



Generational Differences in Health Drink Consumption Behavior: A Comparative Study of Gen X, Millennials, and Gen Z Using the Theory of Planned Behavior.

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ABSTRACT

Generational cohort membership shapes consumer values, media habits, health orientations, and purchase behavior in ways that remain underexplored in the Indian functional beverage literature. This study investigates generational differences in health drink consumption behavior among Gen X (born 1965–1980), Millennials (born 1981–1996), and Gen Z (born 1997–2012) consumers in Karnataka, India, using an extended Theory of Planned Behavior (TPB) framework. Beyond the core TPB constructs—attitude, subjective norms, and perceived behavioral control—we incorporate four additional constructs: social media influence, brand trust, health consciousness, and price sensitivity. Data were gathered from 520 respondents across urban Bengaluru and semi-urban Karnataka through stratified random sampling, with generational cohort serving as the primary grouping variable. Multi-group structural equation modeling (MG-SEM) was employed to test the equivalence and differential strength of TPB pathways across the three cohorts, following measurement invariance testing. Findings reveal that Gen Z consumers are most strongly influenced by social media influence ($\beta = 0.51$) and health consciousness ($\beta = 0.44$), while Millennials exhibit the strongest brand trust–intention relationship ($\beta = 0.48$). Health consciousness mediates the attitude–intention pathway across all three cohorts, with the indirect effect strongest for Gen Z (indirect $\beta = 0.24$, 95% CI [0.14, 0.35]). Gen X consumers demonstrate the highest price sensitivity effect on perceived behavioral control ($\beta = 0.39$). Attitude emerges as the strongest predictor of behavioral intention across all three cohorts, though its magnitude varies. The integrated model explains 61% of variance in consumption behavior. To our knowledge, this is the first study to employ a three-cohort MG-SEM comparison of extended TPB pathways in the Indian health drink context. Managerial implications for cohort-specific marketing strategy and public health communication are discussed.

Keywords: *Theory of Planned Behavior; generational cohort; Gen X; Millennials; Gen Z; health drinks; social media influence; brand trust; health consciousness; price sensitivity; multi-group SEM; measurement invariance; Indian consumers; FMCG; Karnataka*

Introduction

Consumer behavior is not homogeneous across age groups. Generational cohort theory, rooted in Mannheim's (1952) sociology of generations and formalized by Strauss and Howe (1991), holds that people coming of age during the same historical era absorb shared values, behavioral orientations, and interpretive frameworks that durably distinguish them from cohorts formed under different conditions. In the context of food and beverage consumption, generational differences have been shown to influence health orientation, brand loyalty, media responsiveness, and willingness to pay for functional products (Euromonitor, 2023; Beldona et al., 2009).

India presents a uniquely compelling generational landscape for health drink research. With approximately 1.4 billion people, the country hosts three economically active generational cohorts—Gen X, Millennials, and Gen Z—whose consumption behaviors are shaped by dramatically different social contexts. Gen X consumers built their consumer identities during India's pre-reform era—a period of constrained brand choice and price-conscious household decision-making. Millennials entered adulthood alongside the liberalization wave, forming brand attachments as the FMCG sector expanded and digital commerce became mainstream. Gen Z arrived into a world already saturated with social media wellness content and on-....:

demand health information, making their consumer formation fundamentally different from either preceding cohort (FICCI, 2025; Nielsen India, 2024).

Despite these generational distinctions, the Indian health drink literature has largely treated consumers as a homogeneous group, applying unified behavioral frameworks without examining cohort-level heterogeneity. Studies such as Misra and Singh (2021), Sharma and Tiwari (2020), and Kumar and Singh (2023) have advanced our understanding of TPB-based determinants of health drink adoption, but none have systematically compared these determinants across generational segments. This represents a critical gap, as marketing strategies calibrated to generational differences are likely to yield substantially greater effectiveness than one-size-fits-all approaches.

We extend the Theory of Planned Behavior (Ajzen, 1991) with four theoretically motivated additional constructs: social media influence, brand trust, health consciousness, and price sensitivity. These extensions are grounded in generational consumer behavior theory and

are selected for their documented differential impact across age cohorts. Social media influence is expected to be strongest among Gen Z (Dhir et al., 2021); brand trust among Millennials who came of age with branded consumerism (Chaudhuri & Holbrook, 2001); health consciousness across all cohorts but with distinct motivational bases (Pham et al., 2020); and price sensitivity most pronounced among Gen X consumers facing peak household financial responsibilities (Schewe & Meredith, 2004).

This study addresses four research questions:

RQ1: How do attitude, subjective norms, and perceived behavioral control differentially predict health drink behavioral intention across Gen X, Millennials, and Gen Z?

RQ2: To what extent do social media influence and brand trust explain generational variance in health drink adoption beyond core TPB constructs?

RQ3: How does health consciousness mediate the relationship between attitude and behavioral intention across generational cohorts?

RQ4: Does price sensitivity moderate the effect of perceived behavioral control on behavioral intention differently across cohorts?

We pursue three objectives: (1) to test an extended TPB model incorporating social media influence, brand trust, health consciousness, and price sensitivity in the Indian health drink context; (2) to employ multi-group SEM to formally compare the strength and significance of extended TPB pathways across Gen X, Millennials, and Gen Z; and (3) to derive cohort-specific managerial and public health communication strategies. The paper is organized as follows: Section 2 reviews the literature; Section 3 presents the conceptual model and hypotheses; Section 4 describes the methodology; Section 5 reports results; Section 6 discusses findings; Section 7 outlines implications; Section 8 addresses limitations and future directions; the conclusion follows.

LITERATURE REVIEW

Generational Cohort Theory and Consumer Behavior

The intellectual foundation of generational cohort theory lies in Mannheim's (1952) observation that people who navigate the same historical and social conditions during their

youth tend to develop similar interpretive frameworks, value systems, and behavioral patterns—a shared formation that sets them apart from those who came of age in different eras. Strauss and Howe (1991) formalized generational definitions in the Western context, a framework subsequently adapted for Indian consumer research (Rallapalli & Kiran, 2020). The three cohorts examined in this study are defined as: Gen X (born 1965–1980), characterized by pragmatism, brand skepticism, and strong family orientation; Millennials (born 1981–1996), characterized by digital fluency, brand consciousness, and aspirational health orientation; and Gen Z (born 1997–2012), characterized by social media nativity, wellness culture embeddedness, and high influencer responsiveness.

In Indian consumer markets, generational differences have been documented across product categories including fashion (Khare & Rakesh, 2011), mobile technology (Arora & Srivastava, 2019), organic food (Rathod & Bhatt, 2022), and online shopping (Dey & Srivastava, 2017). However, the health drink category—despite its relevance across all age groups—has received no generational comparative analysis in the Indian context. This study fills that void.

Theory of Planned Behavior: Generational Applications

The Theory of Planned Behavior (Ajzen, 1991) proposes that the likelihood of performing a behavior is most directly determined by how strongly a person intends to do it, and that this intention is built from three psychological sources: the person's own evaluation of the behavior, the weight they assign to what important others think, and their confidence in their

ability to carry it out. While TPB has been extensively validated in food and health behavior research (Armitage & Conner, 2001; McEachan et al., 2011), its application in generational comparative frameworks remains sparse. Schewe and Meredith (2004) demonstrated that attitude-intention relationships in consumption contexts varied meaningfully across generational cohorts, with each cohort's distinctive formative experiences shaping how evaluative judgments translate into behavioral motivation. Pham et al. (2020) demonstrated that subjective norm strength was markedly higher among older cohorts in Vietnamese health food consumption. In the Indian context, Sharma and Tiwari (2020) confirmed attitude as the dominant TPB predictor, but their sample was restricted to urban Millennials, limiting generalizability. We argue that each TPB construct carries distinct generational valence in the Indian health drink context. Attitude among Gen Z is more heavily shaped by digital health narratives and peer wellness content than by traditional advertising. Subjective norms for Millennials operate through family endorsement and physician recommendation, whereas for Gen Z they operate primarily through social media peer groups and influencer endorsement. PBC is constrained differently across cohorts: Gen X faces price-driven PBC constraints tied to household budget management, while Gen Z faces PBC constraints rooted in product knowledge and access to digital commerce platforms.

Social Media Influence and Health Drink Consumption

Social media has emerged as a transformative force in health product adoption, particularly among younger consumers. Lou and Yuan (2019) demonstrated that social media health content exposure and influencer credibility positively predicted functional food purchase intention, with effect sizes substantially larger than traditional advertising. Influencer marketing, in particular, has reshaped health drink brand perception among Gen Z consumers, who assign high credibility to peer-like health advocates over corporate brand communication (Lou & Yuan, 2019).

In the Indian health drink market, brands such as Horlicks and Bournvita have progressively shifted marketing spend toward digital platforms, targeting Millennial parents and Gen Z consumers. However, the differential responsiveness of Gen X consumers to social media health content remains understudied. We expect social media influence to exhibit a strong positive effect on attitude and behavioral intention among Gen Z, a moderate effect among Millennials, and a comparatively weaker effect among Gen X, who rely more heavily on traditional information channels (Euromonitor, 2023).

Brand Trust and Health Drink Adoption

Building on Chaudhuri and Holbrook (2001), brand trust in this study refers to the consumer's accumulated conviction that a health drink brand will reliably deliver on its quality and nutritional promises — a judgment grounded in past experience, brand reputation, and perceived ingredient credibility. In the functional food and beverage domain, brand trust plays a particularly critical role given consumer concerns about health claim veracity and ingredient safety (Verbeke, 2005). Millennials, who grew up with the

expansion of branded FMCG in post-liberalization India, demonstrate strong brand-trust-driven loyalty patterns (Batra et al., 2000). Gen Z, by contrast, exhibits more fluid brand relationships, switching more readily based on social validation and transparency perceptions (Euromonitor, 2023).

In the Indian health drink context, legacy brands such as Horlicks and Complan carry high trust equity among Gen X and older Millennials, accumulated over decades of household presence. Newer entrants targeting Gen Z—such as Epigamia, Raw Pressery, and HorlicksNutribic—rely more heavily on ingredient transparency and influencer credibility as trust-building mechanisms. We therefore hypothesize that brand trust will most strongly predict behavioral intention among Millennials, moderately among Gen X, and least strongly among Gen Z.

Health Consciousness as a Motivational Construct

Health consciousness, as conceptualized by Jayanti and Burns (1998), captures how central health considerations are to an individual's daily life — specifically, the extent to which a person actively monitors and prioritizes their own health-related choices and habits. It has been operationalized as both a trait-level disposition and a situationally activated motivation. In functional food research, health consciousness consistently predicts positive attitudes and higher purchase intention (Verbeke, 2005; Pham et al., 2020). Importantly, its motivational basis differs across generations: Gen X health consciousness is often driven by chronic disease prevention and family health management, Millennial health consciousness by performance optimization and lifestyle aspiration, and Gen Z health consciousness by wellness culture, body image, and social identity expression (Rathod & Bhatt, 2022).

In the Indian context, post-COVID health consciousness has risen sharply across all cohorts (IMRB Consumer Health Survey, 2023), though the specific health outcomes prioritized differ by generation. We model health consciousness as a mediator between attitude and behavioral intention, consistent with Pham et al. (2020), and expect its mediating strength to be highest among Gen Z.

Price Sensitivity Across Generational Cohorts

Price sensitivity, following Lichtenstein et al. (1993), describes how strongly a consumer's willingness to buy is governed by

price perceptions — specifically, whether the product’s cost feels justified relative to its perceived health and nutritional value. In the health drink category, price sensitivity is a documented barrier to adoption, particularly in price-conscious emerging market segments (Kumar & Singh, 2023). Generational differences in price sensitivity are well-documented: Gen X consumers, managing peak household financial responsibilities, tend to exhibit the highest price sensitivity; Millennials balance price sensitivity with brand aspiration; and Gen Z, while budget-constrained as students, exhibit willingness to pay premiums for products aligned with their identity and values (Schewe & Meredith, 2004).

We operationalize price sensitivity as a moderator of the PBC–intention relationship, hypothesizing that high price sensitivity amplifies the constraining effect of low PBC on behavioral intention, with this moderation being strongest among Gen X consumers in the Karnataka sample.

Prior Studies Summary and Research Gap

Table 1 presents a synthesis of 10 key prior studies relevant to the generational, TPB, and functional beverage themes of this paper. As the table demonstrates, no prior study has simultaneously examined all four extended constructs across three generational cohorts in the Indian health drink context using multi-group SEM. This study addresses this composite gap.

Conceptual Model and Hypotheses

CONCEPTUAL MODEL

The extended TPB model integrates the three core TPB constructs (attitude, subjective norms, PBC) with four additional constructs (social media influence, brand trust, health consciousness, price sensitivity) and positions generational cohort as the multi-group moderating variable. Health consciousness is modeled as a mediator between attitude and behavioral intention. Price sensitivity is modeled as a moderator of the PBC–intention relationship. Social media influence and brand trust are modeled as antecedents of attitude and behavioral intention respectively.

Overview of the Conceptual Framework

It integrates the classic Theory of Planned Behavior (TPB; Ajzen, 1991) with four theoretically grounded additional constructs — social media influence, brand trust, health consciousness, and price sensitivity — and positions generational cohort membership (Gen X, Millennials, Gen Z) as the multi-group moderating variable through which the strength of all framework pathways is compared. Together, these elements constitute a seven-construct, eight-hypothesis extended TPB model tested via multi-group structural equation modeling (MG-SEM).

The framework is organized into four conceptual layers that flow from left to right and top to bottom: (1) extended antecedent constructs that feed into the core TPB structure; (2) the three core TPB antecedents; (3) the mediating and moderating constructs that sit between the antecedents and outcome; and (4) the behavioral outcome. Generational cohort operates as an overarching grouping variable that spans the entire model, formally tested through measurement invariance procedures and multi-group path comparison.

Generational Cohort (Multi-Group Moderator)

At the apex of the framework sits the generational cohort variable, represented as a horizontal banner spanning the full width of the model. This placement is deliberate: generational cohort is not a simple control variable or a linear predictor in this framework. Rather, it is a multi-group moderating variable whose effect is operationalized through multi-group SEM, which formally tests whether the structural path coefficients of the extended TPB model differ across the three cohort groups.

GEN X 1965–1980	Gen X consumers (aged 44–59 at the time of data collection) represent the oldest cohort in this study. Having come of age in pre- and early post-liberalization India, Gen X consumers are characterized by pragmatic value orientation, strong family-centered decision-making, high deference to authority figures (physicians, elders) in dietary choices, and the highest price sensitivity of all three cohorts. Their relatively limited social media engagement (34.5% daily active) contrasts sharply with younger cohorts, making them most reachable through traditional channels such as television advertising, physician recommendation, and in-store promotion.
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MILLENNIALS 1981–1996	Millennials (aged 28–43) grew up witnessing India's FMCG revolution. They are the most brand-conscious cohort in the study, having formed enduring brand relationships with established health drink manufacturers such as Horlicks and Bournvita during their formative years. Millennials report the highest income levels, the strongest brand trust–intention relationship, and the highest intention-to-behavior conversion rate. Their health orientation is driven by aspiration, performance, and family nutrition management — particularly as parents purchasing for children.
GEN Z 1997– 2012	Gen Z (aged 15–27, with under-18s included upon provision of written parental consent) are digital natives who have never known a world without social media. Their health consciousness is embedded in wellness identity culture shaped by Instagram health influencers, YouTube wellness content, and WhatsApp peer groups. Gen Z records the highest social media influence effect on attitude ($\beta = 0.51$), the strongest health consciousness mediation, and the highest daily social media engagement (94.5%). However, their brand relationships are more fluid and less loyalty-bound than those of Millennials.

Formal measurement invariance testing confirms configural, metric, and scalar invariance across all three cohorts ($\Delta CFI < 0.010$; $\Delta RMSEA < 0.015$), validating that the latent constructs carry equivalent meaning across Gen X, Millennials, and Gen Z, and that path coefficient differences reflect genuine generational behavioral differences rather than measurement artefacts.

Layer 2 — Extended Antecedent Constructs

Two constructs are positioned as extended antecedents in the framework, operating upstream of the core TPB variables. Their placement reflects the theoretical logic that they shape how TPB antecedents are formed and how intentions are directly activated, beyond the standard TPB mechanism.

Social Media Influence (H5) → Attitude

SOCIAL MEDIA INFLUENCE	Social media influence captures the extent to which exposure to health-related content, influencer endorsements, peer wellness narratives, and brand communications on digital platforms shapes a consumer's evaluative orientation toward health drinks. It is positioned as an antecedent of attitude, reflecting the theoretical premise that for younger consumers — particularly Gen Z — the attitude formation process now
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occurs primarily in digital social spaces rather than through traditional information channels (Lou & Yuan, 2019).

Hypothesis H5 proposes that social media influence positively affects attitude toward health drinks, with the effect being strongest for Gen Z ($\beta = 0.51$), moderate for Millennials ($\beta = 0.38$), and weakest for Gen X ($\beta = 0.19$). This three-level gradient confirms a generation-dependent digital influence mechanism: the older the cohort, the less social media content shapes how they evaluate health drink products. For Gen X, traditional advertising and physician recommendation remain the dominant attitude formation channels, while for Gen Z, a single viral wellness post or influencer review can meaningfully shift product evaluation.

The practical implication is profound: health drink brands investing uniformly in social media marketing are efficiently reaching Gen Z but substantially over-investing relative to returns for Gen X. A channel-differentiated communication strategy — social media for Gen Z, physician partnerships for Gen X, and a hybrid approach for Millennials — is implied by this pathway.

Brand Trust (H6) → Behavioral Intention

BRAND TRUST	Brand trust captures a consumer's confidence in a health drink brand's ability to consistently deliver on its promised nutritional, safety, and quality benefits (Chaudhuri & Holbrook, 2001). Unlike social media influence, which shapes attitude, brand trust is positioned as a direct antecedent of behavioral intention. This placement reflects the theoretical logic that trust operates as a decision-simplifying heuristic — bypassing the deliberative attitude-formation process — particularly for consumers with established brand relationships.
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Hypothesis H6 proposes that brand trust most strongly predicts behavioral intention among Millennials ($\beta = 0.48$), moderately among Gen X ($\beta = 0.34$), and least strongly among Gen Z ($\beta = 0.29$). The Millennial peak reflects this cohort's accumulated brand relationships with legacy health drink manufacturers — relationships formed during childhood and

adolescence that carry forward into adult purchasing decisions. For Millennials purchasing health drinks for their own children, trusted brands reduce perceived risk and simplify what might otherwise be a complex nutritional decision.

The lower brand trust effect for Gen Z ($\beta = 0.29$) does not indicate indifference to brand quality — rather, it reflects a generational shift in how trust is constructed. Gen Z consumers build product trust through social validation, influencer authenticity signals, and ingredient transparency rather than through brand heritage and advertising familiarity. Brands seeking to build trust with Gen Z must therefore invest in ingredient transparency, ethical sourcing communication, and credible micro-influencer partnerships rather than relying on legacy brand equity.

Layer 3 — Core TPB Antecedents

The three core TPB constructs — attitude, subjective norms, and perceived behavioral control — occupy the central left position of the framework. Each carries a direct arrow to behavioral intention (H1–H3), with path coefficients formally compared across all three generational cohorts through MG-SEM.

Attitude (H1a–c)

ATTITUDE	Attitude toward health drink consumption captures the overall evaluative judgment a consumer forms about health drinks, based on beliefs about taste, nutritional value, health efficacy, and product quality. It is the most theoretically central construct in the TPB framework and, in this study, the strongest predictor of behavioral intention across all three cohorts (Armitage & Conner, 2001).
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Hypothesis H1 posits that attitude positively influences behavioral intention in all three cohorts, with the effect being strongest for Millennials. Results confirm: Millennials $\beta = 0.49$, Gen Z $\beta = 0.44$, Gen X $\beta = 0.38$. The higher Millennial coefficient reflects this cohort's aspiration-driven health orientation — Millennials integrate health drink consumption into broader lifestyle and identity narratives more readily than either Gen X (who are more pragmatic and price-focused) or Gen Z (whose attitude is partially displaced by social media influence as an alternative pathway to intention formation).

The attitude construct is also the entry point for the health consciousness mediation pathway (H7), described in Section 5.1. Social media influence feeds into attitude as an upstream antecedent (H5), meaning that for Gen Z, a meaningful proportion of attitudinal strength originates from social media exposure rather than from direct product evaluation.

Subjective Norms (H2a–c)

SUBJECTIVE NORMS	Subjective norms capture the motivational weight that a consumer assigns to the expectations and opinions of significant social referents — family members, peers, healthcare professionals, and community figures — regarding whether they should consume health drinks. In the Indian cultural context, family influence on dietary decisions is particularly powerful (Misra & Singh, 2021).
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Hypothesis H2 proposes that subjective norms most strongly influence behavioral intention for Gen X — and this is confirmed:

Gen X $\beta = 0.34$, Millennials $\beta = 0.22$, Gen Z $\beta = 0.18$. This declining generational gradient is one of the most theoretically significant findings in the study. It reflects the progressive shift from family-norm-governed dietary decisions (dominant for Gen X, where physician recommendation and parental or spousal influence are primary) toward individually curated, digitally mediated decision-making (dominant for Gen Z, where algorithmic content and peer wellness groups function as the primary social reference environment).

For health drink marketers, this gradient means that normative communication strategies — featuring family endorsement, physician recommendation, or community health advocacy — will yield substantially stronger returns when directed at Gen X consumers than at Gen Z consumers. For Gen Z, social proof operates through fundamentally different mechanisms: peer content sharing, influencer engagement, and community wellness hashtags carry greater normative weight than traditional authority-figure endorsements.

Perceived Behavioral Control (H3a–c)

PERCEIVED BEHAVIORAL CONTROL (PBC)	PBC in this context represents how straightforward or difficult a consumer judges health drink consumption to be in their own life — drawing on personal resources such as nutritional literacy and self-confidence, and situational constraints such as product price, shelf availability, and the cognitive effort required to make an informed purchase. PBC is unique among the TPB antecedents in that it
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predicts both behavioral intention (H3) and actual consumption behavior directly (H3 direct path), bypassing intention. Hypothesis H3 finds Millennials with the highest PBC–intention coefficient ($\beta = 0.35$), followed by Gen Z ($\beta = 0.31$) and Gen X ($\beta = 0.28$). The higher Millennial PBC effect reflects their combination of financial stability, established retail access, and health product literacy — they experience fewer structural barriers to translating PBC perceptions into intention. The direct PBC–behavior path is confirmed across all three cohorts (Gen X $\beta = 0.19$, Millennials $\beta = 0.24$, Gen Z $\beta = 0.21$), indicating that structural enablers independently drive consumption even when intentional pathways are incomplete. Critically, PBC is the entry point for the price sensitivity moderation (H8), described in Section 5.2. Price sensitivity most severely constrains the PBC–intention conversion for Gen X (interaction $\beta = -0.28$), meaning that Gen X consumers who perceive affordability as a barrier are dramatically less likely to form strong intentions, regardless of their attitudinal favorability toward health drinks.

Layer 4 — Mediating and Moderating Constructs

Health Consciousness as Mediator (H7)

HEALTH CONSCIOUSNESS (Mediator)	Health consciousness is operationalized as the degree to which a consumer is self-aware of and actively attentive to their health maintenance behaviors and nutritional choices (Jayanti & Burns, 1998). In this framework, it is positioned as a mediator between attitude and behavioral intention, consistent with Pham et al. (2020). The mediation logic is: favorable attitude toward health drinks activates health consciousness as a motivational disposition, which in turn amplifies behavioral intention.
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Hypothesis H7 proposes that the health consciousness mediation effect is strongest for Gen Z and is confirmed through bootstrapped confidence intervals (5,000 iterations): Gen Z indirect $\beta = 0.24$ (95% CI [0.14, 0.35]), Millennials indirect $\beta = 0.17$ (95% CI [0.09, 0.27]), Gen X indirect $\beta = 0.09$ (95% CI [0.03, 0.18]). The escalating mediation effect from Gen X to Gen Z reflects a generational shift in how health product attitudes are psychologically processed. For Gen X, a positive attitude toward health drinks remains relatively compartmentalized — it may not automatically activate a broader health self-awareness orientation. For Gen Z, by contrast, health consciousness functions as a core identity construct: a favorable attitude

toward a health product activates wellness identity narratives and self-concept congruence motivations that then powerfully translate into behavioral intention. This generation grew up in a social media wellness culture where nutritional self-awareness is simultaneously a personal health goal and a social identity performance.

The mediation pathway is illustrated in the framework with dashed purple arrows, differentiating it visually from the solid blue direct TPB pathways. Two paths are shown: path 'a' (Attitude → Health Consciousness) and path 'b' (Health Consciousness → Intention), together constituting the indirect mediation effect.

Price Sensitivity as Moderator (H8)

PRICE SENSITIVITY (Moderator)	Price sensitivity reflects the degree to which a consumer's behavioral control perceptions and purchase decisions are governed by product affordability and value-for-money judgments (Lichtenstein et al., 1993). In this framework, price sensitivity is positioned as a moderator of the PBC–intention relationship rather than as a direct predictor of intention, consistent with the theoretical argument that price sensitivity does not independently generate intention but rather conditions the degree to which PBC perceptions are converted into behavioral motivation.
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Hypothesis H8 proposes that high price sensitivity amplifies the constraining effect of low PBC on behavioral intention, with this moderation being most severe for Gen X. Results confirm: Gen X interaction $\beta = -0.28$ ($p < 0.001$), Millennials $\beta = -0.18$ ($p = 0.004$), Gen Z $\beta = -0.14$ ($p = 0.032$).

The Gen X moderation magnitude ($\beta = -0.28$) is particularly telling. Gen X consumers in the Karnataka sample — managing peak household financial responsibilities and bearing the highest income commitments — experience price sensitivity as a binding cognitive constraint that actively suppresses the motivational conversion of behavioral control into intention. Even Gen X consumers who have favorable attitudes and adequate self-efficacy regarding health drink consumption may fail to form strong purchase intentions if they perceive the product price as misaligned with their household budget priorities.

This finding has a direct strategic implication: for Gen X consumers, price reduction or value-format innovation (economy packs, multi-buy bundles, corporate wellness program subsidies) represents the highest-leverage intervention available to health drink brands seeking to close the PBC–intention gap in this cohort.

Layer 5 — Behavioral Intention and Consumption Behavior

Behavioral Intention

BEHAVIORAL INTENTION	Behavioral intention represents the conscious motivational readiness to engage in regular health drink consumption. It is the central mediating construct in the TPB architecture — receiving inputs from attitude (H1), subjective norms (H2), PBC (H3), brand trust (H6), and health consciousness mediation (H7) — and transmitting their combined motivational force to actual behavioral output (H4). The extended model achieves $R^2 = 0.61$, meaning that 61% of total variance in consumption behavior is explained by the framework.
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The intention construct carries the largest number of incoming paths in the framework (five direct paths plus one mediated indirect path), reflecting its theoretical centrality as the proximal motivational force in the TPB. Among the three cohorts, Millennials demonstrate the highest intention mean scores ($M = 4.94$) and the most variance explained, consistent with their combination of attitudinal favorability, brand trust, and structural enabling conditions.

Consumption Behavior (Outcome Variable)

CONSUMPTION BEHAVIOR	Consumption behavior — the actual frequency and regularity of health drink intake — is the outcome variable of the framework. It receives two direct inputs: behavioral intention (H4), representing the motivational pathway, and PBC (H3 direct path), representing the structural enabling pathway. The dual-input structure reflects the TPB's recognition that not all intention translates into behavior, and that structural conditions independently enable or inhibit consumption even when motivational readiness is present.
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The intention–behavior conversion rate is highest for Millennials (H4: $\beta = 0.46$), reflecting their structural advantage in terms of financial capacity, retail access, and habitual consumption routines. Gen Z, despite strong intentions, faces implementation friction from budget constraints and nascent purchasing habits ($\beta = 0.40$). Gen X, despite moderate

intentions, is impeded by price sensitivity and cultural preference for traditional beverages ($\beta = 0.34$). The direct PBC–behavior path is confirmed for all three cohorts, confirming that structural accessibility independently enables or suppresses consumption regardless of motivational state.

Complete Hypothesis Path Summary

The table below summarises all eight hypotheses, their path directions, cohort-specific coefficients, and direction of the strongest generational effect:

Hypotheses.	Path	Gen X β	Mill. β	Gen Z β	Strongest Cohort Effect
H1a–c	Attitude → Intention	0.38***	0.49***	0.44***	★ Millennials
H2a–c	Subj. Norms → Intention	0.34***	0.22***	0.18***	★ Gen X
H3a–c	PBC → Intention	0.28***	0.35***	0.31***	★ Millennials
H4a–c	Intention → Behavior	0.34***	0.46***	0.40***	★ Millennials
H5	Social Media → Attitude	0.19**	0.38***	0.51***	★ Gen Z
H6	Brand Trust → Intention	0.34***	0.48***	0.29***	★ Millennials
H7	HC mediates Att→Int (indirect)	0.09*	0.17**	0.24***	★ Gen Z
H8	Price Sens. × PBC → Int (moderation)	−0.28***	−0.18**	−0.14*	★ Gen X strongest constraint

3.2 Hypotheses

Core TPB Hypotheses (tested across all three cohorts via MG-SEM):

H1a–c: Attitude positively influences behavioral intention toward health drink consumption in Gen X (H1a), Millennials (H1b), and Gen Z (H1c), with the effect being strongest for Millennials.

Attitude is the most consistently supported TPB predictor in food behavior research (Armitage & Conner, 2001). We expect Millennials to exhibit the strongest attitude-intention link due to their aspirational health orientation and brand engagement (Sharma & Tiwari, 2020).

H2a–c: Subjective norms positively influence behavioral intention in Gen X (H2a), Millennials (H2b), and Gen Z (H2c), with the effect being strongest for Gen X

Older cohorts in collectivist cultures demonstrate stronger normative compliance in dietary decisions (Pham et al., 2020). Gen X consumers are expected to be most responsive to family and physician recommendations.

H3a–c: Perceived behavioral control positively influences behavioral intention in Gen X (H3a), Millennials (H3b), and Gen Z (H3c).

PBC reflects affordability and accessibility constraints that differ across cohorts. Gen X faces stronger price-driven PBC constraints, while Gen Z faces knowledge and access-related PBC constraints.

H4a–c: Behavioral intention positively influences consumption behavior in Gen X (H4a), Millennials (H4b), and Gen Z (H4c), with the effect being strongest for Millennials.

Millennials, with more stable income and established purchasing routines, are expected to demonstrate the strongest intention-behavior translation.

Extended Construct Hypotheses:

H5: Social media influence positively affects attitude toward health drinks, with the effect being strongest for Gen Z.

Gen Z's embeddedness in social media wellness culture makes them most susceptible to health content and influencer endorsements (Dhir et al., 2021; Lou & Yuan, 2019).

H6: Brand trust positively influences behavioral intention toward health drinks, with the effect being strongest for Millennials.

Millennials' brand-relationship orientation and loyalty patterns make brand trust a primary driver of their health product adoption decisions (Chaudhuri & Holbrook, 2001; Batra et al., 2000).

H7: Health consciousness mediates the relationship between attitude and behavioral intention, with the mediation being strongest for Gen Z.

Gen Z's wellness identity embeddedness means that favorable attitudes are more likely to translate into intention through an activated health consciousness pathway (Pham et al., 2020; Rathod & Bhatt, 2022)

H8: Price sensitivity moderates the PBC–intention relationship such that higher price sensitivity amplifies the constraining effect of low PBC, with this moderation being strongest for Gen X.

Gen X consumers managing peak household expenditure are most likely to experience price sensitivity as a binding moderator of structural behavioral control (Schewe & Meredith, 2004; Kumar & Singh, 2023).

RESEARCH METHODOLOGY

Research Design

A quantitative research design was adopted, consistent with prior TPB-based studies in functional food research (Armitage & Conner, 2001; Sharma & Tiwari, 2020). The study received ethics approval from the institutional review board at JAIN University prior to data collection. All respondents provided written informed consent, and participation was voluntary and anonymous. The present study constitutes an extension of a broader Karnataka-based health drink research programme (Meprathe & Mishra, 2026), drawing on an expanded sample that includes all three generational cohorts.

Sample and Sampling Procedure

We targeted adult consumers across three generational cohorts: Gen X (aged 44–59 years in 2024), Millennials (aged 28–43), and Gen Z (aged 12–27, with those below 18 included upon provision of written parental consent). Respondents were recruited from urban Bengaluru and semi-urban districts of Karnataka (Mysuru, Tumkur, Mandya, and Dharwad) through stratified random sampling, with generational cohort, gender, and location as stratification variables.

Sample size was determined through power analysis using G*Power 3.1 (Faul et al., 2009). For MG-SEM with three groups and a hypothesized model of nine latent constructs, a minimum of 150 respondents per group (total 450) was required to achieve 80% statistical power at $\alpha = 0.05$ (Hair et al., 2019). A total of 520 usable responses were obtained (Gen X: $n = 145$; Millennials: $n = 210$; Gen Z: $n = 165$). Gen X recruitment yielded $n = 145$, marginally below the per-group threshold of 150; a post-hoc sensitivity analysis confirmed adequate statistical power (0.78) for Gen X-specific path estimates at the observed effect

sizes, with this minor shortfall unlikely to affect the reliability of Gen X findings (Hair et al., 2019). A pilot study was conducted with 45 respondents (15 per cohort) prior to the main data collection. Pilot results confirmed adequate reliability ($\alpha > 0.75$) and face validity across all constructs. Two items were revised based on cognitive interviewing feedback.

Measurement Instrument

All constructs were measured using seven-point Likert scales (1 = Strongly Disagree; 7 = Strongly Agree). Items were adapted from established scales and contextualized for the Indian health drink setting. Table 2 presents the construct

operationalization.

Table 2: Construct Operationalization

Construct	Items	Source	Example Item
Attitude	5	Ajzen (2002); Verbeke (2005)	Health drinks provide meaningful nutritional benefits for my age group
Subjective Norms	4	Ajzen (2002)	People whose opinions I value believe I should consume health drinks
Perceived Behavioral Control	5	Ajzen (2002); Armitage & Conner (2001)	Health drinks are affordable within my current household budget
Behavioral Intention	3	Ajzen (2002)	I plan to consume health drinks regularly in the next three months
Consumption Behavior	3	Developed for study	I consume health drinks at least three times per week
Social Media Influence	4	Dhir et al. (2021); Lou & Yuan (2019)	Health content on social media motivates me to try health drinks
Brand Trust	4	Chaudhuri & Holbrook (2001)	I trust that established health drink brands deliver on their promises
Health Consciousness	5	Jayanti & Burns (1998); Pham et al. (2020)	Maintaining my health is a top priority in my daily decisions
Price Sensitivity	4	Lichtenstein et al. (1993); Kumar & Singh (2023)	The price of health drinks significantly affects my purchase decision

Measurement invariance was tested prior to MG-SEM following the protocol of Vandenberg and Lance (2000). Configural, metric, and scalar invariance were established across all three cohorts, confirming that latent construct means are meaningfully comparable across groups (CFI difference < 0.010; RMSEA difference < 0.015). Common method bias was assessed through Harman's single-factor test; the first unrotated factor accounted for 21.7% of total variance, falling well below the 50% threshold (Podsakoff et al., 2003). To supplement this, a Common Latent Factor (CLF) was introduced in AMOS;

the difference in AVE values with and without the CLF was less than 0.10 across all constructs, providing additional evidence that common method variance does not substantially distort the structural findings.

Data Analysis

Data analysis proceeded in three stages. First, descriptive statistics and reliability analysis were conducted in SPSS 26.0. Second, confirmatory factor analysis (CFA) and measurement invariance testing were performed in AMOS 24.0 following the two-step approach of Anderson and Gerbing (1988). Third, multi-group SEM was executed to compare path coefficients across cohorts. Mediation (H7) was tested using bootstrapped confidence intervals (5,000 iterations) following Hayes (2018). Moderation (H8) was tested using the product indicator approach within each cohort's structural model, following Aiken and West (1991). Both Price Sensitivity and PBC were mean-centered prior to constructing the interaction term to minimize multicollinearity between the main effects and the interaction. Model fit was evaluated using CFI, TLI, RMSEA, and SRMR.

RESULTS

Sample Profile

We present the demographic profile of the 520 respondents across the three generational cohorts below.

Table 3: Demographic Profile by Generational Cohort (N = 520)

Variable	Category	Gen X (n=145)	Millennials (n=210)	Gen Z (n=165)	Total (N=520)
Gender	Male	47.6%	46.2%	48.5%	47.3%
	Female	52.4%	53.8%	51.5%	52.7%
Location	Urban (Bengaluru)	55.2%	62.4%	64.8%	61.5%
	Semi-urban (Karnataka)	44.8%	37.6%	35.2%	38.5%
Income	< ₹30,000/month	52.4%	38.1%	61.2%	49.2%
	30,001–60,000	31.7%	39.5%	24.8%	33.1%
	>₹60,000	15.9%	22.4%	14.0%	17.7%
Social Media Use	Daily active	34.5%	71.4%	94.5%	67.5%
	Occasional	41.4%	21.9%	5.5%	23.8%
	Rare/None	24.1%	6.7%	0.0%	8.7%

The cohort distributions reveal meaningful demographic contrasts. Gen Z records the highest daily social media engagement (94.5%) compared to Millennials (71.4%) and Gen

X (34.5%), reflecting the digital nativity of the youngest cohort. Income distribution confirms that Gen X consumers have the highest proportion in middle-income brackets, while Gen Z shows the highest proportion below ₹30,000 per month—consistent with their student or early-career status. These patterns corroborate our theoretical expectations regarding differential price sensitivity and social media responsiveness.

Descriptive Statistics

Table 4: Construct Means and Standard Deviations by Generational Cohort

Construct	Gen X Mean (SD)	Millennial Mean (SD)	Gen Z Mean (SD)	F-statistic	p-value
Attitude	4.61 (1.18)	5.14 (1.09)	4.88 (1.21)	9.34	< 0.001
Subjective Norms	4.72 (1.14)	4.48 (1.19)	4.31 (1.27)	6.18	0.002
PBC	3.89 (1.38)	4.52 (1.22)	4.19 (1.31)	10.47	< 0.001
Behavioral Intention	4.41 (1.22)	4.94 (1.11)	4.77 (1.18)	8.92	< 0.001
Consumption Behavior	3.78 (1.41)	4.31 (1.29)	4.02 (1.38)	7.63	0.001
Social Media Influence	3.42 (1.44)	4.61 (1.21)	5.39 (1.08)	54.21	< 0.001
Brand Trust	4.88 (1.11)	5.22 (1.04)	4.44 (1.29)	18.73	< 0.001
Health Consciousness	4.54 (1.19)	4.91 (1.12)	5.18 (1.07)	14.62	< 0.001
Price Sensitivity	5.31 (1.04)	4.64 (1.18)	4.88 (1.23)	12.84	< 0.001

One-way ANOVA confirms statistically reliable differences across cohorts on all nine constructs. Social media influence

shows the largest between-group variance ($F = 54.21$, p

< 0.001), with Gen Z scoring markedly higher ($M = 5.39$) than Millennials ($M = 4.61$) and Gen X ($M = 3.42$). Price sensitivity shows the reverse pattern, with Gen X scoring highest ($M = 5.31$) and Millennials lowest ($M = 4.64$). Brand trust peaks among Millennials ($M = 5.22$) and is lowest among Gen Z ($M = 4.44$). Health consciousness increases monotonically from Gen X to Gen Z, consistent with the growing wellness culture embeddedness of younger cohorts.

Reliability and Validity

Table 5a: CFA Standardised Factor Loadings

Construct	Item	Std. Loading (λ)	t-value
Attitude (ATT)	ATT1	0.82	Fixed
	ATT2	0.79	12.64***
	ATT3	0.80	12.88***
	ATT4	0.77	12.21***
	ATT5	0.81	12.79***
Subjective Norms (SN)	SN1	0.80	Fixed
	SN2	0.78	12.10***
	SN3	0.79	12.34***
	SN4	0.77	11.98***
Perceived Behavioral Control (PBC)	PBC1	0.78	Fixed
	PBC2	0.76	11.74***
	PBC3	0.79	12.09***
	PBC4	0.77	11.86***
	PBC5	0.75	11.52***
Behavioral Intention (BI)	BI1	0.85	Fixed
	BI2	0.87	13.77***
	BI3	0.86	13.61***
Consumption Behavior (CB)	CB1	0.83	Fixed
	CB2	0.81	12.96***
	CB3	0.84	13.22***
Social Media Influence (SMI)	SMI1	0.84	Fixed
	SMI2	0.86	13.48***
	SMI3	0.83	13.18***
	SMI4	0.85	13.34***
Brand Trust (BT)	BT1	0.81	Fixed
	BT2	0.83	12.91***
	BT3	0.80	12.71***
	BT4	0.82	12.84***

Health Consciousness (HC)	HC1	0.82	Fixed
	HC2	0.80	12.66***
	HC3	0.83	12.98***
	HC4	0.81	12.77***
	HC5	0.79	12.44***
Price Sensitivity (PS)	PS1	0.79	Fixed
	PS2	0.81	12.54***
	PS3	0.78	12.31***
	PS4	0.80	12.48***

Note: All standardised factor loadings exceed 0.70, confirming adequate indicator reliability (Hair et al., 2019). *** $p < 0.001$. First indicator per construct fixed to 1.0 for model identification.

Table 5: Reliability and Validity Indicators

Construct	Cronbach α	CR	AVE	HTMT (max)
Attitude	0.88	0.90	0.63	0.71
Subjective Norms	0.87	0.89	0.62	0.69
Perceived Behavioral Control	0.86	0.88	0.60	0.74
Behavioral Intention	0.91	0.93	0.72	0.76
Consumption Behavior	0.89	0.91	0.67	—
Social Media Influence	0.90	0.92	0.69	0.72
Brand Trust	0.88	0.90	0.64	0.73
Health Consciousness	0.89	0.91	0.66	0.71
Price Sensitivity	0.86	0.88	0.61	0.68

All Cronbach's alpha values exceed 0.85, surpassing the recommended 0.70 threshold (Nunnally, 1978). Construct reliability was strong throughout, with CR values for each factor falling between 0.88 and 0.93 (Hair et al., 2019). Convergent validity was confirmed via AVE, with all nine constructs returning values between 0.60 and 0.72 — comfortably above the 0.50 threshold of Fornell and Larcker (1981). Discriminant validity was assessed using the HTMT ratio; no construct pair exceeded the 0.85 boundary recommended by Henseler et al. (2015). The nine-factor measurement model demonstrates excellent fit: χ^2/df

= 2.18, CFI = 0.96, TLI = 0.95, RMSEA = 0.044, SRMR = 0.042.

Measurement Invariance

Table 6: Measurement Invariance Tests Across Generational Cohorts

Model	CFI	Δ CFI	RMSEA	Δ RMSEA	Decision
Configure Model	0.958	—	0.046	—	Accepted
Metric Model	0.954	−0.004	0.047	+0.001	Accepted (Δ CFI < 0.010)
Scalar Model	0.949	−0.005	0.048	+0.001	Accepted (Δ CFI < 0.010)

Full scalar invariance is established across all three cohorts, confirming that factor loadings and item intercepts are equivalent, and that latent mean comparisons across Gen X, Millennials, and Gen Z are valid and meaningful (Vandenberg & Lance, 2000). This is a prerequisite for interpreting MG-SEM path coefficient differences as genuine generational effects rather than measurement artefacts.

Multi-Group SEM Results: Core TPB Paths

Table 7b: Cohort-Specific R² Values for Outcome Constructs

Outcome	Gen X R ²	Millennial R ²	Gen Z R ²	Interpretation
Behavioral Intention	0.51	0.64	0.58	Millennials highest; all cohorts strong
Consumption Behavior	0.42	0.58	0.51	Millennials highest; Gen X lowest

Note: R² values reflect variance explained within each cohort's structural sub-model. Overall aggregate R²

= 0.61. Millennials demonstrate the highest explanatory power for both outcomes, consistent with their combination of attitudinal favorability, brand trust, and structural enabling conditions.

Table 7: MG-SEM Results — Core TPB Hypotheses

Hypothesis	Path	Gen X β	Millennial β	Gen Z β	$\Delta\beta$ (max)	Result
H1a–c	Attitude → Intention	0.38***	0.49***	0.44***	0.11	Supported; Millennial β highest
H2a–c	Subj. Norms → Intention	0.34***	0.22***	0.18***	0.16	Supported; Gen X β highest
H3a–c	PBC → Intention	0.28***	0.35***	0.31***	0.07	Supported; Millennial β highest
H4a–c	Intention → Behavior	0.34***	0.46***	0.40***	0.12	Supported; Millennial β highest
H3 direct	PBC → Behavior	0.19**	0.24***	0.21***	0.05	Supported across all cohorts

To confirm that cohort differences in path coefficients reflect genuine behavioral differences rather than sampling variation, the constrained model (all cross-group structural paths forced equal) was compared against the unconstrained model. The constrained model showed significantly worse fit ($\Delta CFI = 0.018$; $\Delta RMSEA = 0.009$; $\Delta\chi^2(14) = 42.7$, $p < 0.001$), confirming meaningful generational heterogeneity in path coefficients (Vandenberg & Lance, 2000). All core TPB paths are statistically reliable across all three cohorts, confirming the cross-generational validity of the TPB framework. Attitude is the strongest predictor of intention for all three cohorts, with Millennials exhibiting the highest coefficient ($\beta = 0.49$). Subjective norms show a clear generational gradient, declining from Gen X ($\beta = 0.34$) to Gen Z ($\beta = 0.18$), consistent with the shift from family-norm-driven to peer-and-media-driven behavioral motivation. The intention-behavior relationship is strongest for Millennials ($\beta = 0.46$), reflecting their combination of formed behavioral intentions and structural enabling conditions. Taken together, the TPB paths explain 61% of variance in consumption behavior at the aggregate level ($R^2 = 0.61$). Cohort-specific R² for Behavioral Intention: Gen X = 0.51, Millennials = 0.64, Gen Z = 0.58; for Consumption Behavior: Gen X = 0.42, Millennials = 0.58, Gen Z = 0.51 — Millennials showing the highest explanatory power across both outcomes.

Extended Construct Results

Table 8: Extended Construct Results by Generational Cohort

Hypothesis	Path	Gen X β	Millennial β	Gen Z β	p-value	Result
H5	Social Media Attitude →	0.19**	0.38***	0.51***	< 0.001	Supported; Gen Z β highest
H6	Brand Trust Intention →	0.34***	0.48***	0.29***	< 0.001	Supported; Millennial β highest
H7 (indirect)	HC mediates Att → Int	0.09*	0.17**	0.24***	0.003	Supported; Gen Z strongest
H8 (moderation)	Price Sens. $\times$ PBC → Int	-0.28***	-0.18**	-0.14*	0.021	Supported; Gen X moderation strongest

Social media influence exhibits a strong generational gradient in its effect on attitude: Gen Z ($\beta = 0.51$) > Millennials ($\beta = 0.38$) > Gen X ($\beta = 0.19$), fully confirming H5. Brand trust's effect on intention peaks among Millennials ($\beta = 0.48$), is moderate among Gen X ($\beta = 0.34$), and weakest among Gen Z ($\beta = 0.29$), confirming H6. Health consciousness mediates the attitude-intention relationship in all cohorts, with the indirect effect strongest for Gen Z (indirect $\beta = 0.24$, 95% CI [0.14, 0.35]), confirming H7. Price sensitivity significantly moderates the PBC–intention relationship, with the negative interaction effect largest for Gen X ($\beta = -0.28$), indicating that high price sensitivity most severely constrains the PBC-to-intention conversion for older consumers, confirming H8.

Cohort Latent Mean Comparisons

Table 9: Latent Mean Differences Across Cohorts (Gen X as Reference Group)

Construct	Millennial vs Gen X	Gen Z vs Gen X	Millennial vs Gen Z
Attitude	+0.53*** (p<0.001)	+0.27** (p=0.003)	+0.26** (p=0.004)
Subjective Norms	-0.24** (p=0.008)	-0.41*** (p<0.001)	+0.17* (p=0.042)
PBC	+0.63*** (p<0.001)	+0.30*** (p=0.001)	+0.33*** (p<0.001)
Social Media Influence	+1.19*** (p<0.001)	+1.97*** (p<0.001)	-0.78*** (p<0.001)
Brand Trust	+0.34*** (p<0.001)	-0.44*** (p<0.001)	+0.78*** (p<0.001)
Health Consciousness	+0.37*** (p<0.001)	+0.64*** (p<0.001)	-0.27** (p=0.006)
Price Sensitivity	-0.67*** (p<0.001)	-0.43*** (p<0.001)	-0.24** (p=0.010)

Latent mean comparisons reveal the sharpest generational contrast on social media influence, where Gen Z scores 1.97 standard deviations above Gen X—the largest inter-cohort difference in the model. Millennials exceed Gen X on attitude, PBC, brand trust, and health consciousness while scoring markedly lower on price sensitivity. Gen Z exceeds both older cohorts on social media influence and health consciousness, but trails Millennials substantially on brand trust, reflecting the more fluid and less brand-loyal orientation of the youngest cohort.

DISCUSSION

Core TPB Pathways Across Generations

Our results confirm that the TPB framework retains its predictive validity across all three generational cohorts, with attitude emerging as the dominant predictor of intention in each group. This is consistent with the meta-analytic evidence of Armitage and Conner (2001) and McEachan et al. (2011), and extends their findings to a three-cohort Indian FMCG context. The stronger attitude-intention relationship among Millennials ($\beta = 0.49$ vs. Gen X's 0.38) reflects this cohort's aspiration-driven health orientation and its greater integration of health product consumption into lifestyle identity (Sharma & Tiwari, 2020).

The generational gradient in subjective norms is among the most theoretically telling findings in our study. The declining normative influence from Gen X ($\beta = 0.34$) to Gen Z ($\beta = 0.18$) mirrors the broader sociological shift from family-centered dietary decision-making toward individualized, peer-mediated, and algorithmically curated health information consumption. This finding carries direct implications for communication strategy: normative appeals featuring family endorsement are most effective for Gen X, while Gen Z requires peer-validation and social proof mechanisms that operate through digital channels.

The stronger intention-behavior relationship for Millennials ($\beta = 0.46$) compared to Gen Z ($\beta = 0.40$) and Gen X ($\beta = 0.34$) points to a structural enabling advantage that Millennials possess: they combine formed health aspirations with sufficient financial resources, established retail access, and habitual consumption routines. Gen Z, despite strong intentions, faces implementation barriers rooted in budget constraints and habitual inertia, while Gen X faces price sensitivity and cultural preference for traditional beverages as friction points in the intention-behavior translation.

The Gen Z Social Media Effect

The strongest finding in the extended model is the social media influence–attitude path for Gen Z ($\beta = 0.51$), which represents the largest single path coefficient in the entire model. This finding aligns with Lou and Yuan (2019) and reflects the extraordinary degree to which Gen Z consumers in India curate their health product preferences through social media ecosystems. In the Karnataka sample, Gen Z respondents reported 94.5% daily social media engagement, and open-ended responses consistently referenced Instagram health influencers, YouTube wellness channels, and WhatsApp health groups as primary information sources for nutrition decisions.

This finding has a consequential implication for health drink brands: for Gen Z consumers, the attitude formation process is largely occurring on social media platforms rather than in traditional advertising or at the point of purchase. Brands that fail to maintain a credible, consistent, and value-aligned social media presence risk being effectively invisible to the fastest-growing consumer cohort. The relatively weaker social media–attitude path for Gen X ($\beta = 0.19$) confirms that traditional marketing channels—print, television, and physician recommendation—retain stronger influence for older consumers.

Brand Trust and Millennial Loyalty

Brand trust emerges as the most potent extended construct for Millennials ($\beta = 0.48$), who demonstrate a notably stronger trust-intention relationship than either Gen X ($\beta = 0.34$) or Gen Z ($\beta = 0.29$). This cohort grew up witnessing the transformation of India's FMCG landscape through economic liberalization, developing brand relationships with legacy health drink manufacturers during formative consumption years. For Millennials, brands such as Horlicks, Bournvita, and Boost carry accumulated credibility that directly translates into purchase intention. This finding is consistent with Chaudhuri and Holbrook (2001) and extends their brand trust-loyalty model to the Indian health drink context.

The lower brand trust effect for Gen Z ($\beta = 0.29$) reflects this cohort's more conditional and transactional brand relationships, mediated by authenticity perceptions and social validation rather than accumulated brand heritage. Gen Z consumers in our sample were more likely to cite ingredient transparency, ethical sourcing, and influencer credibility as trust-building factors than brand longevity or advertising familiarity.

Health Consciousness as a Generational Mediator

The mediation analysis confirms that health consciousness serves as a meaningful pathway through which favorable attitudes are converted into behavioral intention, with the mediation effect growing stronger from Gen X (indirect $\beta = 0.09$) to Millennials (0.17) to Gen Z (0.24). This escalating mediation pattern reflects the progressive embeddedness of wellness as a personal identity marker across younger cohorts. For Gen Z consumers in Karnataka, health consciousness is not merely a health behavior disposition but a social identity expression—shaped by wellness influencer culture, body image norms, and peer health discourse on social media platforms.

This finding extends Pham et al.'s (2020) mediation model from a Vietnamese context to India, confirming cross-cultural generalizability while also revealing that the generational amplification of health consciousness mediation is particularly pronounced in the Indian context, where Gen Z's post-COVID health awareness surge has been especially sharp (IMRB, 2023). Marketers who communicate health drink benefits through a health consciousness activation frame—emphasizing personal health agency, preventive wellness, and nutritional self-efficacy—are likely to find this approach most effective with

Gen Z audiences.

Price Sensitivity and Gen X Constraints

The moderation analysis confirms that price sensitivity most severely constrains the PBC–intention relationship for Gen X consumers (interaction $\beta = -0.28$), with smaller but reliable moderation effects for Millennials (-0.18) and Gen Z (-0.14). For Gen X households managing peak financial responsibilities, the perceived affordability of health drinks is not merely a background consideration but a binding constraint that actively suppresses the conversion of behavioral control perceptions into intention. This finding aligns with Schewe and Meredith (2004) and extends their generational price sensitivity framework to the Indian FMCG health beverage context.

We find that Gen X consumers in the sample are not averse to health drinks in principle—their attitude scores are moderate ($M = 4.61$) and their subjective norms are the highest of all cohorts ($M = 4.72$). The primary friction point is the perceived value-for-money calculus: Gen X consumers who believe they cannot afford regular health drink consumption are far less likely to form strong intentions, regardless of their attitudinal favorability. Smaller pack sizes, family economy formats, and loyalty pricing programs specifically targeted at Gen X households represent the most direct structural levers to address this constraint.

Theoretical Contributions

We identify three theoretical contributions. First, this study provides the first empirical test of an extended TPB model across three generational cohorts in the Indian health drink context, establishing cohort-differentiated baseline effect sizes for future research. Second, the mediation of health consciousness between attitude and intention is demonstrated to be

generation-dependent rather than uniform, adding important nuance to Pham et al.'s (2020) mediation framework. Third, the price sensitivity moderation of PBC is confirmed as generation-specific, providing empirical support for the generational differentiation of structural behavioral constraints in price-sensitive emerging markets.

Managerial and Policy Implications

Cohort-Specific Marketing Strategy

Our findings call for a fundamental rethinking of health drink marketing strategy in India, moving away from generationally undifferentiated campaigns toward cohort-tailored communication and distribution approaches.

Gen Z Strategy — Social Media and Wellness Identity: Given the dominant role of social media influence on Gen Z attitude formation ($\beta = 0.51$), health drink brands must invest in authentic influencer partnerships with micro-influencers in the health and wellness space rather than traditional celebrity endorsements. Content should activate health consciousness as an identity marker, framing consumption as a wellness practice rather than a nutritional supplement. Short-form video content on Instagram Reels and YouTube Shorts, featuring real Gen Z consumers, is the most appropriate channel.

Millennial Strategy — Brand Trust and Aspiration: Millennials' strong brand trust–intention relationship ($\beta = 0.48$) points to the continued value of brand heritage communication for this cohort. Trust-building campaigns that emphasize ingredient quality, clinical validation, and brand longevity will resonate with Millennial parents purchasing for their families. Loyalty programs, subscription models, and family-format packaging that deliver consistent quality at predictable price points will reinforce the trust-loyalty loop.

Gen X Strategy — Value-for-Money and Normative Appeals: Gen X's highest price sensitivity moderation ($\beta = -0.28$) and strongest subjective norm effect ($\beta = 0.34$) suggest a dual-lever strategy: physician and nutritionist endorsements to activate normative compliance, combined with value-format packaging (economy packs, multi-buy offers) to reduce the price sensitivity barrier. Health drink brands should partner with corporate wellness programs targeting Gen X professionals in the 44–59 age bracket.

Public Health Implications

From a public health standpoint, the generational differentiation of health consciousness mediation has important implications for nutritional intervention design. Health awareness campaigns targeting Gen Z should leverage social media ecosystems and peer-to-peer health information channels, integrating health drink consumption into broader wellness behavior promotion frameworks. For Gen X populations, community-based health programs through employers and healthcare providers offer more effective normative channels. Public distribution programs for fortified beverages should prioritize lower-income Gen X and Gen Z households, where price sensitivity most severely constrains adoption.

Limitations and Future Research

This study acknowledges five limitations. First, the study's single time-point design captures a snapshot of generational consumption patterns rather than their evolution — associations between constructs can be identified, but the direction of causal influence over time, and how generational orientations shift with life-stage transitions, cannot be established with confidence. Second, geographic restriction to Karnataka limits generalizability to other Indian states with distinct generational

consumption cultures, such as Punjab, Maharashtra, or Tamil Nadu. Third, self-reported behavioral data carry social desirability bias risks, particularly among health-conscious Gen Z respondents. Fourth, the study does not capture intra-generational heterogeneity—a limitation given the substantial income, education, and urban-rural variation within each cohort. Fifth, Gen X respondents are slightly underrepresented ($n = 145$) relative to the other cohorts, which may reduce statistical power for detecting subtle Gen X-specific effects.

We identify five directions for future research. Longitudinal panel studies should track how generational health drink attitudes and intentions evolve with life-stage transitions—such as Millennials becoming parents and Gen Z entering the workforce. Cross-regional comparative studies should examine whether the generational patterns observed in Karnataka hold in North and East Indian consumer markets, where generational cultural shifts may follow different trajectories. Future work should incorporate objective behavioral measures such as purchase transaction data to validate self-reported consumption patterns. The role of generational identity strength as a moderator of cohort

effects merits examination. Finally, the emerging Gen Alpha cohort (born 2013 onwards) warrants early investigation as the next target demographic for health drink manufacturers.

CONCLUSION

This study demonstrates that generational cohort membership exerts a meaningful and empirically verifiable influence on health drink consumption behavior in India. By extending the Theory of Planned Behavior with social media influence, brand trust, health consciousness, and price sensitivity—and testing the extended model across Gen X, Millennials, and Gen Z through multi-group SEM—we establish a cohort-differentiated behavioral map of health drink adoption in Karnataka.

Three findings stand out. The social media influence–attitude path is transformatively strong for Gen Z ($\beta = 0.51$), confirming that attitude formation for the youngest cohort is now a fundamentally digital process. Brand trust is the primary extended driver for Millennials ($\beta = 0.48$), reflecting legacy brand relationships built during India's FMCG expansion era. Price sensitivity most severely constrains Gen X adoption ($\beta = -0.28$ moderation), pointing to structural affordability as the primary barrier for older consumers despite their moderate attitudinal favorability.

These findings collectively argue for the retirement of generationally undifferentiated health drink marketing in India. Effective strategy requires cohort-tailored communication channels, value propositions, and distribution formats. Health drink manufacturers who build cohort intelligence into their brand strategy are better positioned to capture the full generational spectrum of a market that spans from Gen Z wellness identity consumers to Gen X family nutrition managers. We recommend that both industry practitioners and public health policymakers adopt generational segmentation frameworks as a core tool for expanding fortified beverage adoption across India's diverse and dynamic consumer landscape.

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