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"Music's cool... Yeah... But naah… can it really get you moving inside and out?" Eudaimonic Function of Music Listening (EFML) and Students' Intrinsic Motivation in Physical Education

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ABSTRACT
Music is commonly utilized in educational settings to support mood regulation and concentration, yet its deep motivational relevance within physical education remains underexplored. Guided by Self Determination Theory (SDT), this study examined the associations between the Eudaimonic Functions of Music Listening (EFML), and intrinsic motivation among college students enrolled in mandatory Physical Activities Toward Health and Fitness (PATH Fit) courses at a Philippine State University. A cross-sectional correlational design was used to assess these relationships. To measure the variables, the study utilized the Eudaimonic Functions of Music Listening (EFML) scale to evaluate the elements of Peak Experience (PEX), Flow (FL), and Transcendence (TR), alongside the Intrinsic Motivation Inventory to examine the subdimensions of interest, enjoyment, value, usefulness, and perceived choice. Regression analyses revealed that PEX and FL were significantly associated with overall intrinsic motivation and multiple subdimensions, with PEX emerging as the strongest predictor overall. Conversely, TR demonstrated a more selective pattern, emerging as a unique predictor within the value and usefulness model, which overall accounted for one quarter of the variance. These results imply that emotionally meaningful musical experiences can profoundly shape motivational appraisals during learning through movement. In terms of practical implications, the findings suggest that physical education instructors can deliberately implement aesthetic musical strategies, such as guided listening or movement improvisation, to cultivate deeper educational purpose and student connection. This research provides context specific evidence validating that music can function far beyond temporary affect regulation to serve as a meaningful pedagogical catalyst for long term behavioral engagement in physical education.

INTRODUCTION

Music is increasingly recognized not merely as a motivational backdrop, but as a sophisticated pedagogical tool in physical education (PE). Building on the author's prior research into the Adaptive Functions of Music Listening (AFML) published in Empirical Studies of the Arts (Lobo, 2025), this framework highlights how music fosters emotional regulation, mood enhancement, and a vibrant classroom climate. However, while these affective dimensions successfully optimize students' immediate, moment-to-moment experiences during physical activity, they primarily address transient emotional needs rather than fully accounting for deeper, long-term motivational dynamics. This is true especially within the context of Philippine higher education, where PE is often perceived as a merely required subject rather than a

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meaningful educational experience (Tagare, 2025). Building on this foundation, the present study shifts focus to the Eudaimonic Functions of Music Listening (EFML), which refer to the deeper psychological experiences derived from music, such as reflection, meaning-making and personal growth (Groarke & Hogan, 2020). While AFML has been well-documented in music psychology (Blasco-Magraner et al., 2023; Croom, 2012; Groarke & Hogan, 2016; Schäfer et al., 2013), EFML remains relatively unexplored, particularly within educational settings like PE. The current study addresses this gap by examining how EFML may influence intrinsic motivation, a critical determinant of sustained participation and positive engagement in physical activity contexts.

Grounded in Self-Determination Theory (Deci & Ryan, 1985), intrinsic motivation involves engaging in activities for their inherent satisfaction and enjoyment, rather than for external rewards (Deci, 1975). In PE, students who are intrinsically motivated are more likely to find value in movement, persist in physical activity and experience a sense of autonomy and personal relevance (Shaw, 2016; Teixeira et al., 2012). Despite the theoretical alignment between EFML and intrinsic motivation, little research to date has empirically tested this relationship, particularly in Southeast Asian educational contexts. Therefore, this study aims to examine the relationship between the dimensions of EFML and intrinsic motivation among college students enrolled in a state university in the Philippines. EFML is measured using the Eudaimonic Functions of Music Listening Scale by Groarke and Hogan (2020), while intrinsic motivation is assessed through constructs derived from SDT, including interest/enjoyment, value/usefulness and perceived choice. By exploring this relationship, the study seeks to contribute to both local and international conversations on how music, beyond its entertainment and regulatory roles, may serve as a meaningful psychological catalyst for motivation in physical education

Music listening through the lens of the Eudaimonic Functions of Music Listening (EFML)

Music listening constitutes the primary experiential behavior through which individuals engage with music, serving as the psychological entry point for a range of emotional, cognitive and reflective processes (Reybrouck et al., 2024; Schäfer et al., 2013). Although the EFML framework conceptualizes how music listening facilitates deeper experiences such as meaning-making, immersion and self-transcendence as mentioned by Groarke and Hogan, these functions are inherently grounded in the act of listening itself. In this sense, EFML does not replace music listening as a phenomenon, but rather provides a theoretical lens for understanding how listening experiences move beyond hedonic pleasure toward personal growth, reflection and psychological flourishing. Framing EFML within the broader context of music listening clarifies its relevance as an explanatory framework rather than a detached construct.

Beyond its hedonic appeal, music listening can serve as a profound medium for personal meaning-making and self-development. According to Groarke and Hogan (2020), the Eudaimonic Functions of Music Listening (EFML) extend far beyond emotion regulation, encompassing deeper experiential and existential dimensions. Their empirical model identifies three core constructs: Transcendence (TR), Flow (FL) and Peak Experience (PE), which together illuminate how music can contribute to psychological flourishing and life purpose. Peak Experience (PEX) captures intense emotional or spiritual episodes during music listening that are often described as uplifting, awe-inspiring or transformative (Whaley et al., 2012). These moments are characterized by heightened arousal, clarity of meaning and deep personal resonance (Solberg & Dibben, 2019). Unlike everyday pleasures, peak experiences often leave lasting impressions and can reshape an individual's outlook, identity or goals (Green, 2022; Schäfer et al., 2014). For Filipino college students navigating the demands of academic and social life (Lobo, 2025), peak experiences in music may inspire personal

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reflection, resilience and renewed enthusiasm toward educational tasks. Including those in physical education, which is often undervalued.

Flow (FL), the second eudaimonic function, involves a state of total absorption in the musical experience (Chirico et al., 2015). When listeners enter flow, they lose self-consciousness and experience a merging of action and awareness, often accompanied by a distorted sense of time (Gold & Ciorciari, 2020; Hackert et al., 2023). This immersive engagement is not only emotionally rewarding but also cognitively stimulating, enabling listeners to enter a state of focused mindfulness (Rakei et al., 2022; Zielke et al., 2023). In PE, where flow is also linked to optimal performance and motivation (Han & Park, 2020; Kawabata, 2018), music-induced flow may heighten students' sense of presence and reduce mental barriers toward physical activity (Ballmann, 2021; Terry et al., 2020). The third dimension, Transcendence (TR) refers to music's ability to evoke a sense of connection that surpasses the boundaries of the individual self (Łuciuk-Wojczuk, 2023). Through transcendent experiences, listeners may feel deeply connected to others, nature, spirituality or the universe itself (Atkins & Schubert, 2014; Bist et al., 2024). This function often leads to a perception of unity or oneness, which can help individuals cope with existential questions and find comfort in moments of uncertainty or distress (Ge & Yang, 2023; Yaden et al., 2017). In educational contexts, transcendence through music can support students in accessing reflective states of mind, broadening their perspectives and connecting more deeply with their internal values (Elmazoska et al., 2025). These are qualities that are particularly important in holistic, learner-centered approaches like physical education.

Together, these three eudaimonic functions position music listening as a powerful psychological resource (Groarke & Hogan, 2020). Not just a tool for emotional enhancement, but a deep human experience that fosters self-actualization, identity formation and engagement. Within this study, exploring these dimensions offers a richer understanding of how music can fuel intrinsic motivation and transform the way students connect with their physical education experiences.

Intrinsic Motivation in Physical Education: A Self-Determination Theory Perspective

Intrinsic motivation, a central concept in Self-Determination Theory (SDT), refers to the innate psychological drive to engage in an activity for its inherent satisfaction, interest or enjoyment rather than for external rewards or pressures (Deci & Ryan, 1985; Ryan & Deci, 2000). In the context of PE, intrinsic motivation is considered essential for fostering meaningful engagement, persistence and the development of lifelong physical activity habits (Alecu et al., 2025; Chen & Ennis, 2009). SDT posits that intrinsic motivation thrives when three basic psychological needs are supported: autonomy (the sense of volition and self-direction), competence (the feeling of mastery and effectiveness) and relatedness (the experience of meaningful connection with others) (Ryan & Deci, 2000). In physical education settings, students who perceive themselves as active agents, capable performers and socially supported are more likely to find internal value in the activity, leading to sustained motivation and enjoyment (Frikha, 2025; Rugh et al., 2024; Wanwan & Khairani, 2025).

Operationally, intrinsic motivation in PE can be broken down into key subdimensions: Interest/Enjoyment (IE), which reflects how much a student genuinely likes participating in physical activities (Mouratidis et al., 2011). Value/Usefulness (VU), which represents how meaningful and personally beneficial they perceive the activities to be (Beni et al., 2017). Lastly, Perceived Choice (PC), which indicates the degree to which students feel they are freely choosing to engage in PE tasks rather than being externally controlled (How et al., 2013). Despite its importance, many students, particularly in the Philippine higher education context, often perceive PE as a mere academic requirement rather than a source of enjoyment or personal development (Aquino, 2023). This outlook can lead to minimal effort, lack of engagement and undervaluation of the subject. Therefore, identifying strategies that can enhance students' intrinsic motivation in PE is a critical challenge for educators (White et al.,

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2021). Recent studies suggest that arts-based and emotionally resonant experiences, such as music, may hold untapped potential in this regard (Cools et al., 2023; Digelidis et al., 2014; Konukman et al., 2012). Given music's deep psychological resonance, particularly when experienced through its eudaimonic functions, it is reasonable to investigate whether such experiences can support or even enhance students' intrinsic motivation in physical education. This forms the central inquiry of the present study.

Beyond its affective and regulatory roles, music listening has been increasingly recognized as a psychological resource that can support intrinsic motivation in educational and movement-based contexts (Dimitriadis et al., 2024). Within a Self-Determination Theory (SDT) framework, music may enhance interest and enjoyment by enriching the emotional quality of learning experiences (Jiang, 2025), support perceived autonomy by allowing students to feel a sense of personal connection and self-expression (Shaheen, 2022) and facilitate the internalization of value by helping learners attach meaning and relevance to physical activities (Adjanin et al., 2025). In physical education settings, where students often struggle to perceive personal relevance or enjoyment, music listening can serve as an experiential bridge that transforms movement from a task-oriented requirement into a more engaging and meaningful experience. These motivational affordances position music listening not merely as a background stimulus, but as a context-shaping psychological factor that may contribute to students' intrinsic motivation toward participation in physical education.

Despite growing interest in the use of music within educational and physical activity contexts, existing research has largely emphasized its hedonic, regulatory or performance-enhancing functions, with limited attention given to how music may support deeper, meaning-oriented motivational processes in physical education. Empirical studies examining the eudaimonic functions of music listening and their relationship with intrinsic motivation remain scarce, especially within higher education and non-Western contexts. Addressing this gap, the present study advances the argument that eudaimonic dimensions of music listening are meaningfully associated with students' intrinsic motivation in physical education and warrant empirical attention as theoretically relevant motivational correlates. By empirically testing these relationships among Filipino college students, this study highlights the motivational significance of music beyond affect regulation and positions EFML as a theoretically grounded lens for understanding intrinsic motivation in movement-based education.

Objectives of the study and hypotheses formulation

The primary objective of this study is to examine the relationship between EFML and intrinsic motivation in the context of physical education among college students in a selected state university in the Philippines. Specifically, the study aims to explore how the three dimensions of EFML are associated with students' intrinsic motivation, as informed by SDT. Intrinsic motivation, in this study, is conceptualized through its subcomponents. Although exploratory in nature, the study is guided by theoretical expectations based on prior research in music psychology and motivational science. It is anticipated that the overall EFML construct will show a positive relationship with students' intrinsic motivation in physical education. Moreover, it is assumed that each of the three EFML dimensions will be positively associated with the subdimensions of intrinsic motivation. These hypotheses are grounded in the notion that music experiences that promote emotional intensity, immersive engagement and personal meaning may contribute to students' internal drive and enjoyment in participating in physical activity. Through this inquiry, the study seeks to contribute foundational insights into how deeply meaningful music listening may influence motivational states in embodied educational settings.

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METHODOLOGY

Research Design

This study utilized a cross-sectional correlational research design to explore the relationships between the Eudaimonic Functions of Music Listening (EFML) and intrinsic motivation in physical education. This design was selected because it facilitates the simultaneous assessment of naturally occurring variables without experimental manipulation (Wang & Cheng, 2020). Furthermore, this approach is particularly effective for identifying potential associations and emerging patterns within a large population at a single point in time. In the context of this research, the design enabled the collection of self-reported data from college students regarding their experiences with music and motivation during PE. By capturing participants' responses within a defined timeframe, the study was able to provide a snapshot of how reflective, immersive and meaningful music experiences relate to students' internal motivation to participate in physical education activities.

Participants

To ensure continuity with the author's prior study from the first semester of Academic Year 2024–2025, this research utilized a purposive sampling strategy targeting students in Physical Activities Toward Health and Fitness (PATH-Fit) 2 and 4. Because PATH-Fit is a mandatory subject for all university students in the Philippines, these courses form the standard general physical education sequence for undergraduate degrees. The participants were first and second-year students from a selected Philippine State University who had previously completed PATH-Fit 1 and 3, respectively. Their prior engagement with physical education provided a solid foundation for examining how deeper, meaning-centered music experiences influence intrinsic motivation in the PE setting. Selecting this group allowed for insight into students who could meaningfully reflect on both their past and current PE experiences. Furthermore, as PATH-Fit subjects are taken by students from various academic programs, the sample offered broad disciplinary representation. This approach also served as a coherent follow-up to the prior investigation, extending the exploration of music's psychological power across different stages of PE instruction.

A total of 395 college students from a Philippine State University participated in the study (See Table 1). The sample was predominantly composed of heterosexual women (63.5%), followed by heterosexual men (27.1%) and students who identified as LGBTQIAP+ (8.4%), with a small proportion (1.0%) preferring not to disclose their gender identity. Participants ranged in age from 16 to 44 years old, with a mean age of 18.62 years. Most students were within the 18-20 age range, with 18-year-olds representing the largest group (52.7%), followed by 19-year-olds (25.8%) and 20-year-olds (10.6%). The sample primarily consisted of freshmen (70.9%), while sophomores comprised the remaining 29.1%. In terms of musical experience, a vast majority (82.8%) reported listening to music for five years or more, suggesting a strong and sustained exposure to music as a daily activity. When asked about their daily music listening habits, 39.5% reported listening for more than two hours a day, while 28.4% listened for 30 minutes to one hour and 25.6% for one to two hours.

Table 1. Distribution of the respondents

Profile	Items	N (%)
Sex/Gender identity	Heterosexual men	107(27.1%)
	Heterosexual women	251(63.5%)
	LGBTQIAP+	33(8.4%)
	Prefer not to disclose	4(1.0%)
Age ($\bar{x}$ = 18.62)	16 years old	1(0.3%)
	17 years old	27(6.8%)
	18 years old	208(52.7%)

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	19 years old	102(25.8%)
	20 years old	42(10.6%)
	21 years old	10(2.5%)
	22 years old	2(0.5%)
	27 years old	1(0.3%)
	34 years old	1(0.3%)
	44 years old	1(0.3%)
Year level	Freshmen	280(70.9%)
	Sophomores	115(29.1%)
Years of listening to music	1 year or less	17(14.3%)
	1-3 years	23(5.8%)
	3-5 years	28(7.1%)
	5 years and more	327(82.8%)
Music listening time	< 30 minutes	26(6.6%)
	30 minutes to 1 hour	112(28.4%)
	1 hour to 2 hours	101(25.6%)
	> Two hours	156(39.5%)
	Total number of respondents	**395(100.0%)**

A priori power analysis using G*Power (version 3.1) indicated that a minimum sample of 119 participants was required to detect a medium effect size ($f^2 = .15$) with 95% power at an alpha level of .05 (Faul et al., 2007), using three predictors in a multiple regression model. A total of 395 college students participated in the study, well exceeding the required minimum. This larger sample size enhances the robustness, precision and generalizability of the results, especially in the context of exploratory research and multiple outcome variables. The expanded respondent pool also allows for more reliable subgroup analyses and strengthens the overall statistical power beyond the minimum threshold.

Instruments

The study gathered data from the respondents through an online survey using Google Forms. The link for the said online survey was disseminated through the Learning Management System (LMS) used by the university. Additionally, the data gathering phase was conducted in February 2025. The said survey was subdivided into three distinct parts. The first part gathered the profiles of the respondent (sex/gender identity, age, year level, years of listening to music and music listening time). The second part have utilized the Eudaimonic Function of Music Listening Scale (EFMLS) by Groarke and Hogan (2020). It is a 7-item self-report scale which assesses the eudaimonic music listening functions based on its three components: Peak Experience (PE), Flow (FL), and Transcendence (TR). The responses were encoded using 5-point Likert scale ranging from 1- strongly disagree to 5- strongly agree. Participants were instructed to respond based on their general music listening experiences and their reflective associations with physical education contexts, rather than music used during a specific PE class or instructional session. As such, responses reflect perceived connections between music listening and motivation in physical education, rather than immediate in-class instructional effects. Lastly, to measure the intrinsic motivation of the students, the Intrinsic Motivation Inventory (IMI) (sourced from Ryan et al. (1983) and Ryan (1982), particularly the Activity Perception Questionnaire (APQ) was used. This 25-item self-report scale examined students' experience of their tasks in Physical Education particularly in terms of Interest/Enjoyment, Value/Usefulness and perceived choice. The answers were encoded using 7-point Likert scale ranging from 1- not at all true to 7- very true.

Data analysis

Descriptive statistics and intercorrelations among the study constructs indicated generally favorable perceptions of both eudaimonic music experiences and intrinsic motivation in

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physical education. All variables demonstrated acceptable normality, with skewness values ranging from -1.163 to .300 and kurtosis values from -.673 to 1.598, indicating no severe departures from normal distribution. Among the EFML subscales, flow (M = 3.77, SD = 0.79, α = .53, skew = -.130, kurtosis = -.580) and peak experience (M = 3.74, SD = 0.82, α = .43, skew = -.130, kurtosis = -.673) showed relatively low internal consistency, while transcendence (M = 3.52, SD = 0.71, α = .69, skew = .300, kurtosis = -.298) approached acceptable reliability. These lower reliability coefficients may be attributed to the limited number of items in the respective subscales, as shorter scales (typically fewer than 4 items) often produce attenuated alpha values despite conceptual clarity (Cortina, 1993; Loewenthal, 2001). Nevertheless, the EFML dimensions were moderately to strongly interrelated (r = .58 to .63, p < .01), supporting their conceptual cohesion. For intrinsic motivation, all subdimensions: interest/enjoyment (M = 5.55, SD = 1.26, α = .96, skew = -1.163, kurtosis = 1.598), value/usefulness (M = 5.21, SD = 1.15, α = .91, skew = -.808, kurtosis = 1.304) and perceived choice (M = 5.56, SD = 1.26, α = .96, skew = -1.131, kurtosis = 1.499), demonstrated excellent reliability, as did the total intrinsic motivation score (M = 5.43, SD = 1.20, α = .98, skew = -1.069, kurtosis = 1.542). Correlations between EFML dimensions and intrinsic motivation outcomes were positive and statistically significant (r = .37 to .43, p < .01), supporting the hypothesized relationships and the construct relevance of the EFML subscales within an educational setting. Lastly, to assess the predictive power of EFML on intrinsic motivation and its subdimensions, a series of multiple regression analyses was performed. Each regression model examined how the three EFML dimensions (Peak Experience, Flow and Transcendence) predicted a distinct motivational outcome (Interest/Enjoyment, Value/Usefulness and Perceived Choice). It is important to note that Cronbach's alpha is sensitive to scale length and may underestimate reliability in brief multidimensional constructs; therefore, the EFML subscale coefficients should be interpreted as indicative rather than definitive, particularly in exploratory predictive models.

Table 2. Normality estimates, multivariate correlations and reliability testing

Construct	Mean ± SD	Skew	Kurt	1	2	3	4	5	6	7
EFML_PEX	3.74 ± .82	-.130	-.673	(.43)						
EFML_FL	3.77 ± .79	-.130	-.580	.63**	(.53)					
EFML_TR	3.52 ± .71	.300	-.298	.58**	.60**	(.69)				
IM_IE	5.55 ± 1.26	-1.163	1.598	.41**	.39**	.34**	(.96)			
IM_VU	5.21 ± 1.15	-.808	1.304	.45**	.42**	.41**	.93**	(.91)		
IM_PC	5.56 ± 1.26	-1.131	1.499	.41**	.39**	.33**	.99**	.93**	(.96)	
IM	5.43 ± 1.20	-1.069	1.542	.43**	.41**	.37**	.99**	.97**	.99**	(.98)

Note: Correlation is significant at the 0.01 level (2-tailed).
Legend: EFML- Eudaimonic Function of Music Listening, PEX- Peak experience, FL- Flow, TR- Transcendence, IM- Intrinsic Motivation, IE- Interest/enjoyment, VU- Value/usefulness, PC- Perceived choice.

RESULTS AND DISCUSSION

To examine the relationships between the dimensions of EFML and intrinsic motivation in physical education, four standard multiple regression analyses were conducted. The predictors included three EFML dimensions: PE, FL and TR, and the outcome variables were: (1) Overall intrinsic motivation, and its subdimensions: (2) Interest/Enjoyment, (3) Value/Usefulness, and (4) Perceived Choice. It is important to note that these analyses are exploratory and cross-sectional in nature and while they provide insight into the statistical relationships between variables, they do not imply causation.

The first model predicting overall intrinsic motivation was statistically significant, F (3, 391) = 37.334, p < .001, accounting for 22.3% of the variance in intrinsic motivation (R^2 = .223). Peak experience (β = .242, p < .001) emerged as the strongest predictor, indicating that students who experienced more emotionally intense music listening also tended to report higher overall intrinsic motivation in PE. Flow (β = .188, p = .002) was also significantly associated with increased motivation, suggesting that immersive musical experiences may

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support more engaged attitudes toward physical activity. Transcendence, while positively associated, showed only marginal significance (β = .115, p = .052), suggesting a limited influence in this context. In the second model assessing interest/enjoyment, the regression was also significant, F (3, 391) = 32.919, p < .001, explaining 20.2% of the variance (R^2 = .202). Peak Experience (β = .235, p < .001) and flow (β = .195, p = .002) were both positively associated with students' enjoyment and interest in PE, indicating that emotionally moving and engaging music experiences may enhance the affective appeal of physical education. Transcendence (β = .086, p = .152) did not show a significant relationship, suggesting that more abstract or reflective musical experiences may not directly affect students' affective engagement in PE. The third model, predicting Value/Usefulness, yielded the strongest relationship among all models, F (3, 391) = 42.963, p < .001 and accounted for 24.8% of the variance (R^2 = .248). All three EFML dimensions were significant predictors in this model: Peak experience (β = .244, p < .001), transcendence (β = .172, p = .003) and flow (β = .162, p = .008). Notably, transcendence emerged as a unique and meaningful predictor only in this dimension, suggesting that music-induced feelings of reflection, connection to something larger or spiritual awareness may enhance students' ability to see PE as purposeful and personally relevant. While it did not influence enjoyment or autonomy, Transcendence appears to support the internalization of meaning a core tenet of value-related motivation. These results imply that when students experience music in a way that prompts existential reflection or emotional depth, they may be more inclined to recognize physical education as a valuable component of holistic growth and education. The fourth model focused on perceived choice and was also statistically significant, F (3, 391) = 32.416, p < .001, explaining 19.9% of the variance (R^2 = .199). Peak experience (β = .234, p < .001) significantly predicted perceived autonomy, suggesting that students who experienced emotional resonance in music felt greater control and volition in PE participation. Flow (β = .199, p = .002) was also a significant predictor, highlighting the importance of immersive experiences in fostering a sense of self-directed learning. However, transcendence (β = .079, p = .187) was not a significant predictor of perceived choice, echoing earlier models where its contribution was limited to more cognitively framed outcomes such as value.

Overall, these results show that PEX and FL are consistently and positively related to various aspects of intrinsic motivation, while TR plays a more selective role most notably in relation to perceived value. These findings are particularly relevant in the context of physical education, where fostering intrinsic motivation is essential for sustaining long-term participation, enjoyment and meaningful engagement. When students are internally driven, finding joy, value and autonomy in movement, they are more likely to carry active lifestyles beyond the classroom. While promising, these results should be interpreted as preliminary and exploratory, offering a foundation for future research rather than definitive conclusions about causal mechanisms.

Table 3. Multiple regression and hypotheses testing

Hypothesis	Regression weights	Beta Coefficient	R^2	F	t	p	Decision
H_1	EFML → IM	-	.223	37.334	-	<.001	Supported
H_{1a}	PEX → IM	.354	-	-	3.967	<.001	Supported
H_{1b}	FL → IM	.287	-	-	3.050	.002	Supported
H_{1c}	TR → IM	.195	-	-	1.948	.052	Rejected
H_2	EFML → IE	-	.202	32.919	-	<.001	Supported
H_{2a}	PEX → IE	.361	-	-	3.801	<.001	Supported
H_{2b}	FL → IE	.313	-	-	3.117	.002	Supported
H_{2c}	TR → IE	.153	-	-	1.436	.152	Rejected
H_3	EFML → VU	-	.248	42.963	-	<.001	Supported
H_{3a}	PEX → VU	.341	-	-	4.075	<.001	Supported
H_{3b}	FL → VU	.235	-	-	2.666	.008	Supported
H_{3c}	TR → VU	.279	-	-	2.973	.003	Supported
H_4	EFML → PC	-	.199	32.416	-	<.001	Supported
H_{4a}	PEX → PC	.359	-	-	3.776	<.001	Supported

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H_{4b}	FL → PC	.318	-	-	3.172	.002	Supported
H_{4c}	TR → PC	.141	-	-	1.323	.187	Rejected

Note: Significance value $p < .05$.
Legend: EFML- Eudaimonic Function of Music Listening, PE- Peak experience, FL- Flow, TR- Transcendence, IM- Intrinsic Motivation, IE- Interest/enjoyment, VU- Value/usefulness, PC- Perceived choice.

The present study examined how the Eudaimonic Functions of Music Listening (EFML) predict college students' intrinsic motivation in PE. These findings contribute to the growing intersection of music psychology, aesthetic experience, and motivational processes in embodied educational contexts. Notably, this study builds upon the author's previously published work on the AFML (Lobo, 2025). Although the AFML study focused on music's role in coping, mood regulation and social connection, the current investigation advances this line of inquiry by examining how deep, meaningful, and self-transcendent listening experiences shape internal motivation in physically active learning. These findings align with and extend previous research by demonstrating that emotionally meaningful and immersive music experiences are not only associated with affective regulation or performance-related outcomes but are also meaningfully linked to students' intrinsic motivation in physical education contexts. Whereas earlier studies primarily emphasized hedonic enjoyment, mood regulation or exercise-related benefits of music, the present results highlight the specific relevance of eudaimonic dimensions for motivational processes in movement-based education.

Guided by Self-Determination Theory (SDT) (Deci & Ryan, 1985), the present findings demonstrate that peak experience and flow significantly and positively predicted overall intrinsic motivation, as well as its subdimensions. Among the three EFML dimensions, peak experience emerged as the strongest and most consistent predictor across all models. This finding aligns with prior research suggesting that emotionally charged musical moments can trigger self-relevant meaning-making, heightening motivation and engagement (Gabrielsson, 2011; Groarke & Hogan, 2020). These insights extend the author's earlier work on AFML where adaptive uses of music, such as affect regulation, were found to be associated with emotional resilience and well-being (Feng & Wang, 2025; Martín et al., 2021). In contrast, this EFML-based study illustrates how emotionally elevating experiences move beyond coping, serving as motivational drivers in learning environments like PE. In the Philippine context, where music plays an integral role in cultural rituals, social life and everyday expression (Pastera, 2024; Wang, 2024), students may be particularly receptive to its deeper psychological impact. This cultural resonance may help explain why emotionally meaningful music listening translates into internalized value and motivation (Forbes et al., 2024; Tekin Gurgen, 2016).

Flow or the state of immersive and focused engagement (Csikszentmihalyi, 1990; Csikszentmihalyi et al., 2005), also significantly predicted all dimensions of intrinsic motivation. This supports the idea that musical absorption can transfer into educational contexts, enhancing enjoyment and the sense of agency (Xu & Li, 2025), which was supported by Sutela et al. (2020), a study based from special school settings. In the author's AFML study previously, flow-like engagement was associated with regulation and focus, particularly in emotional contexts. In the present study, it appears to take on a broader role. It bridges affective and cognitive investment in physical activity, reinforcing aesthetic learning theories that highlight embodied, attentive engagement (Bowman, 2004; Nakamura & Csikszentmihalyi, 2014). Although prior EFML research has largely emerged from Western contexts, the present study contributes an important perspective from Southeast Asia, highlighting how eudaimonic listening functions operate within a culturally rich yet underrepresented educational setting.

Although peak experience and flow demonstrated moderate-to-strong correlations, these constructs remain theoretically distinguishable within the EFML framework. Peak experience reflects emotionally intense, self-relevant moments characterized by heightened

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meaning and affective elevation, whereas flow emphasizes sustained absorption, focused attention and optimal engagement during an activity. Prior conceptual work in positive psychology and humanistic psychology suggests that peak experience and flow are inherently intertwined experiential phenomena that often co-occur, rather than mutually exclusive constructs (Tavel et al., 2022). The observed associations therefore likely reflect shared experiential qualities inherent to immersive music listening rather than conceptual redundancy. Nevertheless, this overlap warrants cautious interpretation of the regression models, with emphasis placed on consistent patterns of association rather than strict differentiation of predictive strength.

In contrast, Transcendence showed a more selective relationship, only significantly predicting students' perceptions of value/usefulness. This pattern suggests that transcendental experiences support the internalization of meaning, a deeper motivational process described in SDT's continuum of self-regulation (Ryan et al., 2008). Although the AFML framework includes adaptive strategies like identity reinforcement and social cohesion (Groarke & Hogan, 2018), EFML offers a more reflective, meaning-based lens (Groarke & Hogan, 2020). This shift in psychological function, from coping to purpose, highlights music's evolving influence as students encounter physically embodied challenges and self-discovery (Hallam, 2010), especially in physical education. The findings also contribute to music psychology by emphasizing music's eudaimonic role (Reybrouck & Eerola, 2022), complementing existing literature that often focuses on hedonic or performance-enhancing aspects (Karageorghis & Priest, 2012b, 2012a; Schäfer et al., 2013). Compared to the adaptive lens offered by AFML, EFML illuminates music's potential to foster deep self-reflection, emotional elevation and personal meaning (Rickard, 2014; Smith et al., 2021). In this way, the present study helps bridge arts-based psychological inquiry with educational motivation, offering a model of how music can inspire not just emotional balance, but goal-directed, value-driven action.

Practically, the findings suggest that PE instructors might consider incorporating aesthetic musical strategies in their lessons (Dobrescu et al., 2012; Konukman et al., 2012; Zhang, 2017). This can be in the form of guided listening, reflective writing or movement improvisation to enhance student motivation (Cools et al., 2023; Lobo, 2025; Shuai et al., 2022). These findings do not advocate for a one-size-fits-all strategy. They do suggest that when thoughtfully integrated, music may serve as a meaningful pedagogical complement to traditional PE instruction. In educational settings where students desire deeper relevance, emotion, and reflection, cultivating intrinsic motivation becomes essential for lifelong engagement in physical activity (Vallerand, 2007). When the present findings are contextualized within the author's prior research, a compelling dual pathway emerges, revealing how music not only provides adaptive regulation and emotional support (AFML), but also drives meaning, purpose, and deep motivational engagement (EFML). Given the relatively low internal consistency observed in the peak experience and flow subscales, the interpretation of the regression findings is therefore framed with appropriate caution, emphasizing theoretical coherence and consistent patterns of association rather than the strength of individual coefficients. As with any exploratory study, caution is warranted. The cross-sectional design limits causal claims and the self-reported nature of data may introduce bias. Future research could benefit from experimental or longitudinal designs to examine how adaptive and eudaimonic music experiences evolve over time and influence behavioral motivation. Qualitative inquiry may also uncover richer narratives that integrate both AFML and EFML experiences, revealing how students understand and carry music's influence from the emotional to the embodied domain. Ultimately, this study invites educators and researchers to reflect on how music, as both cultural artifact and emotional stimulus, might help reframe physical education as a space for both movement and meaning.

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CONCLUSIONS

This study examined the predictive power of the EFML on students' intrinsic motivation in physical education within the Philippine higher education context. Findings revealed that both peak experience and flow are consistently associated with students' interest, enjoyment, sense of value and autonomy in PE, affirming their role as key psychological mechanisms that promote internal motivation. Transcendence, although not consistently significant across all motivational dimensions, is uniquely associated with students' perception of the value of physical education, suggesting that reflective, existential music experiences may support deeper educational meaning. These results validate the applicability of Self-Determination Theory in music-integrated learning environments and demonstrate that music's psychological predictive power extends beyond mood regulation into the motivational domain. Ultimately, the study supports the integration of arts-based strategies in physical education to enhance meaningful student engagement.

Significance of Study

The significance of this study lies in its interdisciplinary approach, bridging music psychology and physical education through the lens of motivation theory. It contributes to a growing body of research on the non-performance-related functions of music, shifting focus from purely affective regulation toward its eudaimonic, meaning-making capabilities. By investigating intrinsic motivation, this study underscores the potential of music as a pedagogical tool to enhance educational experiences in movement-based subjects. Moreover, the inclusion of college students from a Philippine State University offers perspectives that diversify the predominantly Western literature on motivation and music in education. The findings provide practical insights for educators seeking to enrich physical education through emotionally and cognitively engaging learning strategies.

Limitations of the study

Although this study offers valuable insights into the relationship between listening to eudaimonic music and intrinsic motivation in physical education, several limitations must be acknowledged. First, the use of a cross-sectional design restricts the ability to infer causality. It remains unclear whether eudaimonic music experiences actively foster greater intrinsic motivation, or if students who are already intrinsically motivated are more inclined to seek out such meaningful music experiences. Longitudinal or experimental designs would be necessary to clarify the direction of influence. Second, the reliance on self-report instruments introduces potential biases, including social desirability effects, subjective misinterpretation and limited introspective accuracy. Although self-reporting is a common practice in psychological and educational research, it may not fully capture the nuanced ways in which students experience music or engage with physical education. Third, the study's participants were drawn from a single state university in the Philippines, which may limit the generalizability of the findings. Educational cultures, exposure to music and approaches to physical education can vary across different institutions, regions and populations. As such, future studies should consider more diverse samples across multiple institutions in the Philippines and within the broader Southeast Asian context to enhance representativeness and theoretical applicability. Furthermore, other studies may benefit from employing alternative reliability indices (e.g., McDonald's omega) or expanded item sets to further strengthen the psychometric evaluation of EFML subdimensions. Despite these limitations, the study serves as a theoretically grounded and culturally situated contribution to the emerging literature at the intersection of music psychology and educational motivation in the Philippines and the Southeast Asian region.

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Recommendations for future research directions

To build on the present findings, future research could adopt longitudinal designs to explore how sustained engagement with eudaimonic music influences motivational trajectories over time in physical education. Experimental studies could evaluate the effectiveness of structured music-based interventions in enhancing motivation, participation and performance outcomes in PE. In addition, qualitative methods, such as in-depth interviews or FGDs, could provide nuanced insights into how students interpret their music experiences in relation to identity, movement and learning. Expanding the sample to include other cultural and institutional contexts within the Philippines or across Southeast Asia would also help contextualize the results within broader educational and cultural frameworks. Comparative studies between adaptive and eudaimonic functions of music could further clarify how different listening motivations align with distinct educational outcomes.

Contextualizing Filipino Perspectives in global music and physical education research

This study highlights the value of incorporating Filipino student perspectives into the global academic discourse on music psychology and physical education. As most research in this field originates from Western contexts, the inclusion of data from a Philippine higher education institution offers an important localized lens through which to understand motivational processes. By examining how culturally embedded music experiences relate to intrinsic motivation in PE, this research reinforces the cross-cultural applicability of Self-Determination Theory and calls for more inclusive, globally-representative frameworks. The Philippines' rich musical culture and evolving educational landscape provide fertile ground for future scholarship exploring how aesthetic and motivational dimensions of music intersect with movement, embodiment and learning. Ultimately, this study affirms the capacity of Filipino research to inform and enrich international theory and practice in both music and physical education.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

AUTHORS' CONTRIBUTIONS

Author 1: Developed the study concept, designed the research methodology, conducted the statistical data analysis, and wrote the entire manuscript.

AVAILABILITY OF DATA AND MATERIALS

Data available on request from the authors.

DECLARATION OF GENERATIVE AI

During the preparation of this work, the author used ChatGPT 5.1+ (OpenAI) to enhance the clarity of the writing. After using ChatGPT 5.1+, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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ETHICS STATEMENT

The study was conducted in adherence to the highest ethical standards and was exempt from formal ethics committee review due to its minimal-risk nature and voluntary, anonymous participation (Document No. CSER-CRDU-2025-019) and was reported to the Research and Innovation Office of the university. Data was collected via an online Google Form that outlined the study's purpose, inclusion criteria, voluntary nature and minimal risks involved. Participants were informed of their right to withdraw at any time without consequence and that there would be no compensation. All data were anonymized, securely stored on a password-protected USB for three months and permanently deleted thereafter. No secondary use of the data was allowed. The entire process complied with the provisions of the Data Privacy Act of 2012 (RA 10173).

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