

Personality Development in Martial Arts: A Theoretical Framework Linking Taekwondo Philosophy to the Big Five Personality Traits

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Zusammenfassung

Kampfkünsten wird häufig zugeschrieben, nicht nur körperliche Fähigkeiten, sondern auch die Persönlichkeitsentwicklung zu fördern. Obwohl empirische Studien Zusammenhänge zwischen der Ausübung von Kampfkünsten und Merkmalen wie Resilienz, Selbstregulation und prosozialem Verhalten zeigen, fehlt bislang weitgehend eine theoretisch fundierte Erklärung, wie diese Befunde mit Persönlichkeitseigenschaften zusammenhängen. Der vorliegende Beitrag entwickelt ein konzeptionelles Rahmenmodell, das die Ausübung von Kampfkünsten mit den Big Five Persönlichkeitseigenschaften verknüpft. Am Beispiel des Taekwondo werden dessen zentrale Prinzipien; Höflichkeit, Integrität, Durchhaltevermögen, Selbstdisziplin und Unbezwinglichkeit; mit aktuellen Theorien der Persönlichkeitsentwicklung verbunden. Kampfkunsttraining wird dabei als strukturierter Entwicklungskontext verstanden, der wiederholt persönlichkeitsrelevante affektive, behaviorale und kognitive Zustände hervorruft. Durch Prozesse des Übens, sozialer Interaktion, der Reflexion und der Internalisierung von Werten können sich diese Zustände schrittweise zu Gewohnheiten und schließlich zu stabileren Persönlichkeitseigenschaften verdichten. Das Rahmenmodell bietet eine theoriegeleitete Erklärung von Persönlichkeitsentwicklung im Kontext von Kampfkünsten und hebt strukturierte soziale Praktiken als bislang wenig beachteten Kontext von Persönlichkeitsveränderungen hervor.

Kampfkunst, Taekwondo, Persönlichkeitsentwicklung, Big Five, Persönlichkeitseigenschaften

Abstract

Martial arts are often assumed to foster not only physical skills but also personality development. While empirical research links martial arts practice to outcomes such as resilience, self-regulation, and prosocial behavior, a theoretically grounded explanation of how these relate to personality traits remains limited. This paper develops a conceptual framework linking martial arts practice to the Big Five personality traits. Using Taekwondo as an illustrative case, it integrates its core tenets; courtesy, integrity, perseverance, self-control, and indomitable spirit; with contemporary theories of personality development. Martial arts training is conceptualized as a structured developmental context that repeatedly elicits trait-relevant affective, behavioral, and cognitive states. Through processes of practice, social interaction, reflection, and value internalization, these states may gradually consolidate into habits and, ultimately, more enduring personality dispositions. The framework provides a theory-driven account of personality development in martial arts contexts and highlights structured social practices as an underexplored domain of personality trait change.

Martial Arts, Taekwondo, Personality development, Big Five, Personality Traits

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1 Introduction

Across cultures and historical periods, martial arts have been associated not only with physical training but also with the cultivation of character and personal development. Practitioners and instructors frequently claim that engagement in martial arts fosters qualities such as discipline, resilience, respect, and self-control; attributes that are often considered beneficial for success both within and beyond the training context. Despite the widespread popularity of these claims, their theoretical grounding within contemporary psychological frameworks remains limited.

In psychology, personality traits are recognized as central determinants of life outcomes. The Five-Factor Model, commonly referred to as the Big Five, has emerged as the dominant framework for describing individual differences in personality (McCrae & Costa, 1996, 1999). A substantial body of research demonstrates that traits such as conscientiousness and emotional stability are systematically associated with educational attainment, labor market success, well-being, and health outcomes (e.g., Poropat, 2009; Roberts et al., 2007; Wilmot & Ones, 2022). At the same time, recent research has challenged the long-standing assumption of personality stability by showing that traits remain malleable across the life course and can be shaped by environmental influences and structured interventions (Briley & Tucker-Drob, 2014; Heckman & Kautz, 2013).

Personality can be conceptualized from different theoretical perspectives. In addition to trait-based approaches such as the Big Five, social-cognitive approaches focus on constructs such as self-concept, self-esteem, and self-efficacy, which describe how individuals perceive and evaluate themselves and their capabilities (Bandura, 1997; Marsh & Craven, 2006). While these constructs are highly relevant for understanding short-term psychological changes and context-specific adaptations, the Big Five framework focuses on relatively enduring patterns of thinking, feeling, and behaving (McCrae & Costa, 1999). Contemporary personality research has demonstrated that these traits are not entirely fixed but can change across the life course through social experiences and environmental influences (Roberts & Wood, 2006; Bleidorn, 2015; Briley & Tucker-Drob, 2014). The present study therefore adopts the Big Five framework because it seeks to explain how martial arts practice may contribute to long-term personality development rather than short-term changes in self-perceptions or beliefs. Moreover, the Big Five constitute the most widely accepted and empirically validated framework for studying personality and its developmental trajectories (John et al., 2008; McCrae & Costa, 1999).

Against this background, martial arts practice represents a particularly interesting, yet underexplored, context for personality development. Existing empirical research suggests that martial arts training is associated with a range of positive psychological outcomes, including increased self-confidence, improved emotional regulation, and enhanced prosocial behavior (Binder, 2007; Bailey et al., 2025; Vertonghen & Theeboom, 2010). Moreover, recent studies indicate that martial arts practitioners may differ from non-practitioners in terms of Big Five personality traits. However, the current literature remains fragmented and largely descriptive. Particularly, it lacks a theoretically grounded explanation of how martial arts training may contribute to changes in personality traits.

This gap is especially notable given that many traditional martial arts explicitly emphasize ethical principles and value systems that are systematically integrated into training practices. These normative frameworks—often expressed through codes of conduct, rituals, and philosophical teachings—may represent key mechanisms through which martial arts influence behavior and, potentially, personality

development. Yet the relationship between such normative structures and established psychological models of personality has received little systematic attention.

The present study addresses this gap by developing a theoretical framework that links martial arts practice to personality development within the Big Five model. Focusing on Taekwondo as an illustrative case, the paper integrates its core philosophical tenets - courtesy, integrity, perseverance, self-control, and indomitable spirit - with contemporary psychological theory. Taekwondo is particularly well suited for this purpose due to its high degree of institutionalization, the explicit codification of its ethical principles, and its global diffusion across diverse cultural contexts.

By connecting the normative structure of martial arts training to personality theory, this paper makes two contributions. First, it provides a conceptual model that specifies potential mechanisms through which martial arts practice may influence personality traits. Second, it contributes to the broader literature on personality development by highlighting structured physical and social practices as relevant, yet underexplored, contexts of trait change.

The remainder of the paper is structured as follows. Section 2 reviews the Big Five personality framework and its relevance for life outcomes. Section 3 summarizes existing research on martial arts and psychological development. Section 4 develops the theoretical framework linking Taekwondo practice to personality traits. The final section discusses implications and directions for future research.

2 The Big Five Personality Traits

Although personality can also be studied through social-cognitive constructs such as self-concept or self-efficacy (see section 1), the present paper focuses on personality traits because they represent relatively enduring dispositions and therefore provide a suitable framework for examining long-term developmental processes. In the psychological literature, personality traits have been conceptualized as psychological qualities that contribute to an individual's enduring and distinctive patterns of feeling, thinking, and behaving (Cervone & Pervin, 2015). As such, they shape how individuals perceive, interpret, and act upon their environment, thereby influencing life decisions and long-term outcomes. The most widely established framework of personality is the Big Five model¹ (McCrae & Costa, 1996, 1999), which differentiates between five broad trait dimensions.

Conscientiousness reflects self-discipline, focus, competence and achievement-striving. Individuals high in conscientiousness tend to be organized, persistent, and capable of delaying gratification. *Extraversion* encompasses activity, sociability and assertiveness; extraverted individuals are typically more outgoing, energetic, and optimistic. *Agreeableness* includes traits such as altruism, trust, and modesty, and is associated with prosocial and cooperative behavior. *Openness* to experience reflects openness towards new ideas, values, fantasies and feelings. Finally, *emotional stability* (the inverse of neuroticism) refers to lower levels of anxiety, vulnerability, impulsiveness and depression (Dehne & Schupp, 2007).

A substantial body of research demonstrates that these traits are systematically associated with important life outcomes. In the educational domain, conscientiousness, openness and emotional stability are consistent predictors of academic achievement (Andersen et al., 2020; Brandt et al., 2020; Cozzini et al., 2021; Komaraju et al., 2011; Poropat, 2009; Trapmann et al., 2007) and participation in

¹ Also known as Five Factor Model (FFM).

higher education (Fuertes et al., 2020; Peter & Storck, 2015; Rammstedt et al., 2017). Conscientiousness, in particular, has been identified as the most robust predictor, likely due to individuals being more ambitious and self-disciplined (Poropat, 2009; Rammstedt et al., 2017), while positive effects of openness are due to using more elaborate learning strategies (Komarraju et al., 2011).

Beyond education, personality traits are linked to well-being, health, and labor market success. Meta-analytic evidence indicates that higher levels of conscientiousness, extraversion, agreeableness and emotional stability are positively associated with various dimensions of well-being, such as life satisfaction, purpose in life and personal growth (Anglim et al., 2020; Wilmot & Ones, 2022). Moreover, conscientiousness, emotional stability and, to a lesser extent, extraversion are associated with lower mortality risk, likely due to a health-conscious behavior (Bogg & Roberts, 2004; McGeehan et al., 2025; Roberts et al., 2007). Regarding labor market outcomes, the five personality traits must be considered individually. Conscientiousness and emotional stability predict income, job performance and status (Duckworth et al., 2012; He et al., 2019; Wilmot & Ones, 2019; Woessmann, 2025). For conscientiousness this is due to individuals being more organized, disciplined and goal oriented (Woessmann, 2025), while for higher emotional stability it is likely due to lower levels of anxiety and stress during work. Extraversion is also correlated with higher income, job performance and status, due to the strive to attain leadership roles (Judge et al., 1999; Roberts et al., 2007; Wilmot et al., 2019). While higher levels of openness and agreeableness are associated with lower income (Duckworth et al., 2012; Judge et al., 1999), likely due to specific job preferences, these traits are positively associated with occupational success (Roberts et al., 2007).

While personality traits were long considered relatively stable, contemporary research emphasizes their malleability across the life course. The biggest changes happen during adolescence and young adulthood, which is called personality maturation (Bleidorn, 2015). Although genetic factors account for approximately 50% of trait variance, environmental influences; including education, social interactions, and life experiences; play a substantial role in shaping personality (Bleidorn et al., 2009; Briley & Tucker-Drob, 2014; Bühler et al., 2024; Tucker-Drob & Briley, 2019). Notably, recent studies suggest that interventions can affect personality change (Haehner et al., 2024; Heckman & Kautz, 2013).

3 Martial arts and Personality Development

Given the documented malleability of personality traits, an important question is whether structured practices such as martial arts training can contribute to personality development. Research on the psychological effects of martial arts and combat sports has produced mixed findings. While many studies report positive associations with well-being, self-regulation, and prosocial behavior, reviews suggest that these effects are often context-dependent and vary according to factors such as age, training setting, pedagogical orientation, and study design (Liebl et al., 2016; Vertonghen & Theeboom, 2010). Therefore, the question arises whether the practice of martial arts may contribute to personality trait change. A growing body of research suggests that martial arts practice is associated with improvements in well-being, including increased self-confidence, resilience, and life satisfaction, as well as reduced anxiety (Bailey et al., 2025; Binder, 2007; Chen et al., 2026; Herdiansyah et al., 2025; Vertonghen & Theeboom, 2010). The review by Bailey et al. (2025) accounts for these effects due to the emphasis of self-control, respect, philosophical aspects and personal growth in martial arts training and therefore the development of a positive self-image. Importantly, Bailey et al. (2025) also point out that these positive increases seem to increase with training duration and belt rank. Further, Kotarska et al. (2019)

concluded that martial artists have better health due to more health related behaviors compared to non-martial artists.

Additionally, martial arts training has been linked to cognitive and self-regulatory capacities. Studies report positive associations of martial art practice with cognitive ability, executive function, focus and concentration and emotional regulation (Bailey et al., 2025; Biedrzycki & Laskowski, 2024; Eadie, 2023; Herdiansyah et al., 2025). Research suggests that these effects are likely rooted in the structured and repetitive nature of training, which requires sustained focus, effort, and behavioral regulation through philosophical approaches of character-building (Bailey et al., 2025).

Martial arts practice has also been associated with interpersonal and prosocial outcomes. Empirical findings indicate higher levels of prosocial behavior and lower levels of aggression among practitioners, which are often explained by the emphasis on respect, discipline, and social norms within training environments (Bailey et al., 2025; Binder, 2007; Vertonghen & Theeboom, 2010).

Despite this growing body of evidence, only a limited number of studies have directly examined the relationship between martial arts and the Big Five personality traits. Importantly, these studies differ substantially in their ability to draw conclusions about socialization effects. When interpreting this literature, it is important to distinguish between socialization effects and selection effects. While socialization effects imply that martial arts training contributes to psychological development, selection effects refer to the possibility that individuals with particular characteristics are more likely to participate in martial arts. Consequently, evidence from longitudinal studies is generally more informative regarding causality than evidence from cross-sectional studies.

Leuzzi et al. (2024) reported higher levels of all five traits in martial artists compared to the Italian population average. Similarly, Zvi & Lavi (2025) found that martial artist scored higher on four of the five personality traits than practitioners of other contact sports and non-practitioners. However, both studies relied on cross-sectional data and therefore cannot distinguish between socialization effects and selection effects. It remains possible that individuals with certain personality profiles are more likely to engage in martial arts in the first place.

In contrast, Li et al. (2025) employed a longitudinal design and compared martial arts practitioners and non-practitioners over a one-year period. Their findings suggest that participation in martial arts may contribute to increases in several personality traits over time and therefore provide more direct evidence for potential socialization effects.

Taken together, the existing evidence suggests a relationship between martial arts participation and the Big Five personality traits. However, the small number of available studies and the predominance of cross-sectional designs limit conclusions regarding causality. Moreover, existing studies do not provide a theoretically grounded explanation of the mechanisms through which martial arts training may influence personality development. Addressing this gap represents the primary objective of the present paper.

4 Toward a Theoretical Framework

Building on the previous sections, it becomes evident that martial arts practice is associated with a range of psychological outcomes that are closely related to personality traits. However, existing research largely remains descriptive and lacks a theoretically grounded explanation of how such practices may contribute to personality development. The present section therefore aims to develop a conceptual framework linking martial arts practice to the development of Big Five personality traits.

While many martial arts traditions incorporate philosophical and ethical elements, Taekwondo represents a particularly suitable case for theoretical modelling for three reasons. First, Taekwondo is characterized by a high degree of formalization and standardization, especially through institutions such as the Kukkiwon and the International Taekwon-Do Federation. This standardization ensures that its philosophical principles are explicitly codified and consistently transmitted across training contexts. Second, Taekwondo places a strong and explicit emphasis on moral and character education, which is institutionalized in the form of five core tenets: *courtesy* (kor. *yeui*), *courage or integrity* (kor. *yonggi/yom chi*), *perseverance* (kor. *innae*), *self-control* (kor. *guk gi*) and *indomitable spirit* (kor. *baekjul bool-gool*) (Choi, 1965; ITF, 2026; Kukkiwon World Taekwondo Headquarters, 2021)². Third, due to its global diffusion and accessibility, Taekwondo provides a relevant and generalizable case for examining the relationship between structured training environments and personality development.

The five tenets of Taekwondo can be understood as behavioral and normative anchors that structure training practices and guide individual conduct. These tenets provide a conceptual bridge between martial arts practice and personality traits. Figure 1 illustrates the theorized relationship between the five tenets of Taekwondo and the Big Five personality traits.

Courtesy emphasizes respect, humility, and prosocial interaction. Training environments that consistently reinforce respectful behavior, hierarchical awareness, and mutual recognition may foster behavioral tendencies aligned with agreeableness, particularly facets such as altruism, trust, and modesty. This interpretation is supported by empirical findings linking martial arts practice to increased prosocial behavior and reduced aggression (Binder, 2007; Vertonghen & Theeboom, 2010).

Perseverance and self-control are closely related tenets that emphasize sustained effort, discipline, and the regulation of impulses. These principles are deeply embedded in training routines that require repetition, delayed gratification, and adherence to structured progression systems (e.g. belt hierarchies). Such practices closely align with core aspects of conscientiousness, including self-discipline, persistence, and goal-directed behavior (Bailey et al., 2025; Binder, 2007; Vertonghen & Theeboom, 2010).

Integrity or courage refers to both moral judgment and the capacity to confront challenges. Similarly, *indomitable spirit* emphasizes resilience in the face of adversity and the ability to persist despite setbacks. Both tenets are conceptually linked to emotional stability, particularly lower levels of anxiety, vulnerability, and emotional reactivity. Empirical research on martial arts supports this association by demonstrating positive relationships with resilience, emotional regulation, and reduced anxiety (Bailey et al., 2025; Binder, 2007; Herdiansyah et al., 2025; Vertonghen & Theeboom, 2010).

² While with the newest textbooks the Kukkiwon branch of taekwondo slightly differs from this definition, these five tenets are still the most recognized ones across styles and schools. Therefore, the focus will rely on these five tenets.

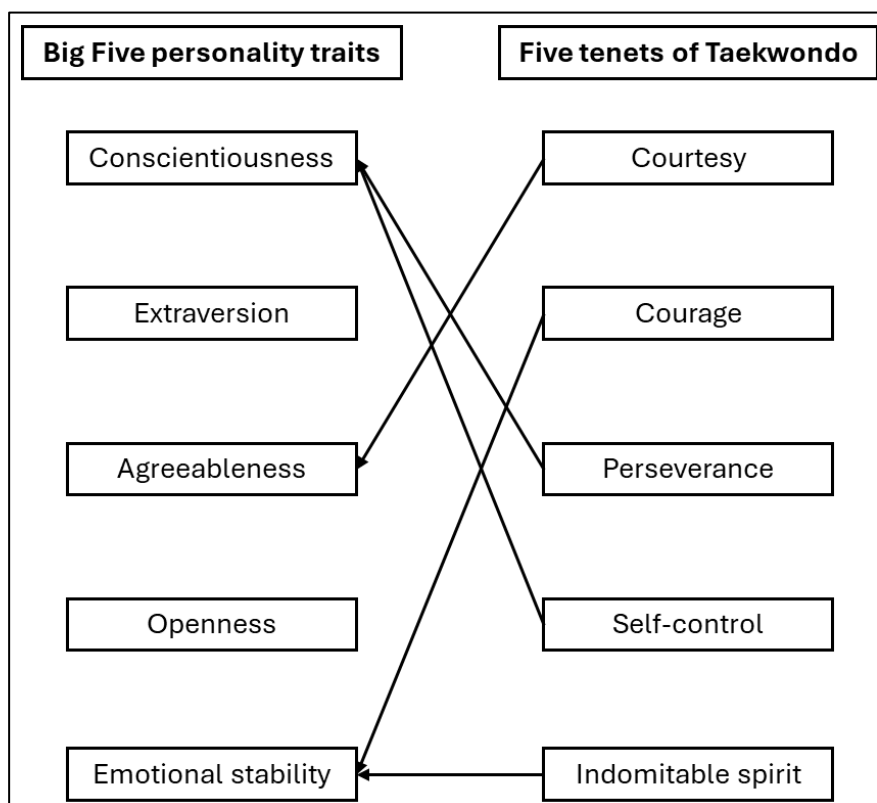


Figure 1. Theorized relationship between the five tenets of Taekwondo and Big Five personality traits

Importantly, the proposed relationships should be understood as probabilistic and process-based rather than deterministic. The tenets of Taekwondo do not directly translate into personality traits. Rather, they structure a developmental environment in which trait-relevant affective, behavioral, and cognitive experiences are repeatedly elicited.

Recent theories of personality development provide a useful framework for understanding how such processes may contribute to trait change. Contemporary state–trait models suggest that personality traits develop through the repeated enactment of personality-relevant states which, over time, consolidate into habits and eventually into more enduring trait dispositions (Allemand & Flückiger, 2017; Bleidorn et al., 2026; Haehner et al., 2026; Wrzus & Roberts, 2017). From this perspective, martial arts training may be conceptualized as a structured developmental context that repeatedly activates trait-relevant affective, behavioral, and cognitive processes. In the present framework, a structured developmental context refers to a social environment characterized by recurring norms, role expectations, feedback mechanisms, and opportunities for behavioral and cognitive engagement that may foster personality development over time.

At the behavioral level, Taekwondo training requires the repeated enactment of actions such as disciplined practice, respectful interaction, persistence in the face of difficulty, and the regulation of impulses. At the cognitive level, practitioners are exposed to explicit normative teachings that encourage reflection on values such as respect, responsibility, perseverance, and integrity. At the affective level, training situations frequently involve experiences of challenge, frustration, failure, achievement, and social recognition, all of which require emotional regulation and adaptation.

Through repeated participation in training, these affective, behavioral, and cognitive processes may gradually become habituated. The belt-ranking system, regular practice routines, instructor feedback, and peer interactions create opportunities for the repeated reinforcement of trait-relevant states. Over time, these recurring experiences may contribute to the development of more stable patterns of thinking, feeling, and behaving that correspond to personality traits (figure 2).

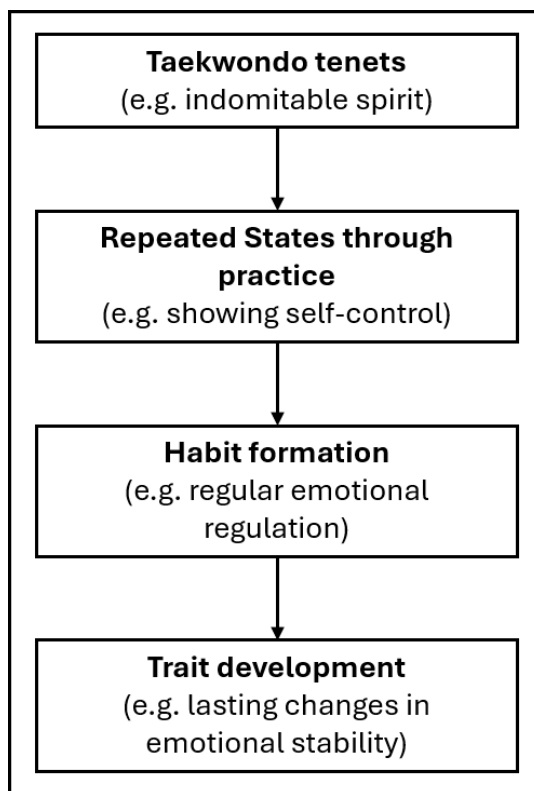


Figure 2. *Conceptual model of personality development in Taekwondo practice. Source: Author’s adaption of Haehner et al. (2026).*

Importantly, this perspective extends beyond a purely behavioral account of personality development. The proposed framework assumes that personality development occurs not only through behavioral repetition and social reinforcement but also through processes of reflection, meaning-making, and value internalization. Philosophical teachings and ethical discussions provide opportunities for practitioners to evaluate, interpret, and consciously integrate normative principles into their self-concepts. Consequently, personality development in martial arts should be understood as the result of interacting behavioral, affective, cognitive, and social processes rather than as a simple process of behavioral conditioning.

5 Discussion and conclusion

The present paper aimed to develop a theoretically grounded framework linking martial arts practice to personality development within the Big Five model. By integrating the philosophical tenets of Taekwondo with established psychological theory, the paper provides a conceptual account of how structured training environments may contribute to the development of enduring personality traits.

The central argument of this paper is that martial arts training, exemplified by Taekwondo, can be understood as a structured developmental context in which normatively guided behaviors are repeatedly enacted, socially reinforced, and gradually internalized. Rather than assuming a direct or deterministic effect of training on personality traits, the proposed framework conceptualizes personality development as a process-based outcome of sustained engagement in such environments.

A particular strength of the proposed framework is that it aligns martial arts research with contemporary theories of personality trait change. Recent personality-development models increasingly conceptualize trait change as a process in which repeated affective, behavioral, and cognitive states become consolidated into habits and, ultimately, enduring trait dispositions. From this perspective, Taekwondo training can be viewed as a structured environment that systematically provides opportunities for the repeated enactment of trait-relevant states. The proposed framework therefore extends existing martial arts research by situating it within broader theoretical developments in personality psychology.

Specifically, the five tenets of Taekwondo (courtesy, integrity, perseverance, self-control, and indomitable spirit) were interpreted as behavioral and normative anchors that structure training practices. These tenets were systematically linked to dimensions of the Big Five personality traits, particularly agreeableness, conscientiousness, and emotional stability. The framework thus provides a theoretically coherent explanation of how martial arts practice may contribute to personality-relevant behavioral patterns that, over time, may consolidate into more stable trait dispositions.

This paper contributes to the existing literature in two important ways. First, it advances research on martial arts and psychological development by moving beyond predominantly descriptive findings toward a theory-driven explanation. While previous studies have documented associations between martial arts practice and various psychological outcomes, they have largely lacked a unifying conceptual framework. The present model addresses this gap by specifying potential mechanisms (such as behavioral repetition, social reinforcement, and value internalization) through which martial arts training may influence personality development. Second, the paper contributes to the broader literature on personality development by highlighting structured social practices as relevant contexts of trait change. While prior research has emphasized life events, educational environments, and interventions, comparatively little attention has been paid to embodied practices that combine physical activity, social interaction, and normative guidance. In this sense, martial arts training represents a particularly rich context for examining how personality traits may be shaped through everyday practices.

Despite its theoretical contributions, several limitations must be acknowledged. First, the proposed framework is conceptual in nature and has not been empirically tested. While it is informed by existing empirical findings, the assumed relationships between martial arts practice, behavioral mechanisms, and personality traits remain hypothetical and require systematic empirical validation. Second, the framework focuses on Taekwondo as an illustrative case. Although Taekwondo is particularly suitable due to its standardized structure and explicit philosophical principles, the extent to which the proposed relationships generalize to other martial arts remains an open question. Different martial arts vary in their emphasis on competition, philosophy, and training culture, which may lead to different developmental outcomes. Third, potential selection effects cannot be ruled out. Individuals who choose to engage in martial arts may already differ systematically in their personality traits from non-practitioners. Without longitudinal or experimental designs, it is difficult to disentangle whether martial arts practice leads to personality development or whether individuals with certain personality profiles are

more likely to engage in such practices. Fourth, the framework does not explicitly account for contextual moderators such as training intensity, instructor behavior, or cultural differences. These factors are likely to influence the extent to which philosophical principles are emphasized and internalized within training environments.

An additional limitation concerns the role of reflective learning processes. The present framework emphasizes the repeated enactment and reinforcement of trait-relevant behaviors, which may create the impression that personality development in martial arts primarily results from behavioral adaptation. However, contemporary educational perspectives emphasize that personal development is not merely a consequence of behavioral conformity but also involves autonomous reflection and meaning-making. Traditional martial arts, including Taekwondo, frequently incorporate explicit discussions of ethical principles, self-examination, and personal responsibility. Future research should therefore investigate the extent to which personality development in martial arts is driven by behavioral practice, reflective learning processes, or the interaction between both mechanisms.

Future research should aim to empirically test the proposed framework using rigorous research designs. Longitudinal studies would be particularly valuable in examining whether sustained martial arts practice is associated with changes in personality traits over time. Experimental or quasi-experimental designs could further help to identify causal effects. Additionally, future research should incorporate comparative analyses across distinct age cohorts; such as children, adolescents, and adults; as existing evidence suggests that personality development is most pronounced during earlier stages of the life course. Consequently, the impact of martial arts on personality development may vary systematically across different age groups. In addition, future studies should investigate the specific mechanisms proposed in this paper. For example, research could examine whether the internalization of martial arts values mediates the relationship between training and personality development, or whether social reinforcement within training environments moderates these effects. Comparative studies across different martial arts disciplines may also provide valuable insights into the role of philosophical and cultural variation. Finally, integrating qualitative approaches could deepen the understanding of how practitioners perceive and internalize the ethical dimensions of martial arts training.

While the proposed framework requires empirical validation, it provides a foundation for future research at the intersection of personality psychology and martial arts studies. More broadly, it highlights the importance of considering everyday practices and institutionalized value systems as potential drivers of personality development.

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