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Scientific production in Humanities and Social Sciences and its contribution to Sustainable Development Goal 3 (Good Health and Well-being) in Colombian universities

Producción científica en Humanidades y Ciencias Sociales y su contribución al Objetivo de Desarrollo Sostenible 3 (Salud y Bienestar) en universidades colombianas

Lorena Cudris-Torres[1], Daniel Augusto Duarte Arias[2], Mónica Acuña-Rodríguez[3], María del Mar Pérez-Arizabaleta[4], Liliana Silvera Torres[5]

SUMMARY

Introduction: *Scientific production in Humanities and Social Sciences (HSS) plays a strategic role in addressing social determinants of health.*
Objective: *Analyze the scientific production in Humanities and Social Sciences of Colombian universities associated with ACOFAHCS and its contribution to Sustainable Development Goal 3 (Good Health and Well-being).*
Design and setting: *Observational, quantitative, descriptive-analytical study using GrupLAC records (2014–2021).*
Methods*: Analysis of product typologies, SDG orientation, academic training, internationalization, and policy alignment.*
Results*: SDG 3 accounted for 2 917 products, ranking third among SDGs. Groups with doctoral-level researchers and international collaboration showed higher productivity.*
Conclusion: *HSS research substantially contributes to SDG 3 through psychosocial and public health approaches, though challenges remain in innovation and knowledge transfer.*

Keywords: *Scientific production, humanities, social sciences, health, SDG 3.*

RESUMEN

Introducción: *La producción científica universitaria en Humanidades y Ciencias Sociales (HCS) desempeña un papel estratégico en la comprensión de los determinantes sociales de la salud y en la formulación de políticas orientadas al bienestar.*

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ORCID: 0000-0002-3120-4757[1]*
ORCID: 0000-0003-3218-8530[2]
ORCID: 0000-0002-7567-2069[3]
ORCID: 0000-0001-8537-6696[4]
ORCID: 0000-0002-7797-9785[5]

[1]Universidad de la Costa, Barranquilla, Colombia. E-mail: lcudris3@cuc.edu.co
[2]Universidad de San Buenaventura, Cali, Colombia. E-mail: daduartea@usbcali.edu.co
[3]Universidad de la Costa, Barranquilla, Colombia. E-mail: macuna6@cuc.edu.co
[4]Universidad de San Buenaventura, Cali. E-mail: mmperez1@usbcali.edu.co
[5]Fundación Universitaria del Área Andina, Valledupar. E-mail: lsilvera2@areandina.edu.co

*Corresponding author: Lorena Cudris-Torres, Senior Lecturer 3, Department of Social Sciences, Universidad de la Costa. E-mail: lcudris3@cuc.edu.co

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Objetivo: *Analizar la producción científica en Humanidades y Ciencias Sociales de universidades colombianas asociadas a ACOFAHCS y su contribución al Objetivo de Desarrollo Sostenible 3 (Salud y Bienestar).*
Diseño y escenario: *Estudio observacional, cuantitativo, descriptivo-analítico, basado en registros del GrupLAC de MinCiencias (2014–2021).*
Métodos: *Se analizaron las tipologías de productos, la distribución regional, el enfoque en los ODS, la formación académica, la internacionalización y la perspectiva de la Misión de Sabios.*
Resultados: *El 75 % de la producción se concentra en la apropiación social del conocimiento y en la formación de recursos humanos. El ODS 3 representa 2 917 productos y se ubica como el tercer objetivo con mayor producción. Los grupos con doctores e investigadores extranjeros presentan una mayor productividad.*
Conclusión: *La investigación en HCS aporta de forma sustantiva al ODS 3 desde enfoques psicosociales, comunitarios y de salud pública, aunque persisten desafíos en la innovación, la transferencia y la publicación en revistas indexadas.*

Palabras clave: *Producción científica, humanidades, ciencias sociales, salud pública, ODS 3.*

INTRODUCTION

Health and well-being are complex, multidimensional, and socially determined phenomena whose understanding extends beyond the strictly biomedical realm. In this sense, the Humanities and Social Sciences (HSS) provide fundamental interpretive frameworks for analyzing the social determinants of health, structural inequities, cultural processes, community dynamics, and the psychological dimensions that influence individual and collective well-being (1-4).

Sustainable Development Goal 3 (SDG 3) proposes "ensuring healthy lives and promoting well-being for all at all ages," which implies integrating interdisciplinary approaches that articulate public policies, education, mental health, social cohesion, and quality of life (2,5). From this perspective, research in the health sciences plays a strategic role by generating evidence on public health, psychosocial well-being, health promotion, disease prevention, and community capacity strengthening (6-8).

In Latin America and Colombia, scientific production has historically been concentrated in biomedical, physical, and technological fields. In contrast, the contributions of the humanities and social sciences have been underrepresented in traditional bibliometric analyses, despite their social and political impact (9-11). This situation has limited recognition of their actual contributions to achieving the SDGs, particularly in relation to health and well-being.

The creation of the Ministry of Science, Technology, and Innovation in Colombia and the implementation of the research group measurement model have facilitated progress in systematizing scientific production by incorporating product typologies and aligning them with the SDGs (12). However, there remains a need for studies that empirically and contextually highlight the contributions of the humanities and sciences to SDG 3.

Within this framework, the universities affiliated with ACOFAHCS constitute a privileged setting for analyzing scientific production in the Humanities and Social Sciences and its contributions to health and well-being, given their emphasis on social, educational, cultural, and psychosocial issues. Therefore, this study aims to analyze the scientific production in the Humanities and Social Sciences of these institutions and examine their specific contribution to SDG 3 in the Colombian university context.

METHODS

A quantitative, observational, descriptive-analytical study was conducted with a non-experimental, cross-sectional, and retrospective design. The analysis was based on information recorded by the research groups of the academic programs in the Faculties of Humanities and Social Sciences at the universities associated with ACOFAHCS.

Unit of analysis and sample

The unit of analysis comprised 179 research groups from the Humanities and Social Sciences

affiliated with Colombian universities that are members of ACOFAHCS. It was recognized and categorized by the Ministry of Science, Technology and Innovation as of August 2025. Convenience sampling was used, including only groups for which information was available on the GrupLAC platform.

Source of information

The data were extracted from the official records of the National System of Science, Technology and Innovation (SCIENTI–GrupLAC), which guarantees the traceability, standardization and institutional validity of the information analyzed.

Variables analyzed

The following variables were considered:

- Types of scientific products (according to MinCiencias): generation of new knowledge; social appropriation of knowledge and public dissemination of science; technological development and innovation; human resource training.
- Product focus according to Sustainable Development Goals, with emphasis on SDG 3.
- Academic background of researchers (PhDs, Master's).
- Presence of foreign researchers in the groups.
- Regional distribution of production.
- Classification according to the Mission of Wise Men.

Data analysis

The data analysis employed a descriptive and analytical statistical approach to characterize the scientific production of research groups in the Humanities and Social Sciences and to explore patterns in their contributions to Sustainable Development Goal 3 (Good Health and Well-being).

In the first phase, a univariate descriptive analysis was carried out, using absolute frequencies and percentages, to characterize scientific production according to the product typologies established by the Ministry of Science, Technology and Innovation: generation of new knowledge, social appropriation of knowledge and public dissemination of science, technological development and innovation, and training of human resources.

Subsequently, a comparative descriptive analysis was conducted to examine the distribution of scientific output by focus area, with particular emphasis on SDG 3 (Good Health and Well-being). This analysis enabled the identification of SDG 3's relative position among other goals within the total set of outputs.

In the third stage, the distribution of scientific production in articles was analyzed using graphical representations to identify patterns of concentration and productivity asymmetry among research groups.

Additionally, descriptive relationships between total scientific output and group-level structural variables were examined, specifically researchers' academic training (PhDs and Master's degrees) and the presence of foreign researchers. These relationships were examined through graphical comparisons of trends and dispersion measures, without making statistical inferences.

The results of the analysis are presented exclusively as figures, in accordance with the journal's figure limit, to facilitate visualization of the patterns observed in the scientific output. All data processing and analysis were performed using official records from the SCIENTI–GrupLAC system, guaranteeing the traceability, consistency, and institutional validity of the data.

RESULTS

The analysis of the scientific production of the research groups in Humanities and Social Sciences (HCS) of Colombian universities affiliated with ACOFAHCS revealed consistent structural patterns in product typology, thematic

focus, regional distribution, and productivity-related factors.

Scientific output by product type

Among the products registered in the analyzed GrupLACs, a clear predominance was observed in activities related to the social appropriation of knowledge, public dissemination of science, and human resource development, which together accounted for more than 75 % of total output. This finding reflects the strong social, educational, and community commitment of the Humanities and Social Sciences within the Colombian university system.

In contrast, traditional academic output—scientific articles, book chapters, and books—accounts for approximately 22 % of total output, making it the second-largest category of production. Within this category, scientific articles stand out as the product with the greatest academic visibility and potential for international impact.

Meanwhile, technological development and innovation typology shows minimal participation. No patents or intellectual property products are registered, indicating low technology transfer, consistent with the disciplinary nature of the Humanities and Social Sciences (HSS), but also posing challenges for social innovation and the application of knowledge.

Scientific production according to Sustainable Development Goals

Analysis of the product, focusing on the Sustainable Development Goals, revealed a distinct thematic concentration. SDG 3 (Good Health and Well-being) registered a total of 2 917 products, ranking third among the SDGs with the highest production volume, after SDG 4 (Quality Education) and SDG 16 (Peace, Justice and Strong Institutions).

This result shows that a significant proportion of HCS research addresses issues related to public health, mental health, psychological well-being, quality of life, and the social determinants of health, contributing from preventive, psychosocial, and community approaches. In contrast, SDGs such as Gender Equality (SDG 5), Reduced Inequalities (SDG 10), and Industry, Innovation and Infrastructure (SDG 9) exhibit considerably lower outputs, suggesting thematic gaps and opportunities for strategic strengthening (Figure 1).

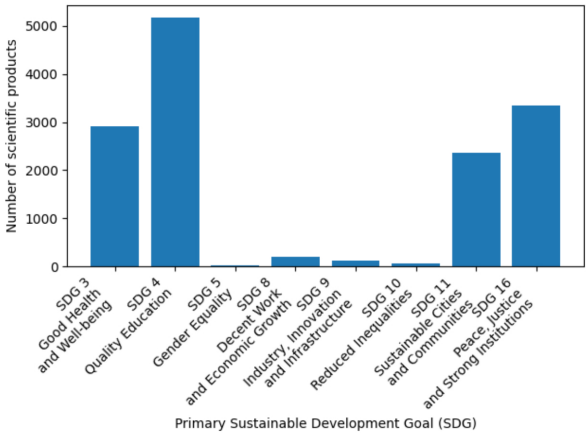

Figure 1. Distribution of total scientific products according to the main associated SDG.

Regional distribution of scientific output

Scientific output in articles shows a markedly asymmetrical regional distribution. The Central Andean region has the largest number of scientific publications, with 4 607, far exceeding those of the other regions of the country.

The analysis of the histogram of article distribution by group shows a skewed pattern:

- Most groups produce fewer than 50 items.
- A small number of groups concentrate high volumes, exceeding 200 items.

This behavior indicates a high concentration of productivity in a few groups and regions, highlighting structural inequalities in research capabilities at the national level (Figure 2).

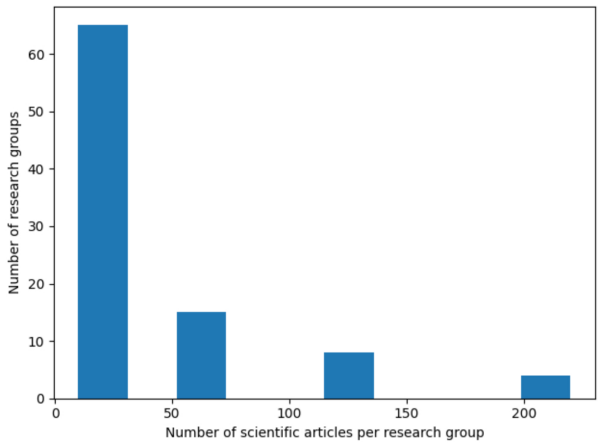

Figure 2. Distribution of scientific articles by research group.

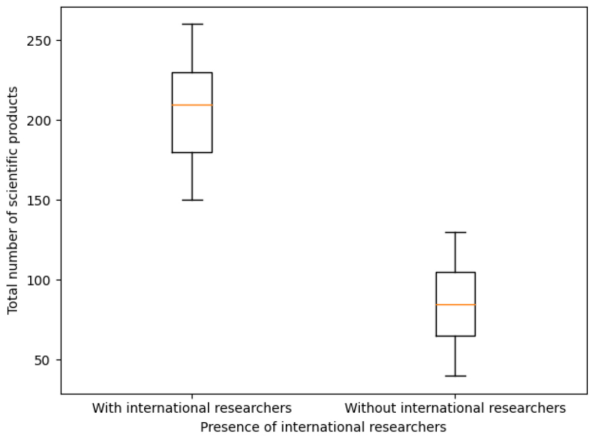

Figure 3. Total scientific production according to the presence of foreign researchers.

Scientific production and advanced human capital

The analysis of the relationship between academic training and scientific output showed a clear positive trend. Groups with a higher proportion of researchers holding doctoral degrees, on average, produced more total scientific outputs. Although the data show some dispersion, the overall trend indicates that highly qualified human capital enhances productivity.

A similar pattern was observed among researchers with master's degrees, underscoring the importance of advanced training for consolidating research capabilities in HCS.

Internationalization and scientific productivity

Research groups that include at least one foreign researcher, on average, show higher total output of scientific products and articles than those composed exclusively of national researchers. Although the number of groups with foreign participation is small, the observed trend suggests that internationalization facilitates scientific productivity, likely associated with methodological diversity, access to international academic networks, and the circulation of knowledge (Figure 3).

Overall, the results show that scientific output in the Humanities and Social Sciences at Colombian universities contributes significantly to SDG 3, primarily from social, educational, and psychosocial perspectives. However, persistent challenges include the regional concentration of research output, low levels of technological innovation, and the need to strengthen internationalization and to publish in high-impact journals.

DISCUSSION

The results of this study confirm that the Humanities and Social Sciences play a substantial role in the production of knowledge oriented toward SDG 3, especially from perspectives that address the social determinants of health, mental health, subjective well-being, and the promotion of healthy lifestyles. This finding is consistent with the international literature highlighting the strategic value of social approaches in contemporary public health (13-16).

The high proportion of social appropriation of knowledge products suggests that the HCS prioritize social transfer and community impact over traditional publication, which, while strengthening the university-society link, poses challenges in terms of international visibility and bibliometric recognition (17,18).

The limited participation in technological development and innovation, and the absence of patents, reflect structural limitations inherent to the HCS and highlight the need to rethink social

innovation models and their articulation with science and health policies (19-21).

Furthermore, the positive association between doctoral training, internationalization, and productivity aligns with previous studies that identify these factors as key drivers of scientific output and academic impact (22-30). However, the regional concentration of research output highlights persistent territorial inequalities in research capabilities, which could affect health equity at the national level.

Taken together, the findings reinforce the need to explicitly integrate the Humanities and Social Sciences into health and well-being research agendas, recognizing their indispensable contributions to achieving SDG 3.

CONCLUSIONS

The scientific production in the Humanities and Social Sciences of Colombian universities affiliated with ASOCOLFHCS makes a substantial contribution to SDG 3, particularly by advancing understanding of the social determinants of health and promoting well-being.

However, institutional and national policies are needed to strengthen publication in indexed journals, to advance social innovation, and to strengthen the link between research and public health decision-making. Recognizing the strategic value of health sciences is fundamental to moving towards more equitable, comprehensive, and sustainable health systems.

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