in store and examining products, and increased purchases	Yes, but mixed with other in-store activities	No	No
Sciandra et al. (2019)	Effects of shopping-unrelated phone use on consumers' ability to execute in-store shopping plans	Store intercept survey (n = 2520) and two vignette online experiments (n = 116 and 115)	In-store mobile phone use reduces consumers' ability to execute shopping plans and increases unplanned purchases, partly due to distraction	No	No	No
Hoffmann et al. (2022)	Effects of augmented reality-delivered product information on brand image and purchase intentions	Field experiment (n = 403) and four follow-up studies	Positive effects of augmented reality-delivered product information depends on information detailedness	No	No	No
This study	Comparison of mobile phone with two other in-store information sources (i.e., FLE, store information); moderation by product category knowledge	Qualitative study (n = 350) and field experiment (n = 390) across various consumer electronics stores and two product categories	In-store mobile phone usage leads to higher levels of choice overload and choice responsibility, with both effects moderated by product category knowledge; indirect negative effect on choice confidence via choice overload	Yes	Yes	Yes

Abbreviations: FLE, frontline employee; PoS, point of sale.

Kowatsch and Maass (2010) examined product recommendations obtained via mobile devices. However, these studies neither compared phone usage to other information sources (e.g., FLEs), nor did they consider the underlying cognitive reactions. The study by Rippé et al. (2017) represents a combined investigation of mobile phones and FLEs as information sources. The authors show how searching for information on the phone while talking to an FLE affects consumers' perception of being in control and their purchase intent. However, the study setting does not allow for conclusions about the isolated effects of each information source.

In a different research stream, Grewal et al. (2018) demonstrate that in-store usage of a phone makes shoppers divert from conventional shopping paths and increases time spent in the store. Similarly, Sciandra et al. (2019) found that when consumers use their phones for shopping-unrelated tasks, their ability to stick to shopping plans is impeded. In a recently published set of studies, Hoffmann et al. (2022) examine the possibility of presenting product information via mobile devices using augmented reality. However, these studies do not examine in-store information search, do not consider cognitive reactions, and do not compare information presented via mobile devices to other ways of information delivery. To the best of our knowledge, no empirical investigation has focused on information search at the PoS via mobile phones and compared it with other information sources, specifically FLEs.

2.2 | Interaction with FLEs as an information source in retailing

Interacting with FLEs represents a core element of the retail service experience (Parasuraman et al., 1988). A key activity in this interaction is the information exchange between an FLE and a customer (Beatty & Smith, 1987; Mills et al., 1983). FLEs represent an important source of information for shoppers. For instance, Mortimer and Pressey (2013) show that in their information search, consumers use a company's employees as a personal advocate source for making purchase decisions. By obtaining information from FLEs, consumers may reduce purchase uncertainty and be able to better reach a purchase decision (Haas & Kenning, 2014).

The important role of FLEs in customers' information search processes is one of the foundations of different sales approaches. In adaptive selling, for example, FLEs identify a customer's level of knowledge and then present information tailored to the customer's needs (McFarland et al., 2006; Spiro & Weitz, 1990). By assessing customers' needs and their level of purchase-related knowledge, FLEs can thus provide relevant information that subsequently affects purchase decisions (Sharma, 2001). Similarly, the role of salespeople has frequently been described as that of "knowledge brokers" (Hochstein & Bolander, 2018; Verbeke et al., 2011). On a more general level, customer orientation of FLEs is frequently characterized as an active exchange of information between customer and FLE (Homburg et al., 2011; Weitz & Bradford, 1999).

2.3 | The effect of information source on cognitive processes

In addition to the effects of different information sources, there is also a lack of research on the underlying cognitive processes. As Lee et al. (2008, p. 342) point out, what is commonly accessed in-store via mobile phones (e.g., product reviews) offers "more consumer-oriented information, whereas sellers offer more product-oriented information, such as product attributes, technical specifications, and performance results in relation to technical standards." Following this rationale, different information sources may provide different types of information and, hence, elicit different cognitive responses. For example, studies show that the number of online product reviews influences general information processing (Park & Kim, 2008). In contrast, a personal interaction with an FLE impacts consumers' attitudes and choice processes (Homburg et al., 2011; Mallalieu & Nakamoto, 2008). Consulting with FLEs as an information source often results in intensive interaction (Williams & Spiro, 1985) that gives consumers guidance in the decision-making process.

However, it remains unclear how the large amounts of online information that shoppers can access in-store via their phones compare with interactions with FLEs in their impact on cognitive responses, and what role existing product-related knowledge plays. Thus, our research intends to examine differences between the two key information sources with regard to the underlying cognitive reactions.

3 | QUALITATIVE EXPLORATORY STUDY

3.1 | Setting

To explore the effects of the two focal in-store information sources (i.e., mobile phones vs. FLEs) on young consumers' cognitive responses, we first conducted a qualitative study. As the goal of this study was to obtain participants' thoughts and motivations pertaining to both in-store mobile phone information search and in-store FLE interactions, we needed to create conditions in which such search or an interaction would take place. Therefore, we employed a qualitative experimental design (Robinson & Mendelson, 2012), in which we collected and analyzed qualitative data within two stimulus conditions, to which participants were randomly assigned (see also Harrits & Møller, 2021; O'Cathain, 2018). By manipulating the treatment (i.e., instructing participants to either use their mobile phone or consult with an FLE), we created a more realistic information search situation than simply asking participants to recall or imagine a shopping experience.

We invited undergraduate students at a German university to participate in a mystery shopping exercise in return for extra class credit. A total of 350 students (M_{age} = 20.71 years, 42.9% female) participated in the study. Each student received a personalized email with instructions to visit a consumer electronics store, search for a specific product and write a brief report about the shopping experience. To avoid overcrowding and ensure a realistic shopping experience, participants were sent to different stores over the course

of several days. Unbeknownst to participants, they randomly received one of two different task instructions, representing the experimental component of the study. In the first group, participants were asked to consult a FLE for product information to be able to decide on a product; in the second group, students were told to use their mobile phone in the store to search for online product reviews to help with their product choice. Immediately after the store visit, participants filled out an online survey that contained several open-ended questions that asked the participants to describe in their own words how the information source assisted in their product choice and affected their choice confidence.

To analyze the accumulated text data, we followed a three-step process as proposed by Wolcott (1994). In the first step, themed as description, we employed iterative descriptive coding (Miles et al., 2014) for categorizing content. The second step was used to systematically identify overarching themes and relationships in the data. Both of these steps were conducted independently by two of the authors to ensure validity. In the third step, the interpretation, all of the authors jointly made sense of the findings by linking them to existing literature (Wolcott, 1994).

3.2 | Results

As summarized in Table 2, three overarching themes emerged from the qualitative data analysis, each aggregating several related categories. Moreover, the experimental component of the study setting allowed to identify fundamental differences in making purchase decisions between the two information sources, as demonstrated by the sample verbatim quotes provided below.

TABLE 2 Qualitative exploratory study results.

Theme/Categories	Definition and link to extant literature
1) Achieving choice confidence	Being able to reach preference clarity and a reduction of uncertainty (e.g., Andrews, 2013; Hattula et al., 2023; Tormala & Rucker, 2018)
• Help in finding the right product • Advice from knowledgeable source • Information from trusted source • Receiving answers to questions • Reliable external expertise • Clear, unambiguous information	
2) Experiencing and managing choice overload	Avoiding the negative perception of having too many choice alternatives (Bollen et al., 2010; Chernev et al., 2015; Hu & Krishen, 2019)
• Large choice quantity • Too much choice • Feeling overwhelmed • Preselection process • Reducing the set of alternatives • Information structuring • Understanding similarities and differences	
3) Perceived choice responsibility	Extent to which a purchase decision is reached alone or together with others (Botti & McGill, 2006; Botti et al., 2023; Cutright & Wu, 2023)
• Collaborative process • Solo process • Joint decision-making • Autonomous decision-making • Independent self-construal ("me") • Interdependent self-construal ("we")	

3.2.1 | Achieving choice confidence

Participants described their desire to navigate the uncertainty inherent in the purchase decision by reaching a clear preference. This theme is consistent with extant literature on choice confidence (e.g., Andrews, 2013; Hattula et al., 2023; Tormala & Rucker, 2018). Interestingly, participants described that consulting with an FLE increased their confidence to make a choice. One respondent commented: "*The consultation helped me make a clear decision. The sales clerk seemed very credible and knowledgeable, which is why I would have confidently followed his recommendation to buy this model.*" Another respondent stated: "*I can say that talking to the employee was very helpful and made it easier for me to find the right product*."

Respondents consistently described how interacting with an FLE helped finding a product that met their individual needs. Moreover, they described the interactive process, in which an FLE asked them specific questions, answered theirs and provided them with tailored information. For example, one participant stated that "*with the help of their advice, I was able to decide on a suitable product that met all my requirements*." Another participant said: "*I had the opportunity to ask questions, which the salesperson answered directly. This was very helpful, because it allowed me to make a better choice, since I had no experience in buying such a product*."

Additionally, participants described how talking to an FLE helped them get a better understanding of relevant information. Respondents provided comments such as: "*I had to rely on the expertise of an employee to make a decision. He gave me a very detailed explanation of what to look for in such a purchase*"; and "*… after talking to her, I definitely knew a lot more than I did before and was therefore able to make a good decision*."

Among those consumers who used their mobile phone as an information source, a different picture emerged. On the one hand, participants described how online reviews helped them find relevant information and reach a purchase decision, such as: "*All of my questions relating to the product and its quality were fully answered by the reviewers*"; "*The product reviews helped me because they reflected both the good and bad experiences of other people who bought this product*"; *and "Since I know very little [about this product category], the product reviews played a big part in making my decision which one to buy*."

On the other hand, there was overall a less positive and confident assessment, as participants often described a more effortful process of information search with more ambiguous results. They provided

comments such as: "*There were very positive but also very negative reviews, plus with online reviews you can't be sure if they were written by a computer, a real uninfluenced buyer, or an influenced buyer*;" and "*The online product reviews from various customers gave me a large number of opinions. There were customers who had bad experiences […] and customers who were very satisfied*." Some participants even described how the information provided online gave them less confidence than what they might have received from interacting with an FLE. One respondent stated: "*Personally, online reviews are not that helpful for me. I'd rather trust the statements of an employee when making such decisions*."

3.2.2 | Experiencing and managing choice overload

In addition to their desire for confidence in making a decision, respondents repeatedly referred to perceptions of having too many choice alternatives and possibilities to handle the resulting overload. This is consistent with extant literature on choice overload (e.g., Bollen et al., 2010; Chernev et al., 2015; Hu & Krishen, 2019).

When comparing the two respondent groups, interesting differences emerged. FLEs appeared to be able to address the overload by tailoring information to customers' individual needs and expectations. For example, one participant explained: "*After I specified my needs, the salesperson showed me only three devices*." Thus, the FLE not only helped the preselection process to find the best product, but in some cases even dominated the preselection to reduce choice overload and contributed to choice confidence, such as in the following example: "*With such a huge assortment in the store, it helped a lot that the salesperson focused on just a few devices which were good, according to his recommendation*."

In contrast, respondents who used their mobile phone addressed choice overload by structuring online information to make it easier to process, such as by using average ratings and applying selection filters. Structuring information made their information search and product selection less effortful. However, the participants needed to perform this preselection process on their own. Some respondents also had trouble finding the right product because of confusing product names and article numbers they encountered while searching for product reviews. One participant stated: "*Since there were various different opinions about every product, it took quite a long time to read several product reviews and find the product that best suited my personal preferences*." Another one commented: "*It is very annoying to search through the many different product alternatives and often you end up with a wrong device*." In sum, the results indicate that consulting with an FLE may help dissolve customers' choice overload more efficiently than accessing online content via one's mobile phone.

3.2.3 | Perceived choice responsibility

Another theme that emerged from the responses was the extent to which participants perceived to reach a purchase decision by themselves or jointly with others (e.g., FLEs). This perception of choice responsibility is related to extant work on control and choice (e.g., Botti & McGill, 2006; Botti et al., 2023; Cutright & Wu, 2023).

Participants who consulted with an FLE described the decision-making as a collaborative process, with the FLE taking over some of the responsibility, such as: "*Without the collaboration, I would not have discovered this device*." Participants who consulted with an FLE frequently used pronouns such as "we," "us," and "our" when describing their purchase decision process, as shown by statements: "*After looking at several devices, we agreed on one*" and "*In the end, we evaluated all eligible products that fit my needs and jointly decided on [a product]*." This indicates the perception that both the customer and the FLE contributed to the decision, with some participants clearly pointing out that the final choice was made together with the FLE.

In contrast, those who used their mobile phone to access product reviews described the process of making a purchase decision as something they were responsible for and did on their own, and did not provide any indications of collaborative decision-making. In the descriptions, pronouns such as "I," "me," and "my," which reflect individualist thinking, were common, such as: "*I had all information to come to my final decision*." Furthermore, several participants stated that product reviews were not used to make a preselection of alternatives, but rather to support the decision that they had already made. For example, "*My first impression of my favorites was strengthened by reading the product reviews*."

Overall, the qualitative research findings support the differences in young consumers' perceptions and behavior in response to the two in-store information sources. Based on the qualitative findings and the relevant literature discussed next, hypotheses to be tested in a quantitative study were developed.

4 | THEORY AND HYPOTHESES

As the theoretical foundation for our study, we draw from the literature on cognitive consequences of choice processes and the qualitative research findings. The assumption that more choice and more choice-related information is always better has long been challenged in consumer research (Chernev et al., 2015; Iyengar & Lepper, 2000; Scheibehenne et al., 2010). Iyengar and Lepper (2000) found that consumers were more likely to purchase from limited choice sets and reported greater post-purchase satisfaction. One underlying psychological reaction that has been established in extant research, and which also emerged in our qualitative study, is that of choice overload (Gourville & Soman, 2005). More alternatives and more choice-relevant information increase decision difficulty, which can make consumers feel overwhelmed (Scheibehenne et al., 2010). However, empirical evidence suggests an ambiguous role of choice overload. As a consequence, Chernev et al. (2015) proposed a more comprehensive model of choice overload that takes into account several interacting factors as well as different additional cognitive reactions and behavioral outcomes.

One key outcome of choice overload is a diminished confidence in making the right choice (Haynes, 2009). Choice confidence represents the "self-rated confidence in the correctness of the decision" (Taylor, 1975,

p. 77) or "confidence in performing a specific task or in solving a specific problem" (Cox & Bauer, 1964, pp. 454–455). Generally, consumers strive to increase confidence when making a purchase (Andrews, 2013). This can be achieved by information that is high in diagnosticity and thus relevant for making the choice (Tsai & McGill, 2010).

Although choice overload is widely accepted as a possible detrimental outcome, Iyengar and Lepper (2000) examined another cognitive response that has found less attention. Specifically, the authors proposed and found empirical support for the idea that "choosers in extensive-choice contexts (…) also feel more responsible for the choices they make, resulting in frustration with the choice-making process" (Iyengar & Lepper, 2000, p. 1003). Similarly, Botti and McGill (2006) found self-made choices to be perceived as more negatively when consumers cannot meaningfully distinguish between available alternatives. In the face of difficult decisions, consumers perceive greater responsibility when having information available that is of lower diagnosticity (e.g., lesser-known brand; Simonson, 1992).

With regard to boundary conditions, Chernev et al. (2015) distinguish between extrinsic and intrinsic factors. The former "define the decision problem and are similar across individuals" (Chernev et al., 2015, p. 336). This includes task factors, such as time constraints or the way the information is presented (e.g., information source), as well as context factors, such as similarity of the choice alternatives. Intrinsic factors "reflect individuals' idiosyncratic knowledge" (Chernev et al., 2015, p. 336), such as their product-specific expertise, and thus differ across individuals.

To investigate the effects of smartphone usage at the PoS, we focus on the information source as an extrinsic task factor and consumers' product category knowledge as an intrinsic factor of preference uncertainty. Prior research has shown that the extent to which a certain number of choice options leads to choice overload is influenced by how and by whom the information is presented (Wang & Shukla, 2013). Similarly, a consumer's expertise acts as a boundary condition (Chernev et al., 2015). A given choice set or amount of choice-relevant information will have lower impacts on choice overload and confidence when a consumer has greater knowledge about the focal product category. As Chernev et al. (2015, p. 338) explain: "for consumers who are unfamiliar with the product category, choices from larger assortments are more likely to lead to choice deferral and weaker preferences for the selected alternative than choices from smaller assortments."

Building on the qualitative research and the outlined theoretical foundation, we develop hypotheses about how consumers' in-store information search based on mobile phones or FLE interaction should affect their choice confidence, and how this effect should be mediated by choice overload and choice responsibility. Furthermore, related to extant insights on the role of consumers' expertise, we propose the product category knowledge that consumers possess as a boundary condition.

4.1 | Choice confidence

Choice confidence reflects "the clarity with which the consumer understands his or her preferences and the extent to which those preferences are believed to be correct" (Andrews, 2013, p. 751) and therefore the perceived ability to reduce uncertainty when making a purchase decision. In a purchase situation, uncertainty can occur when no internal information, such as personal product experience, is available. In response, consumers seek external information (Berger & Calabrese, 2006), such as advice from experts (e.g., FLEs in the store) or information about others' experiences (e.g., online product reviews). The latter, however, is characterized by a greater degree of variety, complexity, and inconsistency, which ultimately impedes confidence (Hu & Krishen, 2019). In contrast, when interacting with an FLE, the information that consumers are provided with are typically selected and curated based on the employee–customer interaction (Spiro & Weitz, 1990). Another benefit of an interaction with humans (FLEs) versus self-service technology (mobile phones) is satisfying consumer need for caring or empathy (Lee & Yi, 2022). Compared with information that consumers obtain themselves via their mobile phone, employees' expertise, caring, and the joint decision-making during the purchase process should thus lead to greater choice confidence. Xie et al. (2022) found that human interaction reduces cognitive conflict relative to an interaction with technology (specifically, AI), which should increase confidence. Similarly, we expect that an interaction with an FLE is more effective in reducing cognitive conflict than an interaction with a smartphone, thus enhancing confidence.

H1. Information search at the point-of-sale that is based on mobile phone usage (vs. FLE interaction) as an information source leads to lower choice confidence.

4.2 | Choice overload

Prior research revealed that online information in the form of product recommendations and reviews can increase the feeling of choice overload due to the high information quantity (Bollen et al., 2010). Similarly, Hu and Krishen (2019) show that the variety of online information can result in information overload. In contrast, an FLE may provide more selected information based on talking to consumers about their needs and requirements (Spiro & Weitz, 1990), thereby reducing choice overload. The results from our qualitative study are also in line with these findings. We thus propose that consumers' perceived choice overload is higher when confronted with information obtained via a phone (e.g., online product reviews) than when information is obtained through interaction with an FLE. In turn, we expect that lower levels of choice overload arising from consultation with an FLE will explain the subsequent increase in choice confidence. This assumption of choice confidence being affected by choice overload is in line with prior studies (e.g., Chernev et al., 2015; Iyengar & Lepper, 2000).

H2a. The type of information source used (mobile phone vs. FLE) influences perceived choice overload, such that mobile phone usage leads to greater choice overload than FLE interaction.

H2b. Choice overload mediates the effect of the type of information source used (mobile phone vs. FLE) on choice confidence.

4.3 | Choice responsibility

Choice responsibility describes the extent to which a purchase decision was self-made relative to external influences (Botti & McGill, 2006; Botti et al., 2023). When an individual, such as an FLE, assists customers in the decision-making process, responsibility is shared and customers should feel more confident. On the other hand, when a decision-maker obtains more information, perceived responsibility increases, which should lead to less confidence in making a choice (Iyengar & Lepper, 2000). When searching for online information at the PoS, consumers do not share responsibility for the purchase decision process with others, leading to greater personal responsibility for the decision and lower confidence in the product choice. In contrast, FLE interaction should lead to a shared decision-making that partially shifts responsibility from the individual shopper to the FLE, with positive consequences for choice confidence. Thus, in line with the qualitative study results, we hypothesize in-store mobile phone use to result in greater perceived responsibility than FLE interaction, which should in turn influence choice confidence.

H3a. The type of information source used (mobile phone vs. FLE) influences perceived choice responsibility, such that mobile phone usage leads to greater choice responsibility than FLE interaction.

H3b. Choice responsibility mediates the effect of the type of information source used (mobile phone vs. FLE) on choice confidence.

4.4 | Product category knowledge

Consumers' product expertise was found to moderate the occurrence of choice overload from a given set of alternatives (Chernev et al., 2015). Morrin et al. (2012) show that individuals with low levels of decision-related knowledge are less likely to participate in investments when choice is greater. With regard to the underlying cognitive reactions, choice-related expertise was found to reduce perceived complexity of a choice task (Alba & Hutchinson, 1987). When choice-related information is cognitively more demanding, the effect on choice confidence is attenuated (Reutskaja & Hogarth, 2009). Similarly, Misuraca et al. (2019) find that a choice set leads to less overload and greater choice confidence when consumers are familiar with the presented information (e.g., brands). Mortimer and Pressey (2013) show that when a purchase is characterized by information asymmetries (e.g., credence goods), consumers place greater emphasis on FLEs as personal advocates. We therefore expect product category knowledge to affect how different information sources used at the PoS influence choice-related cognitive processes.

H4. Product category knowledge moderates the hypothesized influence of information source at the point-of-sale, such that the effects of information search based on mobile phone usage (vs. FLE interaction) on (a) choice confidence, (b) choice overload, and (c) choice responsibility are smaller in magnitude when knowledge is high (vs. low).

The proposed conceptual model is shown in Figure 1. In sum, we expect (a) the two information sources to lead to different levels of choice overload, choice responsibility, and choice confidence; (b) a moderating effect of product category knowledge; and (c) two mediating mechanisms, one through perceived choice overload and one through perceived choice responsibility.

5 | QUANTITATIVE STUDY

5.1 | Procedure and sample

As stated earlier, we focused on testing the conceptual model on a group of young consumers as they represent a highly relevant customer segment in the context of mobile technology (Klarna, 2023). Specifically, we conducted a between-subjects field experiment that induced young consumers' shopping experiences. Similar to the qualitative study, we invited undergraduate students at a German university to participate in what they thought was a mystery shopping exercise in return for extra class credit. Participants were unaware that their tasks differed depending on the experimental manipulation. The study procedure consisted of three steps.

First, all participants responded to a pre-task online survey that captured general aspects such as their knowledge of different product categories, demographics, and whether they possessed a smartphone with internet access. Second, each participant received personalized instructions to visit a consumer electronics store and search a specific product category. Unbeknownst to participants, they were randomly told to either use their phone in the store to search for online product reviews, but not to interact with an FLE, or were asked to consult an FLE for product information, but not to gather additional information via their phone. All participants were instructed to choose a product in the focal category.

To capture the hypothesized moderating effect of product category knowledge, we selected two categories similar in price range, but which were expected to differ in the extent to which young consumers are commonly involved in purchasing, namely TVs (high knowledge) and washing machines (low knowledge). Responses from the pre-task survey supported this expectation. Agreement with the statement "I know a lot about these kinds of products" (seven-point scale) was higher for TVs ($M = 4.38$, $SD = 1.630$) than for washing machines ($M = 3.30$, $SD = 1.643$, $t = 9.579$, $p < 0.001$). At the same time, there was no difference in perceived category expensiveness ("A new [TV/washing machine] is a very expensive product" $M_{TV} = 4.83$, $M_{wash} = 4.85$, $t = -0.219$, $p = 0.413$).

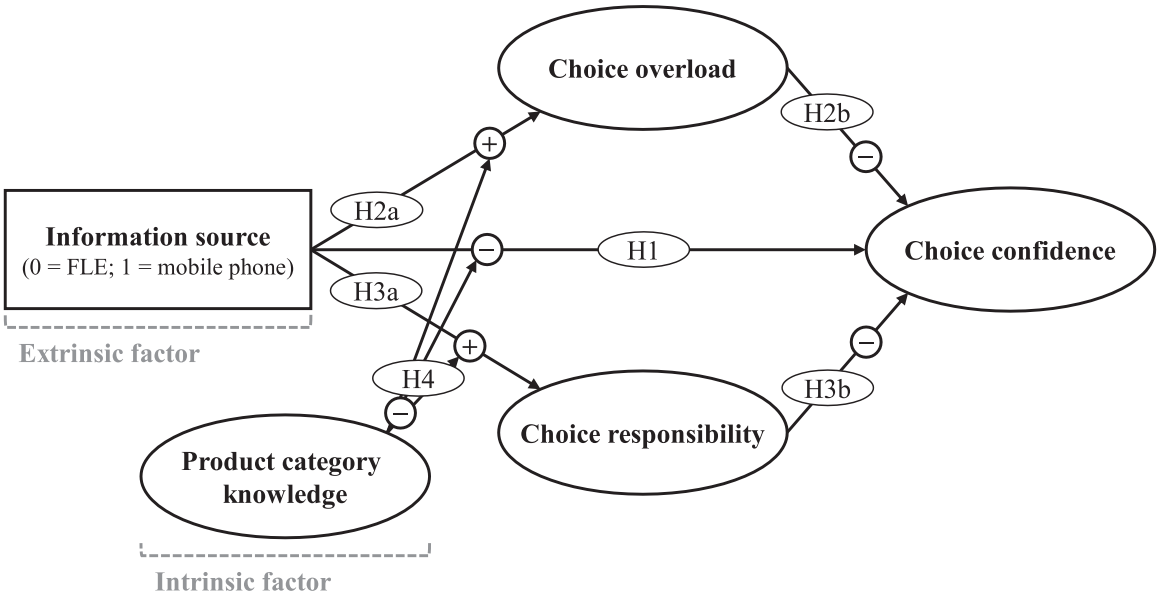

FIGURE 1 Conceptual model and hypotheses.

The study thus comprises a 2 (mobile phone, FLE) × 2 (product category knowledge low/high) experimental setting. To ensure a realistic shopping experience, we instructed participants to visit a local consumer electronics store in their hometown.[1]

As the third step, participants were required to fill out a survey immediately after the store visit. In the survey, they indicated which product they ultimately selected for a hypothetical purchase.[2] Moreover, the survey captured the focal constructs (i.e., choice confidence, choice overload, choice responsibility), as well as additional information about the shopping visit (e.g., retail location, shopping visit duration).

In total, 390 undergraduate students (M_{age} = 20.65 years, 41.2% female) volunteered for the mystery shopping task ($n_{mobile\ phone}$ = 193, n_{FLE} = 197). Participants visited stores in 45 different cities. On average, they spent 33.49 min (SD = 16.21) in the store and 25.95 min (SD = 100.91) to get there.

5.2 | Measures

All participants were instructed to respond to the posttask questionnaire no later than two hours after the store visit. To assist with remembering the shopping situation, the survey began with open-ended questions about their experience. Additionally, participants indicated which specific product they would have purchased and at which price. The focal constructs for hypotheses testing were captured with established multi-item scales. Choice confidence was measured with three items based on Heitmann et al. (2007). Choice responsibility was measured by a three-item scale adapted from Botti and McGill (2006), as detailed by Bruner (2012). We adopted the four-item scale used by Heitmann et al. (2007) to measure choice overload. Responses to all items were captured on a seven-point Likert scale. Appendix 1 shows the individual items and their psychometric properties.

5.3 | Data quality assessment

As illustrated in Appendix 1, the scales exhibit acceptable psychometric properties, with indicator reliabilities above 0.40, except for the first item measuring choice confidence and the second item measuring choice overload. However, following recommendations by Netemeyer et al. (2003), we retained both items as their content and face validity were judged to be sufficient. The resulting construct reliability values above 0.728 and average variance extracted close to or above the 0.50 criterion supported the employed measures. Furthermore, discriminant validity was supported, as each scale's average variance extracted exceeded the squared multiple correlations (Fornell & Larcker, 1981).

We also tested for measurement invariance of the three latent constructs across the two product categories (Brown, 2015, p. 243). We gradually constrained parameters of the model to be invariant and used chi-square difference tests to assess possible deteriorations in model fit. The procedure provided evidence for strong configural and metric invariance (i.e., equal form, equal factor loadings), partial scalar invariance (i.e., equal item intercepts, with the exception of the third item measuring choice overload), and partial factorial invariance

[1]According to the ex-post survey, participants visited 45 different stores from 4 different retailers. To ensure that store characteristics did not confound the empirical results, we compared the focal variables across retailers; no differences were evident (choice overload: p = 0.777; choice responsibility: p = 0.576; choice confidence: p = 0.861).

[2]Given the high purchase price, participants could not be instructed to actually make a purchase. Instead, they indicated which product in the focal category they would choose if they were to make a purchase.

(i.e., equal indicator residuals, with the exception of the third choice overload item). Furthermore, there was evidence for structural invariance, as the latent factor variances did not differ between product categories. Overall, these analyses thus showed that the relationships between the items and the latent factors were the same across groups. Moreover, the invariance in factor variances and item residuals indicates equal reliability of the items.

Additionally, as data were collected from the same respondents in one survey, we assessed common method bias by including a marker variable (i.e., attitude towards the university cafeteria). This did not lead to significant changes in any relationship. The posthoc method by Lindell and Whitney (2001) revealed that correlations between the variables in the model and the marker variable were below 0.085. Therefore, common method bias was judged not to be an issue.

5.4 | Hypotheses testing

To test for the hypothesized difference in choice confidence between the two information sources (H1), we first compared the two information source conditions using *t* tests. As predicted, respondents who consulted with an FLE reported higher choice confidence ($M = 5.714$, SD = 0.841) than those who searched information with their mobile phones ($M = 5.499$, SD = 0.971, $t = 2.335$, $p = 0.010$),[3] in support of H1.

Similarly, the empirical results support the hypothesized effects of information source on choice overload (H2a) and choice responsibility (H3a). Choice overload was higher among respondents who used their mobile phone ($M = 4.564$, SD = 1.311) than among those who interacted with an FLE ($M = 3.975$, SD = 1.250, $t = -4.541$, $p < 0.001$). The same pattern emerged for choice responsibility (Mobile phone: $M = 5.060$, SD = 1.384; FLE: $M = 4.374$, SD = 1.443; $t = -4.794$, $p < 0.001$).

We tested the hypothesized mediating effects of choice overload (H2b) and choice responsibility (H3b), as well as the moderation by product category knowledge (H4) with the PROCESS SPSS plugin (Hayes, 2018), which utilizes ordinary least squares regression and bootstrapping procedures to estimate combinations of mediation and moderations. To account for the conditional processes, we estimated PROCESS Model 8 (Hayes, 2018, p. 588), with information source (FLE = −0.5/mobile phone = +0.5), product category knowledge (low = −0.5/high = +0.5), and the information source × product category knowledge interaction as independent variables, choice overload, and choice responsibility as mediators, and choice confidence as dependent variable. Moreover, to control for a potential alternative explanation of respondents' choice perceptions, we initially included two covariates in the analysis: the time that respondents spent inside the store in minutes and the price of the product they would have purchased—both captured in the follow-up questionnaire. However, because neither exerted any influence on the three focal constructs, these variables were excluded from the subsequent analyses.

Choice confidence was influenced by choice overload ($b = -0.298$, $p < 0.001$), but not by choice responsibility ($b = 0.046$, $p = 0.123$). Moreover, neither information source ($b = -0.068$, $p = 0.439$) nor product category knowledge ($b = 0.082$, $p = 0.329$), or the interaction term ($b = -0.021$, $p = 0.903$) exerted a significant influence on choice confidence, leading us to reject H4a. For choice overload, a significant effect of information source ($b = 0.590$, $p < 0.001$) and a marginally significant interaction effect were found ($b = -0.455$, $p = 0.079$), whereas the effect of product category knowledge was not significant ($b = 0.149$, $p = 0.250$). The nature of the interaction is illustrated in Figure 2: When product category knowledge was low, using the mobile phone as an information source led to an increase in choice overload compared with consulting with an FLE ($b = 0.817$, $p < 0.001$); when product category knowledge was high, this effect was weaker ($b = 0.362$, $p = 0.025$). Similarly, for choice responsibility, significant effects were evident for information source ($b = 0.699$, $p < 0.001$) and the information source × product category knowledge interaction ($b = 0.496$, $p = 0.083$), but not for product category knowledge ($b = 0.206$, $p = 0.150$). This interaction effect, as evident in Figure 2, works in the opposite direction as the one found for choice overload: In the low product category knowledge conditions, using one's mobile phone led to greater perceived choice responsibility than using the FLE as an information source ($b = 0.451$, $p = 0.024$); the effect was stronger in the high product category knowledge conditions ($b = 0.947$, $p < 0.001$).

The conditional process analysis (Figure 2) revealed a moderated mediation for choice overload, according to the index of moderated mediation (Hayes, 2015; $b = 0.136$, 90% bootstrap confidence interval [CI]: 0.011, 0.265). Specifically, compared with consulting with an FLE, using one's mobile phone increased participants' choice overload, which in turn reduced their choice confidence, providing support for H2b. Moreover, this detrimental effect was attenuated when product category knowledge was high, as proposed in H4b. In contrast, no moderated mediation was evident for choice responsibility (index of moderated mediation = 0.023, 90% CI: −0.005, 0.063). On the one hand, as proposed in H4c, the effect of information source on choice responsibility was moderated by product category knowledge. Interestingly, however, this moderating effect is in the opposite direction as hypothesized: The increase in choice responsibility among respondents who used their mobile phone instead of consulting with an FLE is greater among those on the high product category knowledge condition. On the other hand, as choice responsibility does not predict choice confidence in either of the two product category knowledge conditions, H3b is rejected.

In sum, although we proposed two mediating mechanisms, our data provide empirical support only for choice overload as a mediator of the effects of the type of information source on choice confidence (H2b supported), which is moderated by product category knowledge (H4b supported). Choice responsibility does not emerge as a mediator (H3b not supported), although a moderating effect of product category knowledge is evident (H4c supported). As the direct

[3]The detailed means, SDs, and cell sizes are shown in Appendix 2.

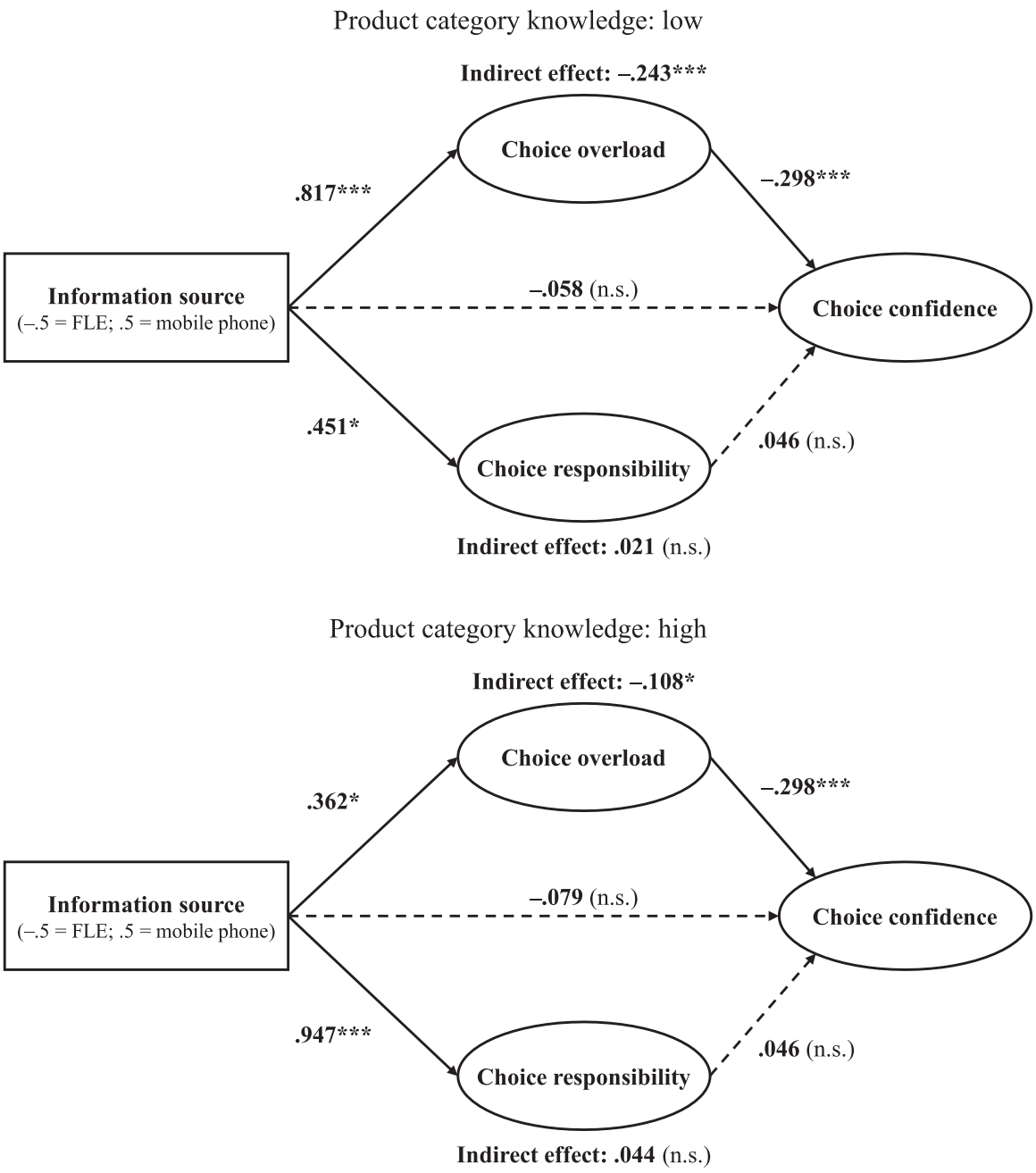

FIGURE 2 Conditional process analysis results. Note: Unstandardized coefficients, estimation based on 5000 bootstrap samples; n.s., not significant. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

effect of information source on choice confidence is not significant in the conditional process model, choice overload fully mediates the influence of information source on confidence, indicating an indirect-only mediation (Zhao et al., 2010).[4]

6 | DISCUSSION

The digital age offers new challenges and opportunities for retailers and shoppers alike (Hilken et al., 2022; Shankar et al., 2021). On the one hand, bricks-and-mortar retailers face an ever-increasing competition from online retailers that operate without FLEs and physical store space, putting huge downward pressure on prices. On the other hand, digitalization is affecting the in-store shopping experience, as especially

[4]As a robustness check, we also estimated the hypothesized effects using multi-group structural equation modeling (SEM) with Mplus (Muthén & Muthén, 1998–2017). The results indicated a good model fit and produced results consistent with the PROCESS analyses. Moreover, we compared the hypothesized mediation model to an alternative no-mediation model in which we constrained the paths between choice overload, responsibility, and confidence to zero. This no-mediation model exhibited a significant decrease in model fit and violations of several commonly accepted fit criteria in further support of superiority of the hypothesized mediation model.

young consumers regularly use their own phone to search for additional information while at the PoS (Jang et al., 2017; Klarna, 2023), which may replace conventional information sources, such as FLEs or in-store signage. In this setting, our study intends to contribute by examining how mobile phone usage differs from other in-store information sources with regard to young consumers' choice-related cognitive reactions.

Our investigation reveals that young consumers who use a mobile phone for in-store information search exhibit lower levels of choice confidence, but higher levels of choice overload and choice responsibility, providing support for H1, H2a, and H3a. At the same time, mediating effects as well as the hypothesized moderation by product category knowledge were evident. When young consumers have low product category knowledge, the increase in choice overload from using a mobile phone compared to consulting with an FLE is greater than when product category knowledge is high. As choice overload mediates the effect of information source on choice confidence (H2b), there is a negative indirect effect of mobile phone usage (vs. FLE). This negative effect is attenuated when consumers have higher product category knowledge, in support of H4b. Young consumers with low category knowledge thus benefit more from the personal interaction with an FLE, who can reduce choice overload and, in turn, allow for more confident decision-making. When consumers are more knowledgeable, FLEs can still help reduce choice overload and, subsequently, confidence, but to a lesser degree. With regard to the role of choice responsibility, although mobile phone usage leads to higher levels of perceived choice responsibility, in support of H3a, this does not predict choice confidence, leading us to reject H3b. Confidence in making the right decision appears to be independent of consumers' feeling of responsibility. One explanation could be that even when young consumers perceive choice responsibility to be lower due to support from FLEs, they still perceive to be burdened with a large part of the choice responsibility. This may be different when responsibility is shared with someone closer, who is also involved in product usage. Moreover, the effect of mobile phone usage on choice responsibility is in fact stronger when product category knowledge is high, which is the opposite of what we postulated in H4c. An explanation could be that, when possessing a high level of expertise, young consumers do not perceive external information (e.g., online product reviews) as outsourcing their decision to others, but as a further empowerment of their own decision capabilities.

7 | CONTRIBUTIONS TO THEORY

Although extant research has shown increasing interest in mobile phone usage at the PoS, a clear understanding of how different information sources affect the in-store shopping experience has been missing. In contrast to previous studies that considered the joint usage of multiple information sources, we thus examined different information sources individually. In particular, the unique setting of a field experiment with close to 400 young consumers who experienced an information search process at the PoS provides insights into how phone usage elicits different consumer reactions than conventional information sources.

This research contributes to our understanding of young consumers' in-store purchase decision-making in several ways. First, our findings add to a more detailed understanding of customer experience at the PoS (Puccinelli et al., 2009). In addition to the physical experience (Yakhlef, 2015), customer experience at the PoS also includes the impact of technology (Blázquez, 2014), which was captured by mobile phone usage in our research.

Second, we extend research on mobile device usage in offline retailing (Grewal et al., 2018; Hoffmann et al., 2022; Molitor et al., 2022; Rippé et al., 2017; Sciandra et al., 2019). This increasingly prevalent phenomenon has found increasing attention in consumer research. However, although extant studies focused on shopping-unrelated activities (e.g., Grewal et al., 2018; Sciandra et al., 2019) or examined mobile phones in combination with other in-store sources (Rippé et al., 2017), our study is among the first to investigate isolated effects of in-store mobile phone usage.

Third, we contribute to the literature on the role of FLEs in information search (Puccinelli et al., 2013; Sharma, 2001) and the role of consumers' expertise (Hochstein et al., 2021). Although prior research found that it is important for FLEs to understand consumers' level of product-related knowledge (Hochstein et al., 2019), our study adds depth to this field by revealing how product knowledge affects cognitive states, in particular for young consumers.

Finally, by assessing the role of choice responsibility, our empirical investigation also provides an extended look at choice-related cognitive states. In contrast to choice overload (Chernev et al., 2015; Scheibehenne et al., 2010), this variable has not found sufficient attention beyond the initial investigation by Iyengar and Lepper (2000). On the one hand, the mixed results of our study provide further support for the notion that choice overload is the key cognitive state in choice processes of young consumers. On the other hand, given the effects of information source and consumer product knowledge, our study opens interesting avenues to explore the role of choice responsibility further.

8 | MANAGERIAL IMPLICATIONS

In addition to contributions to theory, our study offers several managerial implications. First, our findings question the practice of encouraging external information search at the PoS (e.g., through free WiFi). Accessing additional information via their phone could be harmful, as it reduces choice confidence, particularly strongly among young consumers with low levels of product category knowledge.

Second, especially young shoppers with little product category knowledge should be addressed by FLEs. In line with the findings by Hochstein et al. (2019), it is important for retailers to understand an individual customer's level of expertise. Bricks-and-mortar retailers should provide employee training to improve the inter-personal skills of their FLEs (Puccinelli et al., 2013) with the focus on curating information specifically for these shoppers. Thus, although digitalization and young consumers' ability to search for information on their own may allow retailers to cut back on FLEs, it becomes even more

important to use the existing resources for reducing choice overload among less knowledgeable consumers.

Third, despite the internet's possibility of making massive amounts of information available to consumers at any point during the purchase process, the ability to reduce choice overload represents a pivotal step for creating choice confidence. Thus, employees should be trained to specifically address young shoppers who use their phones in-store for product information search. Such a targeted intervention should reduce the risk of consumers being overwhelmed with the external information during their path to purchase.

Finally, this research has managerial implications for online retailers. In addition to offering various filter functions and automated recommendation agents on their websites, online retailers are advised to consider implementing a variety of interaction tools. These could provide virtual interactions with real employees or use bots to mimic an interaction with an FLE to reduce choice overload and increase confidence in shopping in an online environment.

9 | LIMITATIONS AND FUTURE RESEARCH

Certain limitations also need to be considered when interpreting the results. First, both studies were conducted before the COVID pandemic, which has had severe impacts on retailers' operations and the FLE—customer interactions. As a result, consumers' shopping behavior in bricks-and-mortar stores and possibly their reliance on mobile phones versus in-person interactions may have changed. In the future, it would thus be interesting to see whether the results stay consistent in a post-pandemic retail reality.

Second, in both studies, the focus of the research was on young consumers. As such, our samples consisted of students (average age of 21 years). The same sample composition was intentionally used in both studies, as the qualitative research phase was used to help develop and strengthen the theoretical rationale for the proposed effects that were then tested in a quantitative setting. However, the restricted age of the sample may limit generalizability of findings to older populations. These young consumers are on the border between the Millennial Generation and the Generation Z. They represent a digital population, having grown up with the internet, and are experts at digital interaction and information search (Moore, 2012). As such, a comparison of the effectiveness of a personal interaction with an FLE versus reading online product reviews was of particular interest and relevance for this digitally advanced population. Despite their reliance on digital technology (Mangold & Smith, 2012), these consumers were found to rely on consultation with an FLE to a greater degree than on the information accessible online when making a product choice. Thus, we speculate that the results provide conservative estimates of what may be found in a general or older population. However, we strongly recommend that future research replicates our research employing a broader consumer sample to determine the extent to which the results can be generalized to older, nonstudent consumer population, who may be less comfortable with digital technology.

Third, data collection was limited to consumer electronics products. Thus, future research should examine the extent to which the present findings can be generalized to other store environments and product categories (e.g., grocery stores or less complex and more frequently purchased products).

Fourth, we only focused on the isolated effects of different in-store information sources. However, consumers often search for information before visiting a store and, when at the PoS, simultaneously use different information sources (Rapp et al., 2015). Future research should thus examine the role of pre-visit information search as well as different usage combinations of in-store information sources.

Lastly, we focused on general product-related information that consumers obtain via their mobile phone (e.g., online product reviews). However, similar to the detailed support that a FLE may offer, the internet allows consumers to access information from individuals with high levels of expertise and credibility (e.g., expert reviews, tutorial videos). Future research should thus consider the specific creator of the information accessed via a mobile phone.

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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How to cite this article: Schaefers, T., Kessenbrock, A., Cziehso, G., & Kukar-Kinney, M. (2023). Asking your phone or a frontline employee? The influence of in-store information source on choice overload, responsibility, and confidence among young consumers. *Psychology & Marketing*, 1–17. https://doi.org/10.1002/mar.21861

APPENDIX

See Table A1 and A2.

TABLE A1 Items, reliability measures, and descriptive statistics.

	Cronbach's alpha	Construct reliability	AVE	Factor loadings	Indicator reliability	Mean (SD)
Choice confidence, Heitmann et al. (2007)	0.671	0.728	0.482			
1. It was impossible to be certain which product fits my preferences best. (*r*)				0.508	0.258	5.415 (1.378)
2. I felt confident identifying the product that best matches my preferences.				0.839	0.704	5.441 (1.245)
3. I am convinced that I found a product that best fulfills my needs.				0.695	0.518	5.967 (0.827)
Choice overload, Heitmann et al. (2007)	0.783	0.793	0.495			
1. There were so many products to choose from that I felt confused.				0.714	0.510	4.785 (1.559)
2. It was difficult to obtain an overview of all the products offered.				0.517	0.267	3.695 (1.765)
3. With that many options to choose from, I had a hard time identifying how the available products differed.				0.738	0.545	4.287 (1.747)
4. With that many options to choose from, I found it difficult to compare competing product offers.				0.811	0.657	4.297 (1.657)
Choice responsibility, adapted from Botti and McGill (2006)	0.831	0.834	0.628			
1. I was solely responsible for the product selection.				0.755	0.570	4.346 (1.779)
2. I alone was in control over the product selection.				0.864	0.746	4.615 (1.646)
3. The responsibility for the product selection was primarily with other people. (*r*)				0.753	0.568	5.179 (1.606)

Note: Seven-point Likert scales were used for all items.

Abbreviation: AVE, average variance extracted.

TABLE A2 Experimental groups and descriptive statistics.

Product category knowledge	Information source	*n*	Choice confidence	Choice overload	Choice responsibility
Low	Mobile phone	102	5.444[a]	4.601	4.846
			(0.976)[b]	(1.322)	(1.490)
	FLE	97	5.725	3.784	4.395
			(0.822)	(1.270)	(1.567)
	Total	199	5.581	4.202	4.627
			(0.918)	(1.356)	(1.541)
High	Mobile phone	91	5.560	4.522	5.300
			(0.957)	(1.305)	(1.218)
	FLE	100	5.703	4.160	4.353
			(0.861)	(1.208)	(1.319)
	Total	191	5.635	4.333	4.805
			(0.909)	(1.265)	(.847)
Total	Mobile phone	193	5.499	4.564	5.060
			(0.971)	(1.311)	(1.384)
	FLE	197	5.714	3.975	4.374
			(0.841)	(1.250)	(1.443)

Abbreviation: FLE, frontline employee.

[a]Mean

[b]SD.