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From Field to Life: Conditional Value Transfer and Ecological Constraint in Elementary Physical Education

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Abstract

The claim that sport builds character is asserted more often than it is examined. This study investigated what changes elementary physical education teachers observe in students after values-based instruction, how far those values may extend beyond lesson time, and which constraints shape this work. A descriptive qualitative design was applied with nine physical education teachers from five public elementary schools in Padang, Indonesia, whose teaching experience ranged from five to twenty years. Semi-structured interviews were transcribed verbatim and analyzed through open, axial, and selective coding with cross-case matrix comparison, and reported constraints were subsequently classified by ecological system level. Teachers reported perceived change in four domains, namely habit and self-regulation, social relations, emotional regulation, and fitness with achievement. They also described indications that values learned in physical education were expressed beyond lesson time in classrooms, informal school spaces, and relationships with former students; however, participants emphasized that their direct observation largely ended at the school gate**.** Change was described as incremental and fragile, sustained through continuous reminding, and every success claim rested on unaided teacher observation without any assessment instrument or independent verification. Constraints formed four layers running from student development and instructional conditions to family support and teacher competence**,** most of them outside individual teacher control. These findings therefore represent teachers' professional perceptions of value-related change and transfer within the school ecology rather than verified evidence of causal effects.

Keywords: value transfer; character education outcomes; school ecosystem; parental involvement; physical education.

INTRODUCTION

Physical education (PE) has long been positioned as an educational context in which physical development can be accompanied by the cultivation of character, social competence, and moral values. Physical education curricula worldwide consequently advance a familiar promise: that participation in sport and physical activity can contribute to character formation. In Indonesia, this expectation has become particularly relevant under the Merdeka Curriculum, which places character development within the Pancasila Learner Profile and assigns schools and teachers responsibility for integrating these competencies into learning (Suherman et al., 2023). The implementation of the Merdeka Curriculum in PE is also associated with teachers' pedagogical and professional competence, suggesting that curriculum aspirations depend substantially on how teachers translate them into instructional practice (Ockta & Mardesia, 2023).

Indonesian studies have similarly positioned PE as a potentially important setting for character education. Character-oriented learning models have been developed for primary-school PE, including structured approaches to cultivating respect, responsibility, caring, honesty, fairness, confidence, and related values (Muhtar et al., 2020). Other work has integrated discipline, cooperation, and hard work

through mini-volleyball activities (Rachman & Ardha, 2021), while survey-based research has examined associations between PE practices and character-building processes among elementary-school students (Marini et al., 2021). Taken together, this literature indicates that PE offers pedagogical opportunities for value education, but such opportunities should not be equated with an automatic character-forming effect.

The central problem is that participation in sport does not necessarily produce moral or character development. Reviews have presented a more restrained picture, showing that participation alone provides no guarantee of moral gain and, under some competitive conditions, may even be associated with lower moral reasoning (Opstoel et al., 2020; Shields & Bredemeier, 2011). What students learn therefore depends on how activities are structured, taught, reinforced, and reflected upon rather than on exposure to sport itself.

A related and more difficult problem concerns transfer. Even when students demonstrate honesty, responsibility, cooperation, or acceptance of defeat during a PE lesson, there is no guarantee that these behaviors will appear in classrooms, informal school settings, homes, or later life. Life-skills research has accordingly moved away from treating transfer as an automatic by-product and instead conceptualizes it as an outcome that requires explicit teaching, opportunities for application, and reinforcement across contexts (Bean et al., 2018; Jacobs & Wright, 2018; Pierce et al., 2017). Thus, behavior observed beyond a PE lesson cannot by itself be interpreted as evidence of generalized or lifelong transfer. Claims concerning transfer must remain bounded by where the behavior was observed and by who provided the evidence.

This distinction is particularly important when evidence comes from teachers. Elementary PE teachers may observe the same students repeatedly across several school years and therefore possess valuable longitudinal professional knowledge. Nevertheless, such accounts remain professional perceptions rather than direct measurements of intervention effects (Cronin et al., 2023). Research examining elementary PE teachers' perspectives in Indonesia has also shown that teachers recognize character education as important while experiencing uncertainty about its curricular implementation (Muhtar & Dallyono, 2020). Consequently, teacher reports can reveal how change and transfer are perceived in everyday educational practice, but they cannot independently establish that PE caused those changes or that they persist beyond the contexts accessible to teachers.

Existing literature suggests several ways of strengthening value education in PE. One approach is to make value development pedagogically explicit rather than incidental. Character-oriented PE models have provided structured instructional steps (Muhtar et al., 2020), while activity-based models such as mini-volleyball have incorporated authentic assessment and independent observers when examining discipline, cooperation, and hard work (Rachman & Ardha, 2021). Recent research has also described teachers' use of game modification, role modelling, reflection, and community involvement to integrate moral and social values within PE (Purnomo et al., 2025).

A second solution concerns assessment. If character-related outcomes are expected from PE, teachers require mechanisms for documenting them rather than relying exclusively on memory or informal observation. The development and validation of a Universal Values in Sport instrument illustrates an attempt to provide a structured means of assessing ethical, moral, social, psychological, knowledge, and leadership dimensions related to sport values (Purnomo et al., 2024a).

A third solution is ecological rather than exclusively instructional. Development does not occur within the PE lesson alone; children are situated within interconnected family, school, and broader social systems (Bronfenbrenner & Morris, 2006). Character education research similarly

emphasizes sustained school culture and family engagement rather than isolated interventions (Berkowitz, 2021; Jeynes, 2019). Transfer should therefore be examined in relation to the opportunities and constraints surrounding the child rather than attributed solely to the actions of an individual PE teacher.

Despite these developments, several gaps remain. Much of the literature focuses on developing instructional models, testing programs, identifying character values, or examining relationships between PE participation and character outcomes. A recent systematic review reported predominantly positive associations between PE and several dimensions of character development, while also drawing on a relatively limited body of included studies (Muyassar & Burhan Hambali, 2025). Less attention has been directed toward the practical boundary between what PE teachers believe students have learned, where they subsequently observe expressions of those values, and where their capacity to observe ends.

Furthermore, "values-based instruction" in routine school practice should not be assumed to represent a single standardized intervention**.** Teachers may integrate values through habituation, modelling, reminders, game rules, discussion, or collaboration, producing heterogeneous pedagogical practices. The relevant question is therefore not simply whether values-based PE "works," but how teachers perceive change under these naturally varying practices, how far they can reasonably trace its expression beyond PE lesson time, and which ecological conditions facilitate or constrain that process.

The present study therefore investigates what changes elementary PE teachers report observing in students following values-oriented instruction, whether and where they perceive expressions of those values beyond scheduled PE lessons, where the boundaries of their observation lie, and what constraints and supports shape this work. Using accounts from nine PE teachers across five public elementary schools in Padang, West Sumatra, the study examines perceived change alongside constraints located at the levels of the child, instructional setting, family, and school/professional system.

The contribution of the study lies in treating transfer as conditional and observationally bounded rather than if values move automatically "from field to life." Its scope is deliberately limited to teachers' professional perceptions and the settings they can observe. It does not seek to verify causal effects of PE, establish transfer into the home or adult life, or claim durable character change beyond the school ecology. This boundary provides a more epistemically consistent basis for examining both the possibilities and limitations of values education in elementary PE.

METHODS

Research Design

This study employed a descriptive qualitative design because its primary purpose was to document physical education teachers' perceptions, experiences, and professional judgments in terms that remained close to their everyday practice, rather than to test the effectiveness of an intervention or generate a formal theory (Bradshaw et al., 2017; Sandelowski, 2010). A teacher-perspective approach is particularly relevant to research on character education through physical education because previous studies have shown that interviews with teachers can reveal how character is understood, how values are incorporated into instruction, and what constraints arise in everyday pedagogical practice (Muhtar & Dallyono, 2020; Yıldırım & Gürpınar, 2023).

Specifically, the study examined changes that teachers reported observing in students following values-oriented instruction, indications that such values were expressed beyond scheduled physical education lessons, and the constraints and supports shaping this work. The term values-based instruction is used here as an umbrella term for routine practices through which participants reported integrating moral and social values into physical education, rather than to denote a single standardized pedagogical intervention implemented with equivalent fidelity across schools. Existing literature indicates that values education in physical education may take diverse forms, including structured character-oriented learning models (Muhtar et al., 2020), activity-based approaches integrating discipline, cooperation, and hard work (Rachman & Ardha, 2021), and strategies involving game modification, role modelling, reflection, and social engagement (Purnomo et al., 2025).

Accordingly, the unit of analysis was teachers' professional perceptions and experiences of their practices and the changes they observed, rather than independently verified changes in student behavior. Reported constraints were subsequently organized according to ecological system levels as an interpretive reporting framework.

Participants

Nine physical education teachers from five public elementary schools in Padang, West Sumatra, Indonesia, constituted the analytical sample for this article. Six participants were women and three were men. All held bachelor's degrees, and their teaching experience ranged from approximately five to twenty years. Participants were identified as PE-01 through PE-10, with PE-04 absent from the dataset analyzed in this article.

Participants were recruited through purposive sampling. Purposive selection was appropriate because the study sought information from teachers with direct experience of physical education practice and values-oriented teaching. Similar experience-based participant selection has been employed in qualitative studies examining physical education teachers' perspectives on character education (Yıldırım & Gürpınar, 2023). Variation within the sample was demonstrated primarily through the range of teaching experience and representation across five different schools. Because school characteristics such as enrollment size, micro-location, rural-urban classification, and resource levels were not documented as sampling strata in the available dataset, the study does not claim to have demonstrated maximum variation in school setting. This qualification ensures that the sampling claim remains consistent with the available evidence.

This article represents a focused analytical subset of a broader umbrella study. The parent study involved a wider interview scope comprising three indicators, whereas the present article draws specifically on eight items constituting the third indicator. These items addressed observed student change, criteria for judging success, perceived contribution to future outcomes, challenges and required support, family and community involvement, conduct toward teammates and opponents, influence beyond the lesson, and accounts of marked individual change. Twelve teachers were initially approached, ten agreed to participate, and nine provided data relevant to the analytical focus of this article. PE-04 did not respond to the items constituting this dataset and was therefore excluded from the present analysis.

Sample sufficiency was considered in relation to the participants' relevance to the research questions, the depth of the interviews, the 5–20-year range of professional experience, representation across five schools, and the availability of patterns that could be compared across cases. This approach is consistent with qualitative physical education research that prioritizes depth of professional experience over population estimation (Muhtar & Dallyono, 2020; Yıldırım & Gürpınar,

2023). The study does not claim statistical representativeness or universal saturation, and findings are therefore bounded by the professional experiences of the participating teachers and their school contexts.

Table 1. Participant characteristics

Code	Gender	Qualification	Teaching experience
PE-01	Female	Bachelor	± 20 years
PE-02	Female	Bachelor	± 13 years
PE-03	Male	Bachelor	± 12 years
PE-05	Female	Bachelor	± 15 years
PE-06	Female	Bachelor	± 8 years
PE-07	Male	Bachelor	± 12 years
PE-08	Female	Bachelor	± 12 years
PE-09	Male	Bachelor	± 13 years
PE-10	Female	Bachelor	± 5 years

Procedure

Following institutional permission from school principals, teachers were invited directly to participate, and no inducement was offered. All participants received written information about the study and provided written informed consent. Semi-structured interviews lasted between 35 and 70 minutes and were audio-recorded with permission. Semi-structured interviews enabled the researchers to maintain consistency in the core topics while allowing participants to elaborate on contextualized experiences, an approach also used in studies examining physical education teachers' perceptions of character education (Muhtar & Dallyono, 2020; Yıldırım & Gürpınar, 2023).

Recordings were transcribed verbatim in Bahasa Indonesia and subsequently edited only to remove oral disfluencies without altering propositional content. Quotations used in the manuscript were translated into English by the first author and backtranslated by an independent bilingual researcher, with discrepancies resolved through discussion.

Researcher positionality was addressed reflexively because participants were asked to describe changes that they associated with pedagogical practices they themselves implemented. This situation creates the possibility of self-favoring accounts or an emphasis on successful experiences. Because previous studies have also shown that physical education teachers commonly perceive their subject as a potentially important context for character development (Muhtar & Dallyono, 2020; Pramono et al., 2023), participants' narratives were not treated as independent evidence of the effectiveness of physical education. A reflexive journal was used to document occasions on which the interviewer might have signaled approval, and probes were directed toward concrete events and behaviors rather than general statements of success.

The protocol was approved by the Research Ethics Committee (Komite Etik Penelitian), Institute of Research and Community Service, Universitas Negeri Malang, certificate number 19.08.09/UN32.14.2.8/LT/2025, issued on 19 August 2025. Names, contact details, and school identifiers were removed from materials used for publication. When participants described individual student cases, potentially identifying student information was also omitted to preserve third-party confidentiality.

Instrument

Data were collected using a researcher-developed semi-structured interview guide covering three indicators. The present article draws on eight questions from the third indicator, addressing observed changes in students, criteria used to judge success, perceived contribution to future

outcomes, challenges and required support, family and community involvement, changes in conduct toward teammates and opponents, influence beyond the physical education lesson, and narrative accounts of marked individual change.

The guide was reviewed by two physical education pedagogy experts and one qualitative methodologist and was piloted with a teacher who was not included in the reported sample. Questions and follow-up probes were designed to elicit concrete examples of experiences and observable conduct without presupposing that character development or value transfer had occurred. This was important because previous studies have demonstrated considerable diversity in how teachers integrate values into physical education (Muhtar et al., 2020; Purnomo et al., 2025). In addition, research on measurement indicates that character- and value-related outcomes in physical education can be operationalized through behavioral indicators or structured instruments (Cho et al., 2022; Purnomo et al., 2024a). Such instruments were not used in the present study; therefore, the data remain positioned as teacher-reported perceptions rather than objective measurements of student outcomes.

Data Analysis

Interview transcripts were analyzed through open, axial, and selective coding. During open coding, meaning units and descriptive patterns were identified from participant responses. Axial coding was then used to connect conceptually related codes, while selective coding integrated these categories into broader themes addressing the research questions. These terms were used pragmatically to describe stages of data organization and are not intended to indicate that the study adopted grounded theory or sought to generate substantive theory. Following theme development, a theme-by-participant matrix was constructed to compare patterns and variations across the nine cases.

Reported constraints were subsequently classified post-coding into four levels: the child, the instructional setting, the family, and the school and professional system. This organization is consistent with literature suggesting that character education in physical education is shaped not only by teachers' pedagogical practices but also by school environments, facilities, teacher competence, and social and family support (Pramono et al., 2023; Purnomo et al., 2025). The ecological categories were therefore used as an interpretive organizing device rather than as a claim that the study constituted a full application of Bronfenbrenner's bioecological model.

Trustworthiness was supported through source triangulation across participants, member checking with three participants, an audit trail from transcripts to themes, peer debriefing with two physical education researchers who were not directly involved in the study, thick description, and reflexive journaling. Through these procedures, the findings were interpreted as cross-case patterns in teachers' perceptions and professional experiences rather than as causal evidence that physical education produced character change or value transfer among students.

RESULTS

Three overarching themes were generated from the cross-case analysis: (1) teacher-reported changes and their perceived expression beyond physical education lessons; (2) incremental change and the limits of available evidence; and (3) ecological constraints and collaborative responses. Because the data consisted of teachers' accounts rather than independently observed student behavior, all references to change, transfer, or continuity of behavior in this section indicate what participants reported observing or inferred from their professional experience. They should not be read as independently verified outcomes or causal effects of physical education.

Table 2 presents the cross-case distribution of constituent codes. The participant counts are included to make the qualitative patterning transparent, not to rank themes by importance or estimate prevalence within a wider teacher population.

Table 2. Distribution of codes across participants

Code	Participants reporting	n
Change in habit and self-regulated conduct	PE-01, 02, 05, 06, 07, 09, 10	7
Change in social relations	PE-01, 02, 03, 05, 06, 08, 10	7
Change in emotional regulation	PE-01, 02, 03, 05, 07, 08	6
Change in fitness and competitive achievement	PE-07	1
Transfer to classroom and informal school spaces	PE-01, 02, 03, 05, 07, 08, 09, 10	8
Recognition of the limit of transfer at the school gate	PE-06, 08, 10	3
Change described as incremental and fragile	PE-01, 02, 05, 06, 08, 09, 10	7
Success judged by unaided observation	PE-01, 02, 03, 05, 06, 07, 08, 09, 10	9
Graduated partnership with parents	PE-01, 02, 05, 06, 08, 10	6
Cross-subject teacher collaboration	PE-02, 05, 08, 09	4

What teachers observe, and how far it travels

Participants described perceived student change across four domains. In the domain of habit and self-regulation, seven participants used a declining need for teacher prompting as a practical marker of progress. PE-01 provided a concrete example from her own observation:

"*After the bell rings, if the children have absorbed the universal values, they hear the bell and they hurry into line. They already know*."

In her account, acting without repeated instruction functioned as a teacher-defined indicator of habituation rather than as an independently assessed measure of internalization. PE-02 similarly reported that students began lending stationery to peers "consciously, without being told, without further instruction," while PE-10 described changes in how students greeted teachers and a perceived reduction in coarse language.

Seven participants reported perceived changes in social relations. PE-03 described students becoming "more able to appreciate one another, more understanding of difference," whereas PE-05 stated that insulting peers, including calling someone stupid, "has begun to disappear." PE-10 referred to calling classmates by their parents' names as a form of peer aggression and reported partial improvement after repeated intervention. Importantly, PE-10 also acknowledged that some students had not changed and required further support. The inclusion of unchanged cases indicates that participants did not describe improvement as uniform across students. Six participants reported changes that they associated with emotional regulation, particularly responses to losing in competitive situations. PE-03 explained:

"*In grade three the competitive spirit is very strong, so they do not want to lose. Once they come to know these universal values, they can be big-hearted enough to accept defeat*."

He also reported fewer emotional outbursts among some students, whereas PE-05 recounted a student who had previously struck peers after losing and who, in her view, changed gradually following repeated conversations.

These reported domains, self-regulated conduct, social relationships, discipline, cooperation, and responses to competition, overlap conceptually with psychosocial and character-related constructs identified in previous PE research (Rachman & Ardha, 2021; Cho et al., 2022; Muyassar & Burhan Hambali, 2025). The comparison is interpretive only: the present study did not use the behavioral rubrics or independent assessments employed in some of those studies.

A fourth domain, fitness and competitive achievement, appeared only in PE-07's account. As a former athlete, PE-07 described students progressing from jogging activities in the earlier grades toward competitive preparation by grade five and associated these developments with discipline and confidence. Because this code occurred in only one participant's account, it is retained as case-specific variation rather than treated as a cross-case pattern of character-related change.

Eight participants described behaviors that they perceived as extending beyond scheduled PE lesson time. These reports occurred in three settings: classrooms, informal school spaces, and longer-term encounters with students or former students. Within classrooms, PE-01 perceived PE as contributing to readiness for subsequent lessons, while PE-05 reported informally checking with classroom teachers about behaviors such as honest completion of homework. These accounts indicate cross-setting teacher perceptions, but they do not establish that the behaviors were caused by PE instruction.

In informal school spaces, PE-05 described observing students' conduct in the school canteen, including whether students reported their money and change accurately. She recounted one student who voluntarily explained the amount of money he had received and spent. Rather than describing the canteen as a "laboratory of honesty," this episode is more conservatively treated as an example of an informal school setting in which PE-05 believed she could observe behavior relevant to honesty. No independent observation or predefined behavioral criterion was used to verify this interpretation.

In longer-term encounters, PE-09 interpreted former students' greetings as evidence that respectful relationships persisted: "When we meet outside, they shake my hand. And after graduating, they seek me out." PE-07 similarly reported that students continued scheduled physical activity while he was away accompanying other students to a competition. PE-07 interpreted the continuation of activity in his absence as an indication that discipline did not always depend on his immediate prompting. However, because this episode was reported retrospectively by the teacher and was not independently observed, it should not be characterized as evidence of internalization.

This distinction is important because the literature treats transfer as a pedagogically meaningful process rather than simply assuming that behavior in one setting represents generalized learning (Pérez-Pueyo et al., 2021). The present findings therefore document where teachers perceived value-related behaviors to appear; they do not verify transfer across contexts. Participants themselves articulated this evidentiary boundary. PE-08 stated: "It is probably not observed closely, because it is already beyond our reach." PE-06 similarly located responsibility for observation outside school primarily with parents. Accordingly, the data provide information about teacher-perceived behavior primarily within school-related contexts and offer no direct evidence concerning behavior at home, in the wider community, or in later life.

Incremental change and the limits of evidence

No participant described complete or uniform success. Seven participants characterized change as gradual, incomplete, or dependent on repeated reminders. PE-08 stated:

"Maybe fifty-fifty. At school they remember, then outside they forget again."

She further explained:

"One hundred per cent effective, probably not yet. Elementary school children must always be reminded. They forget, remind them again."

PE-05 similarly observed that "character is not easy to change immediately" and described students in grades one to three as still being "in process," whereas students in grades four to six appeared, in her view, to show greater understanding. PE-10 also characterized change as present but not dramatic.

Across these accounts, repetition and reminding emerged as recurrent features of participants' descriptions of values-oriented teaching. The data therefore support a finding of teacher-perceived gradual change rather than a claim that stable character transformation had occurred. Previous PE research has likewise operationalized character-related development through repeated pedagogical practice and observable behavioral indicators rather than assuming immediate change (Rachman & Ardha, 2021; Fizi et al., 2023).

A second limitation was common to all nine participants: success was judged primarily through direct, informal teacher observation. PE-02 monitored sharing behavior, PE-03 attended to greetings and demeanor, and PE-09 referred to handshakes and continued contact with former students. No participant reported using a rubric, attitude scale, structured student journal, standardized behavioral record, or systematic affective assessment instrument.

This absence is especially relevant because research outside the present dataset demonstrates that character- and value-related behaviors in PE can be operationalized using predefined behavioral indexes, authentic assessment, inter-rater procedures, and validated value instruments (Rachman & Ardha, 2021; Cho et al., 2022; Purnomo et al., 2024a). The contrast does not invalidate teachers' accounts; rather, it defines their evidentiary status as professional observations without independent measurement. Accordingly, the present results cannot determine the magnitude of student change, distinguish perceived change from other developmental or contextual influences, or verify that PE instruction caused the behaviors described.

Four layers of constraint and the partnerships that offset them

Participants' accounts of constraint were organized post-coding into four descriptive levels: child, instructional setting, family, and school/professional system. Table 3 presents these categories.

Table 3. Constraints by system level

Level	Constraint	Participants
Child	Developmental characteristics, ego, short attention	PE-01, 02, 03, 05, 06, 08, 09, 10
Child	Special educational needs and heterogeneity	PE-02, 05, 06, 09, 10
Instructional setting	Equipment scarcity	PE-01, 03, 05, 07, 10
Instructional setting	Heat and outdoor conditions	PE-03
Family	Uneven parental support and availability	PE-01, 02, 05, 06, 07, 08, 09, 10
School and system	Principal support	PE-07
School and system	Teacher competence and development needs	PE-03, 09, 10

At the child level, eight participants referred to developmental characteristics as constraints. PE-03 stated: "*Learning motivation rises for only the first five minutes*." PE-01 discussed the difficulty some children experienced in accepting an opponent's victory, whereas PE-05 referred to students with special educational needs and differing rates of response. PE-10 emphasized heterogeneous backgrounds and the need for individualized communication:

"It cannot be done for everyone at once; we speak to the children one by one, because their characters all differ."

At the instructional level, five participants reported shortages of equipment. PE-03 additionally described intense heat during outdoor lessons as reducing students' motivation. Because heat was raised by only one participant, it is reported as a context-specific constraint rather than generalized across the five schools.

At the family level, eight participants identified uneven parental support or limited parental availability. PE-08 stated: "*The challenge comes back to the family. If the family does not support it,*

it becomes very difficult." PE-10 similarly observed that "the teacher's role is only at school. There needs to be more of the parents' role at home." PE-08 also recounted the case of a withdrawn student whose parents left home early and returned late, resulting, in the teacher's account, in limited family interaction.

At the school and professional level, PE-07 identified principal support as important, whereas PE-03, PE-09, and PE-10 explicitly identified needs for further professional development. Taken descriptively, these findings show that participants located difficulties across multiple contexts rather than attributing them exclusively to student behavior or individual teacher practice. Similar categories, differences among students, limited parental support, resource constraints, teacher competence, and school conditions, have also been documented in recent PE studies (Pramono et al., 2023; Purnomo et al., 2025). This correspondence supports the contextual plausibility of the categories but does not demonstrate causal relationships among them.

Collaborative responses to reported constraints

Participants described parental and cross-subject collaboration as strategies used to respond to these constraints. PE-05 described a graduated procedure beginning with direct advice to the student, followed by consultation with the homeroom teacher and, when needed, contact with parents. PE-09 used a class messaging group to communicate guidance, while PE-06 explicitly framed the parent relationship as collaboration.

Cross-subject collaboration was reported by four participants. PE-02 consulted homeroom teachers about students with the aim that universal values might "become habituation, become culture." PE-05 reported meetings involving the PE teacher, homeroom teacher and religious education teacher to discuss the same student from different instructional perspectives. These accounts are reported as examples of teacher-initiated collaboration; the available data are insufficient to classify the schools as implementing a formal whole-school character-education model. Collaborative and contextual approaches to values education have nevertheless been identified in recent PE research as potentially relevant when teachers work across classroom, family, and community contexts (Purnomo et al., 2025). PE-09 additionally described providing pocket money or breakfast when students arrived at school without either and explicitly characterized this practice as modelling empathy. The finding reported here is therefore the teacher's deliberate use of personal modelling; no claim is made regarding its measurable effect on students' subsequent behavior.

Overall, the three themes show that participants perceived value-related changes in several domains, described examples extending beyond scheduled PE time, and simultaneously recognized that their ability to observe those behaviors was bounded. The findings therefore concern teachers' professional perceptions of student conduct within an ecological school context rather than independently verified evidence of character formation or generalized value transfer.

DISCUSSION

The findings should be interpreted according to the epistemic status of the data. Teachers described perceived changes in students' self-regulation, social relationships, emotional regulation, and, in one case, fitness and competitive achievement, together with examples of behavior appearing beyond scheduled physical education (PE) lessons. These accounts do not demonstrate that PE caused the reported changes; they represent teachers' professional interpretations of student behavior within contexts they could observe. This distinction is consistent with research showing that PE can provide opportunities for character-related learning, while outcomes depend on pedagogical design rather

than participation alone (Opstoel et al., 2020; Shields & Bredemeier, 2011; Edwards & Chiera, 2021; Muhtar et al., 2020; Wei et al., 2020).

Transfer requires similar caution. Life-skills scholarship conceptualizes transfer as a process requiring explicit connection, opportunities for application, and reinforcement across settings (Bean et al., 2018; Jacobs & Wright, 2018; Pierce et al., 2017). Pedagogical models emphasizing attitudinal learning, responsibility, sportsmanship, and reflection likewise treat value development as intentionally structured rather than automatic (Pérez-Pueyo et al., 2021; Safari et al., 2025; Xie et al., 2025). Accordingly, the present pattern is better described as conditional and context-bounded transfer than as verified generalization. Behavior continuing when the teacher was absent should therefore be interpreted as becoming less dependent on immediate prompting, not as proof of internalization.

Participants' statement that "they forget, remind them again" further portrays values education as iterative. This interpretation converges with studies in which discipline, cooperation, peace, or related values were cultivated through repeated, designed activities and habituation (Rachman & Ardha, 2021; Susanto, 2022; Fizi et al., 2023; Kogoya et al., 2023; Sinulingga et al., 2024; Rahayu et al., 2024). However, the present study cannot determine whether repetition itself produced durable character change; it only shows that teachers perceived repeated reinforcement as central to their practice.

The domains described by participants are broadly compatible with previous research. Systematic and empirical studies have linked PE or structured sport-based pedagogy with responsibility, discipline, cooperation, prosocial behavior, sportsmanship, and other character-related outcomes (Muyassar & Burhan Hambali, 2025; Cosma et al., 2021; Fizi et al., 2023; Xie et al., 2025). Indonesian studies have similarly reported character-oriented outcomes through PE learning models, traditional games, and school-based approaches (Marini et al., 2021; Muhtar et al., 2020; Susanto, 2022; Hananingsih et al., 2024). These convergences make the teachers' accounts conceptually plausible, but they do not independently verify that PE caused the changes reported in this study.

Differences in research design are critical. Rachman and Ardha (2021) used rubrics, authentic assessment, and independent observers; Cho et al. (2022) developed behavioral indicators for psychosocial characteristics; and validated measurement work has produced instruments for universal sport values and sports moral character (Purnomo et al., 2024a; Guo et al., 2025). Quasi-experimental work has also shown that TPSR-based PE can improve some dimensions while leaving others unchanged (Xie et al., 2025), and a network meta-analysis found that psychological and character-related responses vary by exercise modality and age (Dong et al., 2025). Such evidence argues against treating character development as a uniform consequence of participation.

The current findings also converge with research emphasizing contextual constraints. Elementary PE teachers have previously reported curricular ambiguity and implementation difficulties in character education (Muhtar & Dallyono, 2020; Yıldırım & Gürpınar, 2023), while studies in Indonesia have highlighted school environment, teacher competence, parental support, resources, and contextual adaptation (Pramono et al., 2023; Ockta & Mardesia, 2023; Purnomo et al., 2025; Mangolo & Qomarrullah, 2025). Inclusive and locally grounded models further demonstrate that heterogeneous student needs require pedagogical adaptation rather than a one-size-fits-all approach (Yoda et al., 2025).

A useful contradiction concerns claims beyond school. Pramono et al. (2023) reported character-related effects visible at school and at home, whereas the present participants explicitly

recognized that their observation largely stopped at the school gate. This study therefore neither confirms nor refutes transfer to home or later life; it identifies an evidentiary boundary. Similarly, student-perception research may describe PE-related benefits extending into daily life (Jeon et al., 2021), but subjective perceptions remain distinct from independently observed cross-context transfer.

The transfer findings are most consistent with frameworks that make context and pedagogical mediation central. Bean et al. (2018), Jacobs and Wright (2018), and Pierce et al. (2017) distinguish learning within sport from applying learning elsewhere, while Pérez-Pueyo et al. (2021) explicitly includes transfer and formative evaluation within an attitudinal pedagogical model. Thus, behavior reported in classrooms or informal school spaces can be understood as possible reapplication across adjacent contexts, not as evidence that values generalized across students' lives. Yue et al. (2025) similarly suggests that moral competence may mediate associations between PE participation and character, reinforcing the possibility that mechanisms not participation alone matter.

An ecological perspective helps organize the constraints, but its use must remain bounded. Bronfenbrenner and Morris (2006) conceptualize development through relations among person, process, context, and time. The categories used here child, instructional setting, family, and school/professional system locate where teachers perceived constraints. They were applied post-coding as an organizing device and do not constitute a full bioecological analysis. The study did not systematically map micro-, meso-, exo-, and macrosystems, examine proximal processes longitudinally, or operationalize the complete Person–Process–Context–Time framework.

Developmental interpretation also requires restraint. Repeated practice, motivational climate, psychological needs, and structured challenge may shape how young people engage with values in sport and PE (Cosma et al., 2021; Edwards & Chiera, 2021). Yet the present design cannot establish grade-based developmental stages. Teachers' impressions that older pupils understood values more readily should therefore remain professional perceptions rather than a proposed national developmental sequence. The broader literature itself remains methodologically heterogeneous, and bibliometric work has noted relatively limited attention to character-focused PE learning models compared with cognitive and psychomotor domains (Muhtar et al., 2021).

The first implication concerns documentation. Because participants relied mainly on informal observation, schools could consider concise behavioral rubrics, structured anecdotal records, or validated value measures to make judgments more transparent over time (Cho et al., 2022; Purnomo et al., 2024a; Guo et al., 2025). Such tools should strengthen documentation rather than be used to claim causal effects, and their feasibility in elementary PE requires local testing.

Second, transfer may be better supported by creating opportunities across settings rather than assuming it will occur. Collaborative approaches involving teachers, families, and school activities are consistent with studies emphasizing contextual reinforcement, extracurricular opportunities, and parent-supported physical activity (Purnomo et al., 2025; Chaeroni et al., 2023; Schmittwilken et al., 2024). The present data do not prove that collaboration strengthens transfer, but they justify evaluating cross-subject and school-family coordination as a plausible support mechanism.

Third, professional development should move beyond lists of desirable values. Teachers may benefit from training in explicit value instruction, reflection, formative assessment, inclusive adaptation, and context-sensitive pedagogical models (Ockta & Mardesia, 2023; Pérez-Pueyo et al., 2021; Safari et al., 2025; Yoda et al., 2025). Studies using peace-oriented, traditional-game, and responsibility-based approaches also illustrate how values can be embedded in concrete learning

structures rather than treated as incidental outcomes (Kogoya et al., 2023; Hananingsih et al., 2024; Mangolo & Qomarrullah, 2025; Xie et al., 2025).

Finally, future research should triangulate teacher reports with student, parent, classroom-teacher, and independent observational data, and follow behavior longitudinally across school and home contexts. Overall, this study does not demonstrate that PE produces durable character "from field to life." It shows that teachers perceive value-related changes within school contexts, observe some expressions beyond scheduled lesson time, and recognize both observational limits and contextual dependencies. Conditional transfer is therefore retained as the central interpretation, while causal, developmental, and policy claims remain proportionate to the evidence.

CONCLUSION

This study examined how elementary physical education teachers perceived student change following values-oriented instruction, how far they believed those values were expressed beyond scheduled PE lessons, and what contextual constraints shaped their work. Teachers reported perceived changes in habits and self-regulation, social relationships, emotional regulation, and, in one case, fitness and competitive achievement. They also described examples of value-related behavior in classrooms, informal school spaces, and interactions with former students. These findings should not be interpreted as evidence that physical education causally produced character change or verified value transfer. Rather, they represent teachers' professional perceptions of changes observed within contexts accessible to them. Participants themselves recognized that their observational reach diminished substantially beyond the school environment, limiting claims about behavior at home, in the wider community, or later life. Teachers further described change as gradual, incomplete, and dependent on repeated reminders, while all success judgments relied primarily on unaided observation. Reported constraints were located across the child, instructional setting, family, and school/professional contexts. Thus, the study supports a view of value development in PE as conditionally perceived, context-dependent, and observationally bounded rather than as an established outcome extending automatically "from field to life." Its contribution lies in clarifying both the potential and evidentiary limits of teachers' observations of values-oriented physical education.

RECCOMENDATION

Based on these findings, several practical and research directions warrant consideration. First, schools may consider supplementing informal teacher observation with simple and feasible affective assessment tools, such as brief behavioral rubrics, structured anecdotal records, or validated value-related instruments. These tools should be used to improve documentation and consistency rather than to claim causal effects of PE. Second, cross-subject collaboration among PE teachers, classroom teachers, religious education teachers, and other school staff may be strengthened so that value-related observations can be discussed across learning contexts. Similarly, communication with parents could move beyond problem-triggered contact toward more regular and contextually appropriate forms of partnership. However, these practices should be evaluated empirically before being presented as proven mechanisms of transfer. Third, professional development should address practical strategies for making values explicit in physical activity, facilitating reflection, responding to student

heterogeneity, and documenting behavioral observations. Finally, future research should triangulate teacher reports with student, parent, classroom-teacher, and independent observational data and, where feasible, follow students longitudinally across school and home contexts. Such designs would provide a stronger basis for distinguishing teacher-perceived change from verified behavioral transfer and for identifying which pedagogical and ecological conditions are associated with more durable value-related outcomes.

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