

Does Live Streaming Allure the Unrestrained Buying Behavior?

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ABSTRACT

E-commerce has grown to be perceived as an integral component of modern customers' lives. Fast innovation enables businesses to implement new business ideas that enhance customers' shopping experiences. The motive is to study the allurements of unrestrained buying behaviors resulting from Live Streaming Commerce in the presence of Emotional imagery. The conceptual model and hypotheses for the study have been framed based on the SOR model. A survey was conducted in north India, where data was collected from 577 consumers experiencing live streaming and analyzed with the help of AMOS and SPSS software. The repulsive behavior scale has been developed by using qualitative research. The findings revealed that there is a significant relationship between the stimulus of livestreaming and unrestrained buying behaviors with the mediating role of emotional imagination. Two crucial mediating factors, pleasure, and arousal (ferveat imagination), have successfully predicted experiential shopping behavior. The study has implications for online marketers and policymakers, as marketers can use our developed model to understand consumers' different buying behaviors, and policymakers can select and design specific features for the social presence of live streaming. Integrating three different types of unrestrained buying behavior influenced by live streaming would add to the literature. The study adds value to the literature by developing a scale to measure repulsive behavior after testing and validating with experts.

Keywords: Live Streaming, Impulsive Behavior, Compulsive Behavior, Repulsive Behavior, Pleasure, Arousal, S-O-R Model

1. Introduction

E-commerce and fast technological innovation enable companies to implement novel business strategies

that improve customers' purchasing experiences (Hu et al., 2017) and play a crucial aspect in consumers' lives (Luo et al., 2021). Live streaming has rapidly grown in popularity in e-commerce (Hu and

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Chaudhry, 2020; Lu and Chen, 2021) and real-time social interaction between consumers and streamers (Cai et al., 2018). In the e-commerce market, live streaming is becoming increasingly important, as per a recent analysis by Coresight Research, which shows that worldwide live commerce sales reached USD 171 billion in 2023 from USD 60 billion in 2019 (Coresight, 2023). Social media and social commerce are described in the prevalence of live-streaming commerce (Alalwan et al., 2017; Cai and Wohn, 2019). Social media data may provide businesses with previously unachievable data and deeper insights into their customers' purchase habits (Choi and Kang, 2023). It is used as an interactive direct selling channel for products ranging from food and clothing to electronics, furniture, and jewelry among individual and small sellers around the world (Chen, 2017). In January 2023, live commerce was surveyed in India, and 54% of Indian customers said that it would be helpful in answering queries concerning product warranties and returns when they purchase online (Statista, 2023). In addition to viewing text, messages, and images, customers can also watch videos and interact with sellers (Ming et al., 2021). According to a report by Techjury (2023), 47% of viewers worldwide watch live-streaming videos, 43% are compelling content, and 60% are online search when watching a live stream. The report also indicates that the live-streaming market will be worth over \$247 billion by 2027.

India started rolling out a brand-new, high-speed 5G network in 2023. Indians use their cell phones for five hours a day on average at present, and shortly, live shopping and video commerce will rise to the top of the list of the most exciting shopping methods (Swirl, 2023). Livestreaming commerce is a globally popular interactive and entertainment channel (Liao et al., 2022), which induces consumers to partake

in the streaming environment of shoppers' impact and appeal (Cai et al., 2018). It allows customers to access a holistic channel to benefit from hedonic, social, and retail rewards through a significantly improved buying and socializing process (Huang and Suo, 2021). Online retailers can encourage customers to adopt live-streaming commerce by promoting its capabilities and advantages to the general public (Lin et al., 2023). Live streamers show every aspect of a product, test it out for viewers, and engage in real-time conversation with them (Xu et al., 2019) as streamers' recommendations, customer feedback, discounts, and emotional drive may increase customer demand, motivate them to purchase, and drive purchase behavior (Huang and Suo, 2021). Engagement between live streamers and viewers through product display leads to unplanned buying as both ends of the screen push consumers that way (Wongkitrungrueng et al., 2020). According to Forbes India (2022), Live commerce enables instantaneous purchases of goods or services in a live-streaming setting where viewers interact with the presenter through chat features and responses. It is always essential for marketers to understand consumer behavior when it is most relevant for decision-making in response to marketing strategies (Ramachander, 1988). Live streaming is comparatively a new phenomenon, and most customers buy unconsciously on this platform; marketers should focus on different traits of online purchases for a better understanding of this phenomenon to engage customers in unplanned and spontaneous buying (Flight et al., 2012) which rise the research problem that how to live streaming allures the unrestrained buying behavior of consumers.

The current study talks about three types of unrestrained/unplanned buying behavior: impulsive buying behavior, compulsive buying behavior, and re-

pulsive buying behavior. Prior studies mainly conducted in the context of impulsive buying behavior with different stimuli and responses (Huang and Suo, 2021; Lee and Chen, 2021; Ming et al., 2021) and Min and Tan (2022) talk about compulsive behavior in the context of live streaming, but nothing is in literature talked about the repulsive buying behavior along with live streaming. The current study is conducting an empirical analysis where Mehrabian and Russell (1974)'s SOR framework is used as a reliable theoretical lens in the online shopping environment to understand how online consumer behavior is influenced by web-based stimuli (Deng and Poole, 2012; Eroglu et al., 2001). The study examines how live-streaming platforms affect customer behavior. The main goal is to comprehend how different live-streaming stimuli affect viewers and encourage irresponsible purchasing behavior. The SOR model is appropriate in live-streaming commerce since stimuli (Price promotion, consumer-streamer interaction, visual appeal, interpersonal attractiveness, social presence) influence emotional imagination (pleasure and arousal), leading to customer's unrestrained buying behavior. The current study fills a vacuum in the literature by highlighting the lack of specialized research on the connection between live-streaming stimuli and straightforward buying. This study is essential for academic and practical reasons since it provides information that can be used to improve platform design, marketing tactics, and customer interaction in general. Ultimately, the study has important implications for companies and marketers and advances our understanding of consumer behavior in the context of digital platforms. Taking literature and research problem into consideration, the following are the research questions of this study:

Q1: How does the stimulus of live streaming influence

unrestrained behavior in the live-streaming commerce?

Q2: Does emotional imagery have a mediating effect on unrestrained buying behavior?

The remaining sections are arranged as follows: The model and associated hypotheses of the study are presented after a literature evaluation of relevant constructs. The research methodology, data analysis, and findings are discussed in detail. Then, evaluate the study's results in terms of its theoretical and managerial implications. In the end, this study talks about the study's limitations and potential future research paths.

II . Theoretical Background

S-O-R Model: The SOR (Stimulus-Organism-Response) model was acquired from psychology, which explains how the external environment influences the behavior of humans (Mehrabian and Russell, 1974). Later, Jacoby (2002) added an organism element to it. The word "stimulus" refers to situations related to a particular time and place of observation with a predictable and measurable influence on present behavior (Chan et al., 2017). "Organism" stands in between the stimulus and responses (Chang and Chen, 2008) and refers to emotive and cognitive intermediate states that mediate how stimulus affects the individual's internal state (Wu and Li, 2018). Also, it is a mental process in an individual's mind while interacting with a stimulus called cognitive assimilation from stimuli (Eroglu et al., 2003). "Response" is the people's ultimate choice and action, which is influenced by their emotional and cognitive states (Sherman et al., 1997) that result from consumers' internal evaluation and reaction

(Chan et al., 2017).

As per Koufaris (2002), there are three types of consumer behavior in e-commerce: purchase intention, unplanned purchases, and intention to return. Recent research has employed the SOR model to analyze consumer online e-commerce behaviors, including online buying (Liu et al., 2018; Zhu et al., 2020). Livestreaming commerce environments have entertaining material, engaging experience, generate viewers' interest, novelty of buying, absorb product information and recommendations (Xu et al., 2020) that act as stimulus which impacts consumers' emotive and cognitive judgments (Lee and Chen, 2021). Previous research on live-streaming commerce has suggested that viewers' demands can be met in real-time during live-streaming, with the intense sense of presence affecting viewers' attitudes and behaviors as potential customers (Gao et al., 2018). These show the inter-relationship of SOR theory in the live streaming context and how the live streaming scenario impacts the different buying behaviors that strengthened the rationality of our study.

Impulsive behavior: An inadvertent decision to purchase a particular good or service before making a purchase is known as "impulse buying" (Cangelosi and Dill, 1964). As per Weinberg and Gottwald (1982), the buyer makes a purchase right away due to high emotional reactions and the stimulating ambiance of the store. Situational and personal factors, which are followed by demographic characteristics (Khan et al., 2016), promotional activities, webpage design (Lo et al., 2016), and quality and quantity of online comments (Li et al., 2018) positively influence consumers' impulsive purchasing decision. Hence, the growing concept of live-streaming e-commerce significantly impacts consumers' impulsive buying behavior.

Compulsive behavior: Compulsive behavior is an unpleasant event or feeling, which is characterized by persistent, recurrent buying (O'Guinn and Faber, 1989) due to Negative emotions (Billieux et al., 2008) and results in adverse consequences, like legal and financial problems, interpersonal conflict, depression, and guilt (Lejoyeux and Weinstein, 2010). It is intended to improve personal image, physical appearance, and attractiveness, and most are never used, thrown away, or given as a present (Bighiu et al., 2015). Hossain and Rahman (2021) defined online compulsive purchasing as an isolated behavioral issue marked by distinct motivational, financial, lack of control, and overall time commitment characteristics, and consumers may indulge in compulsive buying as they find online shopping is so convenient (Lim, 2017). Online compulsive buyers include mainly affluent material buyers society, which presents a more complicated improvement circumstance in the new market (GuoZhaoyang, 2009). Impulsive and compulsive behavior are distinct but overlapping constructs; both tendencies result in the same negative stereotype of the uninformed consumer (Darrat et al., 2016) and have similar adverse effects on individuals and society (Kwak et al., 2008).

Repulsive behavior: In abhorrent buying behavior, consumers are repelled by a product when marketers create an effect through promotion and other various tools that negatively affect consumers (Kumar and Sharma, 2017), which implies a consumer's dislike of a product. The study of repulsive buying behavior is essential for investigating various negative human responses. A strong dislike for a product is referred to as repugnance by customers as repulsive buying behavior. Repulsive buying impacts a product's appeal and customers' buying behaviors towards a product (Kraus et al., 2022). If the product does not match

the consumers' social status, they will reject it; consumers do not follow or admire celebrities who endorse it (Kumar and Chauhan, 2017). The degree of repulsiveness depends on the type of goods; for instance, it is low for technological products, moderate for home goods, and high for personal care items (Abbey et al., 2015). Consumers will not buy a product if it contains too many wasteful features, is against the consumers' culture and religion, or does not meet their expectations (Kumar and Chauhan, 2017).

Emotional imaginary: Pleasure and arousal are the main emotional reactions that show people's perceptions of their physical surroundings and are regarded as distinct magnitudes for illuminating peoples' emotions (Chang et al., 2014). According to Yang et al. (2020), "pleasure" can mean anything from extreme sadness to extreme happiness - Satisfied-unsatisfied, irritated-pleased, and happy-unhappy are the levels of pleasure. "Arousal" refers to a person's degree of activity, stimulation, and excitement, ranging from sleep to excitement (Chang et al., 2014). The levels of arousal include relaxed-stimulated, excited-calm, and sleepy-wide awake. Emotion identification provides quick feedback on how the person is being observed, which in turn helps the individual make decisions that consider their emotions (Srivastava et al., 2023). E-retailers' interactive tools for learning about products significantly impact the level of arousal and pleasure that contributes to the influence and experience purchasing decisions (Kennedy and Holcombe-James, 2022; Rajagopal, 2008).

III. Literature Review

Price promotion: Price promotions in online shop-

ping provide consumers more pleasurable online shopping experience (Menon and Kahn, 2002), as numerous web clients anticipate that e-tailers should have lower prices than offline retailers and offer price promotions (Maxwell and Maxwell, 2001). Consumers find discounted pricing more appealing because they may feel pleased (Halik and Nugroho, 2022) and realize their hedonistic objectives (Kivetz and Zheng, 2017). Retailers are aware that customers who visit their websites for the first time may not immediately add an item to their carts; instead, persuasion is necessary by hedonic factors such as online price discounts (Arnold and Reynolds, 2003), as anything that arouses us psychologically will cause us to act in a certain way (Kuang, 2023). Price promotion influences consumers' emotions (Bues et al., 2017), and previous literature revealed that there are positive effects of monetary incentives on consumers' intention to purchase (Kim et al., 2008)

H1a: Price promotion has a favorable relationship with pleasure.

H1b: Arousal has a favorable relationship with price promotion.

Consumer-streamer Interaction: Real-time social interaction is a component of live streaming's subset of e-commerce unique to live feeds (Cai et al., 2018) and enhances product trust (Liu, 2022). Live streamers communicate with viewers by responding to comments or engaging in real-time text chat (Walther et al., 2010). Strong parasocial engagement among streamers makes the viewers feel like they are dealing with a warm social actor and close friend, as enjoyment of interaction measures the pleasure of interaction among streamers and viewers (Davis et al., 1992). It may either directly encourage customer participation or indirectly influence how favorably con-

sumers see the broadcaster (Liu, 2022). Interactions with the streamer, who is a sociable and friendly salesman, have a positive impact on customers' emotional state (Baker et al., 1992; Ning Shen and Khalifa, 2012) that affects energetic arousal such as excitement and interest in approaching behavior (Haidt, 2000; Metiu and Rothbard, 2013).

H2a: Pleasure is enhanced by consumer-streamer interaction.

H2b: Consumer-streamer interaction positively impacts arousal.

Visual appeal: Visual appeal describes how someone perceives the aesthetics of a product based on its design elements: color, form, proportion, and material (Bloch, 1995). Visual appeal is influenced significantly by emotional appeal (Kim et al., 2003) and strongly by affective constructs like pleasure (Mathwick et al., 2001). When a product is visually more attractive, consumers' feelings and evaluations are more favorable (Lee et al., 2011). According to Hao et al. (2015), visual appeal provides pleasure when interacting with a website as it is value-positive. It significantly influences approach behavior through attitude, pleasure, and arousal (Lee et al., 2011). Much research on visual appeals has practiced arousal, which, in turn, affects aesthetic pleasure (Blijlevens et al., 2012; Reber et al., 2004), where consumers can make an artistic evaluation of a newly encountered product by feeling arousal (Ryu and Ryu, 2021).

H3a: Pleasure is favorably enhanced by visual appeal.

H3b: Arousal is positively impacted by visual appeal.

Interpersonal attractiveness: Positive evaluations are more likely to be given to people who are likable and interpersonally attractive (Delucchi and

Pelowski, 2000) and positively influence pleasure value (Lee et al., 2023). Wohn et al. (2018) describe that emotional and instrumental support are linked to interpersonal attractiveness, and isolated people are likelier to provide this type of instrumental support. Emotion is the product of physiological arousal and a cognitive name for that arousal (Schachter and Singer, 1962). The variables of interpersonal attraction influence the interactive behavior of communicators (Berscheid and Hatfield, 1969), length of streamer acquaintance, stronger than extroversion, direct interaction, or loneliness (McLaughlin and Wohn, 2021). Even when the arousal source is relatively straightforward, it impacts attraction. The contrast between the aroused group's attraction and the attraction of the control group illustrates how arousal affects attraction (Foster et al., 1998).

H4a: Interpersonal attractiveness favorably influences pleasure.

H4b: Positive arousal influences are brought about by interpersonal attractiveness.

Social presence: Social presence is the sense of being together with people. (Ijsselstein et al., 2000) That indicates pleasure is the outward psychological effect of social presence (Hassanein and Head, 2005; Lombard and Ditton, 1997). Online shopping lacks human touch and sociability compared to physical stores; adding social cues to a website makes the interaction between humans and computers more natural and social (Hassanein and Head, 2005). Wang et al. (2007) found that customers who experience a high feeling of social presence feel as if they are dealing with a social actor, such as a kind staff, which is equivalent to that of social aspects in a physical business. A sociable and friendly salesperson pos-

itively impacts the pleasure and arousal of shoppers (Baker et al., 1992), making customers more likely to experience emotional contentment (Shen and Khalifa, 2012).

H5a: A significant determinant of pleasure is social presence.

H5b: Social presence is a significant predictor of arousal.

Emotional response and online impulse buying:

The emotional imagination (i.e., pleasure and arousal) determines the individual reaction, which includes impulsive purchasing in live streaming e-commerce, according to Mehrabian and Russell (1974)'s model. In live streaming, pleasure can serve as a driving force behind impulsive purchases (Hu and Chaudhry, 2020). Pleasure frequently seeks a base for shoppers' selections on this emotional state (Shen and Khalifa, 2012), and arousal predicts the agreeable behavior of customers (Hu and Chaudhry, 2020). Customers who have been aroused will likely pay closer attention to the live stream and keep checking the items and services recommended by the presenter (Sun et al., 2019). The affective reactions of the customers, which are stimulated by emotional stimulation, can cause them to impulse buy (Hashmi et al., 2020; Kacen and Lee, 2002; Liu et al., 2020; Weinberg and Gottwald, 1982).

H6a: Impulsive purchase behavior is favorably impacted by pleasure.

H7a: Impulsive purchasing behavior is positively influenced by arousal.

Emotional response and online compulsive buying: Uncontrollable cravings, a psychopathological condition that frequently results from materialistic

values-based motivations to buy consumer items, are symptoms of compulsive buying (Tarka, 2020). The primary motivation of compulsive shoppers is satisfaction from purchasing rather than the usefulness or value of the product (O'Guinn and Faber, 1989). Compulsive buying behavior varies widely about the attractiveness of consumer segments and markets (Rajagopal, 2008). It is measured by customers' satisfaction with spending money and their opinion on the enjoyment of learning about new goods, services, technology, and clients and spending time learning about them (Rajagopal, 2007; Watkins and Bond, 2007).

H6b: Pleasure is positively associated with compulsive buying behavior.

H7b: Compulsive buying behavior has a positive connection with arousal.

Emotional response and online repulsive buying:

Negative buying, which implies a consumer dislikes a product, is called repulsive buying behavior. Frederick and Lee (2008) coined the term "repulsion effect" to describe the phenomenon in which the attraction effect vanishes when the same information is presented perceptually. Customers' purchasing behaviors and a product's appeal are impacted by repulsive buying (Kraus et al., 2022). A nation's economic condition and the quality of its goods and services benefit from a better understanding of repulsive purchasing habits (Kumar and Chauhan, 2017). A strong dislike for a product is referred to as repugnance by customers, which is repulsive buying behavior. If the product does not match the consumers' social status, the consumer will reject it. Kang et al. (2007) examined how negative word of mouth and unfavorable perceptions impact customers' intentions to move between goods. Clients unhappy

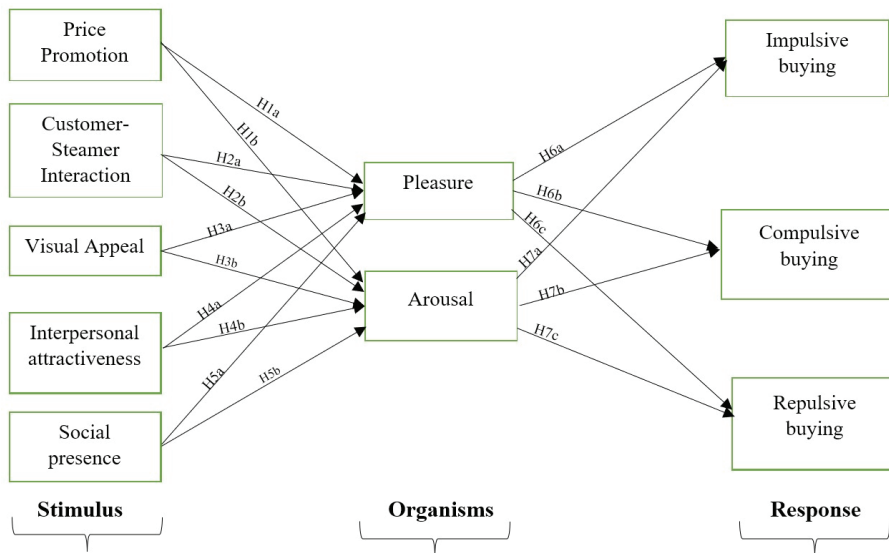
with the services tend to tell their neighbors about them, which has a detrimental effect on future performance, success, and the pool of new clients. Consumers will not buy a product if it contains too many wasteful features, is against the consumers' culture and religion, or does not meet their expectations (Kumar and Chauhan, 2017). These negative behaviors affect the consumer's buying decision, but live streaming has various factors of emotional imagination that affect their buying behavior.

H6c: Pleasure makes repulsive buying behavior more likely.

H7c: Arousal makes repulsive purchasing more effective.

IV. Research Model

The current research model is shown in <Figure 1>, where the S-O-R model is used for the study.



<Figure 1> Research Model

In the context of live-streaming commerce, the emotional states of people who are affected by stimuli cause behavioral reactions in customers. Some researchers (Ju and Ahn, 2016; Li et al., 2022; Shen and Khalifa, 2012) suggest that emotional state is the primary motivator for buying behavior. As a result, the study reflects two primary emotional states, pleasure, and arousal, as components of the organism that mediate the behavioral response to stimulus in live-streaming e-commerce.

V. Methodology

Research Design: A survey has been conducted in north India to collect the data. The scales for the questionnaire are adopted from previous literature, and some statements are changed as per the context of live streaming. The questionnaire is close-ended and contains five demographic items and forty-one items of ten factors. A 7-point Likert

scale is used for the survey, where respondents can choose one of seven responses, from “strongly disagree” to “strongly agree.” Once the questionnaire was prepared, a pilot test was conducted with 6 Academicians from two universities to ensure the questionnaire was acceptable.

Data Collection: The current study used purposive and snowball sampling techniques for data collection, where a questionnaire was sent to 650 respondents through the mail and different online communities in north India. The questionnaire has been divided into two parts; the first is related to the demographic profile of respondents, and the second is to the different constructs we are using in this study. In total, we got 590 responses. Out of these, 577 are valid. Whereby eight respondents completed the questionnaire in less than a minute, and 5 respondents chose “no” in response to the first or second screen question to check the attentiveness of the respondent, are removed. Out of 577 respondents, 385 are females, and 192 are males. Most respondents’ ages ranged from 18 to 35, had bachelor’s degrees, and most were office staff.

Measurement: The multiple-item scales are used in the current study based on the previous literature with minor modifications such as price promotion from Liu (2016), consumer-streamer interaction from Zhao et al. (2015), visual appeal from Mathwick et al. (2001), interpersonal attractiveness from Reysen (2005), social presence from Ou et al. (2014), arousal and pleasure from Mehrabian and Russell (1974), impulsive behavior from Rook and Fisher (1995) and compulsive behavior from Ridgway et al. (2008). The current study focused on the result of different unrestrained behaviors in live streaming, but there is no scale on repulsive behavior. For this, a qualitative

analysis has been conducted of the repulsive behavior scale, where 15 items were framed with various professionals of marketing, and a pilot study has been conducted; taking into consideration reliability and validity; only 7 items are left, which are used to measure the repulsive behavior scale.

VI. Data Analysis and Results

The standard method bias was found through the use of a factor analysis. The proposed model was then evaluated through a structural equation modeling (SEM) analysis. According to Hu and Bentler (1999), SEM made checking the measurement model’s validity possible before evaluating the structural model to test the hypotheses.

Validation of Measurement Model: Confirmatory factor analysis (CFA) was performed to assess the model fit in AMOS 24.0. Five model fit indices, reliability, discriminant validity, and convergent validity, are assessed for this to validate the model fit.

According to Ullman (2006), the χ^2 test value is one of the various model fit indices that are not pertinent for the model fit with a large sample because it is susceptible to sample size. Other indices are utilized to evaluate the model fit because the current study had a sample size 577. (χ^2 /df: 2.792, CFI: .936, NFI: .903, RMSEA: .056, TLI: .928). All model fit indices satisfied the acceptance criteria (Hair et al., 1995), indicating a satisfactory model fit.

The alpha coefficient (α) and Composite Reliability (C.R.) values have been used to check for internal consistency and reliability. Both of them fulfilled the acceptance requirements, and more than 0.7 (Cronbach, 1951; Fornell and Larcker, 1981), and results are shown in <Table 1>.

In order to achieve convergent validity, C.R. should be greater than 0.7; Average Variance Extracted (AVE) should be greater than 0.5 (Fornell and Larcker, 1981); all item t values should be significant (p 0.01); and factor loadings should be greater than 0.7. The analysis's findings for the C.R., AVE, and

factor loadings validated the convergent validity. These outcomes are additionally displayed in <Table 1>.

In order to achieve discriminant validity, Each construct's square root of AVE should be greater than its correlation with other constructs (Barclay

<Table 1> Demographic Profile of Respondents

	Variables	N	Percentage
Gender	Male	192	33.3
	Female	385	66.7
Occupation	Business	242	41.9
	Service	187	32.4
	Student	65	11.3
	Others	83	14.4
Marital status	Married	374	64.8
	Unmarried	203	35.2
Monthly income	Below 25,000	72	12.5
	25,000-50,000	205	35.5
	50,000-75,000	128	22.1
	Above 75,000	172	29.8
Geographic region	Urban	342	59.2
	Semi-urban	123	21.3
	Rural	112	19.4

<Table 2> Convergent and Discriminant Validity

Construct	Items	Sources	Factor Loadings	CR	AVE	CA	MSV
Price Promotion (PP)	The price promotion gave me a strong impulse to buy.	Liu (2016)	.754	.846	.648	.872	.279
	Price promotions easily attract me.		.772				
	When it comes to price promotions, I cannot help buying.		.703				
Consumer-Streamer Interaction (CSI)	Streamers are never too busy to respond to customers' requests.	Zhao et al. (2015)	.650	.883	.602	.891	.173
	Streamers give prompt service to the customers.		.734				
	Streamers know how to answer the customer's question.		.761				
	Streamers instill confidence in customers.		.749				
	Streamers are consistent with customers.		.713				

<Table 2> Convergent and Discriminant Validity (Cont.)

Construct	Items	Sources	Factor Loadings	CR	AVE	CA	MSV
Visual Appeal (VA)	The way the streamers present the products is beautiful	Mathwick et al., (2001)	.768	.953	.836	.944	.163
	Streamers make a clear presentation of the products for sale.		.800				
	The overall visual effect of the live-streaming room is perfect		.775				
	I like the overall layout of the live-streaming room.		.857				
Interpersonal Attractiveness (IA)	This person is similar to me.	Ou et al. (2014)	.774	.943	.806	.934	.134
	This person is physically attractive.		.822				
	This person is friendly.		.894				
	This person is knowledgeable.		.791				
Social Presence (SP)	There is a sense of human contact in live-streaming shopping.	Reysen (2005)	.755	.938	.794	.933	.162
	There is a sense of personalness in the live streaming.		.764				
	There is a sense of human sensitivity in live-streaming shopping.		.785				
	There is a human warmth in live-streaming shopping.		.866				
Pleasure (PL)	I feel stimulated when watching live-streaming shopping.	Mehrabian et al., (1974)	.796	.771	.529	.826	.131
	I feel surprised when watching live-streaming shopping.		.876				
	I feel excited when watching live-streaming shopping.		.788				
Arousal (AL)	I feel joyful when watching live-streaming shopping.	Mehrabian et al., (1974)	.742	.946	.855	.833	.099
	I feel satisfied when watching live-streaming shopping.		.785				
	I feel pleasure when watching live streaming shopping.		.699				
Impulsive Buying (IB)	Often, I make careless purchases I later wish I had not.	Rook and Fisher (1995)	.678	.863	.559	.888	.279
	I am impulsive when purchasing.		.673				
	I do not take the time to shop carefully for best buys.		.685				
	I should plan my shopping more carefully than I do.		.733				
	I do not carefully watch how much I spend.		.688				

<Table 2> Convergent and Discriminant Validity (Cont.)

Construct	Items	Sources	Factor Loadings	CR	AVE	CA	MSV
Compulsive Buying (CB)	Other people might consider me a shopaholic (who purchases too much).	Ridgway et al. (2008)	.573	.780	.547	.799	.155
	My cupboard had unopened shopping bags in it.		.785				
	Much of my life centers around buying things.		.791				
Repulsive Buying (RB)	I rarely need the opinion of anyone for decision-making.		.758	.914	.605	.952	.250
	Instantly, I react to whatever is on my mind.		.767				
	I discipline myself to avoid any commercial message.		.754				
	Generally, people describe me as repulsive.		.800				
	I refuse things that are bad for me.		.760				
	I am bothered when I see people convinced by stimulus.		.755				
I often worry about what could go wrong due to my decision.	.807						

Note: CR: Composite Reliability; AVE: Average Variance Extracted; MSV: Maximum Shared Variance.

<Table 3> Intercorrelation of the Construct

	CB	PP	CSI	VA	IA	SP	AR	PL	IB	RB
CB	0.739									
PP	0.338	0.805								
CSI	0.247	0.416	0.776							
VA	0.266	0.404	0.302	0.914						
IA	0.212	0.290	0.242	0.266	0.898					
SP	0.270	0.346	0.354	0.292	0.178	0.891				
AR	0.204	0.269	0.213	0.241	0.166	0.214	0.925			
PL	0.343	0.232	0.265	0.316	0.288	0.283	0.248	0.727		
IB	0.394	0.528	0.380	0.375	0.366	0.356	0.233	0.362	0.748	
RB	0.269	0.500	0.377	0.361	0.247	0.403	0.314	0.308	0.488	0.778

et al., 1995), and Maximum Shared Variance (MSV) should be less than AVE (Hair et al., 2010). The outcomes shown in <Table 1> and <Table 2> gave proof of the discriminant validity.

completed in 2 stages: Analysis of mediation using AMOS 24.0 and parallel mediation analysis and specific indirect effects to confirm each mediator’s individual effects.

Validation of Structural Model: The analysis was

Mediation Analysis: The model showed a good

<Table 4> Model Fit Analysis

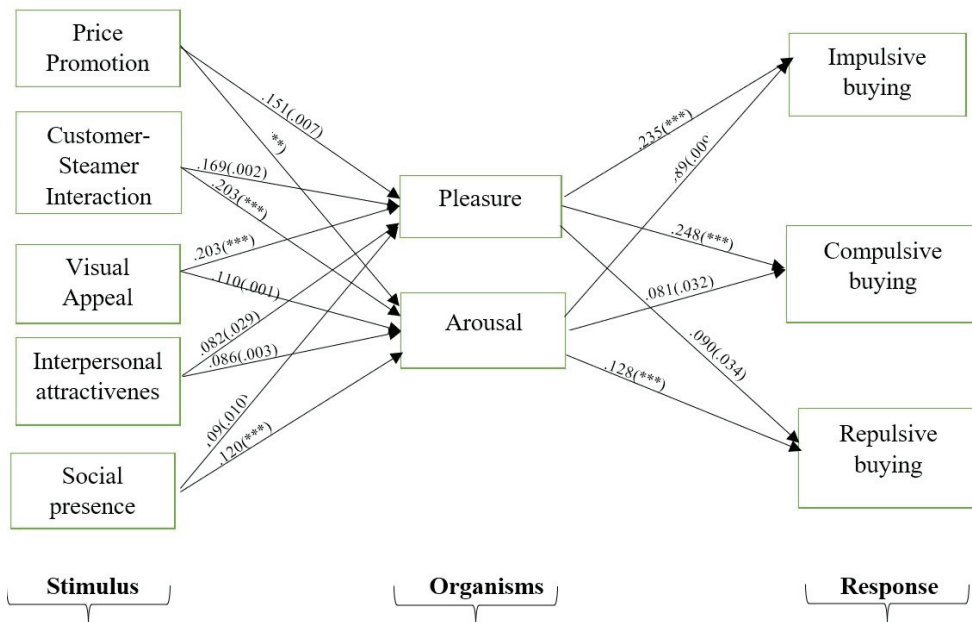
Fit indices	Suggested value	Recommended by Author	Measurement Value	Structural Value
χ^2 / df	≤ 2 good; ≤ 3 sometimes permissible	Hair et al. (2010)	2.792	3.258
Goodness of Fit Index (GFI)	> 0.9 acceptable; ≥ 0.8 marginal		0.891	0.872
Adjusted for degrees of freedom (AGFI)	≥ 0.8		0.865	0.844
Comparative Fit Index (CFI)	≥ 0.95 great; ≥ 0.90 traditional; ≥ 0.80 sometimes permissible		0.936	0.932
Root Mean Square Error Estimation (RMSEA)	≤ 0.05 good; ≤ 0.08 Moderate		0.056	0.063
Tucker Lewis Index (TLI)	≥ 0.90		0.928	0.925

<Table 5> Path Analysis

	Estimate	S.E.	C.R.	P	Test Result
PP \rightarrow AR	.218	.052	4.953	***	Supported
CSI \rightarrow AR	.203	.051	4.809	***	Supported
VA \rightarrow AR	.110	.036	3.266	.001	Supported
IA \rightarrow AR	.086	.031	2.946	.003	Supported
SP \rightarrow AR	.120	.034	3.669	***	Supported
PP \rightarrow PL	.151	.053	2.684	.007	Supported
CSI \rightarrow PL	.169	.052	3.108	.002	Supported
VA \rightarrow PL	.203	.038	4.591	***	Supported
IA \rightarrow PL	.082	.032	2.185	.029	Supported
SP \rightarrow PL	.109	.035	2.568	.010	Supported
AR \rightarrow IB	.089	.030	2.628	.009	Supported
AR \rightarrow CB	.081	.035	2.142	.032	Supported
AR \rightarrow RB	.128	.024	3.709	***	Supported
PL \rightarrow IB	.235	.048	5.145	***	Supported
PL \rightarrow CB	.248	.057	5.109	***	Supported
PL \rightarrow RB	.090	.038	2.124	.034	Supported

fit throughout the path analysis, which included mediators along with independent and dependent variables (χ^2 / df : 3.258, CFI: .932, NFI: .906, RMSEA: .063, TLI: .925). Price promotion, consumer-steamer interaction, visual appeal, interpersonal attractiveness, and social presence all influence pleasure, as per the results (.151, .169, .203, .082, .109, respectively), which in turn have an impact on im-

pulsive, compulsive, and repulsive purchasing (.235, .248, .090, respectively). The findings also indicate that arousal is influenced by price promotion, consumer-steamer interaction, visual appeal, interpersonal attractiveness, and social presence (.218, .203, .110, .086, .120, respectively), which in turn influences impulsive buying, compulsive buying, and repulsive buying (.081, .128, .235, respectively).



<Figure 2> Path Coefficients of the Research Model

<Table 6> Results of Parallel Mediation Model

IV	M	DV	Indirect		Direct		Total		Lower	Upper	Mediation
			Est.	P	Est.	P	Est.	P			
PP	AR	IB	.020	.004	.348	.001	.403	.001	.006	.048	Partial
PP	PL	IB	.037	.007					.009	.082	Partial
CSI	AR	IB	.019	.003	.122	.013	.180	.001	.006	.044	Partial
CSI	PL	IB	.043	.003					.013	.098	Partial
VA	AR	IB	.009	.018	.040	.282	.098	.013	.001	.029	Full
VA	PL	IB	.046	.000					.021	.086	Full
IA	AR	IB	.007	.010	.094	.002	.121	.001	.001	.019	Partial
IA	PL	IB	.019	.026					.002	.046	Partial
SP	AR	IB	.010	.006	.083	.010	.119	.001	.002	.024	Partial
SP	PL	IB	.024	.005					.007	.053	Partial
PP	AR	CB	.019	.036	.324	.001	.379	.001	.002	.052	Partial
PP	PL	CB	.041	.007					.008	.089	Partial
CSI	AR	CB	.019	.034	.096	.092	.154	.006	.002	.048	Full
CSI	PL	CB	.047	.003					.016	.103	Full

<Table 6> Results of Parallel Mediation Model (Cont.)

IV	M	DV	Indirect		Direct		Total		Lower	Upper	Mediation
			Est.	P	Est.	P	Est.	P			
VA	AR	CB	.009	.037	.022	.581	.081	.066	.000	.032	Full
VA	PL	CB	.050	.000					.022	.095	Full
IA	AR	CB	.007	.034	.015	.659	.042	.263	.001	.022	Full
IA	PL	CB	.020	.029					.002	.048	Full
SP	AR	CB	.010	.036	.115	.004	.152	.001	.001	.028	Partial
SP	PL	CB	.026	.005					.008	.057	Partial
PP	AR	RB	.023	.001	.342	.001	.384	.001	.008	.050	Partial
PP	PL	RB	.011	.037					.000	.034	Partial
CSI	AR	RB	.022	.001	.077	.133	.118	.039	.008	.050	Full
CSI	PL	RB	.013	.035					.001	.041	Full
VA	AR	RB	.011	.014	.099	.025	.131	.002	.002	.031	Partial
VA	PL	RB	.014	.040					.001	.038	Partial
IA	AR	RB	.008	.003	.027	.365	.045	.124	.002	.021	Full
IA	PL	RB	.006	.050					.000	.020	Full
SP	AR	RB	.011	.002	.202	.001	.227	.001	.004	.026	Partial
SP	PL	RB	.007	.041					.000	.023	Partial

For analyzing the mediating effect, user-defined estimates are used, and the result shows the direct impact of visual appeal on impulsive buying and compulsive buying and also consumer-steamer interaction and interpersonal attractiveness on compulsive buying and repulsive buying, suggesting complete mediation. As shown in <Table 4>, the structural model results and the residual direct effect of other variables show partial mediation after the mediating variables are included.

VII. Discussion

This study uses the Stimulus-Organism-Response (SOR) model to explore how live-streaming platforms affect customer behavior. Specifically, it looks at how different stimuli affect unrestrained purchases. The

research addresses gaps in understanding the relationship between unrestrained buying and live streaming dynamics. Most importantly, it offers organizations and marketers practical knowledge that they can use to improve platform design and strategy. By considering the advantages of live streaming on different social stages, this study endeavors to upgrade the degree of comprehension of live streaming and outlines the impacts of different live streaming stimuli on various unrestrained buying behaviors. The majority of the hypothesis has been supported by the study's empirical findings, which state that our results are synchronized with the literature and the framed research question. To begin with, this paper makes sense by including price promotion, consumer-steamer interaction (Cai et al., 2018), visual appeal, interpersonal attractiveness, and social presence (Cai and Wohn, 2019) in different purchasing conduct

(Huang and Suo, 2021). Although numerous researchers have discussed the impact of live streaming on impulsive buying (Lee and Chen, 2021; Ming et al., 2021), one study on compulsive buying (Min and Tan, 2022) and none on repulsive buying. Therefore, to fill this gap, this study carried out a combined study of all three of these types of buying behavior in livestreaming.

The proposed hypothesis has been confirmed by the considerable direct effects of the independent variables (stimulus) on the mediators (organisms) and the mediators on the dependent variables (response), as a previous study shows that price promotion influences consumer emotions (Bues et al., 2017; Menon and Kahn, 2002), which in turn affects the consumer purchase intention (Kim et al., 2008). Steamer interaction with consumers has a positive influence on the emotional imagination that is supported by previous studies (Baker et al., 1992; Shen and Khalifa, 2012), which approach the behavior of consumers (Haidt, 2000; Metiu and Rothbard, 2013). Visual appeal strongly influences pleasure (Mathwick et al., 2001). Interpersonal attractiveness also supported the previous literature (Lee et al., 2023; Wohn et al., 2018) that emotional and instrumental are linked to interpersonal attractiveness. Previous research demonstrates that friendly and sociable salespeople favorably affect the shopper's pleasure and arousal (Baker et al., 1992; Lombard and Ditton, 1997; Shen and Khalifa, 2012). Also, the model fit index of this study is a good fit for the results.

VIII. Implications

Theoretical Implications: First, the current study contributes to the literature on three types of unrestrained buying behavior in the live-streaming con-

text, which has not yet been explored and helps researchers for further studies. Secondly, a repulsive behavior scale was developed during this study, where seven items were well-tested and verified. This scale helps in knowing consumers' negative behavior and mindset toward any product. Third, by analyzing the customer's emotional state as a mediator, this study explains the unrestrained purchasing behavior in live-streaming e-commerce. The most vital aspect of this study is that it provides an alternate, maybe more pertinent, theoretical framework for understanding cognition in online unplanned buying. Two key mediating factors, pleasure, and arousal (emotional imagination), have successfully described experiential shopping behaviors. By including the numerous stimuli in live streaming e-commerce, the current study expanded the use of emotional imagery as two critical mediating factors in our research.

Practical Implications: The research has significant applications in real-world situations. First, due to COVID-19, there has been a sharp rise in investment in live-streaming e-commerce. (Akram et al., 2021). Live streaming lets a company owner virtually market their goods face-to-face with potential consumers, encouraging serious live-streaming e-commerce purchases. Current study results imply that marketers should prepare strategies for their online customers to increase arousal and satisfaction by imitating online shopping in live streaming. Marketers may learn successful user engagement techniques by comprehending the function of pleasure and arousal as mediators in unrestrained buying behavior on live-streaming platforms. Companies may modify their marketing strategies to elicit enjoyable and stimulating experiences, raising consumers' purchase propensity. They can also use this to find opportunities, trends, and preferences in this quickly changing digital

marketplace. As a result, choosing and creating unique features for the social presence of live streaming is a practical implication for policymakers and live streaming platform owners. By understanding the underlying mechanisms driving consumer behavior on live-streaming platforms, policymakers and regulators can use this research to inform guidelines and regulations about online commerce and consumer protection. Live-streaming websites must offer an engaging and social virtual environment to increase the likelihood of unrestrained buying. Additionally, live streaming platform owners should improve broadcaster oversight and prevent broadcasters from sending persuading material to deceive or mislead viewers while the live stream is in progress. Secondly, the results indicate that consumers' enjoyment and arousal mediate between the stimulus and reaction in live streaming. Hence, live-streaming platform owners have to create live-streaming features that enhance customers' aroused emotional state while making purchases online. In addition, customers should advise themselves against engaging in live-streaming e-commerce when feeling happy or aroused. With the awareness of the possible risks connected to unrestrained buying behavior, live-streamers can benefit from activities that encourage ethical living. Awareness efforts can reduce the adverse effects of unrestrained purchases and encourage thoughtful spending or platform characteristics that enable consumers to consider their choices.

IX. Conclusion

This study shed light on how livestreaming can

influence buying behavior while making purchase decisions and how arousal and pleasure affect the decision. Instead of impulsive buying, livestreaming impacts compulsive and repulsive buying, as the results of the current study indicate. This research allows future researchers to use and enhance the SOR model through additional analysis to find numerous live-streaming stimuli that lead to purchasing decisions. Like some other researchers, the ongoing review has limitations- as only an empirical analysis has been carried out, cross-sectional and longitudinal studies are required to provide more in-depth information. Apart from that, the current study collected data only from North Indian consumers, thereby restricting the generalizability of its findings to larger populations or different platforms; further studies can expand the area for more clarity. The findings explained the simultaneous occurrence of arousal and pleasure, but other mediators may also influence consumers' buying decisions. Current study hasn't taken any moderator that can affect the live streaming buying decision, so future research can be conducted with some moderator.

Along with moderators, future researchers can investigate additional stimuli and mediating factors. Future researchers will be able to analyze how different levels of various stimuli affect the buying behavior of various consumers in the context of cross-sectional research if they are aware of the effects of these stimuli. In addition, exploring livestreaming practices in various cultural contexts may help to understand how cultural influences affect pleasure, arousal, and buying behaviors. The reliability of future research might be increased by experimental methods that manipulate factors and evaluate their effects.

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