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Innovative Community Empowerment through a Student-Led KKN in Durung 2 Village

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Abstract. This community service program was designed to introduce an innovative that integrates anti-bullying education. KKN model reinforcement, and microenterprise (UMKM) digital empowerment in Durung 2 Village, Medan Marelan. The program responds to persistent challenges in child protection, community cohesion, and the limited digital readiness of micro-entrepreneurs. The intervention was implemented over ten days and involved elementary-school children, UMKM owners, community leaders, and student volunteers. Activities included antibullying awareness sessions, 5S social-value campaigns, basic literacy tutoring, morning exercise and community clean-up, UMKM mentoring on branding and packaging, HPP calculation training, and the introduction of QRIS digital payments. Data were collected through observation, attendance records, participant feedback, and the official KKN field report, then analyzed descriptively to identify outputs and challenges. The student-led KKN successfully implemented all planned activities and achieved immediate improvements in children's understanding of bullying, strengthened community enhanced identity interaction. and UMKM through new logos, packaging recommendations, and basic digital-payment adoption. Some UMKM participants demonstrated increased interest in branding and more accurate cost calculations. However, limited time, low digital literacy, inadequate tools, and capital constraints presented notable challenges. The integration of play-based anti-bullying education aligns with prior evidence that interactive pedagogies increase empathy and reduce aggressive behaviors. Likewise, the provision of branding assistance and QRIS introduction supports broader national efforts to digitize UMKM operations.

Keywords: Student-led KKN; Community empowerment; Anti-bullying education; Social values; UMKM digitalization; QRIS adoption

1. Introduction

Village communities today face a shifting landscape of social, educational, and economic challenges that require innovative and participatory approaches (Muzaqi & Tyasotyaningarum, 2022; Onitsuka et al., 2018; Sirajuddin & Al-Fatih, 2025). In many

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rural and semi-urban contexts, children continue to experience vulnerabilities such as bullying, lack of empathy, and limited access to quality educational engagement (Aktan et al., 2024; Armitage, 2021; Hilton, 1993; Simons et al., 2002). At the same time, microenterprises particularly Indonesia's UMKM struggle to compete in a rapidly digitalizing marketplace. These intersecting issues highlight the need for interventions that not only respond to immediate community problems but also strengthen human capital and social cohesion as foundations of sustainable development.

Across Indonesia, the Kuliah Kerja Nyata (KKN) program has long served as an integrative platform linking academic knowledge with community empowerment (Albab Al Umar et al., 2021; Hutasuhut et al., 2023). Its role in civic engagement echoes the theoretical framework of experiential learning proposed by Kolb, emphasizing that learning becomes meaningful when students interact directly with real-life social problems. However, many KKN implementations remain instructor-driven and activity-based rather than transformative. Consequently, there is a growing call for models that position students not merely as facilitators but as leaders capable of co-designing and co-implementing social interventions with local communities.

Bullying among children has become a persistent concern in Indonesia, with emotional, verbal, and physical forms often normalized in peer cultures (Ariani et al., 2025; Sugimoto et al., 2025; Zhou et al., 2023). This aligns with ecological theories of child development, which argue that negative social environments can shape harmful behavior patterns. Anti-bullying education, therefore, becomes essential not only as knowledge dissemination but as value reconstruction, cultivating empathy, respect, and prosocial interaction. Reinforcement of local social values such as the Indonesian 5S (Senyum, Sapa, Salam, Sopan, Santun) serves as a culturally grounded framework to rebuild relational ethics within the community.

From an economic perspective, UMKM represent the backbone of Indonesia's local economies, yet they face chronic obstacles namely weak branding, lack of packaging standards, inaccurate cost calculations, and minimal use of digital tools. The advent of digital-payment systems such as QRIS has opened new opportunities for efficiency and market access, but adoption remains low due to limited digital literacy among microentrepreneurs (Chaveesuk et al., 2021; Ly & Ly, 2024; Sivathanu, 2019). The gap between technological innovation and UMKM readiness necessitates community-based interventions that combine practical training, motivation building, and step-by-step digital familiarization.

Existing community programs often address social issues and economic empowerment separately, resulting in fragmented outcomes (Deshpande et al., 2024; Ogbari et al., 2024). Anti-bullying education rarely intersects with entrepreneurship development, and digital-literacy programs are seldom linked to value reinforcement or civic participation. This separation limits long-term impact and fails to recognize that social and economic well-being are deeply interconnected. Thus, there is a need for integrated models that blend education, value cultivation, and microenterprise empowerment within a cohesive framework that reflects local needs and cultural dynamics.

The student-led KKN model offers a promising innovation, positioning students as initiators, organizers, and evaluators of community-based interventions. This leadership-driven approach fosters deeper collaboration between students and residents, enabling co-creation of solutions suited to local realities. Through a combination of anti-bullying

education, 5S value reinforcement, UMKM digitalization, and community activities such as morning exercise and *gotong royong*, the model seeks to empower individuals while strengthening collective agency (Lukiyanto & Wijayaningtyas, 2020; Murtadlo et al., 2024; Romadhon & Lestari, 2024). The novelty of this model lies in its multidimensional approach and its emphasis on student initiative as a catalyst for social transformation.

This article presents the design, implementation, and evaluation of the innovative student-led KKN conducted in Durung 2 Village. It examines how integrated interventions in education, social values, and microenterprise digitalization can generate immediate social and economic outcomes in a short program cycle. Furthermore, this study contributes to the literature on community-based learning, child protection, and microenterprise empowerment by demonstrating how student-driven initiatives can create measurable community benefits. Ultimately, the article provides insights that may inform future KKN models, local policy strategies, and sustainable village-development programs.

2. Methods

This community service program employed a descriptive participatory design in which students collaboratively implemented a series of educational, social (Milton et al., 2021; Smith & Iversen, 2018; Wacnik et al., 2025), and microenterprise interventions in Durung 2 Village, Medan Marelan. The student-led structure positioned participants not only as facilitators but also as planners, evaluators, and community liaisons. The program was executed over a ten-day period, involving children, micro-entrepreneurs, community leaders, and local residents. The methodological orientation centered on experiential learning, community participation, and the integration of social–economic empowerment activities.

The intervention consisted of three main components: (1) anti-bullying education and child-centered learning, (2) reinforcement of 5S social values and community engagement activities, and (3) UMKM empowerment through branding support, packaging guidance, cost-calculation training, and the introduction of QRIS-based digital payments. Activities were implemented through a combination of workshops, demonstrations, participatory games, mentoring sessions, and collaborative village events such as morning exercise and *gotong royong*. Each activity was designed to accommodate local needs while ensuring practical and culturally grounded outcomes.

Data were collected through observation logs, participant attendance, informal interviews, photographic documentation, and feedback from children, parents, and UMKM actors. The student team also used daily reflective notes to monitor program progress and identify challenges encountered during implementation. All data were analyzed descriptively to assess implementation fidelity, measure immediate outputs, and document changes in awareness, participation, and microenterprise practices. This analysis approach allowed the researchers to capture both quantitative indicators of engagement and qualitative insights into community responses.

Table 1 Components and Activities of the Student-Led KKN Program

| Intervention Component | Activities Implemented | | Target Participants | Expected Outcomes | |
|---------------------------|------------------------|-----------|------------------------|-------------------|--------------|
| Anti-Bullying | Fun-learning | sessions, | Elementary- | Awareness | of bullying, |
| Education | storytelling, | posters, | school children | improved | empathy, |



| role-play | | | safer peer interaction | | | eraction | | |
|------------|------------------------|-----------------------------|------------------------------|------------|---------|----------------|---------------|----------|
| Social | Value | Installation of 5S posters, | | Children & | | Strengthened | etiquette, | |
| Reinforcem | ent | morning exercise, gotong | | community | | cohesion, | and | |
| (5S) | | royong | | residents | | community | | |
| | | | | | | | participation | |
| UMKM | | Branding | & | logo | Local | UMKM | Improved | business |
| Empowerm | ent | it assistance, packaging | | (food | | identity, cost | accuracy, | |
| | support, HPP training, | | producers) early digital pay | | payment | | | |
| | | QRIS introduction | | | | adoption | | |

Table 1 summarizes the three core intervention components implemented in the student-led KKN program in Durung 2 Village, each designed to address the community's social and economic needs in an integrated manner. The first component, anti-bullying education, was delivered through fun-learning sessions, storytelling, posters, and role-play activities aimed at increasing children's awareness of bullying while fostering empathy and positive peer interactions. The second component focused on reinforcing the 5S social values through the installation of value-based posters, morning exercise activities, and *gotong royong* clean-up efforts involving both children and residents to strengthen etiquette, social cohesion, and communal participation. The third component targeted UMKM empowerment by providing branding and logo assistance, improving packaging designs, training micro-entrepreneurs in basic cost calculations (HPP), and introducing QRIS digital payments to enhance business identity, price accuracy, and digital readiness. Together, the components demonstrate a cohesive intervention strategy that combines educational, social, and economic empowerment for sustainable community development.

3. Results and Discussion

3.1. Social and Educational Outcomes: Strengthening Awareness, Values, and Community Cohesion

The student-led program produced a clear increase in children's awareness of bullying, demonstrated by their improved ability to recognize verbal, physical, and relational forms of aggression. Prior to the intervention, many children struggled to differentiate between playful interactions and harmful behaviors. Through structured discussions, visual materials, and guided reflection, they began identifying harmful actions more accurately and articulating why such behaviors can emotionally hurt their peers. This foundational awareness is a critical step in reducing bullying tendencies in early childhood contexts.

Interactive activities such as storytelling, educational games, and role-play allowed children to experience social scenarios from different perspectives. These methods proved highly effective in stimulating empathy, as children were encouraged to imagine how victims of bullying might feel and how supportive peers should respond. As a result, students displayed improved interpersonal communication, greater willingness to comfort peers, and more thoughtful decision-making in social situations. This outcome aligns with evidence showing that experiential learning fosters stronger socio-emotional development.

The reinforcement of the 5S social values (Senyum, Sapa, Salam, Sopan, Santun)



further strengthened children's daily etiquette and community interactions. Posters displayed in public spaces and repeated verbal reminders during activities served as everyday cues for practicing politeness. Children were observed greeting adults more respectfully, using polite language, and showing increased sensitivity to social norms. Adults in the community also responded positively, acknowledging that the 5S values revitalized mutual respect and reinstated familiar cultural principles within village life.



Figure 1 Taking a photo with the children of IT Almadani Elementary School

Figure 1 captures a moment of interaction and togetherness between the student volunteers and the children of IT Almadani Elementary School during the implementation of the student-led KKN program. The photo reflects the warm rapport built throughout the activities, illustrating how educational sessions, games, and value-based learning fostered trust and enthusiasm among the children. This visual highlights the humanistic dimension of the program, showcasing the students' role not only as facilitators but also as companions who created a supportive and joyful learning environment. The image symbolizes the program's success in engaging young learners emotionally and socially, reinforcing the broader goals of strengthening awareness, empathy, and community connection.

Morning exercises and *gotong royong* clean-up activities provided spaces for collective engagement across different age groups. These shared routines created opportunities for informal interaction, trust-building, and cross-generational collaboration. Parents, youth, and elders participated together, resulting in revived communal spirit and improved environmental cleanliness. The activities also functioned as informal learning environments where children observed prosocial behaviors modeled by adults, reinforcing lessons from the anti-bullying sessions.

Teachers and parents reported notable behavioral changes among children following the program. Many noticed increased openness, better self-expression, and heightened sensitivity toward the feelings of others. Children began discussing bullying-related experiences more openly at home and applying 5S principles during daily interactions. Educators observed calmer classroom dynamics, reduced conflict, and more cooperative learning behaviors. These external confirmations from adults serve as strong evidence of the program's social and educational impact.

The findings demonstrate that the student-led KKN model effectively nurtured value-



based learning and strengthened the village's social fabric. The leadership role of students encouraged more flexible, creative, and culturally adaptive methods that resonated with community needs. By combining education, value reinforcement, and communal activities, the program cultivated an environment that supports empathy, respect, and active participation. These outcomes indicate that student-driven approaches have substantial potential to generate meaningful social transformation within short-term community engagement initiatives.

Table 2 Social and Educational Outcomes

| Outcome Category | Key Findings | Indicators of Change | | |
|---------------------|----------------------------------|-------------------------------------|--|--|
| Awareness of | Children recognized harmful | Ability to identify bullying types; | | |
| Bullying | behaviors and understood | improved verbal explanation of | | |
| - | emotional consequences. | impacts. | | |
| Empathy & Social | Storytelling and role-play | Increased supportive behaviors; | | |
| Skills | strengthened children's | better communication with peers. | | |
| | emotional understanding. | | | |
| 5S Value | Social etiquette improved across | More polite greetings, respectful | | |
| Reinforcement | daily interactions. | communication, adherence to | | |
| | | cultural norms. | | |
| Community | Morning exercise and gotong | Higher participation rates; | | |
| Cohesion | royong enhanced social bonding. | stronger intergenerational | | |
| | | interaction. | | |
| Parental & | Adults observed positive | Reduced conflict, calmer | | |
| Teacher Feedback | behavioral changes in children. | classroom atmosphere, improved | | |
| | | cooperation. | | |
| Student-Led | Student leadership enabled | Community acceptance; sustained | | |
| Impact | adaptive, engaging | interest in continued activities. | | |
| | interventions. | | | |

Table 2 provides a concise overview of the key social and educational outcomes generated by the student-led KKN program, highlighting measurable changes across multiple dimensions of community life. It shows that children developed a stronger awareness of bullying and its emotional consequences, demonstrated by their improved ability to identify harmful behaviors and articulate their impacts. Empathy and social skills also increased through storytelling and role-play activities, which encouraged supportive peer interactions. The reinforcement of the 5S values elevated everyday politeness and cultural etiquette among children and residents. Community cohesion improved through morning exercise and *gotong royong*, which fostered intergenerational participation and strengthened social bonds. Parents and teachers further validated the program's success by observing noticeable behavioral improvements, including reduced conflict and more cooperative classroom dynamics. Finally, the table emphasizes that the student-led model contributed significantly to these positive changes, as flexible and community-sensitive leadership enabled interventions that were both relevant and well-received by villagers.

3.2. Economic and Digital Empowerment Outcomes: Enhancing UMKM Capability and



Readiness

The PKM program brought substantial progress to the branding capacity of local UMKM by helping entrepreneurs design simple yet distinctive logos and improve product packaging. These enhancements strengthened product identity and increased visual appeal, which are essential factors in attracting customers in competitive market environments. For many micro-entrepreneurs in Durung 2 Village, this was their first exposure to branding concepts, making the intervention highly impactful in elevating their confidence and readiness to compete beyond local markets.

Training on cost calculation (HPP) offered practical financial insights that UMKM owners had not previously applied. Before the intervention, many entrepreneurs relied on intuitive or tradition-based pricing methods that often led to inconsistent profit margins. The structured introduction of HPP allowed participants to understand raw material costs, labor inputs, and appropriate profit markups. This knowledge enabled more accurate and sustainable pricing strategies, reducing financial losses and empowering entrepreneurs to make informed decisions about production and sales.

The introduction of QRIS digital payments represented a significant milestone in enhancing UMKM digital readiness. Several entrepreneurs expressed enthusiasm and curiosity about electronic transactions, recognizing the convenience and potential for expanding customer reach. Although only a portion of UMKM owners had devices compatible with QRIS, the initial exposure fostered awareness of digital market opportunities and encouraged a future-oriented mindset aligned with Indonesia's growing digital economy.

Despite the progress made, adoption of QRIS and other digital tools remained limited due to barriers such as low digital literacy, inadequate smartphone specifications, and unstable internet connectivity. These challenges prevented some entrepreneurs from immediately implementing digital solutions. However, the program served as a foundational step by introducing the necessary concepts and demonstrating the practical benefits of cashless transactions, thereby preparing UMKM for future digital transitions.

Beyond technical training, the PKM program contributed to shifting mindsets among UMKM owners. Entrepreneurs reported increased motivation to improve their products, try new packaging methods, and explore promotional strategies through digital platforms. This attitudinal change is a crucial indicator of long-term empowerment, as willingness to adapt is a key driver of resilience in microenterprise settings. The program thus strengthened both capability and confidence, two elements essential for sustainable business development.

Collectively, these outcomes demonstrate the program's contribution to enhancing local economic resilience. By equipping entrepreneurs with branding skills, financial literacy, and digital payment awareness, the intervention laid the groundwork for UMKM to participate more competitively in the modern market landscape. Although structural challenges remain, the shift toward digital readiness and improved business practices reflects meaningful progress. In this way, the student-led PKM model not only addressed immediate business needs but also opened pathways for long-term economic empowerment in the village.

Table 3 Economic and Digital Empowerment Outcomes

| Outcome Category | Key Findi | ings Indicators of Chang | | | ange | | |
|-------------------------|-----------|--------------------------|-------|-----|----------|--------|---------|
| Branding & Product | UMKM | received | logos | and | Stronger | market | appeal; |



| Identity | packaging improvements. | increased product visibility. | | |
|-----------------------------|----------------------------------|--------------------------------|--|--|
| Cost Calculation | Entrepreneurs learned accurate | More consistent profit | | |
| (HPP) | pricing methods. | margins; reduced arbitrary | | |
| | | pricing. | | |
| QRIS Digital Payment | UMKM introduced to electronic | Initial interest; early-stage | | |
| Awareness | transaction systems. | adoption intentions. | | |
| Digital Literacy | Low device capability and skills | Uneven readiness; need for | | |
| Challenges | limited adoption. | follow-up digital training. | | |
| Entrepreneurial | Increased motivation to | Willingness to try new | | |
| Mindset Shift | innovate and adapt business | packaging, branding, and | | |
| | strategies. | promotion methods. | | |
| Economic Resilience | Strengthened foundational skills | Better business practices; | | |
| | for long-term competitiveness. | improved readiness for digital | | |
| | - | markets. | | |

Table 3 summarizes the key economic and digital empowerment outcomes achieved through the student-led PKM program, highlighting how each intervention contributed to strengthening UMKM capability and readiness. It shows that branding assistance through logo creation and packaging improvements enhanced product identity and increased market appeal, while cost-calculation (HPP) training enabled entrepreneurs to establish more accurate and consistent pricing structures. The introduction of QRIS digital payments raised awareness of electronic transaction systems, encouraging early interest in digital adoption despite persistent challenges related to device limitations and low digital literacy. The table also indicates a notable shift in entrepreneurial mindset, with UMKM owners displaying greater motivation to innovate, update product presentation, and explore new promotional strategies. Collectively, these changes contributed to improved economic resilience by equipping micro-entrepreneurs with essential foundational skills needed to operate more competitively in an increasingly digital marketplace.

3.3. Integrating Social Learning, Empowerment Theory, and Digital Readiness in Community-Based UMKM Development

The improvements observed in children's awareness of bullying and their increased practice of the 5S values align closely with Bandura's Social Learning Theory, which emphasizes that individuals learn through observation, imitation, and reinforcement. The student-led KKN provided structured opportunities for children to observe prosocial behaviors demonstrated through role-play, storytelling, and adult modeling during community activities such as *gotong royong*. These interactions created a social environment where positive behaviors were repeatedly reinforced, enabling children not only to acquire new knowledge but also to internalize social norms that support empathy, cooperation, and respectful communication.

Kolb's Experiential Learning Model provides a relevant framework for understanding why the program's interactive and participatory approach produced significant social and educational outcomes (Haritha & Rao, 2024; Healey & Jenkins, 2000; Mahmoud & Nagy, 2009). Children and UMKM entrepreneurs engaged in direct experiences, whether through anti-bullying games or hands-on cost-calculation exercises that allowed them to reflect, conceptualize, and apply new knowledge in real-life situations. By moving beyond



passive instruction, the student-led activities created active learning environments where participants constructed understanding through practice. This dynamic method helped transform abstract ideas, such as respect, empathy, or pricing structures, into concrete behavioral change.

The economic outcomes of the PKM program reflect core principles of community empowerment theory (Liu & Wang, 2021), particularly as articulated by Zimmerman and Perkins (Perkins & Zimmerman, 1995). Empowerment is defined as a process through which individuals and groups gain control over their circumstances, develop critical awareness, and take action to improve their conditions. The branding, packaging, and HPP training offered to UMKM enhanced both psychological empowerment through increased confidence and resource empowerment through the provision of practical business skills. As entrepreneurs became better equipped to manage pricing and product identity, they gained a stronger sense of agency in navigating market challenges.

The introduction of QRIS can be interpreted through the lens of the Digital Readiness Framework (Albugmi, 2024; Holmström, 2022), which posits that digital adoption evolves through stages of awareness, interest, trial, and mastery. In this PKM program, UMKM owners reached the initial stages of awareness and interest, recognizing the benefits of electronic payments even if infrastructural barriers limited full adoption. The shift in mindset toward digital possibilities is a critical first step in the continuum of digital transformation, demonstrating that short-term community interventions can influence long-term trajectories of technological adaptation.



Figure 2 a. Mutual cooperation activities with local residents, b. Process of Making Nuggets and Cooling Meatballs.

Figure 2 illustrates two complementary aspects of the community engagement and UMKM empowerment activities conducted during the student-led KKN program. In Figure 1a, mutual cooperation (gotong royong) with local residents reflects the strengthening of social cohesion, where villagers, children, and students work together to clean shared spaces, demonstrating collective responsibility and reinforcing the 5S values promoted in the program. Meanwhile, Figure 1b shows the process of making nuggets and cooling meatballs, an activity carried out with UMKM actors as part of the entrepreneurship mentoring component. This image highlights the hands-on training provided to improve production quality, hygiene practices, and product consistency. Together, the two visuals depict how the program integrated social solidarity with practical economic empowerment, illustrating the holistic nature of the intervention in both community

building and microenterprise development.

The student-led character of the program aligns with the concept of youth-driven social innovation (Alzate et al., 2024; Bastien & Holmarsdottir, 2017), which argues that young people can serve as catalysts for community change through creativity, adaptability, and collaborative spirit. Students were not merely facilitators but co-creators of solutions, embodying Freire's participatory approach that emphasizes dialogue, reflection, and reciprocal learning between communities and facilitators (Kiss et al., 2025; Motlhaka & Wadesango, 2014). This model allowed interventions to be more culturally congruent and responsive, fostering trust and active participation among villagers. The outcomes show that student leadership can bridge generational gaps and mobilize communities effectively.

The convergence of social, educational, and economic outcomes supports the principles of integrated development, which argue that social well-being and economic capacity must advance simultaneously for long-term sustainability. Strengthened social cohesion and improved interpersonal values create a supportive environment for entrepreneurship, while enhanced UMKM capabilities contribute to household resilience and community welfare (Qi et al., 2024; Zahnow, 2024). By combining anti-bullying education, social-value reinforcement, and digital-economic empowerment, the program reflects an integrated development model that aligns with contemporary frameworks in community development and sustainable livelihoods. This integration ensures that the impacts of the PKM program extend beyond immediate outputs toward deeper, more systemic transformation.

4. Conclusions

The student-led KKN program in Durung 2 Village generated meaningful improvements in both social and economic dimensions of community life. Socially, children demonstrated greater awareness of bullying, stronger empathy, and improved everyday etiquette through the reinforcement of 5S values and structured learning activities. Community cohesion strengthened through morning exercises and gotong royong, creating shared spaces for intergenerational interaction. Economically, UMKM participants benefited from branding assistance, packaging improvements, accurate cost-calculation (HPP) training, and initial exposure to QRIS digital payments. These activities enhanced product identity, financial literacy, and digital readiness, laying a foundation for stronger microenterprise resilience.

The discussion shows that these outcomes align with established theoretical frameworks such as Bandura's Social Learning Theory, Kolb's Experiential Learning Model, Zimmerman's Empowerment Theory, and the Digital Readiness Framework. Children adopted prosocial behaviors through modeling and reinforcement, while interactive learning deepened understanding among both students and UMKM actors. The program also demonstrated the transformative potential of student-led initiatives, confirming Freire's participatory approach where facilitators and communities co-create knowledge and solutions. The integration of social education and economic empowerment reflects an interdisciplinary development model that supports sustainable community transformation.

Despite its effectiveness, the program faced limitations including short implementation duration, low digital literacy among UMKM owners, limited device and internet access, and restricted capital for improving product packaging. These constraints



affected the depth and scalability of the program's impact. Future research may explore long-term mentoring models, digital-literacy pathways for micro-entrepreneurs, and the use of technology-assisted monitoring tools to track behavioral and economic change over time. Comparative studies across villages may also provide insights into how student-led interventions can be adapted to different socio-cultural contexts and scaled for broader community development.

Conflict of Interest

The authors declare no conflict of interests.

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