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Revisiting the Theory of Planned Behavior: A Critical Review of Its Foundations, Applications, and Future Directions

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Abstract

The Theory of Planned Behavior (TPB), introduced by IcekAjzen in 1991, has emerged as one of the most influential frameworks for understanding and predicting human behavior across various domains. Building on the Theory of Reasoned Action (TRA), TPB incorporates an additional construct—perceived behavioral control—enhancing the model's explanatory power, particularly in contexts where individuals may not have complete volitional control over their actions. The central premise of TPB suggests that behavioral intention, influenced by attitudes toward the behavior, subjective norms, and perceived behavioral control, is the most immediate determinant of actual behavior.

This critical theoretical review examines TPB's development, components, and empirical applications, focusing on its use in health psychology, environmental behavior, and consumer decision-making. In the health domain, TPB has been widely utilized to predict behaviors like smoking cessation, exercise adherence, and vaccination uptake. In environmental contexts, it offers insights into pro-environmental actions such as recycling and energy conservation. Similarly, in consumer psychology, TPB has informed studies on ethical consumption, organic product choices, and brand loyalty. Despite its wide-ranging utility and considerable empirical support, TPB has faced criticism for several limitations, including its rationalist assumptions, insufficient attention to emotional and habitual influences, and occasional discrepancies between intention and actual behavior.

This review highlights various extensions and integrations of the TPB, including moral norms, affective components, and past behavior, aimed at enhancing its predictive validity. Hybrid models and interdisciplinary adaptations demonstrate the theory's continued relevance, particularly in complex and digital behavior contexts. Future research is encouraged to explore the integration of TPB with dual-process models and emerging technologies for behavior prediction. This paper thoroughly explains its strengths, limitations, and ongoing relevance in contemporary behavioral science by critically analyzing TPB's structure, applications, and evolving adaptations.

Keywords: Theory of Planned Behavior, Behavioral Intention, Health Behavior, Environmental Psychology, Consumer Decision-Making

Introduction

Understanding human behavior has long been a central concern across various disciplines, including psychology, sociology, public health, marketing, and environmental science. Behavioral theories provide structured models to explain why individuals act in specific ways and the conditions under which these behaviors are likely to occur or change. These theories are particularly valuable for designing interventions, predicting behavioral outcomes, and developing policies aimed at modifying behavior for positive social impact (Glanz, Rimer, &Viswanath, 2008). One of the most influential models among these is the Theory of Planned Behavior (TPB), developed by IcekAjzen in 1991.

The TPB was developed as an extension of the Theory of Reasoned Action (TRA) (Fishbein&Ajzen, 1975), which posited that intention is the immediate antecedent of behavior and that intention itself is influenced by attitudes and subjective norms. However, the TRA was limited to volitional behaviors—those fully under an individual's control. To address this limitation, Ajzen introduced the construct of perceived behavioral control (PBC) in the TPB, accounting for non-volitional factors and enhancing the model's ability to predict behaviors that involve external constraints or internal limitations (Ajzen, 1991). The TPB thus includes three primary predictors of intention: attitude toward the behavior, subjective norm, and perceived behavioral control, each of which uniquely contributes to the formation of behavioral intention and, ultimately, to the performance of the behavior itself.

The significance of TPB lies in its versatility and empirical robustness, having been applied across a wide range of behavioral domains, including health-related behaviors (e.g., smoking cessation, physical activity), environmental actions (e.g., recycling, sustainable consumption), and consumer decision-making (e.g., brand loyalty, ethical purchasing). In health psychology, for instance, TPB has been extensively used to understand preventive behaviors, such as exercise adherence and dietary choices (Godin &Kok, 1996). Similarly, in environmental contexts, it provides insights into individual motivations behind ecological behaviors (Bamberg &Möser, 2007). In marketing, TPB has guided research into consumer purchasing decisions and brand preferences (Armitage & Conner, 2001).

Despite its wide acceptance and predictive utility, the Theory of Planned Behavior (TPB) has faced various critiques. Scholars argue that the model's reliance on rational decision-making underestimates the influence of emotions, habits, and unconscious cognitive processes (Sniehotta, Presseau, &Araújo-Soares, 2014). Moreover, while TPB effectively explains intentions, the intention-behavior gap remains a persistent challenge, particularly in situations where external factors significantly constrain behavior execution.

Considering these factors, a critical theoretical review of the TPB is both timely and essential. This paper aims to achieve three main objectives. First, it will explore the core components of the TPB, including their conceptual and theoretical foundations. Second, it will examine empirical applications of the theory across three significant domains: health behavior, environmental psychology, and consumer decision-making. Each of these areas provides a rich context in which the strengths and limitations of

the TPB can be assessed. Third, the paper will critically evaluate the model's strengths and weaknesses, investigating notable extensions and modifications—such as the incorporation of affective and habitual components, moral norms, and hybrid models like the Integrated Behavior Model (Montano &Kasprzyk, 2015).

This paper contributes to the ongoing scholarly dialogue on behavioral theory by offering insights into TPB's continuing relevance and adaptability in a complex and evolving behavioral landscape.

2. Theoretical Foundation

The Theory of Planned Behavior (TPB) is a prominent behavioral framework that explains how individuals make decisions and perform intentional behaviors. It is widely recognized for its simplicity, clarity, and empirical applicability across multiple domains. This section outlines the origin of TPB, details its core constructs, and discusses key assumptions and extensions that have evolved to enhance its explanatory power.

The TPB has its roots in the earlier Theory of Reasoned Action (TRA), developed by Martin Fishbein and IcekAjzen in 1975. The TRA was one of the first models to systematically explain how individual beliefs influence behavioral intentions and actual behavior. At its core, TRA asserts that a person's intention to perform a behavior is the most immediate determinant of that behavior, and this intention is shaped by two key factors: attitudes toward the behavior and subjective norms (Fishbein&Ajzen, 1975). Attitude refers to an individual's positive or negative evaluation of performing the behavior, while subjective norm reflects perceived social pressure from significant others, such as family or peers.

TRA was successfully applied in diverse fields such as health promotion, consumer behavior, and political participation. However, one of its limitations was its reliance on the assumption that behavior is entirely under volitional control. In many real-world situations, individuals may intend to perform a behavior but are constrained by external or internal barriers. To address this limitation, Ajzen (1985) extended TRA by introducing a third construct—Perceived Behavioral Control (PBC)—which captures an individual's perceived ease or difficulty in performing the behavior. The resulting model, TPB, retained the core constructs of TRA while expanding its scope to include behaviors not entirely within volitional control.

TPB comprises four key constructs: attitude toward the behavior, subjective norms, perceived behavioral control, and behavioral intention. Attitude is formed from behavioral beliefs and evaluations of outcomes—if individuals expect positive outcomes from a behavior, they are more likely to have a favorable attitude. Attitudes are further classified into instrumental attitudes (e.g., exercising is beneficial) and experiential attitudes (e.g., exercising is enjoyable) (Ajzen&Fishbein, 2005). Subjective norms are shaped by normative beliefs and the individual's motivation to comply with the expectations of significant others. Although often a weaker predictor in Western contexts, subjective norms play a more significant role in collectivist cultures (Yadav & Pathak, 2016).

Perceived behavioral control, akin to Bandura's (1977) concept of self-efficacy, includes both internal control (e.g., skills and willpower) and external control (e.g., availability of time, resources). It influences behavior both directly and indirectly through intention. Lastly, behavioral intention represents the motivation to perform a behavior, which TPB posits as the immediate antecedent to action. This link

is stronger when intentions are specific and stable, and when perceived behavioral control is high (Ajzen, 1991; Sheeran, 2002).

Beyond its core components, TPB is built on key assumptions. One such assumption is that of volitional control—the idea that individuals can execute the behavior if they choose to. While the introduction of PBC addressed some limitations of TRA, critics argue that perceived control may not always reflect actual control, thus limiting TPB's predictive accuracy (Sniehotta, Presseau, &Araújo-Soares, 2014).

Ajzen (2005) also recognized the influence of background factors—such as demographic variables, personality traits, cultural norms, and socioeconomic status—on forming beliefs that underlie attitude, norms, and PBC. Though not included in the core model, these variables provide critical context and are often used in empirical research to enrich predictive models.

Several extensions have been proposed in response to critiques of TPB's cognitive orientation. One notable extension is the inclusion of habit strength. While TPB assumes deliberate action, many behaviors (e.g., commuting or snacking) are habitual and automatic. Research by Verplanken and Aarts (1999) and Gardner (2015) found that strong habits can suppress the influence of intention, necessitating the inclusion of habit as a modifying factor. Another extension involves emotions, which TPB traditionally overlooks. Affective responses—such as fear, guilt, or pride—can significantly influence behavioral intentions, particularly in health, risk, and environmental domains (Conner, 2015).

A third important extension is the inclusion of moral norms, which refer to an individual's internalized sense of right and wrong. This is especially relevant in behaviors driven by ethical responsibility, such as donating blood, recycling, or fair-trade purchasing. Integrating insights from Schwartz's Norm-Activation Model (1977), researchers such as Manstead (2000) and Harland et al. (1999) have shown that moral norms often exert a direct influence on behavioral intentions, independent of attitudes or social norms.

In conclusion, the Theory of Planned Behavior represents a significant evolution in behavioral theory, building upon the strengths of TRA while addressing its limitations. Its core constructs provide a coherent framework for predicting intentional behavior, while its assumptions and extensions allow it to be tailored to complex, real-world scenarios. By integrating constructs such as habits, emotions, and moral norms, TPB continues to evolve as a flexible and empirically grounded model suitable for variousbehavioral research.

3- Applications in Different Fields

The Theory of Planned Behavior (TPB) offers a versatile framework for understanding intentional behavior across domains, particularly in health psychology, environmental psychology, and consumer psychology. Its components—attitude, subjective norms, and perceived behavioral control—have proven effective in predicting intentions and behaviors, guiding both research and interventions.

In health psychology, TPB has been widely used to study behaviors like smoking cessation, physical activity, and vaccination uptake. For instance, individuals who view quitting smoking positively, feel social support, and believe they can quit are more likely to form intentions to do so (Godin &Kok, 1996). However, addiction and habit often weaken the intention-behavior link, prompting researchers to integrate TPB with models like the Health Belief Model (HBM) and Transtheoretical Model (TTM) for

more effective interventions (Norman et al., 2000). Similarly, TPB effectively predicts exercise behavior, with perceived behavioral control being especially important (Hagger et al., 2002; Conner & Sparks, 2005). Interventions that target time management and highlight exercise benefits have shown success (Armitage, 2005). In vaccination research, TPB explains hesitancy and uptake by highlighting beliefs about efficacy, social norms, and access (Betsch et al., 2018; Brewer et al., 2007). Recent approaches integrate anticipated emotions and moral obligations to further enhance TPB's predictive accuracy. Overall, TPB's adaptability and integration with other models like Self-Determination Theory (Ng et al., 2012) allow for a more comprehensive understanding of health behavior.

In environmental psychology, TPB has been applied to voluntary behaviors such as recycling, energy conservation, and sustainable consumption. Individuals are more likely to act when they believe the behavior is beneficial, socially encouraged, and within their control (Ajzen, 1991). A meta-analysis by Bamberg and Möser (2007) confirmed the model's predictive power in over 50 studies. However, TPB alone may not capture moral or altruistic motivations central to ecological behaviors. Researchers have addressed this by incorporating constructs like moral norms, environmental identity, and emotional engagement (Kaiser et al., 2005; Harland et al., 1999). Interventions that use descriptive norms (e.g., what neighbors are doing) tend to be more effective than injunctive ones (Cialdini et al., 1990). Thus, TPB, especially when extended, serves as a reliable tool for promoting sustainable behavior and designing effective environmental policies.

In consumer psychology, TPB explains a wide range of behaviors, from ethical purchasing and brand loyalty to impulse buying and online shopping. Green consumerism, for example, is shaped by favorable attitudes toward eco-friendly products, peer approval, and belief in one's ability to make such purchases (Yadav & Pathak, 2016). TPB also applies to ethical consumerism, where moral norms play a significant role in driving decisions like boycotting unethical brands or choosing fair-trade goods (Shaw et al., 2005). In digital settings, perceived control is influenced by usability and secure payment systems, while subjective norms now include social media trends and influencer opinions. Though TPB emphasizes rational decision-making, researchers have expanded the model by including emotional factors and habit strength to explain behaviors not driven solely by logic (Verplanken&Orbell, 2003). These extensions make TPB a more comprehensive tool for analyzing modern consumer behavior, particularly in the age of digital marketing and social responsibility.

The Theory of Planned Behaviordemonstrates strong utility across health, environmental, and consumer domains. While its core constructs remain foundational, the model continues evolving by integrating affective, moral, and habitual factors, ensuring its relevance for theory and practice in contemporary behavioral research.

4. Critical Evaluation

The Theory of Planned Behavior (TPB) is widely appreciated for its foundational simplicity and adaptability across various areas of interests. It provides an adequate model that integrates cognition and behavior, balancing complexity and simplicity within its structure. The TPB addresses three main constructs: attitude, subjective norm, and perceived behavioral control. It provides a more holistic approach to examining individual and collective influences on behavior (Ajzen, 1991). What stands out most is its broad scope, aiding in understanding health behaviors, environmental action, and consumer

behavior. Furthermore, it is popular for public health, education, and marketing due to its straightforward design ofbehavioral interventions, surveys, and predictive models.

Empirical evidence supporting TPB's predictive power in forecasting intentions has been consistently validated, and meta-analyses have shown that it accounts for a significant portion of variance both in intention and to a lesser degree, in actual behavior (Armitage & Conner, 2001). It is more accurate when researchers create intention-specific analyses of their constructs and assess intention and behavior in close temporal proximity. Including perceived behavioral control as a construct also sets TPB apart from its predecessor, The Theory of Reasoned Action (TRA) because it incorporates both internal and external factors that may restrict or facilitate the behavior. This helps explain actions that are only partially volitional, which is important in practical settings.

Notwithstanding these positive aspects, the TPB has certain weaknesses too. One of the most frequent critiques centers on the assumption that human activity is fundamentally rational and organized; that is, based on a plan, an outline, a rough sketch, or a guiding document. Much behavior takes place due to automatic, emotional, habitual, or situational processes which are likely to lie beyond the purview of TPB (Sniehotta, Presseau, &Araújo-Soares, 2014). To illustrate, habitual behaviors like eating snacks, or driving, tend to occur with less than intentional thought, therefore, intention renders a poor prediction in those scenarios. In addition, TPB tends to overlook the average emotions, fears, guilt, or even enjoyment, that can dramatically alter one's behavior—especially concerning compliance with health regulations, purchasing products, or participating in activities for ecological preservation.

Equally important, an additional and well-known gap in the framework is the "intention-based gap" focusing on the fact that strong intent does not always correlate with hard action, meaning behavior. A further explanation of this concept can be stated as: Intent is fuzzy, circumstantial limitations such as lacking a goal, a target, means, or temporary motivation deficiency, can constrain goal directed intentions (Sheeran, 2002). Even though there was an attempt to address this issue by introducing "perceived behavioral control", its primary focus is self-defined perceptions and, because of that nature, it can never capture all social existences constricting requests made by individuals.

Numerous adaptations and extensions of the TPB have been made to address these limitations. One important addition is considering past behavior or the strength of a habit as an additional predictor. As discussed by Verplanken and Orbell (2003), habitual behaviors often circumvent goal-directed processes, and incorporating them can increase the model's predictive accuracy for behaviors driven by habit. Another noteworthy addition is including emotions and other affect-related factors. For instance, Perugini and Bagozi (2001) explain a range of behaviors motivated by morality and related to health by asserting that anticipated emotions like pride or regret can elucidate these behaviors. Similarly, the incorporation of moral norms has been shown to enhance the TPB's ability to account for ethics and prosocial behavior, including charity, volunteer work, and responsible consumption (Harland, Staats, & Wilke, 1999).

Scholars have sometimes tried to enrich hybrid models by incorporating other theories into TPB. For instance, Orbell and colleagues integrated TPB with Health Belief Model (HBM), which adds constructs like perceived severity and susceptibility, thus enhancing the cognitive evaluation of health behaviors (Orbell et al., 2001). Some others incorporated TPB with Self-Determination Theory (SDT) to explain

intrinsic motivation, autonomy, and its impact on behavior change (Ng et al., 2012). These integrative strategies deepen our understanding beyond the purely rational components, or absence thereof, that affect human behavior.

To wrap up, although TPB has proven its predictive validity and practical applicability in various domains, it is not a universal model applicable to all cases. Particularly, the gaps involving automatic behaviors and the role of emotions require more care and complementary models. Still, the fact that the theory can adapt to change by adding other constructs speaks to its considerable stature and enduring relevance in the science of human behavior.

5. Future Directions

In tandem with advancements in behavioral research, the need for updated theories that explain human actions has surfaced. Although empirically strong and foundational, the Theory of Planned Behavior (TPB) requires adjustment to coping with modern-day interdisciplinary needs, increasing influences, and complexities concerning the rise of behavioral frameworks.

Data for TPB indicate that research aims to further broaden the application of its theory through cross-cultural innovation, which stems from multi-method underpinnings, technological integration, or an in-depth exploration of its interdisciplinary frameworks.

A primary focus of advancing development in cross-cultural application incorporates dual-process systems. With foundational TPB features that draw from a more rational, deliberative approach to understanding behavior, increasing evidence suggests that TPB heavily depends on automatic impulse functions linked to reflexive systems. The Reflective Impulsive Model by Strack and Deutsch (2004) centers on the idea that intention and impulses, working independently, can influence behavior. Incorporating the dual perspectives into TPB could create a more adaptable model for rational social planning alongside spontaneous, uninhibited actions—reasoning that most addictive dietary behaviors will not align with stated intentions.

The adaptation of TPB about technology represents a new line of research. Digital environments can now be assessed through mobile health (mHealth) interventions, fitness trackers, AI behavior nudges, and more. These systems could reshape and influence behavioral intention through technology. For instance, reconceptualizing perceived behavioral control might include tech affordances like app-based or algorithmic tailoring. Additionally, combining digital footprints with real-time tracking of user activity could provide more accurate and flexible assessments of actual behavior, bridging the well-acknowledged intention-action gap (Webb &Sheeran, 2006).

The inclusion of emotional and moral aspects represents another likely frontier for the TPB. As reasoning and ethics come into play in areas such as environmental activism, ethical consumption, or health compliance, there is an opportunity for the TPB framework to more systematically incorporate and construct concepts like regret, moral norms, and the salience of emotion. These constructs have already demonstrated empirical value in enhancing behavioral forecasting (Richard, van der Pligt, & de Vries, 1996) and warrant inclusion in other TPB-based frameworks.

Furthermore, cross-cultural studies continue to be an important area for refining the TPB. The model has mostly been developed and validated in Western, individualistic cultures, where personal attitudes and

self-efficacy are prominent features of society. However, in more collectivist cultures, such actions may be significantly influenced by social role expectations and group norms, often being more family-oriented. More research is needed on the cultural sensitivity of the TPB to determine whether alternative or supplementary constructs are more suitable for diverse contexts (Montaño&Kasprzyk, 2015).

Finally, further integration with other disciplines, such as behavioral economics, neuroscience, and artificial intelligence, could benefit the Theory of Planned Behavior (TPB). The formation of intentions and behavior elicitation is likely to be informed by principles such as bounded rationality, cognitive biases, and neural reward mechanisms. For instance, neuroeconomics may enhance attitude measurement by targeting brain activation associated with decision-making. The future of TPB does not depend on neglecting its core elements but rather on purposefully broadening and adapting them to align with today's human behavioral patterns. To remain useful and relevant in behavioral science, TPB must incorporate emotional, habitual, technological, and cultural factors into its framework. As researchers tackle emerging societal issues such as climate change, vaccine reluctance, and digital privacy, the evolving version of TPB will continue to support theoretical thinking and practical intervention design.

6. Conclusion

The Theory of Planned Behavior (TPB) is one of the seminal theories in behavioral science. It provides an organized and evidence-based approach to understanding the reasons behind human action and emphasizes how intentional action emerges. Ever since Ajzen I. presented it in 1991, TPB has served as an indispensable perspective through which to understand and anticipate behaviors in health, the environment, and even consumerism. Centering on the interplay of attitude, subjective norms, and perceived behavioral control, TPB has sharpened the focus of interventions designed to adapt policies aimed at promoting desirable behaviors while curtailing harmful ones.

This review traced the development of TPB, beginning with the Theory of Reasoned Action and its key constructs and assumptions. It has shown the theory's broad relevance and flexibility by evaluating its application in health psychology, environmental psychology, and consumer psychology. The model has demonstrated moderate to strong predictive power, particularly concerning intentions, and has been used successfully in smoking cessation, promoting other physical activities, increasing vaccine uptake, encouraging recycling, sustainable consumption, and ethical buying.

At the same time, the review has identified several gaps that, if addressed, could improve the overall quality of the work. These gaps include the reliance on rational thought as a key feature of the model, the insufficient attention to emotional and habitual components, and the well-known intention-action gap. Such critiques highlight the necessity to incorporate various extensions and revisions conceptually, such as adding habits, emotions, moral norms, and contextual background factors. The explanatory power of TPB has also been enhanced through its integration with other behavioral theories like the Health Belief Model, Self-Determination Theory, and the Reflective-Impulsive Model.

Shifting focus, the future of the Theory of Planned Behavior (TPB) is expected to center on further development. New research avenues include applying TPB in digital and cross-cultural contexts, analyzing real-time behavioral data from digital platforms, and incorporating neuroscientific and behavioral economic perspectives. These advancements present promising opportunities to enhance

TPB, making it more comprehensive and attuned to modern societal needs regarding the complexities of human behavior.

To conclude, while there is no single model that can encapsulate the entirety of human behavior, the Theory of Planned Behavior remains one of the most prominent and versatile models in the social and behavioral sciences. Its strengths arise not only from its central ideas; TPB's clarity of exposition and receptivity to refinement can also be considered additional assets. As the nuances of behavioral issues continue to grow in complexity, TPB will remain essential for research, intervention design, and evidence-based practice.

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