

Relationship between perceived parental autonomy support and dropout intention among Korean taekwondo athletes: Applying the trans-contextual model

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Abstract:

Background and Study Aim: In particular, taekwondo as practiced in the Olympics has long been established as a professional sport. In South Korea, the 'school sports team' system is utilized to foster taekwondo athletes as professionals starting from childhood. As student-athletes, they invest significantly more time and effort into training than academics and must overcome extreme competition to become national representatives. In this process, they are required to fulfill a dual-career role, balancing academics and sports; this duality acts as a factor that increases physical and psychological stress along with the possibility of burnout or dropout. The purpose of this study was knowledge about the psychological pathways through which perceived parental autonomy support affects dropout intention among Korean high school taekwondo student-athletes.

Material and Methods: A survey was conducted with 366 high school taekwondo athletes (226 males, 140 females) registered with the Korea Taekwondo Association. Measured the parental autonomy support, self-regulation motivation, based on variables of the theory of planned behaviour (TPB), and dropout intention. The collected data were analysed using structural equation modelling (SEM).

Results: The results indicated that parental autonomy support in the home context significantly promoted athletes' autonomous motivation while weakening their controlled motivation. In the transfer context, autonomous motivation significantly predicted all three TPB variables—attitude, subjective norms, and perceived behavioural control—within the sports setting, whereas controlled motivation showed a limited negative impact only on attitude. Ultimately, attitude and subjective norms acted as protective factors that significantly reduced dropout intention, but perceived behavioural control did not have a statistically significant effect.

Conclusions: These findings suggest that parenting styles shape athletes' motivational resources, which then transfer to cognitive belief systems in the sports context and influence dropout decisions. In particular, this study demonstrates that in the Korean elite sports environment, value judgments and social expectations play a more pivotal role in the decision-making process for withdrawal than individual controllability.

Keywords: dual-career, exercise adherence parental involvement, self-determination theory, theory of planned behaviour

Dictionary:

TCM – is an integrated theoretical framework that explains the psychological mechanism by which an individual's motivations and beliefs are transferred from one social context (e.g., home) to another (e.g., sport) [7].

Parental autonomy support – refers to a social-environmental factor where parents foster their child's self-regulatory abilities by acknowledging the child's perspective, providing options for choices, and encouraging self-expression and initiative [15].

Dropout intention – is a psychological state representing an athlete's voluntary decision to cease participation in sport, which is determined by the complex interaction of their attitudes, subjective norms, and perceived behavioural control [2].

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1. Introduction

Taekwondo is included in the official Olympic program and stands as a representative empty-hand martial art and sport practiced worldwide. In particular, taekwondo as practiced in the Olympics has long been established as a professional sport. In South Korea, the ‘school sports team’ system is utilized to foster taekwondo athletes as professionals starting from childhood. As student-athletes, they invest significantly more time and effort into training than academics and must overcome extreme competition to become national representatives. In this process, they are required to fulfil a dual-career role, balancing academics and sports; this duality acts as a factor that increases physical and psychological stress along with the possibility of burnout or dropout [1].

Dropout in a sports context refers to the voluntary cessation of participation by an athlete; this phenomenon goes beyond a simple halt in activity and negatively affects the athlete's self-identity, career plans, and psychological well-being [2]. Especially during adolescence, dropout directly influences an athlete's future career path and can lead to various negative developmental outcomes, such as negative emotions toward exercise, low self-efficacy, and psychological burnout [3,4]. Due to the severity of dropout, researchers have been attempting to identify various psychological and social factors that predict it. For instance, a systematic review by Crane and Temple [2] found that the causes of sports dropout among children and adolescents were intrapersonal factors such as a lack of enjoyment and low perception of self-competence. A study by Andronikos et al. [5] on junior athletes who dropped out identified the causes as a lack of communication, inadequate support, excessive pressure, maintaining a dual-career without support, and an environment excessively obsessed with winning.

In a meta-analysis of 12 studies involving 6,304 youth sports participants, Back et al. [6] reported that motivation and sports experience, as intrapersonal constructs, showed the strongest association with sports withdrawal. Above all, they reported that attitudes, subjective norms, and behavioural control regarding the sports experience of youth athletes showed the largest effect sizes with dropout. They also explained that antecedents such as the fulfilment of athletes' basic psychological needs or social support play an important role in these factors. This meta-analysis demonstrates that a complex interaction between athletes' individual positive beliefs and the motivational climate and environment that form those beliefs can lower the risk of dropout. Considering the life context of adolescents, it is particularly necessary to pay attention to the fact that beliefs or motivations formed outside the sports environment can also influence dropout.

An appropriate theory to explain this is the trans-contextual model (TCM) [7]. This theoretical framework explains how an individual's motivations and beliefs can be transferred from one context to another. TCM is an integrated form of Self-Determination Theory (SDT) [8], the Hierarchical Model of Intrinsic and Extrinsic Motivation (HMIEM) [9], and the theory of planned behaviour (TPB) [10]. Although this model was originally proposed to explain how motivation in school physical education classes transfers to physical activity behaviour in daily life, its validity has since been consistently verified through applications in various sports contexts [7,11].

From the perspective of TCM, student-athletes' sports dropout is determined by three beliefs: attitude, subjective norms, and perceived behavioural control (i.e., the three

belief elements of TPB). Attitude is a behavioural belief formed by favourable or unfavourable judgments regarding sports dropout; subjective norms are normative beliefs formed under the influence of the environment or social atmosphere; and perceived behavioural control (PBC) refers to control beliefs formed according to the perceived controllability of one's own behaviour [12]. These three beliefs act in a complex manner, and as dropout-related beliefs increase, the likelihood of dropout intention and actual dropout behaviour increases.

Studies predicting athletes' dropout using TCM have been reported, with the study by Barkoukis et al. [13] being a representative example. They proved that when autonomy support in physical education classes fails to transfer to the sports context, athletes lose competence in the sport itself, and their dropout intention rises sharply. As shown in their research, it is important to note that athletes' motivation is what primarily influences beliefs about dropout. Specifically, autonomous motivation—the belief that one can choose and act for oneself—and controlled motivation—the feeling of pressure from others—are key motivational variables predicting dropout beliefs. According to Calvo et al. [14], athletes' low autonomous motivation and high levels of extrinsic motivation were found to predict dropout. Furthermore, Back et al. [6] found that motivational factors and sports experience showed the strongest correlation with dropout. For instance, autonomous motivation becomes the driving force for forming positive attitudes toward exercise adherence and a high sense of perceived behavioural control through the TCM path, which ultimately acts as a protective factor to lower dropout intention [7]. To prevent sports dropout, they recommended that related organizations and clubs focus on creating a high-quality motivational climate that promotes motivation and enjoyment.

Specifically, the role of parents, who are closest to the athletes, is crucial in motivating them outside the sports context [15]. Representatively, parental autonomy support acts as a decisive social-environmental factor determining the motivational type of student-athletes. From a parental perspective, autonomy support involves actively fostering self-directed and self-regulatory abilities by acknowledging and accepting the child's perspective, providing sufficient options for choices, and encouraging self-expression and initiative [16]. When parents respect their child's right to choose and empathize with their emotions, athletes form autonomous motivation based on internal values rather than external pressure [17]. Conversely, autonomy support is also known to have the effect of weakening controlled motivation [18]. Related previous studies have consistently reported a significant correlation between the supportive role of parents and the psychological outcomes of athletes. For example, Guzmán and Kingston [19] empirically clarified that parental support perceived by adolescent athletes has a positive effect on exercise adherence intention through the mediation of autonomous motivation. Therefore, motivational resources transferred from parents can be seen as forming the basis of the psychological mechanisms and the dropout decision-making process experienced by athletes in the sports field.

However, despite such academic progress, existing studies have several limitations. First, the majority of TCM-related research focuses on the transfer from school physical education classes to leisure-time physical activity and emphasizes the role of the coach; research directly addressing the process by which the specific social context of parents affects student-athletes' dropout intention is relatively lacking [18]. Second, many studies have been conducted in Western countries, failing to sufficiently reflect the unique 'school sports team' culture and the specificity of taekwondo student-athletes in South Korea, where parental enthusiasm for education and pressure for

achievement are exceptionally high. Third, previous studies have mainly focused on the positive effects of autonomy support without providing an integrated analysis of the mechanisms through which this works in combination with the cognitive beliefs (TPB factors) that actually determine dropout. Therefore, it is necessary to precisely track the process of forming dropout intention through a multifaceted approach considering the Korean context.

In summary, the cognitive purpose of this study was knowledge about the psychological pathways through which perceived parental autonomy support affects dropout intention among Korean high school taekwondo student-athletes.

The application goal is to use the TCM model (see dictionary) to explain the psychological foundations of individual motivations for training among taekwondo students-athletes and prevent them from dropping out of school with the support of teachers and parents.

2. Materials and Methods

Participants

The participants of this study consisted of 366 Korean taekwondo student-athletes, including 226 males (61.7%) and 140 females (38.3%). All participants were between the ages of 16 and 18 and belonged to high school sport teams. Furthermore, they were officially registered as athletes with the Korean Olympic Committee and the Korea Taekwondo Association. The mean age of the athletes was 16.98 ± 0.82 years, and their average experience as professional taekwondo athletes was 4.14 ± 2.31 years (range = 1–11 years). Among the participants, 121 (33.1%) had experience placing at least third in national-level competitions in South Korea.

Study design

The result of the decomposition of the cognitive goal and the application goal into task is analysis the structural path through which parental autonomy support in the home influences athletes' autonomous or controlled motivation. We assume this is a phenomenon leads to dropout intention through three beliefs in the sports context: attitude toward dropout, subjective norms, and perceived behavioural control. Moreover, we assume that the obtained basic data will be useful for preventing dropout among taekwondo athletes' and we expect the implications for the educational roles of not only coaches but also parents.

According to the TCM-based research model (Figure 1), the results are expected to serve as a theoretical basis for promoting the psychological well-being of student-athletes within the sports system and maintaining long-term athletic careers.

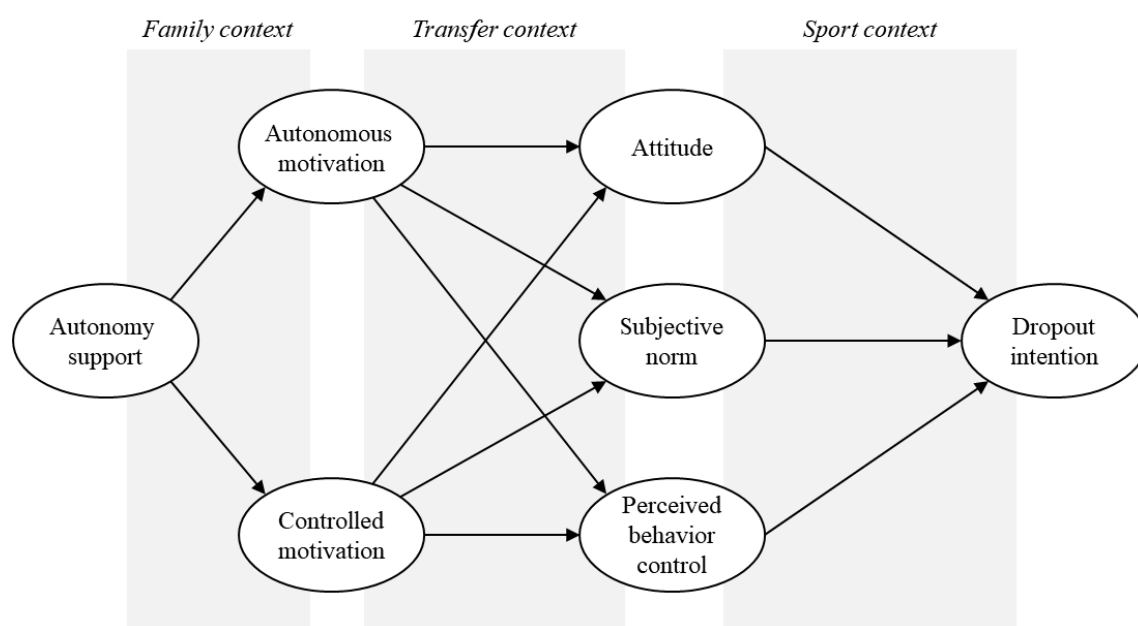


Figure 1. Research model applying TCM

Measures

Parental autonomy support

To measure perceived parental autonomy support, the Korean version of the Sport Climate Questionnaire (SCQ) [20, 21] was utilized. This scale consists of 6 items within a single-factor structure. The results of the confirmatory factor analysis (CFA) indicated an acceptable model fit: $\chi^2/df=3.149$, CFI (Comparative Fit Index)=0.989, TLI (Tucker-Lewis Index)=0.982, and RMSEA (Root Mean Square Error of Approximation)=0.077 (90% CI (confidence interval)=[0.046, 0.109]). All factor loadings were statistically significant, ranging from 0.748 to 0.913. The internal consistency, assessed via Cronbach's alpha, was excellent at 0.933.

Autonomous and controlled motivation

To assess autonomous and controlled motivation, the Korean version of the Self-Regulation Questionnaire [22] developed by Guay et al. [23] was employed. This instrument comprises a total of 20 items across two factors: 8 items for autonomous motivation and 12 items for controlled motivation. The CFA results showed a good model fit: $\chi^2/df=3.1465$, CFI=0.903, TLI=0.891, and RMSEA=0.082 (90% CI=[0.075, 0.089]). Factor loadings were all statistically significant, ranging from 0.522 to 0.924. Cronbach's alpha coefficients were 0.918 for autonomous motivation and 0.908 for controlled motivation, indicating high internal consistency.

Planned behaviour

Variables related to the theory of planned behaviour were measured using the Korean version of the scale developed based on Ajzen's [10] theory [24]. The scale consists of 12 items representing three factors: attitude (4 items), subjective norms (4 items), and perceived behavioural control (4 items). The CFA demonstrated a suitable model fit: $\chi^2/df=3.371$, CFI=0.953, TLI=0.939, and RMSEA=0.081 (90% CI=[0.068, 0.094]). Factor loadings ranged from 0.415 to 0.933 and were statistically significant. The

Cronbach's alpha values were 0.873 for attitude, 0.804 for subjective norms, and 0.813 for perceived behavioural control, reflecting good reliability.

Dropout intention

Dropout intention was measured using a scale specifically developed for Korean athletes [25, 26]. This instrument includes a total of 12 items across four factors: athletic burden (3 items), future burden (3 items), peer relationships (3 items), and loss of interest (3 items). The CFA indicated a satisfactory model fit: $\chi^2/df=3.455$, CFI=0.966, TLI=0.953, and RMSEA=0.082 (90% CI=[0.069, 0.096]). All factor loadings were statistically significant, ranging from 0.754 to 0.900. The Cronbach's alpha coefficients for each sub-factor were excellent: 0.887 for athletic burden, 0.930 for future burden, 0.859 for peer relationships, and 0.880 for loss of interest.

Procedures

The research procedure consisted of several stages: research planning, participant recruitment, data collection, and analysis.

(a) *Research Planning Stage*: A comprehensive review of previous literature regarding perceived autonomy support, self-regulatory motivation (autonomous and controlled motivation), planned behaviour (attitude, subjective norms, and perceived behavioural control), and dropout intention among taekwondo athletes was conducted, along with a theoretical review of the relationships between these variables. During this stage, hypotheses concerning the relationships between variables were established based on the review, and approval from the Institutional Review Board (IRB) was obtained to conduct the study (No. WS-2025-02).

(b) *Participant Recruitment Stage*: The researchers contacted the individuals in charge of the respective teams to request cooperation for participation in the study. After obtaining general consent from the relevant officials and identifying the training schedules, the research team personally visited the sites to conduct the survey.

(c) *Data Collection Stage*: Surveys were administered to the athletes to whom the questionnaires had been distributed. The survey was conducted considering accessibility and anonymity, and the questionnaire included documents such as a detailed explanation of the research purpose, information regarding data processing, and consent for research participation. This process was based on the recommendations and approval of the IRB.

(d) *Analysis Stage*: The researcher coded and primarily reviewed the collected data before analysing them according to their respective methods.

Data analysis

The data collected in this study were processed using SPSS 23.0 and AMOS 23.0 programs, and the statistical significance level was set at $\alpha = 0.05$. The specific analysis methods are as follows:

(a) *descriptive statistics*, mean, standard deviation (SD or $\pm$), skewness, and kurtosis were performed to examine the tendencies and normality of the data. The appropriateness of the data distribution was reviewed based on the threshold criteria of skewness (± 3) and kurtosis (± 7) [27].

(b) *correlation analysis*: Bivariate correlation analysis using Pearson's product-moment correlation coefficient was conducted to examine the relationships between

the main variables. The criterion for reviewing multicollinearity was that no issues were present if the correlation coefficient between two variables did not exceed 0.90.

(c) *structural equation modeling* (SEM): SEM was performed to explore the relationships between parental autonomy support, self-regulatory motivation, the theory of planned behaviour, and dropout intention. Model fit was assessed using χ^2 , the (TLI), the (CFI), and the (RMSEA). The appropriateness of the model fit was judged based on criteria of CFI and TLI ≥ 0.90 , and RMSEA and SRMR (Standardized Root Mean Square Residual) ≤ 0.08 [27].

3. Results

Descriptive statistics and correlation analysis

Peer relationships (a sub-factor of dropout intention) showed the lowest score at 1.830, while parental autonomy support exhibited the highest average score at 4.368. The standard deviations for all factors ranged from a minimum of 0.639 to a maximum of 1.220. Furthermore, the skewness and kurtosis values calculated to verify data normality met the established criteria, confirming that the data for this study satisfy the assumption of normality (Table 1).

Table 1. Descriptive statistics and bivariate correlations of sub-factors.

Factor	a	b	c	d	e	f	g	h	i	j
a. Autonomy support	1									
b. Autonomous motivation	0.547**	1								
c. Controlled motivation	-0.433**	-0.477**	1							
d. Attitude	0.484**	0.768**	-0.462**	1						
e. Subjective norm	0.475**	0.579**	-0.343**	0.649**	1					
f. PBC	0.424**	0.590**	-0.348**	0.689**	0.647**	1				
g. Athletic Burden	-0.296**	-0.397**	0.368**	-0.408**	-0.353**	-0.347**	1			
h. Future Burden	-0.271**	-0.356**	0.391**	-0.371**	-0.342**	-0.330**	0.761**	1		
I. Peer Relationships	-0.438**	-0.310**	0.362**	-0.344**	-0.413**	-0.352**	0.421**	0.394**	1	
j. Loss of Interest	-0.431**	-0.458**	0.452**	-0.522**	-0.429**	-0.417**	0.624**	0.638**	0.606**	1
Mean	4.368	4.066	2.125	4.165	4.062	3.992	2.902	2.726	1.830	2.185
SD	0.639	0.740	0.733	0.708	0.651	0.745	1.147	1.220	0.914	1.095
Skewness	-0.834	-0.550	0.656	-0.520	-0.310	-0.345	-0.145	0.192	1.227	0.720
Kurtosis	-0.074	-0.373	0.335	-0.373	-0.160	-0.742	-0.866	-0.966	1.348	-0.290

** $p < 0.01$; PBC – perceived behavioural control

Bivariate correlation coefficients were found to be significant ($p < 0.01$) across all factors. Specifically, parental autonomy support, athletes' autonomous motivation, and the three components of planned behaviour (attitude, subjective norms, and perceived behavioural control) showed significant positive correlations with each other. Conversely, these variables showed negative correlations with athletes' controlled motivation and the four sub-factors of dropout intention (athletic burden, future burden, peer relationships, and loss of interest). On the other hand, controlled motivation and the dropout intention factors were positively correlated with one another (Table 1).

Structural equations model

The results indicated an acceptable model fit: $\chi^2/df = 2.997$ ($\chi^2 = 938.002$, $df = 313$), CFI = 0.917, TLI = 0.907, and RMSEA = 0.074 (90% CI = [0.069, 0.079]), suggesting that the research model is highly appropriate (Figure 2). According to the path estimates: (a) *family context*: Perceived parental autonomy support had a significant positive effect on autonomous motivation and a significant negative effect on controlled motivation. (b) *transfer context*: Student-athletes' autonomous motivation had significant positive effects on all three belief systems: attitude ($\beta = 0.821$, $p < 0.001$), subjective norms ($\beta = 0.637$, $p < 0.001$), and perceived behavioural control ($\beta = 0.713$, $p < 0.001$). Controlled motivation had a significant negative impact on attitude ($\beta = -0.119$, $p < 0.001$), but its effects on subjective norms and perceived behavioural control were not statistically significant. (c) *sport context*: The three beliefs partially influenced dropout intention. Specifically, attitude ($\beta = -0.366$, $p < 0.001$) and subjective norms ($\beta = -0.191$, $p < 0.01$) significantly reduced dropout intention. However, perceived behavioural control did not have a statistically significant effect on dropout intention (Table 2).

Table 2. Estimates for the research model.

Paths	Estimate	Std. Estimate	S.E.	t
<i>Family context</i>				
Autonomy support → Autonomous motivation	0.694	0.600	0.057	12.266***
Autonomy support → Controlled motivation	-0.599	-0.481	0.064	-9.345***
<i>Transfer context</i>				
Autonomous motivation → Attitude	0.581	0.821	0.049	11.818***
Autonomous motivation → Subjective norm	0.676	0.637	0.055	12.308***
Autonomous motivation → PBC	0.500	0.713	0.047	10.534***
Controlled motivation → Attitude	-0.078	-0.119	0.024	-3.320***
Controlled motivation → Subjective norm	-0.037	-0.038	0.047	-0.787
Controlled motivation → PBC	-0.051	-0.078	0.032	-1.607
<i>Sport context</i>				
Attitude → Dropout intention	-0.704	-0.366	0.154	-4.574***
Subjective norm → Dropout intention	-0.246	-0.191	0.082	-2.998*
PBC → Dropout intention	-0.233	-0.120	0.147	-1.588

*** $p < 0.001$; PBC represents perceived behaviour control; S.E. standard Error

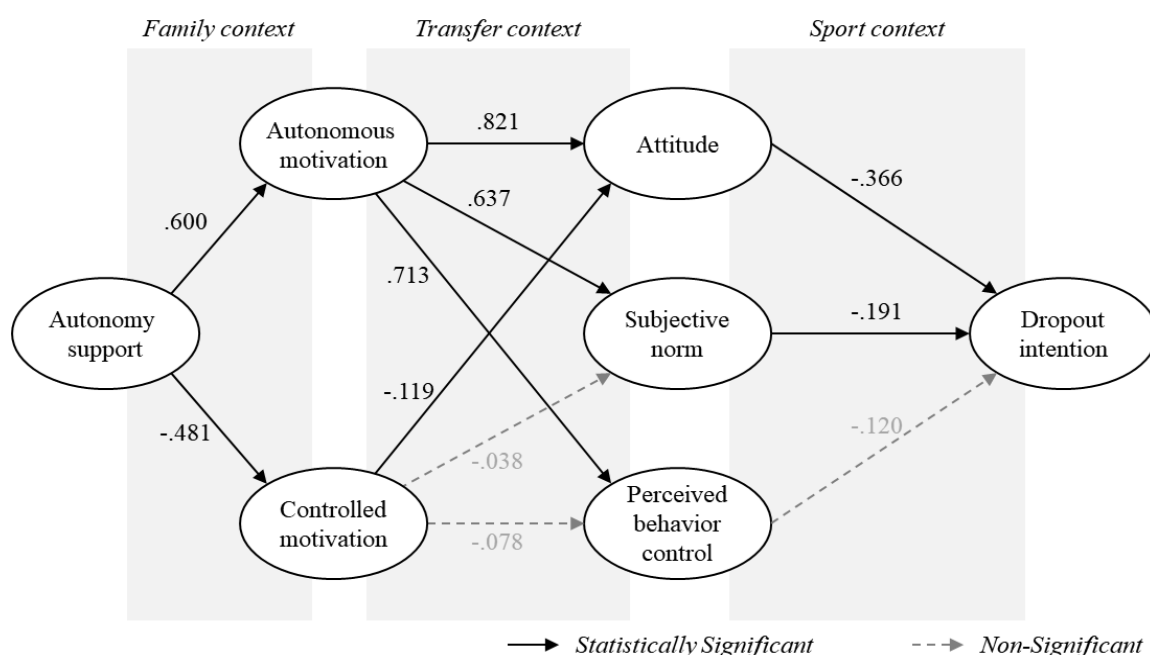


Figure 2. Tested research model

4. Discussion

The analysis results confirmed that the overall model fit was at an acceptable level, and the core paths generally aligned with the theoretical flow of the TCM: parental autonomy support in the home context → motivation (autonomous/controlled) → three beliefs in the sports context (attitude, subjective norms, and perceived behavioural control) → dropout intention.

Specifically, parental autonomy support significantly promoted autonomous motivation and weakened controlled motivation, while autonomous motivation strengthened all three TPB beliefs: attitude, subjective norms, and perceived behavioural control. This indicates that the parental interaction style creates motivational resources allowing athletes to choose and maintain exercise adherence, and these resources can be transferred to cognitive beliefs within the sports context [7, 8]. The fact that the path from autonomous motivation to TPB beliefs was consistently significant demonstrates that it is necessary to consider both motivation and beliefs simultaneously to understand the dropout intention of taekwondo student-athletes. In other words, parental autonomy support does not merely stop at being ‘feel-good support’; rather, through the athlete’s autonomous motivation, it can reconstruct cognitive components such as how one evaluates dropping out (attitude), how others will perceive it (subjective norms), and whether one can control it (perceived behavioural control). From the TCM perspective, since these beliefs function as proximal predictors of behaviour, parental autonomy support can be interpreted as a starting point that activates (or deactivates) the core mechanism of dropout intention formation, rather than being a distant background factor [10, 28].

Controlled motivation negatively influenced only attitude (–) and showed no significant effect on subjective norms or perceived behavioural control. This pattern suggests the possibility that controlled motivation operates by distorting the ‘value evaluation of behaviour (attitude)’. As controlled motivation increases, athletes move according to external criteria—such as grades, evaluations, or the avoidance of

punishment—rather than internalizing the meaning of participation; as a result, evaluations regarding exercise adherence or dropout may lean negatively. On the other hand, since norms and the sense of control are already strongly defined within the structure of school sports teams—including training schedules, competition opportunities, coach authority, and academic requirements—additional variance in controlled motivation may not have further explained these beliefs. Previous studies have also reported a tendency for controlled (pressure-based) motivation or controlling interpersonal styles to be linked with maladaptive emotions, burnout, and withdrawal risk [29, 30], and this study shows that such a link can be particularly prominent at the level of attitude.

Regarding the paths from TPB beliefs to dropout intention, attitude and subjective norms were significant, while perceived behavioural control was non-significant. This suggests that the dropout intention of taekwondo student-athletes is more sensitive to value judgments regarding dropout or persistence (attitude) and the perception of social pressure toward the direction expected by significant others, such as parents, coaches, teams, or schools (subjective norms), rather than the issue of personal controllability. Particularly in the context of Korean school sports teams, where career, performance, and selection structures are tight, individual "controllability" is often limited, or even if there is a sense of control, actual options remain restricted. In such an environment, the power of perceived behavioural control to explain intention is weakened; instead, the social evaluation one might receive for quitting or the perceived meaning of continuing can drive intention more strongly. Furthermore, dropout intention may involve a relatively larger influence of normative pressure, as it is intertwined with the stigma of the 'act of quitting itself, uncertainty about future careers, and the investment costs incurred by the family [31, 32].

The finding that attitude and subjective norms were significant while perceived behavioural control was not in the path to dropout intention is an important theoretical implication of this study. This implies that the dropout intention of taekwondo student-athletes is more heavily influenced by value judgments about sports participation and persistence (attitude) and the perception of expectations from significant others (subjective norms) rather than the controllability perceived by the individual. This result may also be related to the structural characteristics of the Korean school sports team context. In an environment where core elements such as training schedules, competition opportunities, and career decisions are strongly prescribed by institutional and relational factors beyond the athlete's scope of choice, the behavioural control felt by the athletes themselves may operate limitedly in the actual decision-making process. Conversely, since dropping out is closely linked to the social meaning of 'quitting', the expectations of families and coaches, and evaluations within the peer group, normative pressure and attitudinal evaluation likely played more central roles in intention formation. This is consistent with some previous TCM studies where perceived behavioural control did not consistently predict behavioural intention, suggesting that the relative influence of TPB components can vary context-specifically in adolescent elite sports environments.

Finally, this study empirically confirmed a sequential path where parental autonomy support is transferred to TPB beliefs through autonomous motivation and ultimately leads to dropout intention, thereby extending the explanatory power of the TCM to the specific group of taekwondo student-athletes. In particular, the result that autonomous motivation significantly predicted all three TPB components, whereas controlled motivation had a limited effect only on attitude, shows that the core

mechanism promoting positive behavioural transfer lies in the ‘promotion of autonomy’ rather than the ‘reduction of control’. This aligns with the perspective of self-determination theory, which emphasizes the asymmetrical functions of motivation types, suggesting that while autonomous motivation reconstructs an athlete's cognitive evaluation system more broadly, controlled motivation likely operates primarily at the level of negative value judgment. In summary, the results of this study show that dropout intention should be understood as a step-by-step process linking the parenting context, motivational regulation styles, and belief systems in the sports context, rather than being explained by the direct effect of a single variable. This provides empirical evidence for an integrated psychological mechanism explaining exercise adherence and withdrawal among adolescent elite sports participants.

Field application and future direction

The results of this study offer several practical implications. First, preventing dropout should not rely solely on coach-centred interventions; instead, parent education and the creation of a home-based motivational environment must serve as core pillars. Specifically, parents need to internalize autonomy-supportive behaviours’ such as: (1) providing a structure that explains reasons for choices rather than being permissive, (2) showing emotional empathy toward failures or poor performance, (3) providing feedback on the process, effort, and learning rather than just results, and (4) engaging in joint decision-making regarding the balance between training, academics, and rest [33, 34].

Second, regarding program design, counselling and coaching that strengthen an athlete's autonomous motivation can simultaneously influence TPB beliefs. Therefore, modules that facilitate the internalization process, such as motivation promotion, goal setting, and value clarification, could be effective.

Third, as attitude and subjective norms were identified as key predictors, a culture is needed at the team and school levels that mitigates the simplistic message that dropout equals failure and instead treats dual careers and transitions as part of a normal developmental process.

Finally, this study has several limitations. First, since it is a cross-sectional study, it is difficult to determine definitive causality; future research should employ longitudinal designs to track actual dropout behaviour. Second, as all variables were measured via self-report surveys, the possibility of common method bias exists. A multi-method approach combining reports from parents and coaches, objective training/attendance indicators, or the experience sampling method (ESM) would be desirable. Third, the reason perceived behavioural control was non-significant might be that the ‘target behaviour’ of the measurement (dropout/persistence) and the focus of the items were not sufficiently aligned; thus, the development of behaviour-specific items tailored to the context of taekwondo student-athletes is required [10].

Nevertheless, by empirically presenting the TCM path where parental autonomy support leads to dropout intention through motivation and TPB beliefs among Korean taekwondo student-athletes, this study provides scholarly and practical evidence for expanding the focus of dropout prevention interventions to include the parent-home context alongside coaches.

5. Conclusions

The results showed that parental autonomy support significantly strengthened autonomous motivation and weakened controlled motivation, with autonomous motivation predicting overall TPB beliefs, whereas controlled motivation had a limited effect only on attitude. Furthermore, dropout intention was explained more by attitude and subjective norms than by perceived behavioural control. This suggests that in the context of Korean elite youth sports, an athlete's intention to withdraw may be formed more sensitively based on value judgments and social expectations rather than individual sense of control.

In summary, this study identified dropout intention not as the result of a single factor but as a process where parenting styles, motivational regulation, and cognitive beliefs about sports participation are linked in stages. By empirically proving that parent-based autonomy support is a key psychological mechanism explaining exercise adherence and withdrawal among youth athletes, this study extends the applicability and explanatory scope of the trans-contextual model within the sports context.

Data Availability Statement: The data supporting this study's findings are available from the corresponding author upon reasonable request.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Woosuk University (No. WS-2025-02).

Conflicts of Interest: The authors declare no conflicts of interest.

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