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The Role of Social Norms in Shaping Normative Beliefs and Forming Subjective Norms for Predicting Fitness Mania Intention to Consume Amino 2000 Supplements in Indonesia: A Mixed Method Approach

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Abstract

The primary aim of this study is to investigate the convergent and discriminant validity of injunctive and descriptive norms in forming subjective norms. It also examines the influence of subjective norms, encompassing normative beliefs (injunctive and descriptive norms) and the motivation to comply, on the intention to consume Amino 2000 supplements among fitness enthusiasts in Indonesia. This research, employing a mixed-method approach combining qualitative and quantitative analyses, was conducted in four major Indonesian cities: Jakarta, Bandung, Surabaya, and Semarang. The study sample comprised 393 fitness aficionados from five distinct fitness centers across the region. The findings support four hypotheses posited by the researcher. Overall, subjective norms, including normative beliefs (injunctive and descriptive norms) and motivation to comply, more effectively predict and explain the intention of fitness mania to consume Amino 2000 supplements, compared to either injunctive norms, descriptive norms, a combination of both, or the normative beliefs formed by these norms, along with the constituent motivation to comply.

Keywords

Subjective norms, Injunctive norms, Descriptive norms, Mixed method, and Fitness mania.

1. Introduction

The lifestyle of 'fitness mania', integrating physical exercise, regular diet, and rest, is increasingly synonymous with awareness of sports supplements' benefits for achieving fitness goals, muscle building, and weight loss (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Among these, Amino 2000 supplements, often used by bodybuilders and athletes for muscle recovery and growth, have gained popularity (Schiffman & Kanuk, 2010). In Indonesia, particularly in cities like Jakarta, Bandung, Surabaya, and Semarang, the consumption of Amino 2000 is evident

among fitness enthusiasts, driven by the belief in its necessity for stronger and well-defined muscles following strenuous physical exercise (Housman, 2006).

This consumption behavior aligns with the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), suggesting that individuals consciously perform behaviors to achieve specific goals, such as improved muscle mass and fitness through the use of Amino 2000 supplements (Bagozzi *et al.*, 2000). Additionally, the influence of significant others, like spouses, trainers, and community friends, is pivotal in this decision-making process, indicating the importance of subjective norms in this context (McLallen & Fishbein, 2008; Fishbein, 2000). Therefore, this research applies the subjective norms component of TRA and TPB to predict and explain the behavior of Amino 2000 supplement users among fitness enthusiasts in these Indonesian cities.

Theoretical Issues

The Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) have been fundamental in understanding social behavior, positing that actions are based on intentions influenced by attitudes and subjective norms (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TRA is particularly successful in predicting behaviors under personal control, while TPB extends this by including perceived behavioral control (PBC) for behaviors not entirely under individual control (Ajzen, 1991).

This research focuses on the subjective norms aspect of these models to understand the attitudes of fitness mania individuals towards consuming Amino 2000 supplements (Bagozzi *et al.*, 2000; Housman, 2006). Studies have shown varying degrees of success in using subjective norms to predict consumer behavior, with some suggesting it as the weakest predictor in the TPB model, necessitating further empirical investigation (Armitage & Conner, 2001; Sparks & Shepherd, 1995).

Researchers have called for a reconceptualization of the subjective norms mechanism to clarify its role in behavior prediction (Armitage & Conner, 2001; Trafimow & Finlay, 1996). Ajzen (1991) suggests that subjective norms are operationalized as a global perception of social pressure, which is not always direct or explicit. This leads to the proposal of alternative conceptualizations of norms related to subjective norms (Terry & Hogg, 1996; White *et al.*, 1994).

Research has investigated various types of norms, such as individual, descriptive, and injunctive norms, as components of subjective norms (Cialdini *et al.*, 1991; Conner & Armitage, 1998). The inclusion of these norms in the TRA/TPB model has been supported by various studies, indicating their importance in predicting intentions and behaviors (Beck & Ajzen, 1991; Conner *et al.*, 1996). However, the traditional measurement of normative components in TRA/TPB, primarily injunctive norms, has been questioned for its failure to encapsulate the complexity of social influences (McLallen & Fishbein, 2008; Fishbein, 2000).

This study aims to examine the validity of combining injunctive and descriptive norms in forming subjective norms and their influence on the intention to consume Amino 2000 supplements among fitness enthusiasts in Indonesia. By doing so, it seeks to address the gap in understanding the role of subjective norms in predicting behavior within the TRA/TPB framework (Albarracin *et al.*, 1998; Rhodes & Courneya, 2003; Sayeed *et al.*, 2005).

1.1 Objectives

The study's objectives, aligned with the proposed research hypotheses, are crafted to efficiently and effectively explore the influence of subjective norms on fitness enthusiasts' intention to consume Amino 2000 supplements in Indonesia:

- **Validity Assessment of Norms:** To determine the convergent and discriminant validity of injunctive and descriptive norms in shaping normative beliefs, crucial for subjective norms (H1).
- **Effectiveness Comparison of Norms:** To analyze and compare the predictive capabilities of combined injunctive and descriptive norms versus injunctive norms alone in forecasting fitness enthusiasts' intentions to use Amino 2000 supplements (H2).
- **Predictive Accuracy of Normative Beliefs:** To explore whether a blend of injunctive and descriptive norms offers a more precise prediction of fitness enthusiasts' supplement consumption intentions than using these norms separately (H3).

2. Literature Review

This study, grounded in the TRA and TPB, examines the roles of injunctive and descriptive norms in shaping fitness enthusiasts' intentions to consume Amino 2000 supplements in Indonesia.

TRA and TPB, developed by Ajzen and Fishbein (1980), posits that behavior is driven by intention, influenced by attitudes and subjective norms. TPB, an extension introduced by Ajzen (1991), adds perceived behavioral control as a determinant, particularly relevant for behaviors not entirely under volitional control (Ajzen, 1991; Fishbein & Ajzen, 1975).

Subjective Norms in TRA and TPB. Central to this study are subjective norms, which encompass injunctive norms (perceptions of what significant others believe one should do) and descriptive norms (perceptions of others' actions). Bagozzi *et al.* (2000) and Housman (2006) highlight the importance of subjective norms in sports supplement consumption, despite inconsistencies in their predictive capacity in consumer research. This study aims to validate these norms in forming subjective norms and their influence on supplement consumption intentions.

Critiques and Reevaluations of TRA and TPB. Criticisms by Sparks and Shepherd (1995) and Armitage & Conner (2001) suggest subjective norms often fail as predictors of intentions, necessitating deeper exploration and operationalization. Researchers advocate for a reconceptualization of subjective norms and a nuanced understanding of their components (Armitage & Conner, 2001; Trafimow & Finlay, 1996).

Normative Beliefs and Behavioral Intentions. The study also considers the research by McMillan & Conner (2003) and Ravis & Sheeran (2003), which underscores the interaction of different normative components and their influence on behavioral intentions. The potential for combining injunctive and descriptive norms to enhance the predictive ability of subjective norms is a key focus.

Expanding on Normative Influences. Further, this study incorporates insights from the document provided, which discusses the application of subjective norms in the context of fitness enthusiasts in Indonesia. It examines how cultural and societal factors in cities like Jakarta, Bandung, Surabaya, and Semarang influence the intention to consume fitness supplements. The research expands on the application of TRA and TPB in a specific cultural context, acknowledging the critiques and suggesting a more comprehensive measurement approach to subjective norms.

By exploring the theoretical underpinnings of TRA and TPB, along with a focused examination of subjective norms in the context of health supplement consumption, this literature review establishes a comprehensive foundation for investigating how subjective norms, particularly injunctive and descriptive norms, influence fitness enthusiasts' intentions to consume Amino 2000 supplements.

3. Methods

This research employs a mixed-method approach, combining quantitative and qualitative methods, to investigate the influence of subjective norms on the intentions of fitness enthusiasts to consume Amino 2000 supplements in Indonesia.

Qualitative Phase. The first phase of the research is qualitative, aiming to understand the knowledge, attitudes, and normative beliefs of fitness enthusiasts regarding Amino 2000 supplements. Following the exploratory study methodology described by Churchill Jr. (2001), the research involved interviewing 10 key informants. These interviews were transcribed and analyzed using content analysis, a method validated by Berelson (1952) for its reliability in measuring intended variables. Kassirjian (1977) states that content analysis primarily relies on content validity or face validity. Additionally, Kaplan & Goldsen, as cited in Eriyanto (2011), noted that the reliability of content analysis is crucial as it ensures that the data obtained are independent of events, instruments, or people who measure them. Furthermore, the reliability tests determine if the coding sheet can yield similar findings when performed by different people. Owing to its simplicity, most researchers using content analysis employ the reproducibility method. In this research, the reliability test was carried out by calculating the coefficient of reliability using Holsti's (1963) formula: $R = \frac{2(C_{1,2})}{C_1 + C_2}$

where

$C_{1,2}$ is the number of approved assessment category (considered together) by all coders.

C_1, C_2 are the total number of categories used by all coders.

Quantitative Phase. The second phase is quantitative, designed to test the validity (convergent and discriminant) of injunctive and descriptive norms in forming subjective norms and to examine their influence on the consumption intentions of fitness enthusiasts. Based on the preliminary study, a questionnaire was developed, focusing on subjective norms established by normative beliefs and motivation to adhere. The questionnaire underwent face validity, social desirability response, and construct validity testing (convergent and discriminant) to ensure its effectiveness in measuring the intended constructs. The sample size of 400 respondents was determined following the guidelines of Sheppard *et al.* (1988), with an achieved response rate of 98.25%, deemed feasible for further analysis (Aaker *et al.*, 2011).

The measurement constructs of injunctive norms, descriptive norms, motivation to adhere, and intention of fitness mania to consume Amino 2000 supplements were operationalized. The questionnaire, drawing from Ajzen (2002), Ajzen & Fishbein (1980), Cialdini *et al.* (1990, 1991), Kallgren *et al.* (2000), Reno *et al.* (1993), Montano & Kasprzyk (2008), Lapinski & Rimal (2005), and Aronson *et al.* (2005), utilized a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). For example, injunctive norms were measured with statements like: "I'm sure the instructors agree with my using Amino 2000 supplements." Descriptive norms were gauged with items such as: "I believe instructors also use Amino 2000 supplements." Motivation to adhere was measured with statements like: "The approval of instructors to use Amino 2000 supplements is important to me." Intention was assessed with questions like: "Are you likely to use Amino 2000 supplements in the following months?"

Through these methods, the study aims to provide a comprehensive analysis of the subjective norms influencing fitness enthusiasts' intentions to consume Amino 2000 supplements in the Indonesian context.

4. Data Collection

The study's sample was determined based on criteria including age, usage of Amino 2000 supplements, and membership in fitness mania clubs. The research team targeted 400 individuals as the sample size, based on a comparison of studies on behavioral intentions related to the Theory of Reasoned Action (TRA), where previous sample sizes ranged from 34 to 1009 (Sheppard *et al.*, 1988). This number was deemed suitable for the scope of this study, with a 95% confidence interval and a critical Z-value of 1.96 (Hair *et al.*, 2010). The sampling process was conducted from March to June 2023.

The targeted respondents were categorized as: (1) Men aged over 23 years, (2) Those who have or have not used Amino 2000 supplements, and (3) Members of fitness mania clubs who have been engaged in weight training for more than a year. The study successfully reached 400 participants across four different locations. However, of these, only 393 questionnaires were returned, resulting in a response rate of 98.25%. This rate was considered feasible for further analysis, exceeding the minimum response rate of 70-80% as suggested by Aaker *et al.* (2011), thereby reducing the likelihood of non-response bias.

Through this approach, the study ensured a representative sample of the fitness mania population, facilitating the examination of the influence of subjective norms on their intentions to consume Amino 2000 supplements.

5. Results and Discussion

5.1 Numerical Results

The numerical results of this study were derived from data collected from 393 male respondents, predominantly aged between 22 to 30 years (64.38%) and engaged in various professions. The majority, 276 respondents (70.23%), were married, while the remaining 29.77% were single. In terms of professional background, 233 participants (59.29%) were employees in private companies, 100 (25.45%) were students, 40 (10.18%) were civil servants, and 20 (5.08%) worked in military or police roles. Regarding educational attainment, 243 respondents (61.83%) held undergraduate degrees, 100 (25.44%) were high school graduates, and 50 (12.72%) had graduate degrees.

In their fitness journey, 142 participants (36.13%) had been engaged in weight training for 2 to 3 years, 200 (50.89%) for more than 3 years, and 51 (12.98%) for 1 to 2 years. In terms of income, the majority, 363 individuals (66.92%), earned more than IDR2,000,000, while 30 respondents (7.63%) had incomes ranging between IDR1,000,000 and IDR2,000,000.

The Socially Desirable Response (SDR) Test in the study utilized both non-paired and paired sample tests for each indicator across four structures, analyzed using SPSS 16. The findings revealed no significant bias in respondents' answers, as indicated by p-values exceeding 0.05 for both non-paired and paired samples.

This comprehensive profile of the study's respondents lays the groundwork for understanding the demographics and characteristics of the fitness mania community in Indonesia, particularly those who use or are potential users of Amino 2000 supplements.

Socially Desirable Response (SDR) Test

In this research, the SDR test was conducted in two ways: using non-paired and paired samples for each indicator from four measured structures. The study employed non-parametric statistical analysis using SPSS 16. For the non-paired samples, the Mann-Whitney test was used, while the paired samples were analyzed using the Wilcoxon test. The results of these tests indicated that the p-values obtained were greater than 0.05. This suggests that both samples (non-paired and paired) came from populations with the same mean or expectation. In other words, the responses from the respondents in both the non-paired and paired samples were equivalent.

Discriminant Validity and Convergent Validity

Table 1, the rotated component matrix, is a result of the discriminant validity test conducted using Confirmatory Factor Analysis (CFA) with IBM SPSS 23. Table 1 shows that all measurement indicators for each construct have factor loading values greater than 0.5, indicating good discriminant validity. Aaker *et al.* (2011, p. 7679) state that discriminant validity is the opposite of convergent validity. Discriminant validity occurs when the measurement instruments of a construct are not correlated or are distinct from the measurement instruments of another construct. Hair *et al.* (2010) provide guidelines for determining a significant factor loading value, which is considered significant if it is 0.50 or higher.

Table 1. Rotated Component Matrix

Component	1	2	3	4
IN 1		0.842		
IN 2		0.873		
ND 1			0.840	
ND 2			0.871	
MUP 1	0.896			
MUP 2	0.876			
MUP 3	0.902			
MUP4	0.897			
Intention 1				0.892
Intention 2				0.925

With statistical analysis, The Discriminant Validity and Convergent Validity tests were conducted using Confirmatory Factor Analysis (CFA) with IBM SPSS 23.

The rotated component matrix revealed that all measurement indicators for each construct resulted in factor loading values greater than 0.5, indicating good discriminant validity. This implies that the measurement constructs were well differentiated from each other and not correlated with different constructs.

Table 2. Calculation of Average Variance Extracted (AVE) Value for Each Construct

Construct	AVE
Normative beliefs	0.734
Motivation to adhere	0.797
Intention of consuming amino 2000 supplements	0.825

Hair (2010) stated that convergent validity occurs when measurement indicators used to measure a variable or construct are closely related or converge. This convergence suggests that these indicators share a high proportion of variance in forming a construct. The result of the Average Variance Extracted (AVE) value, as shown in Table 2, is greater than 0.7. Therefore, it can be said that the three constructs demonstrate good convergent validity (Hair, 2010). Consequently, the first hypothesis — that injunctive norms and descriptive norms possess strong validity (both convergent and discriminant) in forming normative beliefs as components of subjective norms — is supported.

5.2 Proposed Improvements

Based on the results, future research should focus on both direct and indirect measurements of subjective norms to gain more robust empirical evidence. This recommendation arises from the current study's reliance on indirect measurements, prompted by respondents' limited understanding of the concept of subjective norms when directly measured.

In the field of Human Resources, we can understand the social psychological factors that may influence an individual's intention to consume Amino 2000 Supplements.

Regarding marketing, this understanding serves as a reference for companies when conducting marketing communication activities, emphasizing the need to consider the reference groups of potential consumers.

Limitations and Suggestions. The measurement of subjective norms in this study was conducted indirectly. It is recommended that future research incorporates both direct and indirect measurements to obtain comprehensive empirical evidence regarding the role of subjective norms in predicting and explaining behavioral intentions. Additionally, this study focused on a specific behavior across a single person. Future research could benefit from investigating different behaviors within the same individual, enhancing empirical clarity regarding the predictive power of social norms in forming normative beliefs as subjective norms. Moreover, since this study was limited to specific populations and cultures, further research should aim to encompass diverse populations and cultural contexts for broader applicability.

Future Trends. Researchers are encouraged to anticipate future trends in fitness mania, considering technological advancements and evolving fitness regimes, which could provide valuable insights into shifts in health and fitness behaviors.

Impact of Social Media. Further research should explore the influence of social media on fitness mania. The role of social media in shaping fitness trends and behaviors is increasingly significant and deserves detailed investigation.

Health Risks and Benefits. Future studies should delve into the health risks and benefits associated with fitness mania, particularly in the context of supplement use, examining the efficacy and safety of products like Amino 2000.

Case Studies or Testimonials. Incorporating case studies or testimonials from fitness enthusiasts could offer a more nuanced understanding of the motivations, challenges, and experiences associated with fitness mania.

5.3 Validation

The validation process of this study confirmed that subjective norms, comprising normative beliefs (injunctive and descriptive norms) and the motivation to adhere, significantly influence the intention to use Amino 2000 supplements. This conclusion is supported by significant factor loadings obtained from confirmatory factor analysis and the outcomes of regression analysis. The results indicate that an integrated approach to subjective norms more effectively predicts and explains the intentions of fitness enthusiasts to consume Amino 2000 supplements than relying solely on injunctive norms, descriptive norms, or their collective combination. The linear regression analysis conducted using IBM SPSS 23, as presented in Table 3, supports Hypotheses 1, 2, and 3.

Table 3. Results of Linear Regression Analysis Calculation Circuit up with Model 1 to Model 5

	Model 1	Model 2	Model 3	Model 4	Model 5
	The Intention of fitness mania in consuming amino 2000 supplements	The Intention of fitness mania in consuming amino 2000 supplements	The Intention of fitness mania in consuming amino 2000 supplements	The Intention of fitness mania in consuming amino 2000 supplements	The Intention of fitness mania in consuming amino 2000 supplements
Equation	$Y = \alpha + \beta_1 X_1 + c$	$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + c$	$Y = \alpha + \beta_3 X_3 + c$	$Y = \alpha + \beta_4 X_4 + c$	$Y = \alpha + \beta_5 X_5 + c$
Independent variable	β_1	$\beta_1; \beta_2$	β_3	β_4	β_5
Injunctive norms	0.393*	0.188*			
Descriptive norms		0.377*			
Normative beliefs			0.515*		
Subjective beliefs (normative belief) (injunctive norms) and motivation to adhere				0.043*	
Subjective norms (Normative beliefs (injunctive norms and descriptive norms) and motivation to adhere					0.316*
R ²	0.211	0.333	0.336	0.309	0.444
ΔR^2		0.122	0.003		0.135

*p < 0.05

6. Conclusion

This study effectively fulfills its primary goal by establishing the convergent and discriminant validity of injunctive and descriptive norms in the formation of subjective norms, a key finding substantiated by the factor analysis results presented in Tables 1 and 2. The attainment of discriminant validity, as outlined by Aaker *et al.* (2011), is evidenced when the measurements of a construct do not correlate with those of a distinct construct. Similarly, Hair *et al.* (2010) and Sekaran (2010) posit that discriminant validity is present when a construct is unequivocally distinct from other theoretical constructs. In accordance with the criteria set by Hair *et al.* (2010), this study regards factor loading values exceeding 0.50 as significant. The confirmatory factor analysis in Table 1, where factor loading values for each indicator across all constructs exceed 0.5, attests to robust discriminant validity. Moreover, the Average Variance Extracted (AVE) value exceeding 0.5 in Table 2 indicates a strong convergent validity, further validating the construction of the fieldwork (Hair *et al.*, 2010).

Crucially, the study reveals that subjective norms—encompassing both normative beliefs (injunctive and descriptive norms) and the motivation to adhere—exert a significant and positive influence on the intention to use Amino 2000 supplements among fitness enthusiasts in four cities. Given the respondents' limited direct comprehension of subjective norms, the research pivoted to an indirect measurement approach. Regression analysis elucidates that subjective norms, composed of normative beliefs and motivation to comply, significantly and positively affect the intention to use these supplements.

The findings also indicate that subjective norms, including both normative beliefs and motivation to adhere, are more efficacious in predicting and explaining the consumption intentions of fitness enthusiasts for Amino 2000 supplements than merely relying on injunctive norms, descriptive norms, or their collective combination. This observation is congruent with Ajzen's (1991) Theory of Planned Behavior, highlighting the imperative of a profound understanding of subjective norms for accurately predicting and influencing health-related behaviors, especially in the realm of fitness supplement usage (Ajzen, 1991; Hair *et al.*, 2010).

In summary, this study not only elucidates the intricate dynamics of subjective norms in the context of health supplement consumption but also significantly contributes to the existing body of knowledge within the domain of consumer behavior and health psychology.

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