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Profiling shoppers' coping behaviours during a pandemic crisis: A regulatory focus perspective

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Abstract

Using the *regulatory-focus theory* (i.e. promotion- and prevention-focused concepts), the research investigates shoppers' positive/negative coping behaviours and segmentation linked to COVID-19. Supported by an online survey with 213 shoppers conducted after the first national lockdown (March 2020), factor analysis identified a set of four shopping factors meaningful to profile shoppers' coping behaviours and segmentation. Positive coping is represented by quality-, price- and brand-focused shopping factors, whereas negative coping is represented by store-focused. The resultant three shopper segments are known as the mindful shopper (positive and negative coping), and the indulgent and the optimal shoppers (more positive coping).

Profiling shoppers' coping behaviours during a pandemic crisis: A regulatory focus perspective

1. Introduction

COVID-19 represents an unprecedented crisis that has significantly changed, and is still changing, the ways we shop (Wold, 2020). The changes can be attributed to the safety measures imposed to mitigate the contagion, including restricted travel, social distancing, wearing a face mask when visiting a retail store, and shopping alone in-store when possible (Sheth, 2020). Many retail studies have devoted attention to examine the impact of COVID-19 on shopper behaviours. Surprisingly, they have focused mainly on negative shoppers' coping behaviours and their associated factors. Only a few retail studies, mainly conceptual (e.g. Kirk & Rifkin, 2020; Sheth, 2020), have considered the existence of positive coping behaviours (e.g. do-it-yourself home improvements and changing views of private labels) linked to the pandemic and even fewer (Peluso *et al.*, 2021) have empirically examined the issue. Popular negative shoppers' coping behaviours that have been considered include panic buying, hoarding and impulse purchases (Herjanto *et al.*, 2021; Islam *et al.*, 2021; Laato *et al.*, 2020; Prentice *et al.*, 2020). The devotion to these negative coping behaviours is understandable given their profound negative impacts for varied stakeholders, such as experiencing anxiety and fear amongst consumers (Loxton *et al.*, 2020; Taylor, 2021) and the disruption of supply and in-store services amongst retailers (Barnes *et al.*, 2021).

Theory suggests that shoppers have both positive and negative shopping (consumption) orientations (Darden & Reynolds, 1971; Westbrook & Black, 1985) and some conceptual

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studies (Sheth, 2020) have proposed the co-existence of positive and negative shopper behaviours linked to COVID-19. This study seeks to investigate this notion empirically. Since retailers are more effective at targeting and serving shoppers that are grouped into homogeneous groups (Jarratt, 1996), this study also seeks to empirically discern the existence of distinct shopper segments linked to the pandemic. Past retail studies on this area have overlooked the segmentation issue for reasons that are unclear. However, the theoretical and managerial utilities of shopper segmentation are well documented in the retailing literature, including during crises (Hampson & McGoldrick, 2013).

The research presented in this paper adopts the *regulatory focus theory* (Higgins, 2012) to guide its empirical investigation for two reasons. Firstly, it is rarely used to study shoppers' coping behaviours in a crisis despite its apparent utility because of its prevention- and promotion-focused concepts (Das, 2015). The theory has been largely considered in advertising research to understand the efficacy of positive (promotion-focused) and negative (prevention-focused) message framing (Kim & Sung, 2013; Mowle *et al.*, 2014). Crisis-related retail studies, including those focusing on COVID-19, have favoured more shopping-oriented theories like *stimulus-organism-response (SOR)* (Laato *et al.*, 2020) and *planned behaviour* (Lehberger *et al.*, 2021). Secondly, it supports the parallel consideration of both positive and negative coping behaviours linked to a crisis (Brockner & Higgins, 2001; Zhang *et al.*, 2019). Past studies have mainly measured negative coping behaviours (e.g. panic buying, hoarding, etc.). The parallel focus on both positive and negative coping behaviours may yield new insights into the shopper segments linked to the pandemic in comparison to purely considering negative coping behaviours. More meaningful shopper segmentation is known to derive from the consideration of shopping factors with contrasting orientations, such as convenience versus recreation

orientation (Gehrt & Carter, 1992) and active versus passive orientation (Sit & Birch, 2014). Therefore, in this case, it would be positive versus negative coping orientation.

In essence, this research seeks to address two related research issues: *What positive and negative coping behaviours do shoppers undertake during COVID-19?* and *What utility do the positive and negative coping behaviours have to discern meaningful shopper segments?* Opting for a balanced methodological approach where shoppers can freely indicate their coping behaviours linked to the pandemic, we designed and administered an online survey consisting of neutrally phrased questions to which we received 213 meaningful responses. The work presented in this paper thus builds upon a statement made by Kirk and Rifkin (2020, p.129), "challenging as these times are, we hope that ultimately, history will note them less for tragedy and trauma, and more as a testament to human creativity, adaptability and resilience in the face of inescapable disruption".

2. Literature review

This section considers previous research in retail studies on COVID-19, shopper behaviours, the regulatory focus theory, and the identified literature gaps.

2.1 Retail shopper studies on COVID-19

There have been numerous retail studies linked to COVID-19 (Akhtar *et al.*, 2020; Grashuis *et al.*, 2020), therefore we have limited our review to those that focus specifically on retail shopper behaviour. This was necessary to ensure the literature review remained focused to address the two research objectives mentioned earlier. Our literature review can be grouped into three criteria: behavioural focus; utility focus; and theoretical focus.

Behavioural focus - Many studies have focused on panic buying, hoarding and stockpiling (Chen *et al.*, 2020; Hall *et al.*, 2020; Islam *et al.*, 2021). They refer to shoppers buying unusually large amounts of products deemed to be essential (e.g. toilet rolls) to mitigate against any future product shortages (Herjanto *et al.*, 2021). Other studies have focused on impulse buying and obsessive-compulsive behaviour (Islam *et al.,* 2021) and cyberchondria (Laato *et al.*, 2020). Despite their diversity, these studies share two commonalities (or shortcomings). First, only one behaviour has been targeted by the reviewed studies, and not a collection of interrelated behaviours. Second, the studied individual behaviours are primarily negative focused and can be classified as a behaviour disorder (Taylor, 2021). For example, panic buying is caused by feelings of uncertainty, insecurity and fears of future shortages, and thus demonstrates the resultant behaviour of stockpiling (Naeem, 2021). Cyberchondria refers to a person's anxiety about his/her health that is created by excessive searching for medical information on the internet, which then causes information overload and further exacerbates their anxiety (Laato *et al.,* 2020) and leads to more irrational buying behaviour.

Some studies have discussed the existence of positive shopper behaviours linked to the pandemic but are mainly conceptual in nature. For example, Sheth (2020) discussed the behaviours of improvisation and discovery of new talent, like experimenting with new cooking recipes. However, both behaviours are associated more with domestic activities than shopping. Kirk and Rifkin (2020) proposed that consumers would be more likely to support brands that demonstrate an awareness of the pandemic impact and that show how their products help people to cope during challenging times. They also proposed that shoppers would place greater emphasis on experiences and less emphasis on possessions, with experiences drawing on the use of digital technologies (e.g. virtual and augmented reality). Eger *et al.* (2021) offered a collection of shopping attributes related to the pandemic but did not specify whether the reasons

(e.g. brand value, availability, quality, purchase comfort, health and hygiene, and purchasing purpose) were positively or negatively oriented, or a mixture of both. Peluso *et al.* (2021) empirically studied one positive coping behaviour linked to the pandemic - environmentally sustainable purchasing. Whilst insightful, it would be inadequate to capture other positive behaviours affiliated with the pandemic, since these are out of scope within the context of our research, unless they relate to shopping.

Theoretical focus - Previous retail studies have presented a variety of theories for consideration, but none apply the regulatory focus theory. For example, the *SOR theory* has been applied to study impulse and unusual (non-habitual) buying behaviours respectively (Islam *et al.*, 2021; Laato *et al.*, 2020). Herjanto *et al.* (2021) opted for the *thinking styles theory* to study shoppers' panic buying and the relationship with varied thinking styles, situation ambiguity, perceived risk and information overload. Lehberger *et al.* (2021) adopted the *theory of planned behaviour* to study consumers' stockpiling and its connection with attitudes, subjective norms and fears of future unavailability. Drawing on the *social proof theory*, Naeem (2021) studied the efficacy of social influences in panic buying, considering the issues of security, persuasion, communication from relevant authorities and friends' recommendations. The *fear appeal theory* was drawn on by Eger *et al.* (2021) to understand the changing behaviours between shoppers of different age generations; whilst the *age generations theory* was applied by Peluso *et al.* (2021) to study consumers' negative affect and level of optimism and in turn, green purchase behaviours linked to the pandemic.

The previous studies illustrate that no single theory is exclusively used to study pandemic-related shopper behaviour. A range of theories can instead be considered, depending on the research aim and/or the pre-defined set of factors under study. SOR is the only theory that

considers positive and negative shopper behaviours, and these are known as approach and avoidance responses (Russell & Mehrabian, 1976). Surprisingly the studies (Islam *et al.,* 2021 & Laato *et al.,* 2020) that have applied the SOR theory excluded positive behaviours from their data collection. However, other theories such as thinking styles and planned behaviour do not make the emphasis on positive coping behaviours clear or explicit, and as such it seems to be open for interpretation.

Segmentation focus - The existence of distinct shopper segments linked to the pandemic has received little attention. Previous studies have focused mainly on identifying the drivers and outcomes of a negative shopper behaviour like panic buying (Islam *et al.,* 2021; Laato *et al.,* 2020; Lehberger *et al.,* 2021). This further highlights the prevention-focus of COVID-19 retail studies that focus on mitigating negative coping behaviours as opposed to encouraging positive coping behaviours (Herjanto *et al.,* 2021; Lehberger *et al.,* 2021). It potentially represents a missed opportunity for not discerning the existence of homogenous shopper groups linked to the pandemic. Shopper segmentation based on shopping factors with contrasting qualities is known to offer useful actionable insights to retailers (Gehrt & Carter, 1992; Sit & Birch, 2014). Retail studies on shopper segmentation are also limited in other crises, for example economic crises (Boutsouki, 2019; Hampson & McGoldrick, 2013). It is unclear why the shopper segmentation concept and its utility are not more widely considered in a crisis context.

2.2 Regulatory focus theory

To the best of our knowledge, no retail studies have applied the *regulatory-focus theory* (Zhang *et al.*, 2019) to study crisis-related shopper behaviours. The theory refers to an individual's self-regulation system that is underpinned by two contrasting orientations, notably, promotion- and prevention-focused (Crowe & Higgins, 1997). Individuals with a promotion focus aim at

"ideals" emphasising the significance of achievement and growth, intended to maximize positive results, but individuals with a prevention focus aim to avoid or attempt to minimise negative outcomes and losses (Brockner & Higgins, 2001; Shah *et al.*, 1998). These have been applied to study people's coping behaviours in a stressful situation but not related to crisis-related shopping (Hazlett *et al.*, 2011; Zhang *et al.*, 2019).

Promotion-focused coping is about achievement, aspirations and ensuring gains, whereas prevention-focused coping is about security, vigilance and protecting non-losses (Brockner & Higgins, 2001). The distinctions between promotion- and prevention-focused coping can therefore be distinguished not only by the desirability of the end states, but also by the strategies that are adopted to achieve them (Das, 2016). In a stressful shopping context, for example during COVID-19, shoppers may naturally orient towards prevention-focused coping (e.g. shopping less and sticking with familiar retail stores) to avoid being exposed to the virus. However, some shoppers may orient towards promotion-focused coping (e.g. trying new brands and trading up on product quality) to capitalise on the staying-at-home opportunities brought about by the pandemic (Das, 2015, 2016).

2.3 Literature gaps

The review has identified three related gaps amongst the past retail studies on COVID-19 and shopper behaviours. First, past studies have focused mainly on shoppers' negative coping behaviours like panic buying, hoarding (Hall *et al.,* 2020; Laato *et al.,* 2020), and impulse buying (Islam et al., 2021). A few studies (Eger *et al.,* 2021; Kirk & Rifkin, 2020; Sheth, 2020) have considered shoppers' positive coping behaviours, however these are mostly conceptual in nature and do not specify how to operationalise the positive and negative coping behaviours together in one research design.

Second, linking to the earlier research gap, past studies have not considered other non-shopping theories such as the regulatory focus theory, that endorses the parallel examination of both positive and negative coping behaviours induced by the pandemic. Instead, they have opted for more shopping-focused theories that consider a single coping behaviour and its related drivers and outcomes, like the planned behaviour theory (Lehberger *et al.,* 2021), the fear appeal theory (Eger *et al.,* 2021), and the age generations theory (Peluso *et al.,* 2021). Third, despite the established implications of shopper segmentation for retail academics and practitioners (Angell *et al.*, 2012; Hampson & McGoldrick, 2013), past studies have not delved into the homogeneous shopper segments that may exist for the pandemic and reasons are unknown.

3. Methodology

3.1 Shoppers' coping framework

To address these research gaps stated above, the research presented in this paper seeks to investigate shoppers' positive and negative coping behaviours linked to COVID-19 using the regulatory focus theory. The measurement of the two coping behaviours has proven to be challenging, despite clear theoretical explanations of what they may constitute, via the promotion- and prevention-focused concepts (The Khoa *et al.*, 2021; Zhang *et al.*, 2019). Previous retail studies have measured promotion- and prevention-focused concepts (Das, 2015, 2016) that are not adaptable for the coping behaviours of a crisis-shopping context because they have merely applied the regulatory focus theory to study consumers' general mindsets and not shopping behaviours. Examples statements of Das (2015, p.498-9) used in previous studies that do not relate to shopping during a crisis include:

- promotion-focused statements such as "I often try to reach that in life in which I believe." and "I feel I have often made progress toward being successful in my life.";
- prevention-focused statements such as "not being careful enough has gotten me into trouble at times." and "did you get on your parents' nerves often when you were growing up?".

To circumvent the measurement challenge stated above, Hampson and McGoldrick's (2013) adaptive shopping framework was considered. Based mainly on economic crises, the framework comprises 9 shopping factors and 26 statements, where each factor is measured using between 2 and 4 statements. After critically evaluating the unique nature of the crisis being studied, and UK consumers' spending behaviour (Nolsoe, 2020), four shopping factors

from Hampson and McGoldrick's framework were identified to represent shoppers' positive and negative coping behaviours linked to COVID-19. Their original labels were "price consciousness", "store brand proneness", "store loyalty" and "purchase planning". To improve the clarity and consistency of the discussion presented in this paper, these were relabelled to: "price-focused", "product-focused", "store-focused" and "planning-focused". Two additional statements for the "product-focused" and "planning-focused" shopping factors were included, so as to more accurately reflect the shopper behaviour occurring during the pandemic (Wright & Blackburn, 2020). Table 1 summarises the shopping factors and statements considered to measure shoppers' positive and negative coping behaviours. The shopping factors closely resonate with the core retail mix and thus will be helpful to retailers managing shopper behaviour during, or even after, the pandemic (Ang *et al.*, 2000).

Table 1: Measurement factors of shoppers' positive and negative coping behaviours (mapped from Hampson and McGoldrick, 2013)

Coping nature	Shopping factors	Statements from Hampson and McGoldrick (2013)
Positive coping (promotion-focused)	Price-focused	Price-consciousness: ● I shop at multiple stores/websites to find lower prices ● It's worth the time and effort to look for lower prices ● I go to extra effort to find lower prices
	Product-focused	Store-brand proneness: ● I specifically look for store brands when I go shopping ● I buy more own labels/store brands ● I continue to buy high-quality products (new) ● I won't give up high quality for a lower price even in a pandemic (new)
Negative coping (prevention-focused)	Store-focused	Store loyalty: ● I care less about which stores I shop at ● I make an effort to shop at my preferred stores

	Planning-focused	Purchase planning: ● I combine more shopping trips/online orders to save time and effort ● I am more likely to make a list before I go shopping ● I make less impulse purchases (new) ● I spend more time researching my purchases (new)

Price-focused shopping considers shoppers' price-related issues and how they adapt their behaviours accordingly. When shoppers become more sales prone during a crisis, they are likely to pursue greater price affordability (Nie *et al.*, 2010). Price consciousness is reputed to be a major driver of shopper behaviour during a crisis because disposable income and job security are under threat (Bohlen et al., 2010). Accordingly, Hampson and McGoldrick (2013) would have classified this shopping factor as a negative coping behaviour, where they theorised that consumers are likely to experience price consciousness and in turn actively search and switch to lower prices. This notion could be regarded as widely accepted in an economic crisis, which was the focus of Hampson and McGoldrick's framework. However, in a health pandemic crisis like COVID-19, price-focused shopping can be interpreted as a positive coping behaviour when 1) the potential financial hardship is mitigated by the varied support schemes (e.g. furlough and business rate relief) introduced by the UK government (GOV.UK, 2020), and 2) consumers seeking to shop more smartly or prudently to boost financial savings as opposed to responding to financial difficulty (Nolsoe, 2020).

Product-focused shopping refers to consumers buying store brands (private labels) and seeking quality products. Originally labelled as "store brand proneness", Hampson and McGoldrick (2013) would have described this shopping factor as a negative coping behaviour. It is typically performed by consumers to save money because of the financial hardship or threat in an economic crisis. The COVID-19 pandemic is unique where the potential financial difficulties

are cushioned by the varied governmental support schemes. Retail periodicals (e.g. Morris, 2020) have reported that consumers have become less brand loyal during the pandemic and have strategically switched to store brands to ensure that they have ample (and wider) access to essential goods (e.g. pasta). Although, conversely, some consumers have seen the pandemic as an opportunity to try perceived better quality products from leading supermarkets at the same price point charged by national brands. In the UK, store brands produced by major supermarkets have become 'powerhouse' brands and are deemed as good, if not better than national brands across many product categories (Begley & McOuat, 2020), e.g. the food selection Tesco Finest and the apparel collection George at ASDA. Other scholars (Kim, 2020; Mortimer *et al.*, 2015) suggest that shoppers may trade up and try new or different products to create a positive mood and reward self-control during a challenging time. For these reasons, we characterise product-focused shopping as a positive coping behaviour.

Store-focused shopping refers to shoppers visiting their preferred (familiar) stores and making a conscious effort to avoid less preferred (less-familiar) stores during the pandemic. Hampson and McGoldrick (2013) labelled this factor as "store loyalty", which aims to establish consumers' commitment to their frequented supermarkets during economic crises. Given the original meaning and study context, this shopping factor can be classified as a positive coping behaviour. However, the contagious nature of a pandemic like COVID-19, could lead to a different or new meaning. That is, shoppers stick with their usual frequented stores or supermarkets to avoid being exposed to new settings and new individuals (both store staff and other customers), and in turn limit possible exposure to the virus (Standish & Bossi, 2020). Therefore, it could be considered risk aversion (Rosenbaum, 2021) and thus a negative coping behaviour.

Planning-focused shopping refers to shoppers who regulate their shopping trips and spending habits by making a shopping list, researching products, and making less impulsive purchases. Hampson and McGoldrick (2013) coined this shopping factor as "purchase planning" but did not include the elements of researching and impulse shopping. Drawing on the similar argument proposed for store-focused shopping plus consumers' desire to be perceived as mindful spenders (Rosenbaum, 2021), planning-focused shopping is considered as the behaviour of risk aversion and thus negative coping in the context of COVID-19.

3.2 Online survey

The questionnaire was designed to be disseminated through an online survey. It consisted of three main sections: 1) general questions about shopping habits before and during the COVID-19 period; 2) thirteen shopping statements listed in table 1; and 3) general demographic questions. The thirteen shopping statements were measured against a 5-point Likert-type scale, and the other more general questions were on a dichotomous (single-choice) scale. The survey was administered via personal and professional networks of the research team, via snowball sampling to extend the reach, a popular recruitment strategy of online surveys (Baltar & Brunet, 2012). The initial 2 weeks after the first UK lockdown was targeted for administering the survey (June 2020), to better capture shoppers' coping behaviours linked to the pandemic. This easing-lockdown period marked a point when the pandemic infection rate was dropping, and non-essential stores (e.g. apparel and consumer electronics) were gradually reopened for trading (BBC, 2020), although two-metres social distancing remained in place.

In the UK, the national lockdown took place between March and June 2020. Only essential stores (e.g. supermarkets, pharmacists and post offices) were permitted to trade and were required by the government to implement a series of strict safety measures to prevent

contagion. These included: limiting the number of shoppers in a store at any one time; encouraging shoppers to shop alone; creating a one-way flow through stores with floor markings and signage; using outside space for queuing before shoppers enter the store; wearing face coverings indoors; making hand-sanitising liquid and cleaning materials readily available (Nazir, 2020). Accordingly, UK shoppers were required to cope with these safety measures by adapting their shopping behaviours, either voluntarily or involuntarily.

The survey aimed to recruit shoppers that were representative of the UK population relating to gender, age and major geographical regions. Hence, the eligibility of participating shoppers was determined on three criteria: 18 years or over; residing in the UK; and having undertaken shopping activities during the lockdown. We collected 251 responses, of which 38 were discarded because participants either did not live in the UK and/or the returned responses contained a large portion of missing data (>20%) (Tourangeau *et al.*, 2018). Accordingly, we retained 213 usable completed survey responses for subsequent data analysis.

3.3 Validity of self-reported change

We employed a retrospective measurement approach, whereby participants reflected on the degree of their changing shopping behaviour during the first national lockdown. The retrospective measurement approach avoids methodological issues associated with pre-test and post-test designs, such as: impracticality; pre-test sensitisation; and carry-over effects in the post-test (Lam & Bengo, 2003). Other threats to internal validity include boredom and fatigue experienced by participants, while completing the same or similar scales in post-tests (Lietz, 2010). Some researchers argue that retrospective responses may suffer bias due to recall problems, but others (Hampson & McGoldrick, 2013) challenge this notion and establish that recall bias does not affect perceived magnitude of change. Recall is more likely to be a problem

if an event is not especially important or memorable for consumers, which is not the case during the COVID-19 crisis. It instead represents a highly notable, life-and-death event for consumers in the UK and around the world (Dartnell, 2020). Hence, surveying shoppers' reflection on coping behaviours during the national lockdown was deemed appropriate as a data collection technique for this research.

4. Results

4.1 Participant characteristics

A total of 213 responses were analysed. Almost all participants (96.5%) indicated that they shopped less during the lockdown period, between less than once a week and one to two times a week. Most participants were female (64.9%), spread evenly across different age categories: 26-35 years (21.2%); 46-55 years (20.7%); 36-45 years (18.3%) and 56-65 years (18.3%). Younger and older participants represented the minority of the sample: 18-21 years (7.7%) and over 65 years (2.4%). By comparison, the median age for the UK population is around 40 years (Office for National Statistics, 2016). Despite rising unemployment during the COVID-19 crisis, only 2.4% of the participants reported to be unemployed and 5.3% indicated they were on the furlough scheme; a further 19.7% of participants were registered students in full-time education. Geographically participants were predominantly from the Southeast, and Yorkshire & The Humber regions, 39.3% and 28.6% respectively. This can be attributed to the locations of the researchers' universities. Altogether, the demographic characteristics of our participants correspond reasonably with the demographic characteristics of the UK population (Stokes, 2013).

4.2 Factor analysis

We performed an exploratory factor analysis (EFA), using the Maximum Likelihood extraction method and direct oblimin rotation, to establish the convergent and discriminant validity of the four shopping factors studied. There were two statements that failed to reach a satisfactory factor loading (> .50), these were: "I make less impulse purchases" and "I am likely to make a list before I go shopping", and therefore they were dropped from further analysis (Hair *et al.*, 2006). We repeated the EFA with the same extraction and rotation procedures. It suggested a five-factor solution with one factor comprising only one statement "I combine more shopping trips/online orders to save time and effort". This peculiarity meant that we attempted to administer a four-factor solution but failed to achieve any meaningful results. Therefore, this statement was excluded because of poor convergent validity (Hair *et al.*, 2006), and the re-run of the EFA was able to achieve a meaningful four-factor solution. It retained 10 shopping statements with a satisfactory total variance explained of 73.57% (Pallant, 2007). Interestingly, the three statements excluded from the EFA all related to the planning-focused shopping factor.

The 10 retained shopping statements were submitted to confirmatory factor analysis (CFA) using AMOS. It confirmed the goodness of fit of the four factors and their operational items, with acceptable fit indices (χ^2/df = 1.90, $p < .05$; AGFI = .91; TLI = .93; RMSEA = .07; SRMR = .06). All items exceeded the recommended loading score of 0.50, indicating good convergent validity (Kline, 2016). They also displayed acceptable reliability with most of the shopping factors exceeding the 0.70 and 0.50 benchmarks recommended for composite reliability (CR) and average variance extracted (AVE) respectively (Nunnally & Bernstein, 1994). The AVE indicators were higher than the squared inter-construct correlations between the shopping factors, where the lowest AVE being 0.43 and the highest r^2 being 0.28, supporting their discriminant validity. The confirmed shopping factors were labelled as *quality-focused*

shopping (*M* = 3.48, CR = 0.70, AVE = 0.54), *price-focused shopping* (*M* = 2.99, *CR* = 0.84, *AVE* = 0.57), *store-focused shopping* (*M* = 3.26, *CR* = 0.76, *AVE* = 0.61) and *brand-focused shopping* (*M* = 2.86, *CR* = 0.60, *AVE* = 0.43). These factors resonate with some of the core retail mix, notably, product (quality and brand), price and place (Ang *et al.*, 2000). Table 2 presents the results of CFA together with relevant descriptive statistics.

Table 2: CFA results and relevant descriptive statistics

Measurement items	Mean (std. dev)*	Factor loadings	Composite reliability	AVE
Quality focused shopping (M = 3.48, SD = .80) ● I continue to buy high-quality products ● I won't give up high quality for a lower price even in a pandemic	3.67 (.82) 3.30 (1.01)	.80 .66	.70	.54
Price focused shopping (M = 2.99, SD = .86) ● I shop at multiple stores/websites to find lower prices ● It's worth the time and effort to look for lower prices ● I go to extra effort to find lower prices ● I spend more time researching my purchases	2.74 (1.14) 3.18 (1.04) 2.99 (1.08) 3.07 (1.14)	.78 .88 .63 .72	.84	.57
Store focused shopping (M = 3.26, SD = 1.01) ● I care less about which stores I shop at (reversed) ● I make an effort to shop at my preferred stores	2.87 (1.17) 3.37 (1.10)	.86 .70	.76	.61
Brand focused shopping (M=2.86, SD = .90) ● I specifically look for store brands when I go shopping ● I buy more own labels/store brands	2.76 (1.02) 2.93 (1.09)	.64 .67	.60	.43
Notes: *items were measured on a five-point Likert-scale where 1=strongly disagree and 5=strongly agree.				

4.3 Cluster analysis

Cluster analysis is widely used in studies to discern the existence of shopper segments (e.g. Gehrt & Shim, 1998; Reynolds *et al.*, 2002). K-means clustering represents the most widely chosen technique because of its unique advantages, for example, it is easy to implement, produces tighter clusters than hierarchical clustering, guarantees convergence, and enables the researcher to manipulate and examine different cluster solutions separately and thoroughly (Ding & He, 2004). Accordingly, K-means clustering was employed and two, three and four solutions were performed on the four retained shopping factors before critically evaluating the mean scores of the shopping factors within and between clusters. The three-cluster solution produced the most meaningful shopper segments pertaining to the patterns of the shopping factors as well as the membership size, see Table 3. Chi-square tests revealed no significant demographic differences between the three shopper clusters. Frequency distribution however suggested that the dominance of the indulgent shopper began at the oldest age bracket (over 65's) than the other shopper clusters.

Table 3: Shopper clusters linked to COVID-19

Shopping factors	Cluster 1 Mindful Shopper	Cluster 2 Indulgent shopper	Cluster 3 Optimal shopper
Quality-focused	3.52	3.80	3.19
Price-focused	3.15	2.12	3.40
Brand-focused	3.12	1.88	3.21
Store-focused	4.13	2.85	2.46
Cluster size % (n)	42.25% (90)	23.95% (51)	33.80% (72)

Gender	Mostly females	Mostly females	Mostly females
Age group	Mostly aged 26 and 65 years	Mostly aged between 36 and 65 years	Mostly aged 26 and 65 years
Employment status	Mostly full-time employed	Mostly full-time employed	Mostly full-time employed
Positive or negative coping?	Both positive and negative coping	More positive coping (promotion-focused)	More positive coping (promotion-focused)

5. Discussion and implications

This research seeks to address two related issues: *What positive and negative coping behaviours do shoppers undertake during COVID-19?* and *What utility do the positive and negative coping behaviours have to discern meaningful shopper segments?* We have drawn on the regulatory focus theory because of its apparent theoretical utility to address the research issues, especially via the promotion- and prevention-focused concepts. The conversion of the two concepts into positive and negative coping behaviours for a crisis-related shopping context like COVID-19 was challenging for several reasons. One reason is that past retail studies (Das, 2015; 2016) have mainly applied the regulatory focus theory to measure consumers' general mindset as opposed to shopping activities or outcomes. Therefore, there was not a set of readily available statements around the promotion- and prevention-focused concepts that we could adopt to measure the shoppers' coping behaviours linked to a crisis. Another reason is that, in a crisis-related shopping context, a coping behaviour can be fluidly interpreted as either positive or negative, depending on the crisis and its unique conditions. For instance, shopping for lower prices can be described as a negative coping behaviour when the condition of reduced income is considered (Sarmento *et al.*, 2019), but as a positive coping behaviour when the conditions of mobile technology and bargain hunting are introduced (Fuentes & Svingstedt, 2017).

To address this measurement challenge associated with using the regulatory focus theory, we referred to Hampson and McGoldrick's (2013) framework to identify a list of potential shopping factors to represent the shoppers' positive and negative coping behaviours linked to COVID-19. Hampson and McGoldrick's (2013) framework has proven to be partially, but not fully helpful to guide our investigation. This is due to the shopping factors and statements listed in the framework being originally developed for economic crises that are different from a pandemic (health-oriented) crisis, and thus shoppers' behaviours are expected to differ. In particular, for COVID-19, the varied safety measures imposed to curb its contagion and the support schemes introduced to mitigate the financial hardship inflicted by the virus means that shoppers are prone to cope differently, perhaps more positively. Our work provides empirical support for this proposition.

The shoppers' coping behaviours linked to the pandemic have been measured with a list of four shopping factors. These are labelled as positive coping for "price-focused" & "product-focused"; and negative coping for "store-focused" and "planning-focused" shopping factors. After a series of factor analyses, it was determined that the "planning-focused" shopping factor is not meaningful for this study to measure the shoppers' coping behaviours linked to the pandemic. This is due to coping with a national lockdown, either positively or negatively, and requires shoppers to apply some conscious decisions or efforts, such as planning to shop more smartly or less frequently. Planning focus thus represents a prerequisite for the conduct of any coping behaviours rather than a coping behaviour per se (see Sniehotta *et al.*, 2005). This explanation is further reinforced by the statements measuring the planning-focused shopping factor, such as "I combine more shopping trips/online orders to save time and effort", "I am more likely to make a list before I go shopping", and "I make less impulse purchases". The

regulatory focus theory also implies planning as a precondition of coping in the descriptions of the end states emphasised by the promotion- and prevention-focused concepts. That is, promotion-focused coping aims for achievement and growth, and intends to maximise positive results, whereas prevention-focused coping aims to avoid negative outcomes and to minimise losses (Brockner & Higgins, 2001).

The "product-focused" shopping factor does not retain a single factor but emerges as two related but distinct factors. They are labelled "quality-focused" and "brand-focused" shopping factors, where the former is about consumers' inclination to buy high-quality products and the latter is about people seeking or supporting store brands. Both these shopping factors are characterised as positive (promotion-focused) coping behaviours because they signify optimism in consumption via the elements of indulgence (Mukhopadhyay & Johar, 2009) and novelty-seeking (Noormann & Tillmanns, 2017; Ratner *et al.*, 1999).

Drawing on the revised set of shopping factors, three meaningful shopper segments linked to the pandemic were identified. They are labelled as the "mindful shopper" (42.25% of shoppers surveyed), "indulgent shopper" (23.95%), and "optimal shopper" (33.80%). The mindful shopper has the largest number of members and is profiled to value both positive and negative coping strategies. These shoppers place the greatest emphasis on the store-focused shopping factor, followed by quality-, price- and brand-focused shopping factors. This segment is prone to avoid unfamiliar stores to minimise their exposure to the virus, but they are keen to consume high-quality and new products, whilst at the same time boosting financial savings as their positive way to cope with a national lockdown. Therefore, the mindful shopper takes a holistic approach to manage the pandemic situation, considering both positive and negative coping behaviours.

The "optimal shopper" (33.80%) has the second largest number of members and is characterised to value positive coping more than negative coping. This is illustrated by their greater emphasis on price-, brand- and quality-focused shopping factors, with less emphasis on store-focused shopping factor attributes. Like the mindful shopper, the optimal shopper also seeks to balance their consumption of high-quality products, lower prices and store brands. However, unlike the mindful shopper, an optimal shopper is not deterred by visiting unfamiliar or less preferred stores, if they deem a better opportunity to procure quality, value-for-money and unique products.

The "indulgent shopper" (23.95%) has the fewest members and is considered to appreciate positive coping more than negative coping, mainly around the quality-focused shopping factor. These shoppers seem to have little appetite for pursuing lower prices and trying different products. The indulgent shopper seems mostly interested in consuming good quality products and is likely to pay higher prices and/or visit unfamiliar stores to secure them (Mortimer *et al.*, 2015).

5.1 Theoretical implications

This paper presents three theoretical implications. Firstly, it represents the first study that considers shoppers' both positive and negative coping behaviours linked to COVID-19. Past retail studies (e.g. Chen *et al., 2020*; Hall *et al., 2020*; Islam *et al., 2021*) have favoured a prevention-focused lens and focused mainly on shoppers' negative coping behaviours, like panic buying and hoarding. No previous study has considered the possibility of positive coping behaviours, nor their coexistence alongside negative coping behaviours. This possibility is supported by the regulatory focus theory (Zhang *et al., 2019*) and confirmed by the existence

of the three shopper segments in this research. The mindful shopper values both positive and negative coping, and the optimal and indulgent shoppers have greater appreciation for positive coping. Secondly, this represents the first study that illustrates the utility of the regulatory focus theory to profile shoppers' coping behaviours in a crisis. Past retail studies (e.g. Das, 2015, 2016) have mainly applied the theory to establish consumers' advancement versus maintenance mindsets (Higgins, 2012) in shopping situations and not their coping behaviours linked to crises. Beyond the retailing literature, the regulatory focus theory has been applied to inform message framing within the marketing communications literature (Roczniewska & Higgins, 2018; The Khoa *et al.*, 2021). Thirdly, it demonstrates how the regulatory focus theory can be coupled with a crisis-shopping framework (e.g. Hampson & McGoldrick, 2013) to operationalise shoppers' positive and negative coping behaviours linked to a crisis. Whilst regulatory focus theory provides conceptual support for the examination of positive and negative coping via the promotion- and prevention-focused concepts, it does not provide specific guidelines on how to convert the two concepts into shopping-oriented coping behaviours. Shopping statements directly applicable to measure shoppers' coping behaviours do not exist because previous retail studies have mainly applied the regulatory focus theory to diagnose consumers' mindsets and not their coping activities. By coupling with a shopping framework, it will address the measurement shortcomings presented by the regulatory focus theory.

5.2 Managerial implications

Four sets of shopping factors are presented to meaningfully operationalise shoppers' positive and negative coping behaviours linked to a pandemic crisis. They are quality-, price-, brand- and store-focused shopping factors. These correspond to the core retail mix (i.e. product, price and store) and thus can be easily translated into retail strategies. For example, if retailers learn

that some shoppers are more price-focused and some are more quality-focused with their coping behaviours during the pandemic, retailers can design and deliver customised offerings for these two shopper groups via a retailer reward programme offering free gifts and discount vouchers to its customers. The set of four shopping factors can also be used to discern the existence of homogenous shopper segments in a crisis context and identify unique targeting opportunities. For example, retailers could target *the mindful shopper* with a home-delivery subscription service (Teller *et al.*, 2006), which would alleviate concerns associated with visiting unfamiliar stores whilst availing their desires for enjoying products that are high quality, different and offering value for money. Retailers could target the *optimal shopper* with a tier-reward programme (Duffy, 1998) that allows them to access different types or brands of products at different price points. *The indulgent shopper* is inclined to pay for high-quality products, therefore they could be targeted with new product trials (e.g. Magnum luxury ice-creams) (Briggs, 2021) and pop-up experiences (de Lassus & Anido Freire, 2014).

6. Limitations and future research direction

The research presented here offers promising, but not conclusive results, and thus should be interpreted with some limitations in mind. Firstly, we have only targeted one developed market (the UK) and it is likely that consumers' shopping behaviours vary between different markets, say, of different economic status (e.g. developed versus developing) or different cultural orientations (e.g. indulgent versus restraint). COVID-19 is a worldwide pandemic, therefore, a cross-market or cross-cultural study to establish the validity of the list of shopping factors and resultant shopper segments identified here could prove insightful to both academics and retailers.

Secondly, this research is cross-sectional and the investigation was undertaken during a specific timeframe - the first nationwide lockdown in the UK. Whilst the lockdown has been lifted, some negative feelings such as social anxiety induced by COVID-19 may still linger (Rackham, 2021). Therefore, a longitudinal study would be fruitful to track shoppers' coping behaviours throughout the pandemic at different lockdowns or periods of restriction. This would enable the list of shopping factors and the composition of shopper segments identified by this research to be further consolidated (or updated) accordingly. For instance, shoppers may alter their positive and negative coping behaviours as they become more accustomed to the consequences of the pandemic.

Thirdly, a quantitative methodology was adopted to study the topic in question. Whilst this methodology has enabled us to identify and test the shoppers' coping behaviours linked to the pandemic, it does not delve into the experiential or emotional narratives underpinning the shopping factors. We propose the consideration of an experiential lens and advocate the use of qualitative inquiry in future studies to enrich the findings of this work (see DeLorme *et al.*, 2005).

In conclusion, this research supports the utility of the regulatory focus theory to profile shoppers' coping behaviours linked to a pandemic crisis. The results illustrate that the notion about shoppers instantly engaging in negative coping behaviours when facing a crisis is highly questionable. Shoppers can, or will, undertake positive coping behaviours when interventions are introduced promptly to mitigate the adverse impact of a crisis, like the furlough scheme introduced by the UK government to minimise job losses and financial hardship looming in the workforce (GOV.UK, 2020). COVID-19 has greatly changed our shopping habits and the change may have a long-lasting legacy. However, for retailers this means that when the

shoppers' coping behaviours are profiled, through the promotion- and prevention-focused lens and avail the conditions imposed by the pandemic, these can be regarded as business opportunities.

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