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MARKETING MENTAL WELLNESS TO GEN Z: A CASE STUDY OF UNDERSTANDING BEHAVIORAL INTENTIONS TOWARD DIGITAL MENTAL HEALTH APP

MARKETING DE BEM-ESTAR MENTAL PARA A GERAÇÃO Z: UM ESTUDO DE CASO SOBRE A COMPREENSÃO DAS INTENÇÕES COMPORTAMENTAIS EM RELAÇÃO A APLICATIVOS DIGITAIS DE SAÚDE MENTAL

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Abstract
This study aims to examine Generation Z's behavioral intentions regarding the use of a mental health app. This study adopts the technology acceptance model (TAM) and signaling theory to analyze the factors that influence Gen Z's propensity to adopt digital mental health solutions in the context of parent-child relationship issues that affect their mental health. The research investigates the relationships between perceived usefulness, perceived ease of use, brand competence, attitude toward using a mental health app, and behavioral intention to use these digital services. A quantitative cross-sectional study was conducted with 311 Generation Z participants (aged 18-25) in Jakarta and surrounding urban areas who reported parent-child relationship issues affecting their mental health. Data were collected through online questionnaires and analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) in SmartPLS. The measurement model was evaluated for validity and reliability, followed by structural model testing for hypothesis testing and goodness of fit analysis. The findings reveal that perceived usefulness and attitude directly influence behavioral intention to use a mental health app.

Resumo
Este estudo tem como objetivo examinar as intenções comportamentais da Geração Z em relação ao uso de um aplicativo de saúde mental. O estudo adota o modelo de aceitação da tecnologia (TAM) e a teoria da sinalização para analisar os fatores que influenciam a propensão da Geração Z a adotar soluções digitais de saúde mental no contexto de problemas no relacionamento entre pais e filhos que afetam sua saúde mental. A pesquisa investiga as relações entre a utilidade percebida, a facilidade de uso percebida, a competência da marca, a atitude em relação ao uso de um aplicativo de saúde mental e a intenção comportamental de utilizar esses serviços digitais. Foi realizado um estudo quantitativo transversal com 311 participantes da Geração Z (com idades entre 18 e 25 anos) em Jacarta e áreas urbanas vizinhas, que relataram problemas no relacionamento entre pais e filhos que afetavam sua saúde mental. Os dados foram coletados por meio de questionários on-line e analisados utilizando a Modelagem de Equações Estruturais com Mínimos Quadrados Parciais (SEM-PLS) no SmartPLS. O modelo de medição foi avaliado quanto à validade e confiabilidade, seguido por

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While perceived ease of use influenced perceived usefulness, it did not directly affect attitude or intention. Interestingly, brand competence negatively influenced behavioral intention, suggesting worriedness toward brand-driven signals in mental health contexts among Generation Z. The model demonstrated strong validity and moderate predictive power. This study fills a gap in the literature by integrating branding signals into technology acceptance models within the mental health domain. It offers novel insights into how young, urban digital natives in Indonesia cognitively and emotionally engage with digital wellness platforms when confronting family-driven stress. The findings guide app developers, marketers, and mental health providers on designing authentic, value-driven interventions that resonate with Gen Z users.

Keywords: Behavioral Intentions. Brand Competence. Digital Mental Health App. Technology Acceptance Model.

testes do modelo estrutural para verificação de hipóteses e análise de adequação. Os resultados revelam que a utilidade percebida e a atitude influenciam diretamente a intenção comportamental de usar um aplicativo de saúde mental. Embora a facilidade de uso percebida tenha influenciado a utilidade percebida, ela não afetou diretamente a atitude ou a intenção. Curiosamente, a competência da marca influenciou negativamente a intenção comportamental, sugerindo uma preocupação em relação aos sinais impulsionados pela marca em contextos de saúde mental entre a Geração Z. O modelo demonstrou forte validade e poder preditivo moderado. Este estudo preenche uma lacuna na literatura ao integrar sinais de marca em modelos de aceitação de tecnologia no domínio da saúde mental. Ele oferece novas perspectivas sobre como jovens nativos digitais urbanos na Indonésia se envolvem cognitiva e emocionalmente com plataformas digitais de bem-estar ao enfrentarem o estresse causado pela família. Os resultados orientam desenvolvedores de aplicativos, profissionais de marketing e prestadores de serviços de saúde mental na concepção de intervenções autênticas e orientadas por valores que tenham repercussão entre os usuários da Geração Z.

Palavras-chave: *Intenções comportamentais. Competência da marca. Aplicativo digital de saúde mental. Modelo de aceitação de tecnologia.*

1 INTRODUCTION

Mental health is no longer a peripheral issue—it is central to sustainable development. The World Health Organization (WHO) underscores its importance across all nations (World Health Organization, 2025), and this mental well-being is in line with the common agenda from the United Nations in achieving Sustainable Development Goal 3: Good Health and Well-Being (United Nations, n.d.). Mental health disorders, like physical illnesses, impose enormous burdens on both individuals and societies, yet they often remain stigmatized and under-treated.

Within this global landscape, Generation Z (born 1995–2009) is experiencing unique mental health pressures, especially in Indonesia. One prominent driver is strained

parent-child relationships, which have been linked to increased anxiety, depression, and psychological distress among youths. Parent-child relationships significantly influence children's mental health, social skills, academic achievement, and future success (Wu & Lee, 2020). For Generation Z, these relationships during formative years impact current and future interpersonal relationships (Laursen & Collins, 2009). Low parental warmth and communication, along with parent-child hostility, have been linked to increased anxiety, depression, decreased self-esteem, and increased suicide risk (Low & Stocker, 2005). These interpersonal dynamics—amid evolving cultural norms—underscore the urgent need for accessible mental health interventions tailored to this cohort.

At the same time, digital mental health apps have emerged as potentially transformative tools. Several Indonesian tech startups and health platforms now offer app-based counseling and support services, including Riliv. Riliv, an Indonesia-based mental wellness platform, offers telepsychiatry and psychological support through mobile apps (East Ventures, 2023). A recent study during the COVID era found that over half of Riliv users rated its content, accuracy, interface, ease of use, and timeliness positively, emphasizing perceived system qualities, though it did not model behavioral intention or explore specific subgroups (Wardani & Zaenab, 2024). While this represents a fast-growing industry, real utilization rates among Gen Z with parent-related mental health concerns remain low, and scholarly attention to this adoption gap is scarce.

Traditionally, the technology acceptance model (TAM) has served as a dominant framework for explaining technology adoption. TAM emphasizes perceived usefulness and perceived ease of use as key predictors of system usage behavior (Davis, 1989). This study focuses on these belief-based, rational predictors of adoption rather than social or control-related factors such as subjective norms or perceived behavioral control, which fell outside the research objective; our focus instead extends to brand competence as a signalling-based predictor. The TAM (Aburbeian *et al*., 2022; Almogren & Aljammaz, 2022; Camilleri & Falzon, 2021; Ahmad *et al*., 2020) has been extensively employed as a highly influential and logical theoretical framework for examining user acceptance across diverse domains. However, existing TAM-based studies have not combined the model with brand-related signaling in digital mental health adoption, nor focused on Gen Z or on Indonesia. Furthermore, in health-related contexts, several studies have applied technology acceptance frameworks to investigate mobile health acceptance (Wang *et al*.,

2022; Li *et al*., 2024; Kim & Park, 2012; Tomczyk *et al*., 2021). Yet, these studies rarely focus on Gen Z or on Indonesia, and most neglect contextual factors like brand-related signaling in digital health adoption. Most such studies have focused on general or older populations; our work focuses on Gen Z facing parent–child-related mental health issues and investigates Riliv app adoption, which remains underexplored.

One underexplored angle is brand competence, grounded in signaling theory: the perception of a brand's expertise, credibility, and quality provisions may shape users' attitude and intention to adopt a digital mental health app. While trust has been sometimes included, empirical validation of brand competence in this setting is lacking. By doing so, the study contributes to the literature by clarifying how TAM constructs operate within the mental health app domain in Indonesia, testing the role of brand signals in the formation of behavioral intention, and responding to WHO and SDG goals by offering an evidence-based pathway to promote mental wellness tools among vulnerable youth groups.

2 LITERATURE REVIEW

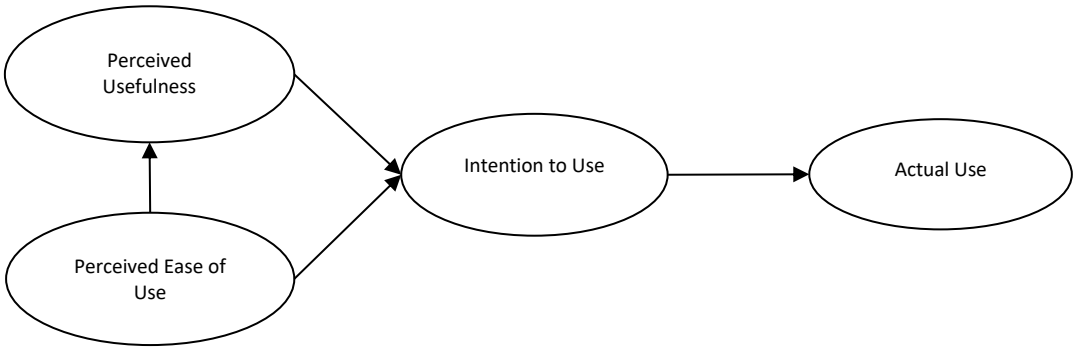
2.1 Technology acceptance model

Originally developed by Davis in 1985, the technology acceptance model (TAM) explains how users come to accept and use technology. The model emphasizes outcome variables such as behavioral intention and actual system usage, alongside core motivational constructs—namely perceived usefulness (PU), perceived ease of use (PEOU), and attitude toward technology (Davis, 1989). TAM suggests that these factors are directly linked to users' attitudes and intentions, where a more favorable attitude is expected to lead to a stronger intention to use a system, ultimately influencing actual usage behavior. Its widespread application in both academic and practical domains is largely due to its conceptual simplicity and explanatory strength. Over time, TAM has become the foundation for numerous model extensions in the field of technology adoption, offering valuable insights into the psychological and cognitive drivers behind users' decisions to embrace or reject technological tools. According to Marangunić and Granić (2015), PU and PEOU have consistently been identified as key predictors, either

directly or indirectly influencing technology adoption outcomes. Applying TAM to this study provides a framework for understanding how Generation Z evaluates the utility and ease of use of the Riliv mental health app, thereby offering insights into the behavioral factors that influence their adoption decisions. TAM has found widespread application in various industries, including hospitality (Ozturk, 2016), food and beverages (Moon *et al*., 2023), and online shopping (Copeland *et al*., 2023). In mental health contexts, TAM has been used to examine mobile mental health app adoption among young adults (Becker, 2016) and telemedicine service acceptance (Kamal *et al*., 2020).

Figure 1

Framework of the technology acceptance model



2.2 Signaling theory

Signaling theory, first introduced by Spence (1973), was developed to explain information asymmetry between organizations and individuals—originally within the context of job markets. The theory offers a robust framework for understanding behavioral dynamics in scenarios where two parties hold unequal access to information. Typically, one party, referred to as the sender, must decide whether to send a signal and determine the form it should take. The other party, known as the receiver, is responsible for interpreting the signal and making decisions based on its perceived meaning. Spence's seminal work demonstrated how job seekers could reduce information asymmetries by using signals—such as educational qualifications—to communicate their value to potential employers. These signals serve as indicators of quality, helping employers

distinguish between high- and low-competence candidates based on costly investments like advanced education.

Extending these principles to marketing, Kirmani and Rao (2000) argue that firms utilize elements of the marketing mix to convey product quality to consumers. In this context, brands function as signalers of competence, communicating reliability, professionalism, and expertise to reduce uncertainty in consumer decision-making (Cuong *et al*., 2022). Consumers, in turn, engage in cognitive evaluations, often relying on stereotypes or heuristic cues to assess a brand's competence. As Cuddy *et al*. (2007) suggest, these competence-based assessments influence how brands are perceived and categorized. Ultimately, such perceptions shape consumer attitudes and trust toward the brand.

2.3 Hypothesis development

2.3.1 Relationships between perceived usefulness, attitude, and behavioral intention to use a mental health app

Perceived usefulness—a central construct in the technology acceptance model (TAM)—refers to the degree to which an individual believes that using a specific technology will enhance their performance or quality of life (Davis, 1989). It reflects users' expectations that the technology will be instrumental in helping them achieve desired outcomes more efficiently than alternative methods (Triberti *et al*., 2016). Alongside perceived ease of use, perceived usefulness significantly shapes user attitudes and behavioral intentions toward adopting new technologies (Lu *et al*., 2005).

Attitude, in this context, denotes an individual's overall evaluative judgment of a technology—whether they view it positively or negatively (Edison & Geissler, 2003). Research shows that perceived usefulness influences users' attitudes by shaping their cognitive evaluations of a system's benefits. For instance, if users believe that Riliv's digital mental health services can meaningfully support their emotional well-being, they are likely to develop a favorable attitude toward using the app. Empirical studies have consistently demonstrated a positive association between perceived usefulness and attitude, affirming the predictive strength of this relationship in a range of domains,

including healthcare technology (AlBar & Hoque, 2019; Bondzie-Micah *et al*., 2022; Haldar & Goel, 2019). This highlights the importance of promoting digital tools like Riliv as both useful and beneficial, especially when targeting Gen Z users managing stress from parent–child relationship challenges.

In the broader TAM framework, perceived usefulness directly influences behavioral intention (BI)—the likelihood that a user will adopt or continue using a technology. Studies in digital health have shown that individuals are more inclined to use mobile health services when they recognize clear personal benefits such as emotional relief, timely access, or improved quality of life (Cajita *et al*., 2017; Kamal *et al*., 2020; Dhagarra *et al*., 2020). In the context of digital mental health, perceived usefulness may stem from beliefs about the effectiveness, accessibility, and personal relevance of the service. Thus, when users perceive a mental health app like Riliv to help manage mental stress—especially stemming from interpersonal issues—they are more likely to intend to use it.

Therefore, we proposed these hypotheses:

H1: Perceived usefulness has an influence on the attitude toward using a mental health app

H2: Perceived usefulness has an influence on the behavioral intention to use a mental health app

2.3.2 Relationships between perceived ease of use, attitude, perceived usefulness, and behavioral intention to use a mental health app

Perceived ease of use, another foundational construct within the TAM, refers to the degree to which an individual believes that using a particular technology will be effortless and uncomplicated (Davis, 1989). It embodies users' expectations regarding the ease of learning, navigating, and interacting with a system (Karahanna & Straub, 1999). For instance, when users perceive that the Riliv app offers a simple interface, clear guidance, and intuitive functionality, they are more likely to regard it as easy to use. Perceived ease of use plays a critical role in shaping not only behavioral intention but also attitude toward the technology. When individuals find a system straightforward and convenient, they are more inclined to view it positively and express a greater willingness

to adopt it for specific goals such as managing their mental health (Cajita *et al*., 2017; Kamal *et al*., 2020). This aligns with the broader understanding that usability reduces cognitive effort, increases confidence, and thereby promotes engagement.

Several studies affirm that perceived ease of use directly influences attitude and perceived usefulness, which subsequently affect behavioral intention (Chauhan *et al*., 2019; Camilleri & Falzon, 2021; Daragmeh *et al*., 2021). A system that is perceived as easy to operate not only generates favorable user attitudes but also strengthens the belief in the system's usefulness (Bondzie-Micah *et al*., 2022; Tubaishat, 2018). Intuitive app design has been linked to improved satisfaction and stronger adoption intent among younger users (Rafique *et al*., 2020; Vafaei-Zadeh *et al*., 2022). Based on the above theoretical foundations and empirical evidence, the following hypotheses are proposed:

H3: Perceived ease of use has an influence on the attitude toward using a mental health app

H4: Perceived ease of use has an influence on the behavioral intention to use a mental health app

H5: Perceived ease of use has an influence on the perceived usefulness of a mental health app

2.3.3 Relationships between brand competence, attitude, and behavioral intention to use a mental health app

Brand competence refers to the perception that a brand possesses the necessary skills, knowledge, and capabilities to fulfill customer expectations reliably. According to signaling theory, brands use competence as a signal to reduce uncertainty and convey trustworthiness to consumers (Cuong *et al*., 2022). Consumers, in turn, rely on cognitive evaluations and stereotype-based judgments to assess whether a brand is competent. These judgments shape consumer attitudes toward the brand and contribute to brand trust (Cuddy *et al*., 2007; Eisend & Stokburger-Sauer, 2013; Xue *et al*., 2020).

The perceived competence of a brand plays a central role in service interactions. As Smith & Barclay (1997**)** note, consumers' confidence in a brand's ability to deliver on its promises strongly influences their relationship with that brand. It shows that perceived

expertise directly impacts consumer trust and decision-making, particularly in service-oriented contexts like healthcare and digital apps (Zogaj *et al*., 2021).

Wang & Liu (2020) found that brand competence enhances consumer attitudes, which in turn promote positive behavioral intentions. Likewise, Gilal *et al*. (2023) show that consumers are more likely to form emotional bonds and exhibit favorable behavioral patterns when they perceive a brand as making them feel competent themselves. This is particularly relevant to Gen Z, a generation highly responsive to brand credibility and purpose-driven engagement. When Gen Z perceives a mental health app brand—such as Riliv—as competent, they are more likely to form positive attitudes, develop emotional trust, and express intention to adopt the service.

Indeed, Eisend & Stokburger-Sauer (2013) assert that brand competence has one of the strongest effects on consumer purchasing and usage decisions. Despite this, branding's role in the adoption of digital mental health services remains under-researched (Taiminen & Saraniemi, 2018), underscoring a significant gap this study aims to address. Based on the above theoretical and empirical foundation, the following hypotheses are proposed:

H6: Brand competence has an influence on the attitude toward using a mental health app

H7: Brand competence has an influence on the behavioral intention to use a mental health app

2.3.4 Relationships between attitude toward using a mental health app and behavioral intention to use a mental health app

In the TAM, attitude plays a pivotal role in determining an individual's intention to perform a behavior or adopt a particular technology (Lu *et al*., 2005). Attitude is conceptualized as a person's overall evaluative judgment—positive or negative—about engaging with a behavior or technology, shaped by beliefs about its potential benefits, drawbacks, and expected outcomes (Edison & Geissler, 2003).

When it comes to digital mental health platforms such as Riliv, users' attitudes may be influenced by several factors: how effective they believe the platform is in improving emotional well-being, how accessible and convenient they find the service,

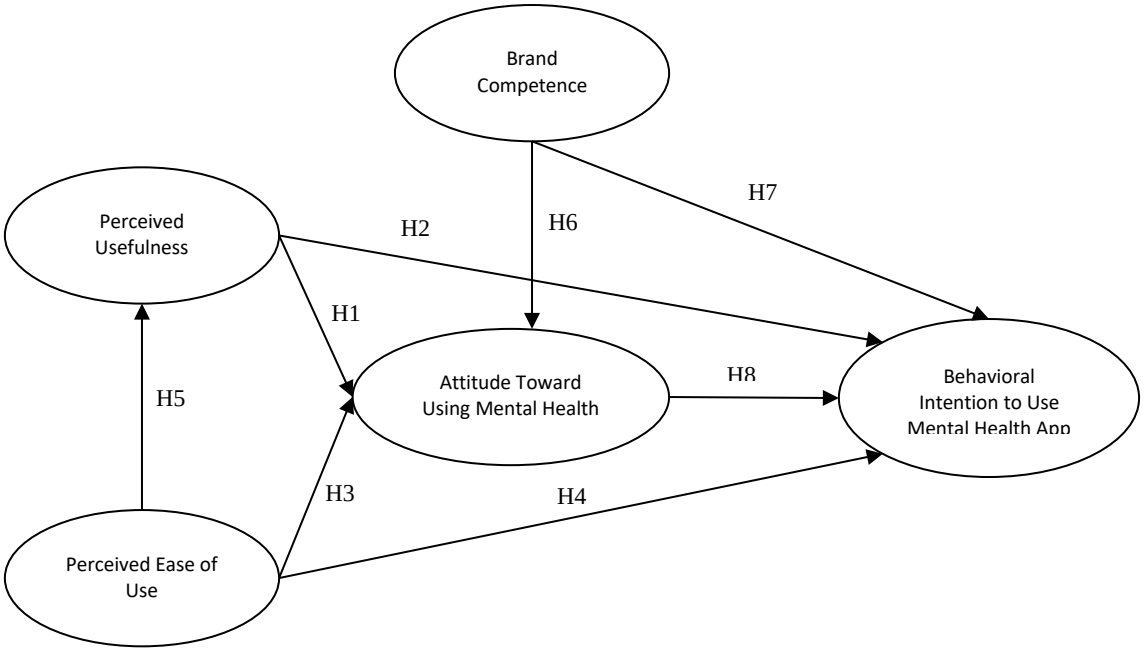
and their overall satisfaction with the experience (Rantanen *et al*., 2021). These beliefs contribute to the formation of either a favorable or unfavorable attitude, which subsequently affects the intention to use such services.

Extensive empirical research supports the idea that a positive attitude is a strong predictor of behavioral intention across multiple domains. In consumer behavior studies, favorable attitudes have consistently been linked to stronger purchase or usage intentions (Bondzie-Micah *et al*., 2022). Likewise, in the technology adoption domain, studies have shown that a positive attitude toward a digital platform significantly boosts the likelihood of adoption (Copeland *et al*., 2023; Kamal *et al*., 2020). In the context of this study, understanding how attitude shapes Gen Z's behavioral intentions toward adopting the Riliv mental health app is essential—especially considering their unique technological fluency, emotional needs, and social behaviors. Therefore, this research posits that attitude will have a direct and significant impact on Gen Z's intention to use the digital mental health app.

H8: Attitude toward using a mental health app has an influence on the behavioral intention to use a mental health app

Figure 3

Proposed research model



3 METHODOLOGY

This study employed a quantitative, cross-sectional design to explore Generation Z's behavioral intentions toward adopting digital mental health app, using Riliv as the case context. The study is grounded in the technology acceptance model (TAM), theory of planned behavior (TPB), and signaling theory, with a specific focus on perceived usefulness, perceived ease of use, brand competence, attitude, and behavioral intention.

The study focuses on Indonesian Generation Z individuals aged 18–25 in Jakarta and nearby urban areas, specifically those reporting mental health challenges tied to parent–child relationship issues. Jakarta's urban environment—marked by technological sophistication—provides an ideal context to examine behavior related to digital mental health app adoption. More importantly, young urban residents, especially those navigating familial tensions, are at elevated risk for mental health issues. Large-sample national data indicate that urban Indonesian youth aged 15–24 display a higher prevalence of common mental disorders (CMDs) than rural peers, with depression affecting approximately 6.1% of urban youth, compared to lower rates in non-urban areas (Khairunnisa *et al*., 2024; Suryaputri *et al*., 2021). Meanwhile, community-based research in Jakarta identified psychological distress and depression rates of 12.6% among adolescents aged 16–18, with in-school youth reporting elevated symptoms of social anxiety, depression, and suicidality (Pham *et al*., 2024). Crucially, family dynamics—particularly parent–child conflict, poor communication, parental mental health, and disrupted parenting—are consistently implicated in Indonesian youth mental health studies. Poor parent–child relationships have been linked to increased anxiety, depression, and emotional difficulty among adolescents and young adults (Rahmandani *et al*., 2020; Suryaputri *et al*., 2021; Yani *et al*., 2025). In Jakarta, adolescents reporting weaker family satisfaction or unhealthy parenting patterns were significantly more likely to exhibit stress, depression, and emotional behavior problems (Eka *et al*., 2025).

A purposive sampling method was used to ensure alignment with the study's aims. Screening questions were used to verify age eligibility and relevant experiences with mental health and parental relationships. In addition, respondents were required to confirm awareness of the Riliv app, ensuring that their responses to the perceived usefulness, perceived ease of use, brand competence, attitude, and behavioral intention

items reflected familiarity with the brand. The survey was disseminated via online platforms, including WhatsApp groups, Instagram, and mental health forums frequented by youth. A total of 367 valid responses were collected, but only 311 respondents have passed the criteria we aimed to look for.

The data collection tool was a structured online questionnaire, constructed using measurement items drawn from previously validated instruments. All constructs were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Perceived usefulness items were adapted from Cheng *et al*. (2006) and Bondzie-Micah *et al*. (2022). Perceived ease of use was measured using items from Cheng *et al*. (2006), Haldar & Goel (2019), and Zin *et al*. (2023). The brand competence scale was sourced from Hwang *et al*. (2022). Items assessing attitude toward use were based on Cheng *et al*. (2006), Thomas-Francois *et al*. (2023), and Haldar & Goel (2019). Finally, behavioral intention items were adapted from Cheng *et al*. (2006) and Haldar & Goel (2019).

Data were analyzed using SmartPLS 4.0, a structural equation modeling software suitable for predictive analysis and exploratory model testing. The analysis consisted of three stages: (1) measurement model evaluation: assessed the reflective measurement items' validity (outer loadings) and reliability (composite reliability), convergent validity (AVE), and discriminant validity (using the Fornell-Larcker criterion, HTMT, and cross loadings); (2) structural model testing: evaluated multicollinearity (inner VIF) and assessed path coefficients and statistical significance (f square) through bootstrapping with 5,000 samples, including the testing of direct and mediating effects; and (3) goodness of fit (GoF) evaluation: evaluated R square, Q square, SRMR, GoF index, PLS predict, and model robustness check (linearity testing) (Hair & Alamer, 2022).

The study was conducted in accordance with established ethical standards for research involving human participants in an online setting. Prior to participation, all respondents were clearly informed about the objective of the study, their voluntary involvement, the right to withdraw at any time without penalty, and the assurance of data confidentiality and anonymity. Informed consent was obtained electronically through a consent question that read:

"Are you willing to participate in this voluntary study about parent-child relationships and mental health, where your information will be kept confidential and used solely for academic research purposes?"

No personally identifiable information was collected at any stage of the data-gathering process.

4 FINDINGS AND DISCUSSIONS

Of the 367 responses collected, 311 were considered valid after applying screening criteria, which included age (18-25 years), residence in Jakarta and surrounding urban areas, experiences of parent-child relationship problems affecting mental health, awareness of the Riliv mental health app, and recent experience with online shopping. The respondents' profiles are displayed in Table 1.

Table 1

Respondent profiles

Demographic variables	**Item**	**Frequency**	**(%)**
GENDER	Male	131	42.1%
	Female	180	57.9%
DOMICILE	Jakarta	177	56.9%
	Bogor	32	10.3%
	Depok	30	9.6%
	Tangerang	42	13.5%
	Bekasi	30	9.6%
OCCUPATION	Students	197	63.3%
	Full-time employee	75	24.1%
	Internship	25	8%
	Freelancer	10	3.2%

	Part-time employee	4	1.3%
THE HIGHEST COMPLETED EDUCATION	High school	156	50.2%
	Diploma	12	3.9%
	Bachelor's degree	110	35.4%
	Master's degree	33	10.6%
MONTHLY INCOME (IDR)	< Rp 500,000	25	8%
	Rp 500,000 - Rp 1,000,000	53	17%
	Rp 1,000,001 - Rp 2,000,000	54	17.4
	Rp 2,000,001 - Rp 3,000,000	42	13.5%
	> Rp 3,000,000	137	44.1%
HAVE PURCHASED OR BOOKED ANY HEALTHCARE SERVICES DIGITALLY FROM AN APP/WEBSITE	Yes	202	65%
	No	109	35%
THE MOST SEEN SOURCE OF AWARENESS OF THE RILIV APP	Instagram	99	31.8%
	TikTok	68	21.9%
	Family	40	12.9%
	Friends	23	7.4%
	Google Search Engine Results	65	20.9%
	Ads on a website	16	5.1%
FROM 1 TO 10, HOW SEVERE DO YOU THINK YOUR RELATIONSHIP ISSUES/OBSTACLES WITH YOUR PARENTS/PARENT FIGURES HAVE IMPACTED YOUR MENTAL HEALTH	Almost none	2	0.6%
	Very minimal	5	1.6%
	Minimal	9	2.9%
	Very mild	11	3.5%
	Mild	53	17.0%

	Moderate	68	21.9%
	Moderately severe	79	25.4%
	Severe	55	17.7%
	Very severe	29	9.3%

Notably, 57.9% were female and 42.1% male. This gender distribution aligns with broader empirical findings suggesting that young women consistently report greater psychological distress and are more likely to seek mental health assistance than males (Mori *et al*., 2024; Bosco *et al*., 2020). A majority (56.9%) of respondents resided in Jakarta, followed by Tangerang (13.5%), Bogor (10.3%), Depok (9.6%), and Bekasi (9.6%). This aligns with the urban and digitally literate profile of the target population, as Jakarta and its metropolitan area are Indonesia's most tech-driven and health-app-accessible regions. A large portion of the sample (63.3%) were students, reflecting the focus on young adults still navigating educational transitions and familial dependencies. Full-time employees (24.1%) and interns (8%) formed the next largest groups. This suggests varying degrees of autonomy, income, and possibly stress, all of which are important in shaping attitudes toward digital health service adoption. Half of the participants (50.2%) had completed only high school, while 35.4% held a bachelor's degree, and 10.6% had a master's degree. This range illustrates the varying levels of cognitive maturity, digital literacy, and exposure to mental health discourse. Notably, 44.1% of respondents reported earning more than IDR 3,000,000/month, suggesting a considerable segment of financially capable youth who may afford digital health services. However, 55.9% earned under IDR 3,000,000/month, reflecting economic disparity, which could influence the adoption of paid mental health platforms like Riliv. A significant 65% of respondents had previously purchased or booked healthcare services digitally, indicating a high level of digital health familiarity and openness, which supports the TAM assumption that experience reduces perceived effort and raises perceived usefulness. The most common channels of awareness for Riliv were Instagram (31.8%) and TikTok (21.9%), highlighting the crucial role of social media in influencing mental health service discovery among Gen Z. Search engine results (20.9%) also played a

notable role, implying active self-help behavior. A compelling insight emerges from the self-assessment of mental health impact. Over 50% of respondents rated the impact of parent–child relationship issues on their mental health as moderately severe to very severe. This highlights a deep emotional burden within this population and validates the study's relevance. These findings also reinforce the need for personalized, accessible, and competent digital mental health solutions tailored to relationship-driven stressors.

4.1 Measurement model evaluation

The measurement model was assessed using SmartPLS 4 to ensure the constructs demonstrated adequate validity and reliability. This evaluation included tests of indicator reliability (outer loadings), internal consistency reliability (composite reliability and Cronbach's alpha), convergent validity (average variance extracted; AVE), and discriminant validity using the Fornell–Larcker criterion, HTMT ratios, and cross-loadings as displayed in Table 2-8.

Table 2

Outer loadings, rho_c, cronbach's alpha, AVE for perceived usefulness

PERCEIVED USEFULNESS - Evaluation of reflective measurement items					
Item Code	**Measurement Item**	**Outer Loadings**	**Composite Reliability (rho_c)**	**Cronbach's Alpha**	**AVE**
PU1	*I think that using Riliv app would enable me to overcome my mental health issues caused by parent-child relationship problems more effectively.*	0.803	0.855	0.788	0.542
PU2	*I think that using Riliv app would make it easier for me to overcome my mental health issues caused by parent-child relationship problems.*	0.757			
PU3	*I think that using Riliv app is useful to overcome my mental health issues caused by parent-child relationship problems.*	0.732			
PU4	*Overall, I think that using Riliv app to*	0.688			

	overcome my mental health issues caused by parent-child relationship problems is advantageous.				
PU5	*The use of Riliv app will make my efforts to overcome mental health issues caused by parent-child relationship problems more efficient.*	0.697			

Table 3

Outer loadings, rho_c, cronbach's alpha, AVE for perceived ease of use

PERCEIVED EASE OF USE - Evaluation of reflective measurement items					
Item Code	**Measurement Item**	**Outer Loadings**	**Composite Reliability (rho_c)**	**Cronbach's Alpha**	**AVE**
PEOU 1	*I think that using Riliv app would be easy.*	0.682	0.838	0.761	0.510
PEOU 2	*In my opinion, it does not take much effort to be able to interact with mental health professionals (e.g., doctors, psychologists, counselors, etc.) digitally in Riliv app.*	0.706			
PEOU 3	*I think my interaction with Riliv app would be clear and understandable.*	0.738			
PEOU 4	*I would find Riliv app flexible to use.*	0.720			
PEOU 5	*Riliv app will be convenient for me to use to overcome my mental health issues caused by parent-child relationship problems.*	0.723			

Table 4

Outer loadings, rho_c, cronbach's alpha, AVE for brand competence

BRAND COMPETENCE - Evaluation of reflective measurement items					
Item Code	**Measurement Item**	**Outer Loadings**	**Composite Reliability (rho_c)**	**Cronbach's Alpha**	**AVE**
BC1	*Riliv app is competent at dealing with mental health concerns*	0.707	0.742	0.483	0.491
BC2	*Riliv app is skilled at dealing with mental health issues*	0.771			
BC3	*Riliv app has many professional experts in dealing with mental health problems*	0.615			

Table 5

Outer loadings, rho_c, cronbach's alpha, AVE for attitude

ATTITUDE - Evaluation of reflective measurement items					
Item Code	**Measurement Item**	**Outer Loadings**	**Composite Reliability (rho_c)**	**Cronbach's Alpha**	**AVE**
ATT1	*In my opinion, it would be desirable to use Riliv app to overcome my mental health issues caused by parent-child relationship problems.*	0.817	0.852	0.782	0.535
ATT2	*I would feel that using Riliv app is pleasant to overcome my mental health issues caused by parent-child relationship problems.*	0.717			
ATT3	*I think that using Riliv app to overcome my mental health issues caused by parent-child relationship problems is a good idea.*	0.696			
ATT4	*I am certain that using Riliv app to overcome my mental health issues caused by parent-child relationship problems is a safe option for me.*	0.725			
ATT5	*I think that using Riliv app is an appropriate approach to overcome my mental health issues caused by parent-child relationship problems.*	0.697			

Table 6

Outer loadings, rho_c, cronbach's alpha, AVE for behavioral intention to use

BEHAVIORAL INTENTION TO USE - Evaluation of reflective measurement items					
Item Code	**Measurement Item**	**Outer Loadings**	**Composite Reliability (rho_c)**	**Cronbach's Alpha**	**AVE**
BITU1	*In the near future, I will use Riliv app to overcome my mental health issues caused by parent-child relationship problems.*	0.837	0.888	0.832	0.666
BITU2	*Using Riliv app to overcome my mental health issues caused by parent-child relationship problems is something I would do in the near future.*	0.837			
BITU3	*I would see myself using Riliv app in the near future to overcome my mental health issues caused by parent-child relationship problems.*	0.799			
BITU4	*Everything else being the same, I would prefer Riliv app in the near future to overcome my mental health issues caused by parent-child relationship problems over other digital and conventional mental health options (e.g., doctor appointments at hospitals or private practices).*	0.789			

All reflective constructs showed acceptable outer loadings above the threshold of 0.60 (Hair *et al*., 2019), confirming item reliability. Most items exceeded 0.70, further supporting robustness. Composite reliability (CR) values for all constructs ranged from 0.742 to 0.888, all exceeding the 0.70 threshold, while Cronbach's alpha values ranged from 0.483 to 0.832, suggesting moderate to high internal consistency. The AVE values for all constructs exceeded the minimum threshold of 0.50, indicating sufficient convergent validity, except for brand competence, which scored slightly below at 0.491. This marginal deviation is acceptable in research if CR exceeds 0.70 (Fornell & Larcker, 1981).

Table 7

Discriminant validity with Fornell-Larcker & HTMT

Evaluation of discriminant validity - Fornell-Larcker					
	ATT	BC	BITU	PEOU	PU
ATT	**0.732**				
BC	0.301	**0.701**			
BITU	0.546	0.076	**0.816**		
PEOU	0.461	0.291	0.285	**0.714**	
PU	0.672	0.339	0.454	0.545	**0.736**
Evaluation of discriminant validity - HTMT (the HTMT score should be < 0.90)					
	ATT	BC	BITU	PEOU	PU
ATT					
BC	0.492				
BITU	0.673	0.131			
PEOU	0.589	0.480	0.352		
PU	0.854	0.540	0.555	0.690	

Table 8

Discriminant validity with cross loadings

Evaluation of discriminant validity - Cross Loadings of PERCEIVED USEFULNESS					
	ATT	BC	BITU	PEOU	PU
PU1	0.531	0.278	0.376	0.453	**0.803**
PU2	0.497	0.269	0.375	0.416	**0.757**
PU3	0.516	0.216	0.346	0.413	**0.732**
PU4	0.464	0.282	0.297	0.357	**0.688**

PU5	0.463	0.203	0.265	0.358	**0.697**
Evaluation of discriminant validity - Cross Loadings of PERCEIVED EASE OF USE					
	ATT	BC	BITU	PEOU	PU
PEOU1	0.284	0.244	0.175	**0.682**	0.292
PEOU2	0.273	0.177	0.170	**0.706**	0.364
PEOU3	0.372	0.150	0.247	**0.738**	0.432
PEOU4	0.354	0.236	0.166	**0.720**	0.408
PEOU5	0.343	0.241	0.244	**0.723**	0.423
Evaluation of discriminant validity - Cross Loadings of BRAND COMPETENCE					
	ATT	BC	BITU	PEOU	PU
BC1	0.193	**0.707**	0.075	0.176	0.211
BC2	0.254	**0.771**	0.032	0.242	0.290
BC3	0.177	**0.615**	0.059	0.187	0.200
Evaluation of discriminant validity - Cross Loadings of ATTITUDE					
	ATT	BC	BITU	PEOU	PU
ATT1	**0.817**	0.164	0.441	0.378	0.569
ATT2	**0.717**	0.215	0.376	0.329	0.472
ATT3	**0.696**	0.316	0.353	0.326	0.500
ATT4	**0.725**	0.126	0.475	0.333	0.449
ATT5	**0.697**	0.300	0.344	0.316	0.462
Evaluation of discriminant validity - Cross Loadings of BEHAVIORAL INTENTION TO USE					
	ATT	BC	BITU	PEOU	PU
BITU1	0.420	0.055	**0.837**	0.208	0.338

BITU2	0.469	0.075	**0.837**	0.283	0.392
BITU3	0.467	0.096	**0.799**	0.206	0.390
BITU4	0.422	0.017	**0.789**	0.231	0.356

Discriminant validity was assessed using the Fornell–Larcker criterion, HTMT ratios, and cross-loading comparisons. Fornell–Larcker results show that each construct's AVE square root was greater than its correlation with other constructs, fulfilling the criterion for discriminant validity. HTMT ratio of correlations show that all HTMT values fell below the recommended 0.90 threshold, further supporting discriminant validity. Cross-loadings results show that each item loaded highest on its intended construct, further confirming discriminant validity (Henseler *et al*., 2015).

We conclude that perceived usefulness and behavioral intention emerged as the most robust constructs, with high AVE, CR, and strong outer loadings. Brand competence, while slightly below AVE threshold, retained theoretical importance and adequate reliability—justifying retention in the model. Attitude displayed consistently strong outer loadings and good discriminant validity, supporting its role as a mediating construct in this study. This confirms that all constructs in the model meet the minimum criteria for validity and reliability, allowing the study to proceed to the next step structural model evaluation, where multicollinearity, p-value, path coefficient, and mediation effect will be tested.

4.2 Structural model evaluation

Evaluation of the structural model consists of evaluating multicollinearity through the inner VIF scores and testing the hypothesis. The results are displayed in Table 9-11.

Table 9

Multicollinearity testings with inner VIF

Evaluation of structural model (multicollinearity)—Inner VIF (the inner VIF score should be < 5)					
	ATTITUDE	BRAND COMPETENCE	BEHAVIORAL INTENTION TO USE	PERCEIVED EASE OF USE	PERCEIVED USEFULNESS
ATTITUDE			1.880		
BRAND COMPETENCE	1.150		1.159		
PERCEIVED EASE OF USE	1.448		1.477		1.000
PERCEIVED USEFULNESS	1.498		2.132		

Multicollinearity was assessed using Inner Variance Inflation Factor (VIF) values. All VIF scores were well below the threshold of 5, indicating no multicollinearity issues among the predictor constructs (Hair *et al*., 2019). This validates the structural model's stability and interpretability. Next, the direct relationships between constructs were tested using path coefficients, p-values, confidence intervals, and Cohen's f square effect sizes (Gignac & Szodorai, 2016).

Table 10

Hypothesis testings for direct effect

Evaluation of structural model—Hypothesis testing direct effect (the p-value should be < 0.05)						
Proposed hypothesis	Path coefficient	p-value	Confidence intervals		f square	Conclusion
			2.5%	97.5%		
H1. Perceived usefulness ⇒ attitude	0.581	0.000	0.427	0.724	0.424	**SUPPORTED**
H2. Perceived usefulness ⇒ behavioral intention to use	0.185	0.033	0.036	0.378	0.024	**SUPPORTED**
H3. Perceived ease of use ⇒ attitude	0.124	**0.137**	No need to analyze			**NOT SUPPORTED**

H4. Perceived ease of use ⇒ behavioral intention to use	0.012	**0.820**	No need to analyze			**NOT SUPPORTED**
H5. Perceived ease of use ⇒ perceived usefulness	0.545	0.000	0.419	0.673	0.422	**SUPPORTED**
H6. Brand competence ⇒ attitude	0.068	**0.260**	No need to analyze			**NOT SUPPORTED**
H7. Brand competence ⇒ behavioral intention to use	**-0.127**	0.034	-0.243	-0.010	0.021	**SUPPORTED (NEGATIVELY)**
H8. Attitude ⇒ behavioral intention to use	0.455	0.000	0.279	0.611	0.163	**SUPPORTED**

The results showed that perceived usefulness strongly and positively influenced both attitude ($\beta = 0.581$, $p < 0.001$) and behavioral intention ($\beta = 0.185$, $p = 0.033$), supporting TAM theory. The strong effect on attitude (f square = 0.424) demonstrates its central role in shaping Gen Z's mental health tech acceptance. Therefore, H1 and H2 were confirmed. We found sufficient data to accept H1 and H2. Similarly, we found more evidence to accept H5. Perceived ease of use significantly predicted perceived usefulness ($\beta = 0.545$, $p < 0.001$), reinforcing the causal flow within TAM. However, perceived ease of use had no significant direct effect on either attitude or behavioral intention to use a mental health app, suggesting that usefulness, rather than usability, drives behavioral motivation in this context. Thus, H3 and H4 were not confirmed. Brand competence did not influence attitude directly but had a significant negative impact on behavioral intention ($\beta = -0.127$, $p = 0.034$). This counterintuitive result suggests a possible scepticism or reactance among Gen Z respondents toward brand authority in the mental health space. Therefore, we did not find evidence to accept H6 but found evidence to accept H7. The negative influence of brand competence on behavioral intention to use a mental health app may be due to the fact that the majority of respondents are students with an income of less than Rp 3,000,000 per month. We analyzed that the more competent a mental health app is perceived to be (with the experience and expertise of its experts, etc.), the less likely they are to try it. This could be due to their limited buying power (the majority (55.9%) earn less than Rp 3,000,000 per month).

Attitude had a strong and significant effect on behavioral intention ($\beta = 0.455$, $p < 0.001$), aligning with both TPB and TAM assumptions. Hence, H8 was confirmed. Attitude in the context of a digital mental health app is important because mental health app users must have good thoughts and judgments first regarding the concept of using a digital mental health app. The more positive the user's attitude toward using mental health applications, the more motivated the user is to use mental health applications.

4.3 Goodness of fit (GoF) evaluation

The model's overall quality and predictive performance were evaluated using multiple metrics: R square, Q square, SRMR, goodness of fit (GoF) index, PLS predict, and linearity testing. These indicators collectively assess how well the model explains the data and whether it holds predictive value.

Table 11

Goodness of fit—R square, Q square, SRMR, and GoF index

GoF—R-square & Q-square		
	R-square	Q-square
ATTITUDE	0.468	0.186
BEHAVIORAL INTENTION TO USE	0.326	0.042
PERCEIVED USEFULNESS	0.297	0.268
GoF—SRMR (Standardized Root Mean Square Residual)		
	Estimated Model	
SRMR	0.071	
GoF—Goodness of Fit (GoF) Index		
Average Communality	Average R-Square	GoF Index
0.549	0.364	0.447

R-square represents the amount of variance explained in the endogenous construct by its predictor variables. The higher the R square, the better the model explains the dependent variable. Attitude with the R square = 0.468, meaning that about 46.8% of the variance in attitude is explained by its predictors (perceived usefulness, perceived ease of use, and brand competence). This is a solid indication of model strength in the TAM/TPB context. Behavioral intention with the R square = 0.326, indicating that roughly 32.6% of Gen Z's intention to use the mental health app is predicted by attitude, perceived usefulness, perceived ease of use, and brand competence. This level is acceptable, especially for behavioral research. Perceived usefulness with the R square = 0.297, meaning that approximately 30% of the variance in perceived usefulness is explained by perceived ease of use. This supports TAM's original premise that users who find a system easier to use are more likely to perceive it as useful (Davis, 1989). According to Chin (1998), values of 0.67 are substantial, 0.33 are moderate, and 0.19 are weak. All three constructs here fall between moderate and strong. In behavioral and social science research, an R square around 0.30–0.40 is generally considered acceptable, particularly when studying perceptual or attitudinal variables. According to Ozili (2023), R square values of at least 0.10 (10%) can be acceptable in social science research—particularly when the model includes statistically significant predictors (even if total variance explained is modest). Together, these references provide a robust justification for considering R square values in the range of 0.30–0.40 as meaningful and acceptable in studies of technology acceptance or consumer intentions. They reflect moderate explanatory power appropriate for attitudinal models involving Generation Z and digital mental health adoption.

The Q square assesses the model's out-of-sample predictive accuracy using blindfolding. A Q square > 0 indicates that the model has predictive relevance for the target construct. Perceived usefulness with the Q square = 0.268 and attitude with the Q square = 0.186 shows good predictive capability, meaning the model can accurately predict unseen responses for these latent variables. On the other hand, behavioral intention with the Q square = 0.042 has low predictive relevance, but still above zero, which is acceptable in exploratory behavioral studies. This is potentially due to external unmeasured variables like stigma or socio-economic factors.

The estimation result of the model is 0.065 (SRMR < 0.08), which means that the model has a good model fit (Hair *et al*., 2025). Empirical data can explain the influence between variables in the model. The goodness of fit index (GoF Index) is an overall evaluation of the model that considers both the measurement and structural models. This GoF index can only be determined using the reflective measurement model, which takes the square root of the geometric mean of communality and the mean R-square. Wetzels *et al*. (2009) interpret the GoF index values as 0.1 (low GoF), 0.25 (mid GoF), and 0.36 (high GoF). The calculation results show that the model's GoF index is 0.447, which is in the high GoF category. Empirical data can explain the measurement model, which has a high level of fit.

Table 12

Goodness of fit - PLS predict

GoF—PLS predict of attitude, behavioral intention to use, and perceived usefulness				
Measurement Item	PLS-SEM		LM (Linear Regression Model)	
	RMSE (Root Mean Square Error)	MAE (Mean Absolute Error)	RMSE (Root Mean Square Error)	MAE (Mean Absolute Error)
ATT1	0.867	0.699	0.887	0.710
ATT2	0.880	0.679	0.897	0.685
ATT3	**0.940**	0.753	0.937	0.756
ATT4	1.028	**0.842**	1.030	0.829
ATT5	0.870	**0.680**	0.874	0.670
BITU1	1.059	0.808	1.065	0.824
BITU2	1.114	0.826	1.115	0.833
BITU3	1.110	0.843	1.125	0.850
BITU4	1.123	0.863	1.150	0.881
PU1	0.859	0.658	0.863	0.669

PU2	**0.934**	**0.736**	0.928	0.729
PU3	0.930	0.699	0.942	0.718
PU4	0.942	0.733	0.943	0.741
PU5	0.937	0.711	0.948	0.729

The model's predictive capability was assessed using PLS predict, comparing root mean square error (RMSE) and mean absolute error (MAE) between the PLS-SEM model and a linear regression (LM) benchmark. Out of 28 comparisons, 23 indicators had lower prediction errors in PLS-SEM, indicating medium predictive power. This reinforces the model's practical relevance for forecasting behavioral intention and attitudes toward digital mental health services.

Table 13

Goodness of fit—Linearity testing

Evaluating goodness of fit (GoF)—Linearity Testing (p-value should be > 0.05)			
Linearity Testing	Path Coefficient	P-value	Conclusion
QE (PU) ⇒ Behavioral intention to use	-0.001	0.972	Linear
QE (PEOU) ⇒ Behavioral intention to use	-0.018	0.323	Linear
QE (BC) ⇒ Behavioral intention to use	-0.117	**0.015**	**Not linear**
QE (ATT) ⇒ Behavioral intention to use	-0.014	0.749	Linear
QE (PU) ⇒ Attitude	0.045	0.205	Linear
QE (PEOU) ⇒ Attitude	0.058	**0.048**	**Not linear**
QE (BC) ⇒ Attitude	-0.112	**0.008**	**Not linear**
QE (PEOU) ⇒ Perceived usefulness	0.055	0.130	Linear

Linearity assumptions were checked between key predictor–outcome pairs using p-values. Most paths exhibited linear relationships ($p > 0.05$). However, some

nonlinearities were detected, particularly: BC ⇒ BI (p = 0.015), PEOU ⇒ ATT (p = 0.048), and BC ⇒ ATT (p = 0.008). These findings suggest potential nonlinear cognitive evaluations of branding and usability influences on attitudes, especially within emotionally charged contexts like mental health apps.

5 CONCLUSIONS AND IMPLICATIONS

5.1 Conclusions

This study explored Generation Z's behavioral intentions to use a mental health app, with a specific case study of the Riliv app in Indonesia. Grounded in the technology acceptance model (TAM) and signaling theory, the study employed a quantitative method with a structured online questionnaire and SEM-PLS to analyze the proposed research model. The study found out that the measurement model exhibited strong reliability and validity. All constructs met recommended criteria for composite reliability, AVE, and discriminant validity. Perceived usefulness emerged as a critical determinant, influencing both attitude and behavioral intention. Attitude played a strong mediating role, while perceived ease of use only indirectly contributed through its effect on usefulness. Unexpectedly, brand competence negatively affected behavioral intention, signaling potential concerns about the financial concerns. The model fit was strong (GoF index = 0.447; SRMR = 0.071), with moderate predictive power, justifying the robustness of the theoretical model.

5.2 Implications

This study provides several theoretical contributions. First, it extends TAM by integrating brand competence from signaling theory—rare in mental health app literature. Second, offers empirical support for attitude as a mediator, reinforcing its role in shaping digital health behavior. Finally, this study suggests potential for nonlinear relationships, especially regarding branding cues and usability perceptions among Generation Z in Indonesia.

For the practical implications, this study can suggest several practical strategies. Mental health platforms like Riliv should prioritize communicating clear functional benefits, as usefulness—rather than ease of use—is a stronger motivator. Marketing should avoid overemphasis on brand strength; instead, focus on authenticity, transparency, and emotional relevance. UI/UX designers should optimize usability but understand that ease alone may not lead to adoption unless users see clear value. Public health stakeholders should recognize that urban Gen Z populations, especially those with strained parental relationships, are open to digital tools but demand trustworthy, results-driven platforms.

5.3 Limitations and future research directions

This study has several limitations that should be acknowledged. First, the cross-sectional design captures behavioral intention at a single point in time and cannot establish causal relationships among the constructs; a longitudinal design would allow stronger causal inference and would permit tracking whether stated intention translates into actual use of Riliv. Second, the purposive, non-probability sampling strategy and the concentration of respondents in Jakarta and its surrounding urban areas limit the generalizability of the findings to Gen Z populations in other regions of Indonesia or other countries; probability-based sampling across a broader range of provinces would strengthen external validity. Third, future research could also explore additional psychological factors (e.g., stigma, self-efficacy, privacy concerns) and test the model across other digital mental health platforms and cultural contexts.

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