



## Clean and Healthy Living Behavior as a Mechanism for Character Formation in Senior High School

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### ABSTRACT

Clean and Healthy Living Behavior (Perilaku Hidup Bersih dan Sehat, PHBS) is generally positioned as a school-health initiative, yet its educational function as a mechanism of character formation remains insufficiently explained. This study examines how PHBS contributes to the internalization of student character values at SMAN 1 Grati, Pasuruan, and analyzes the institutional and behavioral conditions that support or constrain this process. This study employed a descriptive qualitative case-study design. Data were obtained through observation, in-depth interviews with school stakeholders, and documentation, and were analyzed through data reduction, data display, cross-source comparison, and conclusion drawing. The findings indicate that PHBS is embedded in recurring school practices, including handwashing, waste sorting, classroom duty, Clean Friday, environmental programs, health education, health checks, and School Health Unit activities. These practices become educationally meaningful when teacher modeling, school policy, adequate facilities, student participation, and continuity between school and home reinforce them. The process strengthens discipline, responsibility, cooperation, independence, and environmental awareness by transitioning students from externally regulated compliance to more self-directed behavior. However, uneven individual awareness, dependence on supervision, and leadership transitions limit sustainable internalization. The study develops an integrated PHBS-to-character pathway consisting of institutional enabling, repeated enactment, social reinforcement, and student agency. This framework extends the discussion of PHBS beyond hygiene compliance and shows how a whole-school health practice can function as an experiential environment for character education.

**Keywords:** Health-Promoting School; Character Internalization; Student Agency; School Culture; Environmental Responsibility

### 1. INTRODUCTION

Schools are strategic environments for shaping both health behavior and student development because learners spend a substantial part of their daily lives within institutional routines, relationships, rules, and physical spaces. For this reason, school health cannot be reduced to delivering health information or running occasional campaigns. The contemporary health-promoting school perspective emphasizes that health is produced through the interaction of school leadership, policy, curriculum, the physical and social environment, health services, and partnerships with families and communities (World Health Organization [WHO] & United Nations Educational, Scientific and Cultural Organization [UNESCO], 2021a). In this perspective, a healthy school is not merely a place where students are told how to behave; it is an environment in which healthier ways of living are repeatedly made possible, expected, and socially meaningful.

The relationship between education and health is also increasingly understood as reciprocal. Jourdan et al. (2021) argue that schools should function as foundations for healthy lives rather than as platforms for fragmented health interventions, while WHO and UNESCO (2021b) emphasize that school health services and supportive school environments contribute to students' physical, socioemotional, and developmental needs. Sliwa et al. (2023) similarly demonstrate the value of a whole-school, whole-community, whole-child orientation in which health-related outcomes are connected with broader school



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systems. These perspectives matter in the Indonesian context because PHBS is often operationalized through visible behaviors such as handwashing, waste disposal, sanitation, environmental cleanliness, healthy food choices, and health-related school activities. These behaviors matter in themselves, but repeated practice may also carry educational consequences that extend beyond health protection.

Implementation quality is central to this broader educational potential. Mann and Lohrmann (2019) note that even well-designed school health education can fail when implementation is inconsistent or disconnected from school structures. More recent studies of health-promoting schools show that leadership attitudes, organizational capacity, staff time, contextual adaptation, and stakeholder involvement affect whether school-health initiatives become embedded in daily practice (Betschart et al., 2022; Driessen-Willems et al., 2023). Darlington et al. (2020) further stress that health-promotion interventions must be understood in relation to their context rather than treated as standardized packages that produce the same outcomes everywhere. Thus, the educational meaning of PHBS depends not only on the existence of program activities, but on how those activities are institutionalized, reinforced, and interpreted within a particular school culture.

This implementation perspective intersects directly with character education. Character is not formed solely through the cognitive transmission of moral concepts; it develops through the interaction of moral understanding, affective commitment, repeated action, and social experience. Lickona (2013) conceptualizes character through moral knowing, moral feeling, and moral action, emphasizing that values become educationally significant when translated into conduct. In Indonesia, Hidayat et al. (2021) found that teachers internalize character values through habituation, integration, and imitation, while Maulana (2022) shows that teacher agency and contextual judgment shape how character education is enacted in senior high school settings. These findings suggest that everyday school routines may serve as a practical arena where students repeatedly encounter and enact values rather than merely discuss them abstractly.

School culture and habituation provide an especially relevant bridge between health behavior and character formation. Rahayu et al. (2022) found that managed school culture can contribute to student character development, and Wulandari et al. (2023) reported that disciplinary character can be reinforced through repeated habituation in school routines. In religious and character-oriented school settings, school rules, teacher example, and compulsory or recurring activities have likewise been identified as mechanisms for embedding values in daily student experience (Ikmal & Sa'adah, 2023). Carsiwan's (2024) systematic review of character education in Indonesian schools also indicates that contemporary character-education research increasingly emphasizes school culture, contextual learning, and integrated practice. These studies collectively support a process view of character education: repeated institutional practices create opportunities for values to move from formal expectations toward behavioral dispositions.

PHBS provides a particularly concrete context for this process because its activities involve actions directly linked to responsibility for oneself, others, and shared environments. Environmental education research in Indonesia has shown that sustained environmental practices can contribute to the development of school members' character (Nada et al., 2021). Lestari et al. (2022) found that PHBS practices can strengthen environmental-care character, and Sinaga and Fidorova (2023) describe PHBS as a school-based set of practices that depends on students' knowledge, school support, and consistent implementation. Utami and Usiono (2023) similarly identify a relationship between PHBS habituation and disciplined behavior. However, these studies tend to focus on specific indicators, particular character outcomes, or broad implementation descriptions rather than explaining the internal process through which health routines become character-forming experiences.

Student participation is another underdeveloped dimension in much of the PHBS discussion. Whole-school research suggests that schools should not treat students merely as recipients of policy. Berti et al. (2023), through a systematic review of secondary-school interventions, show that active student participation can strengthen ownership, responsibility, and involvement in school change. Bartelink et al. (2022) and van Dongen et al. (2023) similarly emphasize participation, collaborative capacity, and context-sensitive support in implementing health-promoting schools. This matters for character education because values such as responsibility and cooperation are unlikely to be deeply internalized when students only

follow instructions; the opportunity to participate, make decisions, monitor shared conditions, and take responsibility for collective outcomes can transform compliance into agency.

Leadership and institutional continuity are equally important. Betschart et al. (2022) found that school leaders' attitudes and health literacy are associated with health-promoting school implementation. In Indonesia, Sasaki et al. (2024) show that principals play a central role in coordinating school-health implementation, building capacity, and linking school-health practices to broader institutional responsibilities. This leadership dimension aligns with Van Meter and Van Horn's (1975) policy-implementation framework, which emphasizes clear standards, resources, communication, implementer characteristics, and dispositions. From this perspective, a PHBS program that depends only on individual enthusiasm may remain vulnerable to staff changes or leadership transitions, whereas a program embedded in policy, routines, facilities, and distributed responsibilities is more likely to become part of school culture.

The family-school relationship further complicates internalization. Healthy and prosocial behavior is strengthened when students encounter compatible expectations across the environments in which they live. González Moreno and Molero Jurado (2023) demonstrate that family functionality interacts with school climate in adolescent prosocial behavior, while Luo et al. (2023) show that supportive school climates can contribute to prosocial behavior through social support and resilience. Although these studies do not examine PHBS directly, they reinforce an important principle for this study: behavior becomes more stable when social environments provide coherent reinforcement. Therefore, parental support for hygiene, sanitation, responsibility, and environmental care can extend school-based habituation beyond the school gate.

At SMAN 1 Grati, Pasuruan, PHBS is implemented through recurring practices that include handwashing, waste sorting, classroom duty, Clean Friday, environmental cleanliness programs, health education, health checks, UKS activities, and the local 'Saare Sobung Polusi' program. The source data also identify teacher guidance, school policy, facilities, student involvement, and parental awareness as supporting conditions, while uneven student awareness, inconsistent supervision, and leadership transition are reported as constraints. This configuration makes the site analytically valuable because PHBS is not represented by a single activity; it is embedded in an institutional ecology that combines routine, infrastructure, adult modeling, student participation, and organizational continuity.

The central research gap is therefore not whether PHBS can be associated with positive student behavior, but how that association is produced and sustained. Existing PHBS studies demonstrate links with environmental care and discipline, while health-promoting school research emphasizes whole-school implementation and character-education research emphasizes habituation and modeling. What remains insufficiently integrated is an explanation of how enabling structures, repeated health practices, social reinforcement, and student agency interact as a pathway of character internalization in a senior high school setting. This study addresses that gap by treating PHBS as an institutionalized educational practice rather than a checklist of hygiene indicators. Its novelty lies in developing an empirically grounded PHBS-to-character pathway that connects institutional enabling conditions, repeated enactment, social reinforcement, and the gradual development of self-regulated behavior. Accordingly, the study addresses two questions: (1) how does PHBS function as a medium for internalizing student character values at SMAN 1 Grati, Pasuruan, and (2) what institutional and behavioral factors support or inhibit the sustainability of that process?

## 2. METHOD

### 2.1 Research Design and Case Setting

This study employed a descriptive qualitative approach with a case-study design. A qualitative design was appropriate because the research sought to understand the meaning and educational function of PHBS within the everyday life of a school rather than to test a predetermined causal relationship between variables. The case-study orientation enabled the study to examine PHBS as a context-dependent institutional practice in which policies, routines, facilities, interpersonal relationships, and student behavior interact. This aligns with qualitative case-study principles that emphasize in-depth analysis of a bounded phenomenon within its real-life setting (Creswell, 2014; Yin, 2011).

SMAN 1 Grati, Pasuruan, was treated as the bounded case and unit of analysis. The school was selected because PHBS practices were integrated into recurring school activities and environmental programs, allowing the researchers to observe the relationship between health-oriented routines and character formation in an authentic institutional context. The analysis did not treat PHBS as a single intervention. Instead, it examined a network of practices including hygiene routines, environmental activities, classroom responsibilities, school-health services, teacher guidance, student participation, and institutional policy.

## 2.2 Data Sources and Informant Coverage

The study used primary and secondary data. Primary data came from direct observation and interviews with school stakeholders with knowledge of, or involvement in, PHBS implementation. The source manuscript identifies the principal, teachers, students, staff members, and other parties associated with school health and environmental activities as relevant informant groups. These categories mattered because PHBS implementation spans organizational levels: leaders set policy and priorities, teachers and staff model and supervise routines, students enact practices, and other stakeholders support facilities, programs, or continuity.

Secondary data consisted of school documents, program records, photographs, evaluation materials, meeting notes, and other institutional records related to PHBS. These materials were used not as substitutes for participant perspectives, but as contextual evidence that helped connect reported practices with formal programs and visible school activities. Using multiple data sources was especially important because the study examined both behavioral patterns and institutional conditions.

## 2.3 Data Collection Procedures

Data were collected through observation, in-depth interviews, and documentation. Observation focused on the ways students engaged with cleanliness and health routines, the condition and use of supporting facilities, and the implementation of PHBS-related school activities. This provided evidence of how formal expectations were translated into visible behavior in everyday school settings. The study paid particular attention to recurring practices because repetition is central to its interpretation of habituation and character internalization.

In-depth interviews were used to obtain stakeholder interpretations of PHBS implementation, its perceived relationship with student character, the role of teachers and school policy, and the factors that facilitated or constrained program continuity. Interview evidence was interpreted alongside observation rather than in isolation. Documentation was then used to strengthen contextual understanding through program documents, photographs, reports, meeting records, and other materials associated with school health and environmental activities.

The three techniques were deliberately complementary. Observation provided evidence of practice, interviews provided meaning and stakeholder interpretation, and documentation provided institutional context. This combination is consistent with the logic of qualitative case research, in which converging forms of evidence can strengthen the credibility and explanatory depth of the case account (Yin, 2011).

## 2.4 Data Analysis and Trustworthiness

Data analysis followed the processes of data reduction, data display, and conclusion drawing described in the source study. During reduction, information from interviews, observation, and documentation was organized around recurring PHBS practices, character values, institutional supports, stakeholder roles, and implementation barriers. Data display involved arranging these categories into thematic relationships so that the analysis could move beyond listing activities toward explaining how the practices functioned educationally.

The analysis was developed iteratively through two broad domains derived from the research objectives: first, the role of PHBS in student character formation; and second, the supporting and inhibiting factors affecting implementation. Within the first domain, the analysis distinguished between institutional enabling conditions, repeated student enactment, social reinforcement, and evidence of increasing or incomplete self-regulation. Within the second domain, the analysis examined leadership, policy, facilities, teacher modeling, student participation, family reinforcement, individual awareness, supervision, and leadership transition as interacting rather than isolated factors.

Cross-source and cross-method comparison strengthened trustworthiness. Claims about PHBS were examined against more than one form of evidence where possible, and interpretations were retained when they were consistent with the broader pattern of observation, interview accounts, and documentation. This process functioned as source and method triangulation. The findings were subsequently interpreted in dialogue with research on health-promoting schools, character education, school culture, student participation, and policy implementation. The authors used theoretical comparison to deepen interpretation rather than replace the empirical categories generated from the case.

The source manuscript does not report a formal ethics approval number or detailed consent procedure. These items should therefore be verified and completed by the authors in the journal's Declarations section before submission. No unverified ethical information is introduced in this revised manuscript.

### 3. RESULTS AND DISCUSSION

The findings reveal that PHBS at SMAN 1 Grati operates through a layered process rather than through isolated hygiene activities. School structures enable health-related routines, which are repeated through everyday practice, reinforced by adults and peers, and gradually connected to students' sense of responsibility. At the same time, the process is incomplete when behavior remains dependent on supervision or vulnerable to leadership change. The discussion below therefore organizes the findings around mechanisms of internalization rather than around a simple list of PHBS activities.

#### 3.1 PHBS as a Whole-School Practice Rather Than a Hygiene Checklist

The most basic empirical finding is that PHBS is distributed across several areas of school life. The program includes handwashing, waste sorting, classroom duty, Clean Friday, environmental cleanliness activities, health education, health checks, UKS activities, and 'Saare Sobung Polusi'. These practices differ in form, but they share two features: they are visible in the school environment, and they require repeated participation. This makes PHBS qualitatively different from one-off health campaigns. It functions as an everyday institutional routine that shapes how students use shared spaces, respond to cleanliness expectations, and take on collective responsibilities.

This pattern closely resembles the whole-school logic of health-promoting schools. WHO and UNESCO (2021a) identify school policy, governance, community partnerships, curriculum, the social-emotional environment, the physical environment, and health services as interconnected components of a health-promoting school. The PHBS practices identified in this case do not cover every global standard in equal depth, yet they demonstrate the same principle: health behavior is more sustainable when school structures, physical facilities, routines, and social relationships point in the same direction. Gugglberger (2021) likewise argues that health-promoting schools should be understood as a broad settings-based framework rather than a narrow health intervention.

Regional evidence also supports this interpretation. Thakur et al. (2023), reviewing school-health and health-promoting school programs in Southeast Asia, underline the importance of implementation processes and sustainability rather than simply documenting program existence. In the Indonesian context, Sasaki et al. (2024) show that school-health implementation depends on leadership, coordination, and capacity development. These findings help explain why the PHBS practices at SMAN 1 Grati cannot be understood only through students' individual choices. The behaviors occur within a structured environment that makes certain actions easier, more visible, and more socially expected.

Table 1 summarizes the empirical domains of PHBS and the educational processes through which they can contribute to character formation. The table does not quantify effects; it synthesizes the qualitative relationships identified across the source data.

Table 1  
Analytical Matrix of PHBS Practices, Character Processes, and Educational Meaning

| Empirical domain     | Representative practices                            | Character process                   | Analytical meaning                                                               |
|----------------------|-----------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------|
| Personal hygiene     | Handwashing; health education; health checks        | Discipline; self-care; independence | Repeated personal routines connect health knowledge with self-regulated conduct. |
| Shared environmental | Waste sorting; classroom cleanliness; Clean Friday; | Responsibility; environmental care; | Shared spaces turn cleanliness into a collective obligation rather than          |

|                        |                                                                 |                                    |                                                                                                     |
|------------------------|-----------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------|
| care                   | Saare Sobung Polusi                                             | cooperation                        | a private preference.                                                                               |
| Institutional support  | School rules; UKS; facilities; monitoring; teacher guidance     | Consistency; accountability        | Policy and infrastructure transform desirable behavior into a stable school expectation.            |
| Participatory practice | Classroom duty; student organizations; environmental activities | Ownership; cooperation; leadership | Participation creates opportunities to enact values rather than only receive instructions.          |
| Home-school continuity | Parental reinforcement of hygiene and responsibility            | Consistency; independence          | Similar expectations across settings strengthen the likelihood that behavior becomes a stable norm. |

Note. The table synthesizes qualitative findings from the source study; it does not represent statistical measurement.

### 3.2 Repetition, Habituation, and the Internalization of Character Values

The character-forming potential of PHBS is most visible in the repeated relationship between action and responsibility. Classroom duty, waste management, handwashing, and environmental cleanliness activities require students to perform specific behaviors at particular times and in shared spaces. Early on, such actions may be externally regulated through rules, schedules, reminders, or teacher supervision. Repetition, however, creates opportunities for students to connect the behavior with its consequences: a clean classroom, an orderly environment, personal hygiene, or others' comfort. The educational significance of PHBS therefore lies not in repetition alone, but in repetition that is socially interpreted as responsibility.

This finding is consistent with Lickona's (2013) emphasis on moral action. Students may know that cleanliness and responsibility are desirable, yet character formation requires the capacity to enact those values in real situations. PHBS gives those values a behavioral form. Discipline appears when students follow cleanliness routines and schedules; responsibility appears when they complete assigned tasks and care for shared spaces; cooperation appears when cleanliness is organized collectively; independence appears when healthy practices continue without constant prompting; and environmental care appears when students recognize the school environment as something they share responsibility for.

Indonesian character-education research supports this interpretation. Hidayat et al. (2021) identify habituation and imitation as important mechanisms of character internalization, while Wulandari et al. (2023) show that disciplined character can be developed through school habituation. Rahayu et al. (2022) similarly emphasize the contribution of school culture to character formation. These studies suggest that routine is not educationally trivial. When repeated behavior is paired with stable expectations, social meaning, and opportunities for reflection, it can gradually shift from externally imposed conduct to an internalized disposition.

PHBS also broadens character education by making environmental responsibility concrete. Nada et al. (2021) demonstrate that environmental education can contribute to school members' character, and Lestari et al. (2022) specifically link PHBS with environmental-care character. In this case, environmental care is not confined to a conceptual lesson about protecting nature; it is enacted through waste sorting, classroom cleanliness, Clean Friday, and maintaining shared school spaces. This practical dimension makes character visible in everyday choices and lets teachers see whether values translate into conduct.

The findings nevertheless caution against assuming that repeated behavior automatically equals internalization. A student may perform a task because a teacher is present, because a schedule requires it, or because sanctions are expected. Character formation becomes stronger when the student understands the value of the behavior and continues it under weaker external control. Utami and Usiono (2023) similarly link PHBS habituation to discipline, but this analysis distinguishes routine compliance from deeper self-regulation. This distinction becomes crucial when interpreting the barriers reported later in the findings.

### 3.3 Teacher Modeling as Behavioral and Moral Reinforcement

Teachers and education personnel are central to the internalization process because they connect formal rules with visible examples. The source data indicate that teachers remind students about clean and healthy behavior, model personal and environmental cleanliness, and supervise school routines. This role is more complex than simple enforcement. A rule communicates what students are expected to do, whereas teacher behavior signals whether adults themselves treat that expectation as meaningful. Consistency between what teachers say and what they do gives institutional expectations greater moral credibility.

The importance of teacher enactment is well established in character-education research. Maulana (2022), examining Indonesian senior high school teachers, shows that teachers exercise agency when selecting and enacting character values in contextual situations. Hidayat et al. (2021) similarly emphasize imitation as one mechanism through which character values are internalized. Within PHBS, teacher modeling therefore functions as social reinforcement: students repeatedly observe how adults respond to cleanliness, shared responsibility, and school rules, and these observations help define what is considered normal and valued within the school community.

Teacher modeling also provides an interpretive bridge between health behavior and character language. Washing hands can be framed as self-care; maintaining a classroom as responsibility; waste sorting as environmental care; and collective cleaning as cooperation. Without this interpretive layer, PHBS risks remaining procedural. With it, routine behavior can be linked to a broader moral vocabulary that helps students understand why the practices matter.

This finding is compatible with school-culture research. Ikmal and Sa'adah (2023) show that teacher example, compulsory activities, and school rules can jointly support value formation. Although their context emphasizes religious character, the mechanism is comparable: repeated institutional practices strengthen when adult example and formal expectations align. The present case extends that logic to school health by showing that the teacher's role is not merely to transmit health information but to stabilize the moral meaning of everyday healthy behavior.

### 3.4 Policy, Leadership, and Facilities as an Institutional Ecology

PHBS is also sustained through an institutional ecology consisting of policy, leadership, facilities, routines, and monitoring. The source data identify school policy, principal support, teacher involvement, cleanliness rules, routine programs, and adequate facilities as key enabling conditions. These elements are interdependent. Policy establishes expectations, leadership legitimizes priorities, facilities make compliance feasible, and monitoring maintains visibility. When one element is weak, the program's educational consistency can decline.

Van Meter and Van Horn's (1975) implementation framework helps explain this pattern because implementation depends on the relationship among policy standards, resources, communication, implementer characteristics, and dispositions. In PHBS, clear cleanliness rules are insufficient if handwashing facilities are unavailable; facilities are insufficient if teachers do not reinforce their use; and teacher reinforcement is difficult to sustain if leadership does not prioritize the program. The case therefore illustrates implementation as a system of mutually dependent conditions rather than a sequence of isolated tasks.

Contemporary health-promoting school research provides parallel evidence. Betschart et al. (2022) found that school leaders' attitudes and health literacy matter for HPS implementation, while Sasaki et al. (2024) show that Indonesian principals contribute to school-health implementation through coordination, capacity building, and integrating health responsibilities into leadership practice. Driessen-Willems et al. (2023) further show that HPS implementation varies by context, resources, staff capacity, leadership, and stakeholder involvement. These studies strengthen the interpretation that institutional commitment is not peripheral to PHBS; it determines whether health routines become stable features of school life.

Facilities play a specific role within this ecology because they function as behavioral affordances. Separated waste bins, handwashing points, sanitation facilities, and health-education media make expected behavior materially possible and visually salient. WHO and UNESCO (2021a) identify the physical school environment as a core dimension of health-promoting schools, while Sliwa et al. (2023) similarly emphasize the interaction between school environments, policies, and health behavior. In character-education terms, infrastructure does not create responsibility by itself, but it reduces practical barriers and makes responsibility easier to enact consistently.

The institutional ecology perspective also clarifies why leadership transition emerged as an important barrier. If PHBS is embedded only in a particular leader's personal commitment, it remains fragile. If it is embedded in documented policy, distributed responsibilities, school routines, facilities, and student participation, it becomes more resilient. Thus, sustainability requires institutionalization: converting a program from an initiative tied to particular individuals into an expected and reproducible component of school culture.

### 3.5 Student Participation, Ownership, and the Development of Agency

The findings indicate that students are involved not only as targets of PHBS messages but also as participants in cleanliness and environmental activities, including through OSIS and other student organizations. This distinction is important. Participation gives students a role in maintaining school conditions and creates opportunities to experience responsibility as a social practice. When students take on real tasks, they must coordinate with peers, respond to shared expectations, and face the practical consequences of action or inaction.

Berti et al. (2023) show that active student participation is a significant dimension of whole-school interventions in secondary education because it can increase ownership and meaningful involvement. Bartelink et al. (2022) likewise emphasize context-oriented support and participatory processes in health-promoting school implementation, while van Dongen et al. (2023) identify community capacity, collaboration, and stakeholder involvement as key conditions for sustainable health-promotion work in secondary schools. These studies suggest that student participation should not be treated as a decorative addition to PHBS. It is a mechanism through which students move from being regulated by a program to becoming co-producers of the school environment.

This shift matters for character internalization. Discipline that exists only under surveillance remains externally regulated. Responsibility matures when students monitor their own contributions and consider others' needs. Cooperation becomes meaningful when students must negotiate tasks and shared standards. Environmental care becomes stronger when students experience the school environment as partly theirs to protect. Participation therefore converts character values from abstract expectations into forms of agency.

The distinction between participation and agency also provides a practical evaluation criterion. A school can report high program activity while students remain passive recipients. A stronger PHBS model would examine whether students increasingly initiate healthy behavior, remind peers, contribute ideas, and maintain routines when adults are less visible. These indicators are not reported quantitatively in the present study, but they follow directly from the qualitative distinction between supervised compliance and self-directed practice identified in the findings.

### 3.6 Home-School Continuity and the Social Ecology of Character

Parental awareness emerged as a supporting factor because the internalization of healthy behavior does not occur only within school boundaries. When families reinforce hygiene, sanitation, responsibility, and environmental order at home, students encounter similar expectations across multiple settings. This continuity reduces the possibility that PHBS will be interpreted as a temporary school rule that can be abandoned outside school.

The broader literature on adolescent development supports the importance of this social ecology. González Moreno and Molero Jurado (2023) found that family functionality interacts with school climate in relation to adolescent prosocial behavior. Luo et al. (2023) similarly show that supportive school climates contribute to prosocial behavior through perceived social support and resilience. These studies are not PHBS evaluations, but they help explain why consistent relationships across school and family contexts can strengthen behavior that depends on social responsibility.

For PHBS, home-school continuity matters because many practices—handwashing, waste management, cleanliness, and healthy routines—are not exclusively school behaviors. The more these practices are recognized as part of ordinary life, the more likely students are to interpret them as personal norms rather than institution-specific compliance. In this sense, parental reinforcement supports the final stage of internalization: transferring behavior across contexts.

However, family support should not be interpreted as shifting responsibility away from the school. The findings instead point to complementarity. The school provides structured practice, shared standards, facilities, peer interaction, and teacher modeling; the family can reinforce similar expectations in a different

social environment. Interaction between these contexts increases behavioral consistency and may help stabilize the transition from a supervised school routine to personal habit.

### 3.7 Barriers to Internalization: Awareness, Supervision Dependence, and Leadership Transition

The first major barrier is uneven individual awareness. The source data indicate that some students still litter, neglect classroom cleanliness, or do not consistently practice handwashing. These behaviors show that program availability and behavioral internalization are not equivalent. Students may understand the formal expectation without accepting it as personally meaningful. The analytical issue is therefore not simply noncompliance, but the depth of value internalization.

This distinction matters because health behavior can remain externally regulated for a long time. When students act correctly only under monitoring, the school has achieved procedural compliance but not yet stable self-regulation. The finding helps explain why reminders and supervision remain necessary even in a school with established PHBS activities. Wulandari et al. (2023) similarly note the importance of habituation in disciplinary character, but the present analysis shows that habituation should be judged by how well it survives reduced external control.

The second barrier, inconsistent supervision, makes this problem visible. Outside formal learning periods or when teachers are not present, some students may return to older habits. This suggests a transitional condition: external reinforcement still supports the desired behavior, but internal regulation is not equally strong among all students. The appropriate response, therefore, is not simply more surveillance. Excessive surveillance may maintain compliance without strengthening ownership. Instead, supervision should gradually be combined with student responsibility, peer monitoring, reflection, and participatory roles so regulation is progressively transferred to students.

The third barrier is leadership transition. Changes in school leadership can influence program priorities, coordination, and the degree of institutional support. Health-promoting school research repeatedly identifies sustainability as a complex organizational challenge. Darlington et al. (2020) emphasize the importance of context, Driessen-Willems et al. (2023) show that implementation dynamically depends on resources and organizational conditions, and van Dongen et al. (2023) demonstrate that capacity building and strong coordination are required to embed health promotion in school policy. The case finding therefore reflects a broader implementation problem: insufficiently institutionalized programs are vulnerable to organizational change.

Leadership transition also reveals the difference between program continuity and cultural continuity. A program may formally continue while losing intensity, shared meaning, or consistent supervision. Cultural continuity exists when multiple actors support the routines, the school policy reflects them, facilities enable them, students understand them, and distributed responsibility sustains them. Sasaki et al. (2024) reinforce this interpretation by demonstrating the importance of principal leadership and coordination in Indonesian school-health implementation. The practical implication is that PHBS should be embedded in school systems deeply enough to survive changes in individual leadership.

Table 2  
Supporting and Inhibiting Conditions in the PHBS-to-Character Process

| Condition                        | Empirical role                                | Risk if weak                                           | Implication for internalization                                         |
|----------------------------------|-----------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------|
| School leadership and policy     | Legitimizes routines and priorities           | Program fragmentation or discontinuity                 | Institutionalize PHBS in policy and distributed responsibilities.       |
| Teacher modeling and supervision | Provides example, feedback, and reinforcement | Compliance becomes inconsistent when adults are absent | Combine modeling with gradual transfer of responsibility to students.   |
| Facilities                       | Makes expected behavior feasible and visible  | Rules become difficult to enact consistently           | Treat infrastructure as part of behavioral design, not as decoration.   |
| Student participation            | Builds ownership, cooperation, and agency     | Students remain passive recipients                     | Increase participatory roles, self-monitoring, and peer responsibility. |
| Parental reinforcement           | Extends norms across settings                 | Behavior becomes school-specific                       | Strengthen home-school communication around shared expectations.        |

|                       |                                               |                                         |                                                           |
|-----------------------|-----------------------------------------------|-----------------------------------------|-----------------------------------------------------------|
| Individual awareness  | Supports personal meaning and self-regulation | Behavior remains externally regulated   | Link routines with reflection, meaning, and consequences. |
| Leadership continuity | Protects program sustainability               | Priorities shift with personnel changes | Embed PHBS in systems that survive individual leaders.    |

Note. Supporting factors and barriers are interpreted as interacting conditions rather than independent variables.

### 3.8 An Integrated PHBS-to-Character Internalization Pathway

The combined findings support an integrated four-stage pathway. The first stage is institutional enabling. Leadership, policy, facilities, school-health structures, and teacher commitment create a stable environment in which PHBS can be enacted. This stage corresponds with the whole-school emphasis of WHO and UNESCO (2021a), the leadership findings of Betschart et al. (2022) and Sasaki et al. (2024), and the broader implementation principle that programs require resources, communication, and implementer commitment (Van Meter & Van Horn, 1975).

The second stage is repeated enactment. Students repeatedly perform concrete practices such as handwashing, classroom duty, waste management, and environmental activities. Through repetition, abstract values acquire behavioral content. Discipline becomes adherence to routines; responsibility becomes care for assigned or shared tasks; cooperation becomes collective action; environmental care becomes maintenance of shared spaces; and independence becomes the ability to continue behavior with less prompting. This stage aligns with the habituation findings in Indonesian character-education research (Hidayat et al., 2021; Rahayu et al., 2022; Wulandari et al., 2023).

The third stage is social reinforcement. Teachers model and interpret the behavior, peers create social expectations, student organizations provide participatory roles, and families reinforce related practices outside school. This stage is important because repetition without social meaning can become mechanical. Social reinforcement connects behavior with values and communicates that the practices matter to the community. The role of active student participation identified by Berti et al. (2023), the capacity-building literature of Bartelink et al. (2022) and van Dongen et al. (2023), and the family-school evidence discussed by González Moreno and Molero Jurado (2023) all support this relational dimension.

The fourth stage is student agency and self-regulation. Internalization becomes visible when students increasingly maintain the behavior without immediate adult control, understand why the behavior matters, and take responsibility for collective conditions. This stage is not presented as a completed outcome for every student in the case. Instead, the reported problems of uneven awareness and supervision dependence show that movement toward self-regulation remains variable. The pathway therefore functions as both an explanatory model and an evaluative framework: it identifies where PHBS may be strong institutionally but weak in deeper behavioral internalization.

This model advances the existing literature in two ways. First, it connects two research traditions that are often discussed separately: school health promotion and character education. The health-promoting school literature explains the institutional conditions for sustainable health behavior, whereas character-education literature explains how values are enacted through culture, modeling, and habituation. The present case shows that PHBS can sit at the intersection of these traditions. Second, the pathway distinguishes implementation success from internalization success. A school may have facilities, programs, and high activity levels yet still rely heavily on surveillance. Character formation requires a further shift toward student ownership.

The model should not be interpreted as a deterministic causal sequence. Schools are complex social settings, and Driessen-Willems et al. (2023) emphasize that HPS implementation is dynamic and context-dependent. The stages may overlap, reinforce one another, or weaken one another. Nevertheless, the pathway offers a useful analytical structure for understanding how a school-health program can acquire educational significance beyond the immediate health behavior it promotes.

Figure 1

Integrated PHBS-to-Character Internalization Pathway

|                                  |                              |                                |                          |
|----------------------------------|------------------------------|--------------------------------|--------------------------|
| <b>1. Institutional enabling</b> | <b>2. Repeated enactment</b> | <b>3. Social reinforcement</b> | <b>4. Student agency</b> |
|----------------------------------|------------------------------|--------------------------------|--------------------------|

|                                                    |                                                                 |                                                        |                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| Leadership; policy; facilities; teacher commitment | PHBS routines; environmental practice; classroom responsibility | Teacher modeling; peers; student organizations; family | Meaning; ownership; self-monitoring; reduced supervision dependence |
|----------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|

Note. The pathway is an analytical model derived from the case findings; arrows are conceptually directional but the process may be recursive and context-dependent.

### 3.9 Implications for Character Education and Islamic Religious Education

The findings have implications for character education because they demonstrate that values can be cultivated through non-classroom practices when those practices are intentionally interpreted as educational experiences. PHBS provides a daily context in which students encounter questions of responsibility, self-discipline, care for others, and stewardship of shared environments. This supports the broader direction of Indonesian character education identified by Carsiwan (2024), in which character development is increasingly integrated into school culture and contextual activity rather than separated into a discrete moral lesson.

For Islamic Religious Education (PAI), the findings suggest a practical way to connect normative learning with everyday conduct. The original study positions PAI as relevant to students' cognitive, affective, and behavioral development. The present analysis does not claim that PHBS is exclusively a religious program; rather, it shows how values discussed within PAI can be reinforced through school practices that require cleanliness, responsibility, cooperation, and care. This makes PHBS a potential bridge between value discourse and embodied action.

The implication is pedagogical rather than merely administrative. Teachers can make character learning more explicit by helping students reflect on the meaning of routine practices: why shared spaces matter, how personal hygiene affects others, why collective duties require fairness and cooperation, and how responsible behavior should continue when supervision is absent. Such reflection can prevent habituation from becoming mechanical and can strengthen the connection between action and value.

At the policy level, schools should therefore evaluate PHBS using two groups of indicators. Implementation indicators can assess whether activities, facilities, schedules, and monitoring are functioning. Internalization indicators can examine whether students increasingly act independently, participate voluntarily, remind peers constructively, maintain routines across contexts, and understand the reasons behind the behavior. This two-level evaluation would provide a more educationally meaningful picture of program success than activity completion alone.

## 4. CONCLUSION

This study demonstrates that PHBS at SMAN 1 Grati, Pasuruan, functions as more than a school-health or cleanliness program. Its character-forming potential emerges from the interaction of institutional structures and repeated student experience. School leadership, policy, facilities, teacher modeling, student participation, and parental reinforcement create an environment in which students repeatedly enact health-related routines. Through these practices, discipline, responsibility, cooperation, independence, and environmental care translate from abstract values into observable conduct.

The study's main conceptual contribution is the PHBS-to-character internalization pathway consisting of institutional enabling, repeated enactment, social reinforcement, and student agency. This pathway explains why visible program implementation is necessary but insufficient. Facilities and scheduled activities can produce compliance, but deeper character formation becomes evident when students understand the meaning of the behavior, take ownership of shared responsibilities, and continue the practices under reduced supervision. The reported barriers—uneven individual awareness, inconsistent supervision, and leadership transition—show where this transition remains vulnerable.

Practically, schools should institutionalize PHBS through documented policy, distributed responsibilities, adequate infrastructure, regular evaluation, and leadership continuity while simultaneously strengthening student participation and self-monitoring. Teachers should connect routine health behavior with explicit reflection on responsibility and care so that habituation remains meaningful. Because the study is a single-site qualitative case, its findings are analytically transferable rather than statistically generalizable. Future research should compare schools with different organizational cultures, follow students longitudinally to examine the durability of self-regulated behavior, and combine qualitative evidence with behavioral or survey measures to test the proposed pathway more systematically.

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