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Perceptions Influencing Apparel Safety Sustainable Consumption Behaviour: Exploring the Contextual Relationship

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Abstract
The purpose of this paper is to develop and test a theoretical model that explains that the impact of consumer perceptions of apparel safety on their consumption behavior is moderated by consumers' attitude and the price in the relationship studied. A survey questionnaire was developed and conducted first in a pretest by 231 participants to initially identify possible measurement problems. Another 321 potential consumers subsequently filled in the questionnaire on our website, out of which 296 questionnaires were used to verify the validity and reliability by statistical analysis and the structural equation model. The paper identifies a set of apparel safety perception dimensions that do not drive safe consumption practices. It is further seen that price is more likely to moderate the relationship with consumer behaviors than perceptions and attitudes. Therefore, the paper significantly fills the gaps between apparel safety perceptions and apparel safety consumption behavior. The findings of the paper have significant implications for apparel companies who wish to explore the apparel market potential in China.

Key words: *consumer perception, apparel safety, consumption behaviour, perceived consumer effectiveness.*

Introduction

Apparel safety incidents and recalls have pushed consumers to become more aware of apparel safety and more skeptical when buying clothing, especially children's clothes. These apparel safety incidents and recalls derived from a set of factors including fabrics, dyes, threads, buttons, snaps, zippers, scissors, stone washing, design and other resources, which are critical and essential attributes during clothing processing [1-2]. Critical safety attributes are, for example, chemical substances residual in apparel, which easily penetrate to and are an irritant for children's skin, posing a threat to children's health [3-4]. Therefore, informing consumers about the potential risks in apparel is highly worthy of being a considerable component of public health policy and is important for fashion enterprises. However, it is extremely difficult to communicate potential risks to lay consumers and an important prerequisite is to know lay consumers' perceptions of the potential risks in a garment, as consumer perception is a significant factor influencing consumer purchasing behavior. Thus, this paper explores the variations in the impact of different kinds of perceptions of children's apparel safety on consumer buying behaviours.

This article investigates and summarises what is known about consumer perceptions of children's apparel safety (CASCP). The focus is on survey findings and the model developed. The goal of this investigation was to integrate empirical research, find generalisable results, develop a consumer perception model, identify central issues for future research, and provide technical assistance to companies in the analysis of the apparel safety consumption data collected in the apparel safety attitude survey. The activity took the form of an online questionnaire completed by consumers in China. Furthermore, such a research is of interest to entrepreneurs and managers for understanding how to adjust their initiatives to consumer safety requirements, and thus adding the likeliness of consumer purchasing.

The multiple aim of this investigation was to study CASCP with regard to the following: 1) consumer perceptions of children's apparel safety, 2) willingness to purchasing safe children's clothing, 3) problems and barriers to boost consumer purchasing of safer clothing, and 4) marketing strategies required for safe clothing.

This introduction has shown that from the point of view of safety, increasing clothing buying is preferable, while at the same time there are several factors that contribute to consumer-buying behaviors. In the next sections, we will summarise what is known about CASCP in order to see which factors could contribute to gaining a larger portion of safe garments to evaluate levels in the safety requirements hierarchy. The article concludes with an analysis of the findings, their implications, and suggestions for future research directions.

Theoretical development and hypotheses

A research framework was designed to investigate the relationship between consumers' perceptions of a range of children's clothing safety attributes and consumption behaviors. The framework is based on consumer perception experience. It attempts to make CASCPs correlate with children's apparel safety consumption behaviors (CASCB) through involving consumers' perceived value through the questionnaire. The research framework will be discussed subsequently.

Apparel safety and its definition

An apparel safety defect has been defined as follows: "the apparel does not comply with related technology legislation or standards which ensure body health or property safety; or in the apparel exist unreasonable risks which threaten person and property safety" [3]. Neglecting clothing safety also gives rise to recall problems, leading to economic and reputation loss, which may in turn impact profitability in fashion enterprises. Apparel safety is becoming more and more important [2, 5-8]. Apparel safety regulations and standards are growing, coupled with healthy consumption concerns rising at a much higher rate, increasing the

need for clothing safety. Apparel safety categories were classified as mechanical safety, flammable safety, chemical safety and external safety [4, 9]. Apparel safety indicator inventories were further described, most of which are in accordance with quality management items in the apparel industry [1, 10]. Among these indicators, mechanical safety refers to apparel attributes that have a certain potential danger to children, such as drawstring/cords, small parts and other sources from the design and production of children's clothing [11]. Flammable safety is defined as the fabric or padding in apparel not meeting the flammable requirements, which might cause burns to the wearer and do harm to their health [11]. Chemical safety means that the materials used in apparels contain residual poisonous and harmful substances which might cause unintended hazards to wearers [11]. External safety is that the qualification and authenticity of product identification or labels do not meet related safety regulations/standards, which will threaten person and property safety [4]. User safety needs and apparel attributes were presented in detail [1]. Furthermore, the risk evaluation technologies for textile and apparel were also developed by means of different methods, such as the TS fuzzy neural network [12], fault tree method [4], SVM [13] and BP network [9].

Conceptualization of CASCP

Apparel safety consumption, change in people's perception, peer impact on the adoption of safe practices, promotion, impact of lifestyle, etc. are issues that should be explored in depth within the clothing safety consumption research agenda. Extensive studies have been conducted to relate the source of food-related risk and food safety perceptions to demand [14-21]. Research scholars have increasingly focused their attention on security and consumer perception in electronic commerce [22-23]. Consumer perceptions of product safety have also been greatly influenced by individual different attitudes to safety, except the risk sources derived from products themselves [15, 24-27]. Many studies have attempted to measure consumer risk perception in a broader marketing context [28-29].

Although there has already been research on consumers' risk perceptions and their measurement, there are very few papers that focus on consumers' risk perception of apparel safety. There is no formation of a united system of consumer perception of apparel safety. In recent years the interest of researchers and practitioners in understanding consumer perceptions of apparel safety, generated safety consumption behaviours and practices has substantially grown. However, the contributions in this study have opened new perspectives on clothing marketing processes and initiatives. In this paper key psychological variables like attitudes and perceptions were researched in depth to explore the psychological foundations of garment safety consumption behaviour.

Based on the definition of clothing safety defect, apparel safety consumption (ASC) is defined as the use of clothes responding to basic safety requirements, ensuring the wearer's body health or property safety, while minimising unreasonable risk occurrence, so as not to threaten the person and property safety. In this research, flammable safety was merged with chemical safety. Therefore, consumer perceptions of children's apparel safety (CASCP) are developed in several domains, including mechanical safety perceptions (MSP), chemical safety perceptions (CSP), and external safety perceptions (ESP), which are important to understanding consumer behaviours in marketing activities. Thus, the conceptualisation of CASCP is summed up as consumers' perceived values or demands from children's clothing regarding desirable use status or behaviours that minimise the context of potentially hazardous and harmful consequences to consumers, as well as guide selecting, or evaluation of clothing safety consumption.

Consumers' perceived values of apparel safety, demands for clothing safety consumption in the conception of perception items, along with other attitude differences in apparel safety lead us to believe that we need a perception scale of garment safety that can contribute to measuring consumers' perception of apparel safety and be further used to evaluate its influence on consumers' buying decisions [21, 29-30]. Hence, a new scale for consumer perception of children's apparel safety (CASCPScale) was developed and validated, which focused on perceived values of apparel safety consumption motivation. The scale details about 27 motivational perceived values along with apparel safety demands that represent each motivational type, as defined at the end in Appendix A.

Hypotheses development

Globally, many consumers are starting to take a health and safety awareness position in the market. A considerable number of research scholars associate the risk perceptions and awareness of product safety with purchasing behaviors to improve the consumer safety of products [30-35]. The motivations and perceptions of consumers can translate into consumer purchase behaviour [36-42]. As per the above discussion, the risk perceptions of individuals which influence their purchasing behaviours may be shaped considerably by consumer perceived values. Use of the CASCP-Scale enabled us to measure the relative differences among MSP, CSP and ESP in the impact of apparel safety consumption behaviour for Chinese consumers. We make the assumption that different risk perception types may impact consumers' purchasing behaviors to varying degrees. Accordingly:

- **H1a.** Consumer perceptions of mechanical apparel safety (MSP) impact children's apparel safety consumption behaviour (CASCB).
- **H1b.** Consumer perceptions of chemical apparel safety (CSP) impact children's apparel safety consumption behaviour (CASCB).
- **H1c.** Consumer perceptions of external apparel safety (ESP) impact children's apparel safety consumption behaviour (CASCB).

Some studies established a link between attitude and behaviour and reported the direct influence of attitude to behaviours [15, 25-26]. Recent research studied attitudes interfering in perception [43-44]. The work of Tyson [45] is the only major study that validated an attitude and perception scale. A few studies showed that in the attitude-perception relationship, a mediating role of attitude is identified between consumer perception and intentions [46-47]. Song, & Kim [48] reported that the recognition of potential hazards is influential in establishing and changing attitudes toward hazards. Thus, the current understanding of the perception-attitude-behaviour relationship can be further researched more clearly with the exploration of the likelihood of attitude moderation. Hence, the following hypotheses:

- **H2a.** Apparel safety attitude moderates the relationship between consumer perceptions of mechanical apparel safety (MSP) and children's apparel safety consumption behaviour (CASCB).

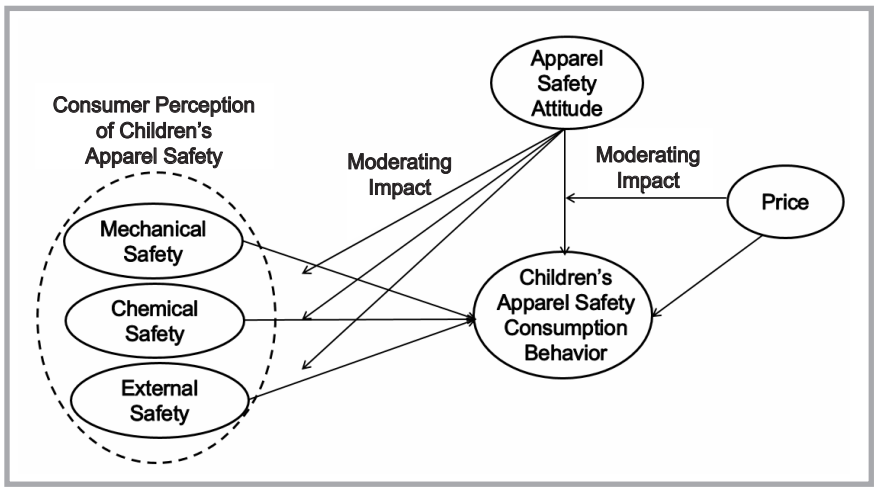

Figure 1. *Conceptual research framework proposed.*

- **H2b.** Apparel safety attitude moderates the relationship between consumer perceptions of chemical apparel safety (CSP) and children's apparel safety consumption behaviour (CASCB).
- **H2c.** Apparel safety attitude moderates the relationship between consumer perceptions of external apparel safety (ESP) and children's apparel safety consumption behaviour (CASCB).

Table 1. *Demographic information of participants in this study.*

Description	N	Age %	Description	N	Age %
Gender			Employment		
Female	183	61.82	Executive	39	13.18
Male	113	38.18	Salesperson	14	4.73
Age			Technician	54	18.24
19-24	33	11.15	Student	27	9.12
25-29	40	13.51	Teacher	85	28.72
30-34	100	33.78	Entrepreneur	4	1.35
35-39	70	23.65	Profession	33	11.15
40-44	28	9.46	Worker	7	2.36
45-49	14	4.73	Other	33	11.15
50-54	4	1.35	City of residence		
55-59	3	1.01	First-tier city	157	53.04
60 or above	2	0.68	Second-tier city	80	27.03
Education			Third or fourth-tier city	52	17.57
Senior high school or less	13	4.39	Other	7	2.36
College	23	7.77	Ages of children at home		
Bachelor's degree	102	34.46	Age 0-3 (included)	128	43.24
Postgraduate or more	158	53.38	Age 4 (included) - 7	63	21.28
Monthly household income			Age 7 (included) - 14	75	25.34
< 2000 RMB	27	9.12	No kids at present	61	20.61
2000-3499 RMB	24	8.11	Frequency of buying children's clothing		
3500-4999 RMB	35	11.82	At least once per month	66	22.3
5000-6999 RMB	51	17.23	Once every two months	58	19.59
7000-9999 RMB	73	24.66	Once every three months	54	18.24
10000-19999 RMB	50	16.89	Once every half year	27	9.12
> 20000 RMB	36	12.16	Once every year	25	8.45
Budget for buying children's clothing			Other	66	22.3
< 100 RMB	34	11.49	Where to buy children's clothing		
101-500 RMB	91	30.74	Shopping mall	191	64.53
501-1000 RMB	80	27.03	Store	51	17.23
> 1000 RMB	91	30.74	Specialty shop	144	48.65
			Online shop	172	58.11
			Others	17	5.74

- **H3.** Apparel safety attitude impacts children's apparel safety consumption behaviour (CASCB).

Price is always an important factor impacting CASCB. To test whether it is an appropriate variable that affects consumers' willingness for children's clothing safety consumption, the following hypothesis was proposed to assess consumers' willingness to pay more for children's clothing safety consumption.

- **H4a.** Price positively impacts children's apparel safety consumption behaviour (CASCB).
- **H4b.** Price moderates the relationship between the apparel safety attitude and children's apparel safety consumption behaviour (CASCB).

The conceptual research framework proposed for the study is shown in ***Figure 1***.

Methods

Survey instrument

To test the hypotheses, data were collected using online survey questionnaires. The questionnaires were divided into five parts: (1) consumer perceptions of children's clothing safety, (2) apparel safety attitude of customers, (3) price, (4) consumption behaviour, and (5) demographic and socio-economic questions for consumers. The survey instruments are based on prior literatures.

The self-developed CASCPScale [49] was used for measurement of consumer perceptions of children's apparel safety. To avoid a neutral option, the CASCPScale uses a six-point Likert scale (1 = strongly agree, 2 = agree, 3 = somewhat agree, 4 = a little disagree, 5 = disagree, 6 = strongly disagree). As proposed, the CASCPScale identifies three domain safety perception dimensions: mechanical safety perception (MSP), chemical safety perception (CSP) and external safety perception (ESP).

Second, apparel safety attitude was measured using a 7-item revised safety attitude scale [50]. The scale was used as a measure of safety attitude in the personal protective clothing context [48]. Each of the attitude measurement items was measured using a six-point Likert scale ranging from 1 (strongly agree) to 6 (strongly disagree). Third, the measurement items for price were obtained from the consumer. A sample item is "Clothing with higher safety will have a higher price." Final-

ly, children's apparel safety consumption behaviour (CASCB) was measured using three questions based on the scale developed by Kim and Choi [51] using a six-point Likert scale, ranging from 1 (strongly agree) to 6 (strongly disagree).

Data collection and sample

As a principal target to investigate the children's clothing safety consumption behaviour of different types of consumers, all consumers who had ever purchased children's clothing via physical or internet shops were the subject for our research. For the purpose of matching the subjects' characteristics, we asked consumers to choose how many children they had at home and how often they bought children's clothes.

An online questionnaire was conducted as a pretest with 231 participants to initially test the questionnaire and identify any possible measurement problems. Initial pretesting data were verified by the overall Cronbach's alpha for all items, which was found to be equal to 0.97. After removing the problems pointed out by the respondents, the final data were collected. A total of 321 potential consumers filled in the questionnaire on the website, out of which 296 questionnaires were found usable for further analysis.

Detailed demographic information about the participants in this study is provided in ***Table 1***. As shown, participants were primarily female (61.82%), aged 30-39 years old (57.4%), possessing a bachelor's degree or higher educational level (87.84%), and with young children at home (89.86%). Data were collected from participants living in different levels of cities (first second, third or fourth tier cities) to increase response diversity among the participants in terms of their employment, income levels, budget, and frequency and places of buying children's clothing.

Analysis procedure

Since the study examines the relationships among consumer perception, consumer attitude and purchasing behaviour toward children's apparel safety, we first conducted a confirmatory factor analysis (CFA) to establish the unidimensionality of each element. Then we applied structural equation modelling (SEM) to investigate the conceptual model and to test our hypotheses. All of the relationships among the measured variables were estimated simultaneously.

Table 2. *Consumer perception of children's apparel safety factor components.* ***Note:*** *Extraction method: principal component analysis; KMO value: 0.946; Bartlett's level of significance: 0.000; Factor components of significance (values > 0.5) are in bold.*

Component matrix		Components		
		1	2	3
CSP	s1	00.179	**0.650**	0.278
	s2	0.137	**0.895**	0.131
	s3	0.169	**0.873**	0.143
	s4	0.241	**0.805**	0.102
	s5	0.222	**0.873**	0.186
	s6	0.237	**0.824**	0.195
	s7	0.302	**0.693**	0.213
	s8	0.383	**0.698**	0.183
MSP	s9	**0.661**	0.098	0.236
	s10	**0.688**	0.403	0.262
	s11	**0.782**	0.325	0.167
	s12	**0.776**	0.279	0.188
	s13	**0.817**	0.240	0.200
	s14	**0.837**	0.213	0.128
	s15	**0.847**	0.178	0.192
	s16	**0.876**	0.208	0.069
	s17	**0.794**	0.177	0.191
	s18	**0.751**	0.333	0.225
	s19	**0.767**	0.257	0.303
	s20	**0.775**	0.123	0.177
	s21	**0.831**	0.172	0.205
	s22	**0.793**	0.162	0.101
	s23	**0.642**	0.378	0.380
ESP	s24	0.272	0.261	**0.793**
	s25	0.263	0.245	**0.811**
	s26	0.241	0.264	**0.828**
	s27	0.274	0.189	**0.743**

Results and discussion

Sample characteristics

A total of 321 usable responses were obtained after removing a total of 25 incomplete responses. The participants were aged 18 and over and from China. About 62% were female and 38% male. The majority (about 80%) have children aged from 0 to 14 years old. Among the 296 participants, 12.2% had a college degree, high school education or below; 34.5% were bachelor graduates, and 53.4% had a postgraduate degree. 53.0% of those surveyed lived in first-tier cities, 27.0% in second-tier cities, and 17.6% in third-tier or fourth-tier cities.

Associations with "children's clothing safety" and "consumer perception"

Consumers have a high concern for children's clothing safety and are aware of their attitudes toward many kinds of safety which affect their consumer behaviour. However, attitude is not the only reason for their behaviour but also perception of what is classed children's clothing safety in terms of customer perception values. If consumers had detailed knowledge of children's clothing safety, this would lead to clear and objective attitudes to children's clothing safety, which are also somewhat dependent on consumers' perception. Therefore, this research sought to identify and explain what factors contribute to consumer perceptions of children's clothing safety, which subsequently affects consumer attitudes towards children's clothing safety, and proposes how to influence consumer safety consumption behaviours.

Reliability and validity analysis

Before testing the model, we conducted a factor analysis of the 27 items of consumer perception of children apparel safety using principal component analysis in SPSS with 231 cases using VARIMAX rotation. Three factors accounted for 72% of the total variance explained. The Kaiser-Meyer-Olkin value for the data was 0.946. Bartlett's test of significance level was 0.000. Factor loadings are presented in ***Table 2***. As shown, fifteen items were loaded on MSP, eight on CSP, and four on the ESP dimension, which is in accordance with a previous theoretical hypothesis. Therefore, consumer percep-

Table 3. *CFA results and goodness-of-fit indicators.* ***Note:*** *CFA, confirmatory factor analysis; CFI, comparative fit index; CR, composite reliability; AVE, average variance extracted; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis index.*

Dimension	CR	AVE
CSP	0.939	0.663
MSP	0.968	0.668
ESP	0.894	0.680
X^2 (660) = 1069.95 (p value = 0.000), X^2/DF = 1.62, CFI = 0.96, NFI = 0.91, RFI = 0.89, GFI = 0.84, TLI = 0.96, RMSEA = 0.046		

Table 4. *Path coefficients and t values for perception-safety relationship.* ***Note:*** ** *P < 0.001.*

Perceptions	Path coefficient	t value	Significance
s1 →	0.75		Yes
s2 →	0.86	17.15**	Yes
s3 →	0.88	15.98**	Yes
s4 →	0.76	13.51**	Yes
s5 →	0.93	15.58**	Yes
s6 →	0.85	15.46**	Yes
s7 →	0.77	13.74**	Yes
s8 →	0.77	13.77**	Yes
s9 →	0.70	12.36**	Yes
s10 →	0.80	14.73**	Yes
s11 →	0.85	15.29**	Yes
s12 →	0.84	14.85**	Yes
s13 →	0.85	15.01**	Yes
s14 →	0.84	14.87**	Yes
s15 →	0.90	14.51**	Yes
s16 →	0.95	15.18**	Yes
s17 →	0.79	14.12**	Yes
s18 →	0.81	15.22**	Yes
s19→	0.74	13.87**	Yes
s20 →	0.74	12.91**	Yes
s21 →	0.80	14.21**	Yes
s22 →	0.76	13.40**	Yes
s23 →	1.01		Yes
s24 →	0.86	14.40**	Yes
s25 →	0.85	14.40**	Yes
s26 →	0.87	14.77**	Yes
s27 →	0.71		Yes

Table 5. *Path coefficients and t values for perception-behaviour relationship.*

	Path coefficient	t value	Significance
MSP → Behaviour	0.076	1.258	No
CSP → Behaviour	0.023	0.419	No
ESP → Behaviour	-0.015	-0.188	No

Table 6. *Path coefficients and t values with attitude as the moderator variable.*

	Path coefficient	t value	Significance
Attitude → Behaviour	0.121	0.941	No
MSP → Behaviour	0.076	1.258	No
CSP → Behaviour	0.023	0.419	No
ESP → Behaviour	-0.015	-0.188	No
Attitude → MSP	0.631	5.704	Yes
Attitude → CSP	0.572	5.273	Yes
Attitude→ ESP	0.790	5.615	Yes
MSP*attitude → Behaviour	0.001	–	Yes
CSP*Attitude → Behaviour	0.003	–	Yes
ESP*Attitude → Behaviour	-0.002	–	Yes

tion of children apparel safety consists of three distinct dimensions.

Following this outcome, the model-fit indices of CFA were assessed to determine the model's overall goodness of fit. All values of model-fit indices exceed their suggested respective acceptance levels [48], as shown in ***Table 3***.

Structural model analysis

Table 4 provides an overview of the path coefficients and t values for the perception-safety relationship. All 27 variables were significant predictors of perception od children's clothing safety. ***Table 5*** shows the path coefficients and t values for the perception-behavior relationship. The analysis tested the three hypothesised relationships and found perceptions of children's clothing safety are negatively related to consumer behaviours, thus supporting H1a, H1b and H1c.

Apparel safety attitudes are negative toward consumer behaviours, supporting H3, shown in ***Table 6***. And the t-test revealed significant differences among respondents. ***Table 6*** details the main effects of attitudes as the moderator variable between children's clothing safety perception and safety consumption behaviours, partially supported H2a, H2b and H2c.

Finally, the present study provides empirical evidence that regarding price there are significant differences between attitudes and behaviours in terms of being a moderator. As shown in ***Table 7***, the results reveal that price is of high concern in terms of consumers' attitudes towards children's clothing safety and their intention to buy, thus fully supporting H4a and H4b.

This study tested its hypothesis using SEM, the findings of which are displayed in ***Table 8***. The goodness-of-model fit indices of the structure model were X^2 (660) = 1069.95, X^2/DF = 1.62, CFI = 0.96, NFI = 0.91, RFI = 0.89, GFI = 0.84, TLI = 0.96, RMSEA = 0.046. First, the study demonstrates that the consumer attitudes toward children's apparel safety influence consumer purchasing behaviour. The dimensions of MSP (β = 0.08, n.s.), CSP (β = 0.02, n.s.), and ESP (β = -0.02, n.s.) are not significant; H1a, H1b and H1c are thus not supported. The effects of consumer attitude toward MSP (β = 0.63, t value = 5.70), CSP (β = 0.57, t value = 5.27), and ESP (β = 0.79, t value = 5.62) on the construct of consumer purchasing behaviour

are significant. However, consumer attitude does not directly affect consumer purchasing behaviour (β = 0.12, n.s.). H2a, H2b and H2c are thus supported, while H3 is not.

Price significantly effects consumer purchasing behaviour (β = 0.86, *t* value = 6.41), supporting H4a. Moreover, the effects of price on consumer attitude toward children's apparel safety are significant(β = 0.72, *t* value = 4.87), supporting H4b.

Finally, ***Table 9*** summarises the direct, indirect, and total effect of the constructs in the model on CASCB. The constructs of consumer attitude toward the safety and price of children's apparel have a significant direct and total effect on CASCB. Furthermore, price shows a stronger direct effect on CASCB than consumer attitude toward children's apparel safety, exhibiting a significant direct, indirect and total effect on CASCB. However, the constructs of consumer perceptions of children's apparel safety indicate no effects on CASCB.

Table 7. *Path coefficients and t values with price as the moderator variable.*

	Path coefficient	t value	Significance
Attitude → Price	0.719	4.874	Yes
Price → Behaviour	0.861	6.409	Yes
Attitude*price → Behaviour	0.619	–	Yes
MSP*attitude*price → Behaviour	0.391	–	Yes
CSP*Attitude*price → Behaviour	0.354	–	Yes
ESP*Attitude*price → Behaviour	0.489	–	Yes

Table 8. *Results of model proposed.* ***Note:*** * *t value is significant at $p < 0.05$ when the t value exceeds 1.96. CFA, confirmatory factor analysis; CFI, comparative fit index; CR, composite reliability; AVE, average variance extracted; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis index.*

Hypothesis	Causal path	Standardised structural coefficient	t value	Conclusion
H1a	MSP → Behaviour	0.08	1.26	Not supported
H1b	CSP → Behaviour	0.02	0.42	Not supported
H1c	ESP → Behaviour	-0.02	-0.19	Not supported
H2a	Attitude → MS	0.63	5.70*	Supported
H2b	Attitude → CS	0.57	5.27*	Supported
H2c	Attitude → ES	0.79	5.62*	Supported
H3	Attitude → Behaviour	0.12	0.94	Not supported
H4a	Price → Behaviour	0.86	6.41*	Supported
H4b	Price → Attitude	0.72	4.87*	Supported
X^2 (660) = 1069.95, X^2/DF = 1.62, CFI = 0.96, NFI = 0.91, RFI = 0.89, GFI = 0.84, TLI = 0.96, RMSEA = 0.046				

Table 9. *Direct, indirect, and total effects of determinants on CASCB.*

Predictor	Dependent variable: children's apparel safety purchasing Behaviour		
	Direct effect	Indirect effect	Total effect
MSP	n.s.	n.s.	n.s.
CSP	n.s.	n.s.	n.s.
ESP	n.s.	n.s.	n.s.
Attitude	n.s.	n.s.	n.s.
Attitude toward MS	0.63	n.s.	0.63
Attitude toward CS	0.57	n.s.	0.57
Attitude toward ES	0.79	n.s.	0.79
Attitude toward price	0.72	n.s.	0.72
Price	0.86	0.05	0.91
Price toward MS	n.s.	0.45	0.45
Price toward CS	n.s.	0.41	0.41
Price toward ES	n.s.	0.57	0.57

Conclusions and implications

Conclusions and discussions

Based on the survey of 296 Chinese consumers, we examined the relationship between perceptions and consumption behaviors with respect to children's clothing safety through the categorisation of safety perceptions into three different types. We identified a new set of consumer safety perception dimensions that impact consumer purchasing behaviours. Attitudes toward apparel safety and apparel prices show a significant positive relationship with consumer purchasing behaviours. This opens up new horizons for advancements in the domain of apparel safety consumption, and at the same time it enhances the understanding of human psychology behind engaging in such behaviours.

A strong but not significant relationship was found between perceptions and purchasing behaviour. Consumer purchasing behaviours toward children's clothing safety appear to be driven by prices and attitudes not related to consumer conceptions regarding children's apparel safety. These findings are new and contribute to the extant literature with respect to perceptions and behaviours. They are in contrast to the established literature on the relationship between food safety perceptions and behaviours, which is probably because Chinese consumers do not understand risky attributes of garments and how they cause hurt or or are a hazard to children. Thus, they do not place value perceptions of safety dimensions ahead of their own attitudes and prices.

We found that consumer attitudes toward children's clothing safety are a significant predictor of purchasing behaviour amongst Chinese consumers, which influences almost all dimensions of consumer perceptions of children's clothing safety. The more consumers are concerned with apparel safety, the more they avoid purchasing risky apparel containing unsafe attributes, and the likelier they are to accept safe apparel. If consumers are generally able to identify apparel safety, such as label safety and partial mechanical safety, and they are satisfied with apparel they purchase, they hold highly positive attitudes toward apparel in general when they make buying decisions. Instead, if consumers are not able to judge whether apparel is safe, like residual chemical content, they hold slightly lower positive attitudes toward apparel. Thus, consumer attitudes toward children's apparel safety depend largely on their perceptions and awareness of apparel safety.

Price apparently plays a far more important role in consumer purchasing behaviors regarding whether children's clothes are safe. Consumers are willing to pay more for safe or supposedly safe clothing than for a less or dubiously safe garment. The results indicate that more consumers are less likely to accept unsafe children's clothing. One possible explanation is that consumer consciousness of children's health in China may be getting stronger and parents are willing to pay more for children's health.

In addition, previous studies have never tried to find out if consumer attitudes show variation in the different categories of safety. Our results indicate that a significant moderating role of consumer attitudes toward apparel safety types exists in purchasing decisions. These results will inspire marketers to modify their advertising message to target not just clothing safety but also focus on attitude towards apparel safety consumption.

Implications

In previous research, examination of the influence of product safety perceptions on consumer purchasing behaviour is limited. This study explored consumer attitude variances for different types of apparel safety to evaluate how they influence consumer purchasing behaviours. The study's findings report a significant relationship between consumer attitudes, perceptions of children's apparel safety, and their safety consumption behaviours. Our model demonstrates that consumer attitudes play a vital mediating role between safety perceptions and purchasing behaviours. Thus, attitudes should be tested as a critical predictor of consumer safety consumption behaviour in further research. More research is needed to confirm the model proposed in other countries.

The results of this study also have practical significance for management. A better comprehension of the link between consumer attitudes toward children's clothing safety and safety consumption behaviours can improve enterprise marketing management practices. Consumer consciousness and understanding of children's apparel safety appear to influence their purchasing behaviours. Marketers should address their safety communication and direction in strategy formulation.

Policy makers across the world have been encouraging people to engage in safety consumption behaviours. However, the current challenge is to incentivise people toward the identification of apparel safety and the attachment of importance to apparel safety consumption. Policy makers need to design their communication strategies such that they are more effective and efficient. Insights from this study can contribute to pointedly promoting safety consumption behaviour by policymakers in China. This can be achieved by disseminating different clothing safety information to a targeted segment of society. Especially, the significant relationships found among perception, attitude, price and purchasing behaviour provide significant knowledge for policymakers. The communication of information classification may enable smooth implementation of garment safety schemes and standards.

Limitations and suggestions for future studies

The present study has a few limitations. First, this study is limited to Chinese clothing consumers in a particular geographical region. Hence, further testing of other objects and across different geographical regions is required before these results can be generalised. Second, apparel safety attitude and price are used here as mediators in the relationships between consumer perceptions of clothing safety and children's apparel safety consumption behaviour. Several other variables, such as perceived quality and clothing safety knowledge, could act as mediators in these relationships; therefore, we invite future research in this area. Finally, different target consumer perceptions of children's clothing safety may lead to inconsistent results, thus it is recommended that other consumers from different countries be selected as subjects for investigation in the future. Further research emphasising different subjects should be undertaken in other countries for different market-oriented targets.

Appendix A

Items in the validated and purged CASCPScale Scale

Item	Statements
In my opinion, regarding chemical safety perception (CSP), fabrics in children's apparel with…	
s1	…Poor ventilation will make the children uncomfortable.
s2	…Residual toxic and harmful substances will seriously affect children's health.
s3	…Residual formaldehyde will seriously affect children's health.
s4	…A substandard pH value will seriously affect children's health.
s5	…Residual dyestuff contains carcinogens and will seriously affect children's health.
s6	…Heavy metal will make me extremely worried about children being poisoned and mental development.
s7	…Flammability will make me feel very in danger .
s8	…Easy fade will cause skin allergies or be a cancer risk.
In my opinion, regarding mechanical safety perception (MSP), children's apparel with…	
s9	…Small parts loose items easily, like buttons , which is a serious quality problem.
s10	… small parts will shed items like buttons, posing a choking risk to children.
s11	…Drawstrings /cords in the head or neck area will pose strangulation risk to children.
s12	…Lengthy drawstrings / cords will pose a entanglement risk to children.
s13	…Elastic drawstrings / cords stretched back will cause hurt to children the face or neck area.
s14	…A front zipper will pose a clamp risk to children.
s15	…Drawstrings in the hood will cause hurt to children the face or neck area.
s16	…Drawstrings /cords in top bottom will pose a hook risk to children.
s17	…Lengthy pants will cause children to fall over.
s18	…An elastic band too tight or too hard will hinder the blood circulation of children's body parts.
s19	…Rough decoration will pose a scratch risk to children.
s20	…A small parts size not too large but otherwise will pose a choking risk to children.
s21	…A fixing rope not too largebut will pose a trap risk to children.
s22	…Knotting or three-dimensional decorations used in the drawstring/cord end will pose a choking risk to children.
s23	…A hard or sharp object will cause hurt to children.
In my opinion, regarding label safety perception (ESP), labels in children's apparel should be/have…	
s24	…The safety technology level (A, B and C level) clearly marked.
s25	…Only A-level for infants (under 36 months).
s26	…Accurate, reliable, verifiable and readable.
s27	… permanent but not put in a plave unsafe in direct contact with the skin skin.

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