FIELD REPORT

A school-university collaboration to promote school health and physical education in North Sulawesi, Indonesia

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Introduction

School-university partnerships have been in existence for a very long time. Universities need schools as the location for teaching internships as well as providing participants for its research activity.[1] Schools may have needs for an updated curriculum or teaching methods. However, individuals in schools can also face undiagnosed health-related issues, mostly unattended due to the lack of resources or knowledge. In this report, we will describe the efforts of our faculty—as the region's educational center for graduating public health experts and physical education teachers—to contribute to school health by integrating health surveillance, research, and community service targeting the schools within our region of service. The unique ecosystem formed by our alumni network and the faculty also serves as an important strength as will be described and reflected on, in an attempt to formulate future strategies.

Geohistorical context

Formerly known as the Teaching and Pedagogical Institute (*Institut Keguruan dan Ilmu Pendidikan, IKIP*), the Manado State University (MSU) was founded in 1955 to fulfil the region's need for school teachers. In line with this, the Faculty of Sport Sciences held an exclusive undergraduate program to educate future physical education and health (PEH) teachers. Recently, in 2015, the faculty merged with the previously independent Department of Public Health to form the current Faculty of Sport and Health Sciences (FSHS), focusing on both sports and health sciences. This unique composition of the faculty has led to the combination of these two majors to conduct health-oriented research in the schools where most of our graduates are working as PEH teachers. Situated in Tondano, Minahasa, FSHS is the sole faculty graduating PEH teachers in North Sulawesi Province. Nevertheless, its graduates have been diasporic, serving within and surrounding the province. The currently-enrolled students came from all over the eastern part of Indonesia, thus enriching the student cohort and later strengthening the alumni network.

Integration of university research and school health promotion

Despite the COVID-19 pandemic that hit the planet in recent years, on a bigger scale, the world is experiencing an epidemiological shift from the dominance of communicable to non-communicable, degenerative, and metabolic diseases.[2,3] Thus, prevention from an early age is becoming more relevant within this forecasted scenario where school health is increasingly a health promotion pillar that is critical to be strengthened. The term "physical education and health" is more suitably considered as an umbrella term for various implementation points. It is critical to note that the fitness of school students acts as a strong predictor of future morbidity.[4] The health of school students in our province, in particular, has been the focus of the faculty as the subject for research and community service.

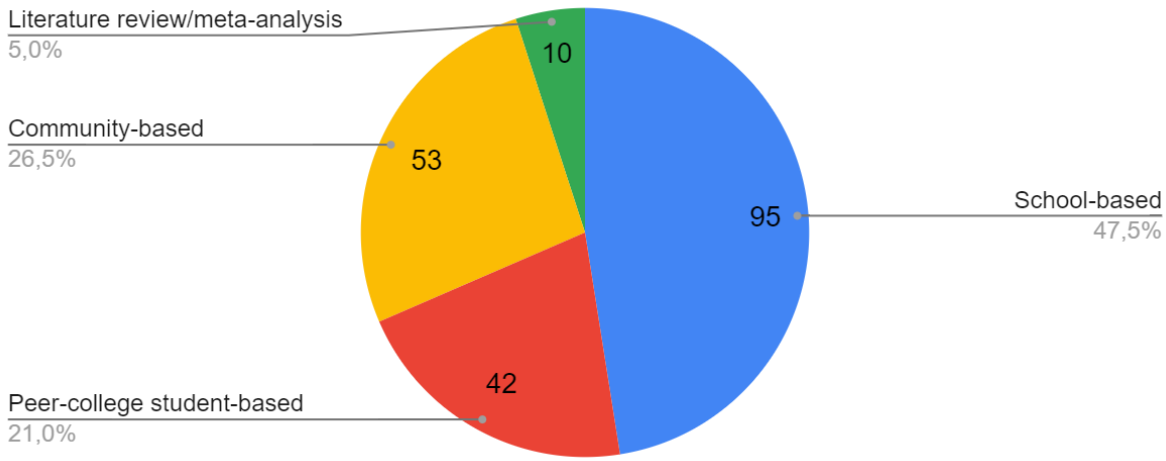
Indonesian university lecturers are obliged to fulfil the "*Tri Dharma Perguruan Tinggi*" (the three duties of the university): teaching, research, and community service. In fact, a tenured lecturer must perform all three on a yearly basis to be promoted to the next academic position. On the

other hand, under the Indonesian college curriculum, final-year undergraduate students are obliged to perform research where the research topic would be chosen by the students and their academic mentors. In our center, currently, there is no written rule about how to determine the research topic and location; interestingly, there is an unspoken desire for the students to conduct their research in their hometown (community-based) or their previous school (school-based). Based on mutual agreement between the student and their academic mentor, a research project would be designed and carried out upon the passing of the proposal examination.

Prior to the integration of the Public Health Department into the faculty in 2015, the school-university partnership was mostly driven by the needs of the university to conduct pedagogical internships and research. More recently, following the merger of public health and sport science departments, the faculty has increasingly observed unattended health problems among school students, thanks to the *Praktik Belajar Lapangan* (Field Study Practicum) of the public health (PH) students. In this year-3 practicum-based subject, the students are asked to observe and identify health problems in their location of choice (either community- or school-based). Following this, the PH students may share the initial observation result with their peers from the Sports Science Department and initiate a collaboration between them to address the problem.

To provide more quantitative insight, we recapitulated the research conducted in our center within the last three years that has been peer-reviewed and accepted for publication in our in-house journals (*Olympus*, *Physical*, and *Epidemia*). Between 2020-2022, the faculty has conducted hundreds of final-year research, 200 of which were accepted for publication. Of these, 95 studies (47.5%) were conducted in schools, while the remaining were performed in community settings, among their peer college students, or literature reviews/meta-analyses (Figure 1). Among the 95 school-based studies, 41 studies were about physical education pedagogy (i.e., teaching methods), owing to the nature of the faculty to graduate PE teachers. The remaining 44 studies focused on various subjects, including physical fitness, nutritional status, hygiene, reproductive health, and several specific diseases. Most of the research was descriptive, with only two being experimental. Some examples of the titles were presented in Table 1.

Figure 1. The distribution of research topics in the faculty between 2020-2022.



Note*:* Most of them are school-based (47.5%), followed by community-based (26.5%) research. N=200

Table 1. Examples of the research titles targeting school students as the subjects

Scope	Research title	Ref
Physical education and health	The relationship between nutritional status with physical fitness in Tomohon Junior High School 2 students	5
Sport pedagogic	The effect of "demonstration" teaching method on badminton short-serve ability among Karegesan Junior High School students	6
Reproductive health	Knowledge and attitude of 9th-grade students in Langowan High School about premarital sex	7

Note: All journal articles were published in the Indonesian language. English translations were provided by the authors.

More importantly, in every school-based research, the student-researcher would issue a recommendation to the school teachers regarding the variables studied, which provided a useful framework for determining the school's policies. In line with the faculty's research focus on physical health, most studies would screen the students' physical fitness and body mass index as baseline demographic characteristics. From this data alone, it was sufficient to identify potential health problems among the students by screening those over- or underweight. Following the data analysis, the headmaster or related teachers (usually the school's PE teacher–most likely our graduates) were informed about the results and invited to the student viva/oral examination, either as an external examiner or as "field mentor" (*pembimbing lapangan*). The school teachers might provide insight from the school's point of view, as well as absorb the research output and recommendations.

For example, Pangemanan and Mioyo found that 9.9% of the students in a public school were obese or overweight, which correlated with their physical activity.[8] After performing data analysis and providing concluding remarks, the authors recommended that "...the PE teachers should educate [the students] to do regular exercise . . . and take care of their nutritional intake." This recommendation sounds normative in the paper, but what matters most–in our case–is the non-formal communication between the researchers from the faculty and PE teachers from the school (occasionally, the headmaster as well). In another study about students' hygiene in elementary schools, the authors identified a high incidence of seasonal diarrhea and identified its correlation with hand hygiene.[9] These findings were followed up by the school in ensuring the cleanliness and availability of water in the school–which could still be a problem in some remote public schools. Although mostly descriptive, the research provided useful findings, feedback, and recommendation for the school regarding the topic being investigated, where the students can get the direct benefit.

As mentioned above, all PE teachers in the province are our alumni, which provides a fertile ground for non-formal communication and feasible post-research follow-up monitoring. In Indonesia, this non-formal communication seems to be critical in achieving a common target.[10] The research findings can be followed up by the school, for example, by matching the intracurricular PE training with the recommendation, i.e., posing more aerobic exercise or providing extra feeding. In case of malnutrition (which in our region can be underweight *and* most likely overweight), the PE teacher may forward this information to the parents or the Ministry of Health as a holistic approach to overcoming the problem.

Reflection and hope

Upon the making of this report, one theme emerged regarding the distribution of the research titles: the studies were not following any established roadmap, as the research topics were as diverse as our students' interests and our alumni distribution. Shortly, we intend to generate a roadmap to make our research more systematic and continuous, at least within the province. As a beginning, a geographical mapping based on epidemiological research will be performed so that future students can be directed to conduct their final-year research following the actual needs of society and schools. This mapping can be

integrated into the PH curriculum to systematically map the problem in our province, starting from the nearest district to the more distant ones. More importantly, this university-school collaboration should give more space for the school teachers (and students) to provide input about their needs.

And last but not least, FSHS/MSU is located in a Christian-majority area inside the largest Moslem-majority country in the world. Most of the lecturers and students are Christians; thus, being attentive to school health and students' well-being carries a deeper meaning as an extension of Christ's special love for the children. We would consider the strategic position of our faculty both a blessing and a commission to elevate school health statuses, at least within our region. International collaboration from fellow researchers is very welcomed.

References

1. Walsh ME, Backe S. School–university partnerships: reflections and opportunities. Peabody J Educ. 2013;88(5):594-607. https://doi.org/10.1080/0161956X.2013.835158
2. Gersten O, Barbieri M. Evaluation of the cancer transition theory in the US, select European nations, and Japan by investigating mortality of infectious- and noninfectious-related cancers, 1950-2018. JAMA Network Open. 2021;4(4):e215322. https://doi.org/10.1001/jamanetworkopen.2021.5322
3. Siswati T, Paramashanti BA, Rialihanto MP, Waris L. Epidemiological transition in Indonesia and its prevention: a narrative review. J Compl Altern Med Res. 2022;18(1):50-60. https://doi.org/10.9734/jocamr/2022/v18i130345
4. Ortega FB, Ruiz JR, Castillo MJ, Sjöström M. Physical fitness in childhood and adolescence: a powerful marker of health. Int J Obesity. 2002;32(1):1-11. https://doi.org/10.1038/sj.ijo.0803774
5. Manopo M, Mautang T, Pangemanan M. Hubungan status gizi dengan tingkat kebugaran jasmani pada siswa SMP Negeri 2 Tomohon. J Olympus. 2021;2(01): 53-61. https://doi.org/10.53682/jo.v2i01.2501
6. Maramis C, Makadada F, Supit R. Pengaruh metode demonstrasi terhadap kemampuan servis pendek dalam permainan bulu tangkis pada siswa SMP Kristen Karegesan. Physical Jurnal Ilmu Kesehatan Olahraga. 2022;2(1):50-7. https://doi.org/10.53682/pj.v2i1.1034
7. Manitik A, Langitan F, Telew A. Hubungan antara pengetahuan dengan sikap remaja tentang seks pranikah pada siswa kelas XI SMA Negeri 1 Langowan. Epidemia: J Kesehatan Masyarakat Unima. 2022;3(1):17-22. https://doi.org/10.53682/ejkmu.v1i2.571
8. Pengemanan M, Miyoyo B. Hubungan aktivitas fisik dengan status gizi di SMP Nasional Mogoyunggung. J Olympus. 2020;1(1):29-34.
9. Kaunang P, Pangemanan M, Bokau J. Faktor-faktor yang berhubungan dengan kejadian diare pada siswa SD gmim 46 Sukur kecamatan Airmadidi. Epidemia: J Kesehatan Masyarakat Unima. 2022;3(1):60-5.
10. Poedjosudarmo S. Informal Indonesian and the spirit of pluralis. J Lang Lit. 2014;14(1):1-7. https://doi.org/10.24071/joll.v14i1.387

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