REDES Revista Hispana para el Análisis de Redes Sociales

Vol.37,#1, (2026), 1-15

https://revistes.uab.es/redes https://doi.org/10.5565/rev/redes.1122

Guidelines for reporting social and personal network data: the case of the journal REDES

ABSTRACT

This study aims to describe the guidelines used in articles published in the journal REDES to report relational data. A total of 363 articles published between 2002 and 2023 were analyzed. To do this, a working group was created that first conducted a descriptive analysis to systematize information on keywords, thematic content, and the network measures used. Second, the group used a list of 18 prior recommendations to assess how well they were applied in the journal's publications and to develop specific recommendations. The results revealed a wide range of network indicators and heterogeneity in the reporting formats used. The study reflects on the relevance of standardizing network reporting within each thematic area analyzed.

Keywords: *Network analysis – Research reporting guidelines – Data management.*

Guía para reportar datos de redes sociales y redes personales: el caso de la revista REDES

Grupo de trabajo sobre el reporte de datos relacionales[1]
Panel de REDES

RESUMEN

El objetivo de este trabajo es describir cuáles son las pautas utilizadas en los artículos publicados en la revista REDES para informar de los datos relacionales. Se analizaron 363 artículos publicados en la revista entre 2002 y 2023. Para ello se creó un grupo de trabajo que, en primer lugar, realizó un análisis descriptivo sistematizando la información sobre las palabras clave, los contenidos temáticos y las medidas de redes utilizadas. En segundo lugar, el grupo de trabajo se basó en una lista de 18 recomendaciones previas para valorar su grado de aplicación en las publicaciones de la revista y elaborar recomendaciones específicas. Los resultados mostraron la diversidad de indicadores de redes y la heterogeneidad del formato de informe utilizados. Se reflexiona sobre la pertinencia de estandarizar los informes de redes en cada área temática analizada.

Palabras clave: *Análisis de redes – Directrices para informes de investigación – Gestión de datos.*

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Publications that apply social network analysis techniques vary widely in the language and indicators they use. This conceptual, terminological, and metric heterogeneity can hinder comparison, theoretical integration of results, and replicability (Shelton et al., 2019). To address this, several recommendations have been proposed to standardize how researchers report on study design, measurement, relational data collection, and the analysis of results (Luke et al., 2023). Having a shared set of guidelines can be useful for peer review and training early-career researchers. It also helps standardize the publication format for network analysis in scientific journals.

Annex I lists the recommendations developed by Luke et al. (2023). When reporting network data, it is important to distinguish between personal networks, complete networks, and two-mode networks. Researchers should also be explicit about how ties are operationalized, what the nodes represent, and how network boundaries are defined. Detailed information should be provided on data collection procedures, transformation processes, and handling of missing data. Models must clearly present the relational mechanisms on which they are based. In data analysis, it is recommended to specify the unit of analysis in each case and report basic network statistics. Finally, researchers should clearly present the study's limitations, potential biases, and any commitments to participants regarding handling personal relationship data.

This study aims to describe how relational data is reported in publications from the journal *REDES* over its first 22 years, from 2002 to 2023. We analyze the most commonly used network metrics and how information on measurement, data collection, and analysis is typically presented. We also assess the extent to which recommended guidelines for reporting network data are followed. In both cases, we adopt a comparative approach across different areas of study.

METHOD

First, we conducted a descriptive analysis based on the frequency of keywords, complemented by an exploratory visualization using word clouds. A total of 158 distinct terms were examined, with an average frequency of 4.37 and a range between 2 and 80. The terms "social networks" and "social network analysis" appeared with frequencies of 80 and 72, respectively. As these are broad concepts aligned with the journal's editorial focus, they were excluded from subsequent analyses.

Second, we conducted a thematic analysis of the article abstracts to develop a classification of the journal's content—the identification of the ten most frequent topics served as the basis for the subsequent qualitative analysis. In addition, the thematic classification was validated by visualizing a co-occurrence matrix of the most frequent keywords.

Third, we used the "18 recommendations for reporting network data" proposed by Luke et al. (2023) to examine common practices in reporting relational data and analysis techniques across each thematic area. The full list of recommendations is available in Annex I.

The research team held regular meetings to validate the information, discuss the descriptive reports, and reach a consensus on a list of best practices for reporting personal and complete network data. Annex II summarizes the most common practices and challenges in reporting relational data in *REDES*.

To ensure consistency in the analysis, this report focuses solely on articles published in Spanish. Articles in Portuguese were analyzed separately and served as a point of comparison (Salej-Higgins & Santos-Souza, 2024). Regarding content, the Portuguese-language publications were notable for their focus on organizational applications, scientometric studies, and biomedical research. Aside from this, the topics and approach were largely similar to the Spanish-language articles, except for a greater use of two-mode networks in the Portuguese studies.

Qualitative validation

The content analysis was guided by five principles aimed at ensuring the quality of data collection in qualitative research (Small & Calarco, 2022). In addition to specifying the empirical evidence presented, each thematic area was examined through inductive tracking of the information gathered and an active search for informational heterogeneity. The research team was already familiar with the journal's publications and authors, which helped deepen their understanding of the subject matter.

The analytical categories were developed inductively from the keywords and abstracts of each article. All articles were initially assigned to a primary category by a reviewer. These assignments were then reviewed by the journal's editor and confirmed by the research team. Group discussion and iterative review helped establish consensus in the comparative analysis across thematic areas.

Following the criteria of the ROBIS tool for assessing the risk of bias in systematic reviews

(Whiting et al., 2016), our analysis included all articles published in Spanish in *REDES* during a defined period (2002–2023), using available metadata. As a result, no risks were identified in the selection of articles or data collection. However, some risks were noted due to authors not systematically reporting network indicators, and the interpretation of content was inevitably subject to the reviewers' subjective analysis. In both cases, group discussion was used to minimize potential bias.

RESULTS

Exploratory descriptive analysis

The most frequent descriptors in *REDES* primarily relate to social network analysis, with a complementary emphasis on studying personal networks and social capital. These align closely with the journal's editorial focus.

Figure 1 shows word clouds of the key terms used as descriptors in articles published in *REDES* between 2002 and 2023. The image on the left displays all keywords that appear with a frequency greater than 2. The image on the right narrows the focus to keywords with a frequency above 3, excluding the most frequent terms (≥ 9): "social networks," "social network analysis," "network analysis," "personal networks," "personal network," "networks," "social network," and "social capital." This exploratory work highlights some of the journal's most common topics, including studies on social support, network visualization, personal relationships, scientific collaboration, centrality, homophily, mixed methods, and Twitter, among many others.

The thematic analysis of the abstracts helped identify the ten main topics covered in the journal: personal networks, economic development, online communities, power elites, internet studies, employment, scientific collaboration, immigration, social support, and legal issues. The data show that research on personal networks and social support (n = 58) has played a significant role in the journal's content—especially in a field traditionally dominated by complete network analysis. Second, research on economic, labor, and organizational aspects (n = 37) and studies on the internet and online communities (n = 26) also stand out. Third, we note the presence of classic areas in the application of network analysis techniques, such as studies on power elites (n = 14) and bibliometric research (n = 23). The frequency count of the most common themes found in article abstracts is presented below:

Personal networks	48
Online networks and virtual communities	25
Economic development	25
Co-authorship and scientific collaboration	23
Leadership and power	14
Employment, labor, and business	12
Immigrants	11
Social support	10
Law, legal, and judicial issues	7

Personal networks and social support

The most common type of study using personal network data focused on exploring processes of acculturation, social integration, psychological adaptation, and personal identity formation among immigrants, displaced persons, ethnic minorities, and, more broadly, people experiencing geographic mobility (n = 12). Other studies examined the territorial distribution of personal networks (n = 3).

Most of these studies adopt a correlational approach, linking personal network indicators to social or behavioral outcomes. In addition, some incorporate methodological innovations such as biographical interviews using personal network visualizations, the development of meta-representations, techniques for estimating personal network size, and the reconstruction of complete networks from personal network data.

The most commonly used network indicators were composition (n = 16), individual centrality measures (n = 13), size (n = 10), and density (n = 8). Less frequently, studies also reported on multiplicity, number of cliques, or number of components, among others. In some cases, typologies of personal networks were developed using a combination of these indicators (n = 4).

It is also noteworthy that several studies follow the methodological recommendation to fix the number of alters (McCarty, 2002). Adopting a common standard facilitates the comparison of results across different contexts and populations. The most common approach is to collect information on 45 alters (n = 8) or 30 *alters* (n = 2).

Within this area, studies specifically focused on social support are characterized by a predominantly attributive approach. Only two articles include structural indicators of personal networks. The analysis typically centers on the size, composition, and quality of supportive relationships.

Economic, labor, and employment studies

Studies on economic development are grouped into five main thematic areas. First, research on the impact of elites in the market (n = 6) explores how power connections among key actors—such as companies, lawyers, and market leaders—influence the economy and labor relations, contributing to the structuring of the economic sector. Next, studies on innovation and local economic development (n = 6) examine the role of collaboration in sectors such as agriculture, tourism, and construction. These studies highlight how cooperative networks and strategic alliances drive economic growth and the emergence of new projects, particularly in agri-entrepreneurial settings.

A third key theme is governance, public policy, and resource management (n = 5), focusing on the management of resources and public policies in areas such as water governance and the administration of protected areas. In addition, a set of historical studies (n = 4) investigates commercial and fiscal networks across different historical periods and economic contexts, demonstrating their influence on the development of local markets. Finally, research on technology, business, and organizational development (n = 4) explores interoperability in e-business and organizational development in family-owned firms while introducing innovative methodologies for studying social capital in regional contexts.

In the reviewed studies, degree centrality (n = 13) and density (n = 9) were the most commonly used network indicators. Betweenness centrality (n = 4) and network components (n = 3) also played a significant role by providing insights into data flow and fragmentation within networks. Other metrics, such as average degree (n = 3), were relevant for assessing overall connectivity. Although used less frequently, studies also employed interview analysis (n = 2), descriptive analysis (n = 2), link directionality (n = 2), and QAP correlations (n = 2). Less common indicators—including core-periphery structure (n = 1), centralization (n = 1), and clustering coefficient (n = 1)—also contributed to understanding network dynamics and configurations in specific contexts, offering a more complete view of interactions and connections within different network systems.

In the business domain, the network approach is commonly used to examine business conglomerates (n = 5). This includes the use of descriptive metrics (n = 3), QAP correlation analysis (n = 2), and exponential random graph models (ERGM) (n = 1). During the period analyzed, case studies were conducted on science and technology parks (n = 3), the clothing production cluster in Mexico, and the biotechnology industry in France.

Other topics examined included individual career paths, occupational mobility, professional competencies, and the role of informal relationships in the labor market.

Internet and online communities

Network analysis is also commonly used in studies on the internet and online communities. One key application involves describing public debate, protests, social movements, and national political dynamics (n = 7). These studies often take a critical perspective on politically charged discourse. In one case, patterns of disinformation were identified through the use of a specific hashtag on Twitter (now X) related to the arrival of migrants in Spain. A second area of focus includes studies on adolescents and the use of information technologies in the home (n = 7). These examine the impact of social media use by age group, highlighting both positive aspects (such as fan interactions in K-pop communities) and negative ones (such as the sharing of messages related to non-suicidal self-injury).

Third, some articles offer conceptual or methodological reviews of specific online communities (n = 5). A fourth theme focuses on cooperation between international companies (n = 4), analyzing the behavior of firms and key actors in specific markets. Finally, two studies examined the role of geographic location in shaping relationships within digital contexts, such as on Facebook and WhatsApp (n = 2).

Most of these studies followed a quantitative approach (n = 12), using either standardized network measures or modeling techniques. However, some mixed-methods studies combined network metrics with content or discourse analysis (n = 10). Only two studies adopted a purely qualitative approach.

Regarding network indicators, most studies used individual centrality measures (n = 11), with degree, betweenness, and closeness centrality being the most common. Other frequent approaches included visualization strategies (n = 7), frequency of contact or information exchange (n = 6), network size (n = 6), type of relationship (n = 5), and cluster analysis (n = 5). Additionally, several studies conducted content analysis (n = 4), calculated network density (n =

4), or analyzed the components of the observed networks (n = 4).

Almost all articles classified in this section were empirical studies (n = 22). Information on data collection dates and the contextual boundaries of the case studies was typically provided only in studies involving Twitter networks, Facebook exchanges, or email communications (n = 16). Given the nature of the data, it is common to examine global-level exchanges without predefined geographic constraints (n = 14). Similarly, the number of network nodes was not always reported (n = 23). Digital sources were frequently used to build datasets, such as tweets published during a specific period (n = 11) or exchanged emails (n = 5). Based on the definitions provided in each study, the types of networks analyzed included diffusion networks (n = 10), personal networks (n = 6), complete networks (n = 3), and semantic networks (n = 2), among others.

This is a constantly evolving field. For a time, the relative ease of access to Twitter's API—combined with the large volume of data generated by its critical mass of users—led to a surge in studies on networks in digital contexts. However, the introduction of new platform regulations and increased restrictions on data access have had the opposite effect. These changes have also indirectly influenced user behavior.

Traditional applications of network analysis

Two classic applications of network analysis are bibliometric studies and the analysis of power elites.

First, scientific collaboration can be formally represented through co-authorship, keyword, and citation networks among academic publications. A widely used strategy combines thematic characterization with descriptive analysis of collaboration patterns between countries, institutions, or authors. During the period analyzed, network analysis techniques were applied descriptively to characterize a scientific subdiscipline (n = 9), the output of academic institutions, research institutes, and universities (n = 5), the body of scientific journals (n = 3), and national research output (in the case of Mexico) (n = 2). In some cases, descriptions of invisible colleges were complemented by other bibliometric impact indicators, such as the H-index, impact factor, or alternative metrics.

Regarding network measures, the most common approach was using individual centrality metrics (n = 16) to identify the most relevant actors in each case. Visualization of scientific fields was also frequently used for exploratory and descriptive purposes. Other less commonly used indicators included density (n = 8), network components (n = 5), average path length (n = 3), and k-cores (n = 2).

Second, several studies analyze the relational foundations of political and economic power. These investigations systematically examine marital ties, family connections, friendships, and political agreements, among other empirical indicators. Common methods in this area include the analysis of board memberships, network visualizations, identification of cohesive subgroups, and descriptive use of individual centrality measures. During the period analyzed, network analysis was used in historical studies of political and religious elites (n = 5). It was also applied to formally represent collaboration between organizations (n = 2), alliances among ethnic groups, natural resource governance, leadership in health services, and the internal structure of governing elites.

Immigration and other topics

Chain migration models have been used to connect research on decision-making prior to international movement with the analysis of psychological adaptation in the host society. They have also helped to bridge macro-level and micro-level social analysis.

Within the analyzed corpus, most studies use personal network analysis to examine social support exchanges and the entry strategies of migrants in host countries (n = 7). These studies commonly adopt a correlational approach, develop typologies, and use descriptive indicators. In some cases, a qualitative approach is also employed. The structural properties of personal networks are empirically linked to acculturation, psychological adaptation, and social identity formation processes. Additionally, the geographic dispersion of personal networks is used to operationalize transnational dynamics.

At the community level, studies examine inter-organizational networks of immigrant associations (n = 2) and demographic movements between localities (n = 2). Specifically, association networks are used to identify "action sets" that mobilize resources within the Romanian population in Spain, while networks of Japanese organizations in Argentina are linked to preserving expatriate community identity. In turn, the demographic approach is applied to map internal geographic movements in Colombia and, using a similar framework, the Latin American migration system. All four articles adopt a descriptive case study methodology.

Another area of application for network analysis involves the systematic exploration of legal documents, the study of legal relationships, and

crime prevention (n = 7). In the study of criminal activity, particular attention is given to brokerage roles and the use of subgroup detection algorithms to identify covert illegal networks.

A comparative analysis by thematic areas

Network analysis is used to identify invisible colleges in scientific production, describe the properties of business clusters, reveal intersections between boards of directors, and represent the structure of migration chains, among other descriptive purposes. A specialized area has also emerged, focusing on analyzing individual differences and developing personal network classifications. In all these cases, network analysis techniques have demonstrated strong descriptive power. Pattern recognition relies on the thorough and systematic study of social systems.

Annex II summarizes some of the specific challenges and particularities in handling and reporting network data across each thematic area.

Regarding data collection and management, a clear divide emerges between personal and complete networks. The main methodological challenges for personal networks involve working with matrix data samples and the associated processing load. In the case of complete networks, the key challenge lies in generating a comprehensive dataset that adequately captures the study context.

Regarding data operationalization and analysis, measures of structural cohesion and leadership adapted to the specific context of each study are common. Density and individual centrality measures are frequently applied, although for various purposes.

Finally, regarding ethical considerations, two issues stand out: the collection of third-party information without consent and the political implications of data depending on the study context. In both cases, it is essential to anticipate potential negative reactions from the community, the organizations involved, or key actors within the social system under study.

Nearly all of the studies reviewed have an empirical focus on data description. This is partly due to the demands of a methodology that requires defining the boundaries of a social system and collecting comprehensive information about the relationships among its members. However, identifying interaction patterns and characterizing structural properties within social systems hold significant potential, underscoring the need to deepen theoretical discussions and pursue methodological innovations.

In some cases, we found that the social context, geographic location, and, ultimately, the situational setting in which the data were generated were not clearly identified. This aspect is especially relevant considering the maturity of the Spanish-speaking network analysis community, which would support meaningful transnational comparisons—both in personal network samples and complete network case studies.

Table 1 summarizes some key characteristics and challenges in reporting network data.

Recommendations for reporting network data

Publications in *REDES* have a predominantly descriptive focus, with a strong emphasis on case studies. However, over time, we observe the adoption of new analytical strategies, including the integration of network analysis into mixed methods designs and the incorporation of techniques from inferential statistics. This evolution reflects the most recent methodological advancements in network analysis (Carrington et al., 2005).

Articles based on personal network analysis continue to place particular emphasis on compositional variables rather than structural properties. However, over time, there has been a clear shift in which attributive variables have gradually lost prominence in favor of strictly structural ones.

One of the methodological challenges in this field is to identify a set of underlying dimensions to reduce data based on individual indicators. Factor analysis, cluster analysis, and latent class analysis are some of the techniques that can be used to integrate information from a broad and diverse set of structural network properties. Developing typologies has proven an effective strategy for comparing individual networks obtained from population samples.

To report personal network data, it would be useful to have something equivalent to the population norms commonly used in psychometrics. It would also be beneficial to rely on representative sampling more frequently than is currently the case. Ultimately, the goal is to contextualize individual variability. Additionally, this could reduce the workload typically involved in collecting information and analyzing data from personal network samples.

Regarding complete networks, network analysis techniques have proven particularly effective in studying specific cases, helping clarify socially relevant contexts. These are, by definition, contextualized data.

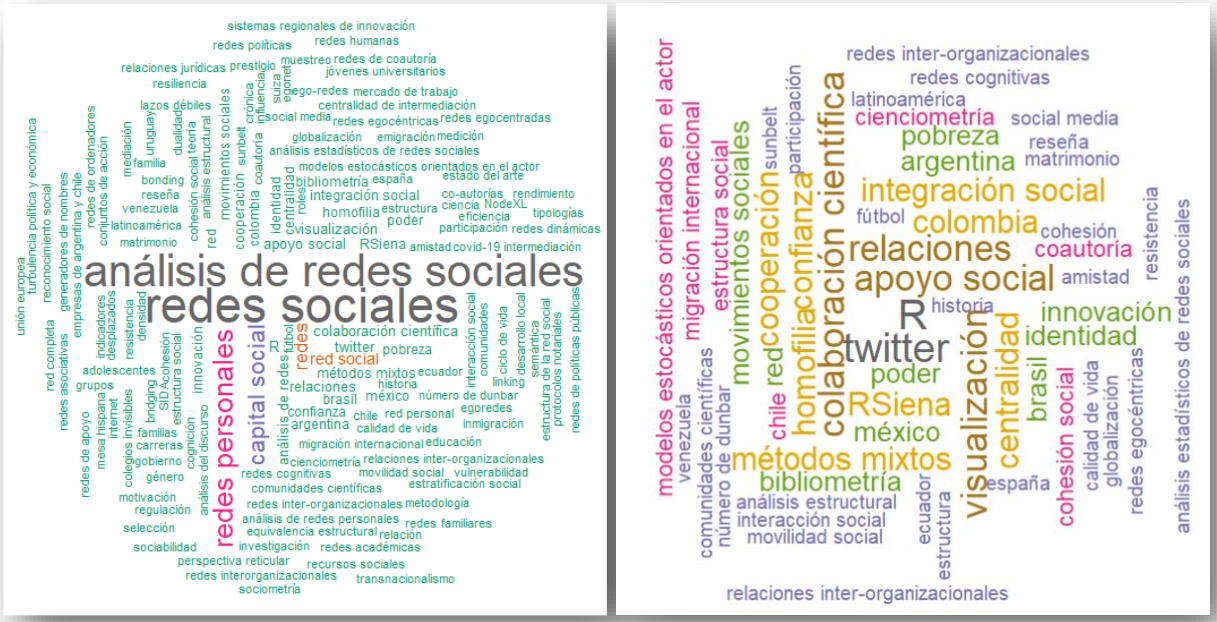

Figure 1. Word clouds of key terms from articles published in *REDES* (2002–2023).

Some of the most frequent words in the *left panel* are: social network analysis; social networks; personal networks; social capital; social support; visualization; scientific collaboration; Twitter; co-authorship; homophily; mixed methods; centrality; social integration; identity; immigration; poverty; social cohesion; social movements; scientometrics; bibliometrics. Some of the most frequent words in the *right panel* are: relationships; Colombia; Argentina; Chile; Mexico; Brazil; Spain; power; history; innovation; structure; marriage; cohesion; brokerage; social mobility; structural equivalence; governance; mixed methods; visualization; social support.

Table 1

Characteristics and Challenges in Reporting Personal and Complete Network Data

Trends	Personal Networks	Complete Networks
Characteristics	• From attributes to structural properties • Importance of compositional variables	• In-depth analysis of specific cases • Understanding socially relevant contexts
Challenges	• Identifying underlying dimensions • Developing typologies • Reducing workload in data collection and analysis • Access to population benchmarks and reference norms	• Clearly defining network boundaries, relational content, and missing data • Reaching consensus on basic network statistics to enable case comparisons • Exploring the complexity of the relationships analyzed

Nota. Authors' own. Analysis based on publications from the journal REDES (2002-2023).

However, the review of publications in the journal *REDES* also highlighted the need to be more explicit in defining the boundaries of the network, the content of the relationships analyzed, and the impact of missing data. Establishing a consensus on a set of basic properties or statistics to report for each network could also be useful. For example, individual centrality indicators take on different meanings depending on the size or density of the network. This is fundamental information essential for interpreting and contextualizing the data from each case study.

When examining how complete network data is reported, a clear need emerges to better address the complexity of the analyzed relationships and provide information that allows for cross-comparison between different types of networks. Ultimately, this recommendation reflects the recent evolution of network analysis toward moving beyond a primarily descriptive approach.

It is also advisable to use a common terminology. Glossaries are available that compile many of the most frequently used technical terms in network analysis, with usage recommendations in Spanish (Casado et al., 2013; Herrero, 2000). These resources can help standardize terminology and prevent ambiguity.

Based on the above analysis, the working group agreed on a list of seven basic recommendations for reporting relational data in the journal. This represents a minimal consensus aimed at standardizing the format of publications.

The recommendations outline a set of basic indicators to support the interpretation of results, both for complete network data and samples of personal networks.

REDES recommendations for reporting relational data

1. Clearly define the boundaries of the network.
2. Describe the content of the relationships being analyzed.
3. Report both the density and the size of the network.
4. Report and assess the impact of missing data.
5. For personal networks, use metrics that reflect overall cohesion and the presence of subgroups.
6. For complete networks, identify the number of components.
7. Use the glossary developed by Casado et al. (2013) for network terminology.

DISCUSSION

This study addresses the need to structure how relational data is reported in social network analysis research. The descriptive review showed that complete network analysis and personal network studies are clearly differentiated, each presenting specific operationalization, analysis, and data management challenges. The diversity of topics, analytical approaches, and research contexts makes it difficult to formulate generic reporting guidelines. Nevertheless, the systematic analysis of content published in *REDES* (2002–2023) revealed several practices that could enhance the replicability, validity, clarity, and consistency of network studies (Luke et al., 2023).

The results showed that there is no systematic format for reporting network data. Instead, various strategies and indicators are used, depending on the thematic area, research questions, or disciplinary traditions. However, despite this overall trend, some cases revealed a consistent structure across articles. For example, when the SIENA model for longitudinal network analysis is applied (Snijders et al., 2010), studies tend to use the same statistical framework, including indicators such as density, transitivity, and reciprocity. Similarly, when name generators with a fixed number of alters are used (McCarty, 2002), studies often converge in the type of indicators and analytical techniques employed. In these instances, a standardized framework emerges that contributes to cumulative knowledge.

This second example illustrates the advantages of standardization, as it not only reduces the burden of data collection, storage, processing, and management but also facilitates comparison (Maya-Jariego, 2018). Standardization enables researchers to place the findings of individual studies in a broader context and draw more general insights.

At the level of personal networks, researchers frequently use indicators such as size, density, and composition. As descriptive evidence accumulates, it becomes increasingly clear that these indicators could be meaningfully integrated into a smaller set of dimensions. This logic underlies the growing relevance in recent years of personal network classification strategies (González-Casado et al., 2024). A review of *REDES* publications over time shows that adopting a structural approach to personal network analysis coincides with a wave of methodological innovations in data collection, analysis, visualization, and the description of basic network properties.

At the level of complete networks, the analysis and visualization of structural properties has become a valuable descriptive tool in studying power elites, migration flows, and scientific collaboration. In all three cases, researchers commonly identify key actors and cohesive subgroups, often supported by graphical representations. While this approach is practical, it remains an area where agreeing on a set of common basic statistics would facilitate comparison and help move beyond a purely descriptive use (Luke et al., 2023). Among other possible indicators, density, centralization, and number of components offer a basic interpretive framework—yet these are not consistently reported in the studies analyzed.

The journal *REDES* has been described as a community of practice made up of Spanish-speaking researchers that has played a dual role: (1) training early-career researchers in network analysis techniques and (2) fostering connections with the broader international network analysis community (Maya-Jariego et al., 2016; Vélez-Cuartas et al., 2021). This has been reflected in the growth and structuring of the community, which has remained attuned to the issues and needs of the Ibero-American region, such as: "personal networks and phenomena related to migration, poverty, social cohesion, the impact of social media, and social capital; organizational networks and the development of local productive linkages; knowledge and scientific networks in the development of regional communities and region-specific scientometric methods; and, to a large extent, rural development networks and community resilience in Latin America and the Iberian Peninsula" (Vélez-Cuartas et al., 2021, p. 130). The thematic overview that emerges from our analysis broadly aligns with this list.

This study combined a metadata count with a thematic analysis of the articles. Titles, keywords, and abstracts provide an initial approximation of each publication's content. However, as these elements are based on author-defined categorizations, they do not always systematically reflect the main features of each study. The thematic analysis served as a complementary layer of interpretation and was further contextualized through group discussion of the *REDES* corpus. The classification developed in this study may serve as a foundation for future research. Similarly, developing a consensus-based list of indicators could support more systematic comparisons in future studies.

Despite the limitations noted, the analytical strategy proved effective in identifying two key dimensions that structure the body of publications in the journal during the period analyzed. First, the distinction between personal and complete networks, each with its own methodological challenges. Second, the organization of analyses around structural cohesion and leadership indicators within the various social systems under study.

CONCLUSION

From its inception in 2002 through 2023, the publications in *REDES* show how network analysis strategies have become part of increasingly complex methodological designs —a trend that is reflected in the recommendations we have formulated in this document. Specifically, we have highlighted two elements that help ensure network analysis is not reduced to descriptive techniques for visualizing and analyzing relational data in isolated cases. First, relational networks should be integrated into the substantive research context. When reporting network data, it is crucial to explain how the network perspective contributes to addressing the research questions. Researchers sometimes default to standard centrality measures without considering whether they are appropriate for the study's specific goals or design. Instead, measures should be selected or adapted in line with the theoretical framework and empirical focus. Second, sufficient information must be provided to allow relational indicators to be meaningfully interpreted. Our review found that being explicit about network density, size, and boundaries—or, in the case of personal networks, about the structural variability factors or dimensions—is essential for enabling cross-network comparisons and situating the data within its appropriate context.

Acknowledgments. Deniza Alieva prepared the *REDES* corpus, compiling metadata from all articles published in the journal. Alejandro González Heras and Vanessa Romero conducted an exploratory analysis of the keywords and created the word clouds. Silvio Salej Higgins and his team analyzed the publications in Portuguese. All authors contributed to the thematic analysis and participated in the content analysis meetings and the development of recommendations. Isidro Maya Jariego wrote the first draft of the article. All authors participated in the final review and writing process. Francisca Ortiz and Paola Tubaro analyzed the studies on the internet and online communities. Francisca Ortiz participated as a member of the Center for Economics and Social Policy and the School of Government and Public Administration at Universidad Mayor in Santiago, Chile. Paola Tubaro is a researcher at the Centre de Recherche en Économie et Statistique (CREST), CNRS, ENSAE, Institut Polytechnique de Paris, Palaiseau, France. The corresponding author participated in the network analysis panel with support from project PID2021-126230OB-I00, funded by the Spanish Ministry of Science and Innovation.

Data availability. The *REDES* corpus (2002–2023) is openly available. It consists of a file containing metadata for all articles published in the journal during this period, along with links to the open-access PDF versions of each article. The file has been available for download since November 14, 2023, at the following link: https://webs.uab.cat/redes/2023/11/14/como-reportar-datos-reticulares/

How to cite this article: Alieva, D., Erices-Ocampo, P., Ortiz-Ruiz, F., Romero-Mendoza, V., Salej-Higgins, S., Tubaro, P. & Maya-Jariego, I. (2026). Guía para reportar datos de redes sociales y redes personales: el caso de la revista REDES. *REDES. Revista Hispana para el Análisis de Redes Sociales, 37*(1), 1-15. https://doi.org/10.5565/rev/redes.1122

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Annex I. 18 recomendaciones para reportar datos de redes (Luke et al., 2013).

Conceptualización

- Describa claramente cómo y por qué las redes son relevantes para abordar las preguntas de investigación del estudio.
- Haga evidente el valor del análisis de redes explicando qué tipo de información proporcionaría que no conseguiríamos con un enfoque más tradicional.

Operacionalización

- Defina los nodos para dejar claro qué representan.
- Defina los vínculos para que quede claro qué representa cada tipo de vínculo. Asegúrese de indicar si son dirigidos o no dirigidos, binarios o ponderados.
- Defina los límites de la red para que quede claro quién está incluido y quién no.
- Indique claramente el tipo básico de red que se está analizando (por ejemplo, si es una red completa, una red personal, o una red bimodal).

Recopilación y gestión de datos

- Describa los procedimientos y herramientas de recopilación de los datos relacionales con suficiente detalle para respaldar su replicación (por ejemplo, las encuestas y el software utilizados). Cuando sea posible, proporcione acceso a todas las encuestas, instrumentos y herramientas utilizados.
- Describa los datos de redes utilizados en el estudio (incluidas las fuentes de datos preexistentes) indicando cómo se almacenan y gestionan los datos, y si están disponibles públicamente y dónde.
- Reflexione sobre los valores perdidos en las matrices de datos, examinando sus implicaciones e informando de cualquier alternativa utilizada en el manejo de los datos faltantes (por ejemplo, la justificación para requerir una o ambas respuestas cuando solo un miembro de una pareja informa una relación).
- Informe de todas las transformaciones de datos: por ejemplo, la agregación de nodos de nivel individual en el nivel organizativo, la asignación de valor a los lazos que son informados de manera distinta por cada miembro de una pareja, etcétera.

Análisis y resultados

Descripción y visualización

- Cuando informe de las estadísticas de la red sea claro sobre cuál es la unidad de análisis: el nodo, la díada, la subred, el conjunto de la red, etcétera.
- Informe de las estadísticas de la red (por ejemplo, la centralidad, la centralización, la homofilia, etc.) haciendo referencia al significado de dicha característica en el contexto de estudio: por ejemplo, ¿qué significa que un nodo en particular tenga un alto grado de centralidad, que una red tenga alta centralización de intermediación, o que nodos con características similares se agrupen?

- Las visualizaciones de redes deben ilustrar claramente los hallazgos del estudio, utilizando aquellas recomendaciones de diseño que mejor se adapten a las características de la red y los objetivos de la visualización: por ejemplo, usar el color o la forma del nodo para transmitir propiedades categóricas, usar el tamaño del nodo para transmitir propiedades cuantitativas, hacer un uso limitado de etiquetas y de la diversidad de formas en las redes grandes, y hacer un uso limitado de diferentes grosores de línea o colores en las redes pequeñas.

Modelado y simulación

- Explique los fundamentos teóricos que impulsan el desarrollo y la evaluación del modelo o la simulación.
- Si se utilizan simulaciones o modelos de redes estadísticas, especifique claramente los mecanismos y resultados del modelo (por ejemplo, la formación de vínculos). Cuando sea posible, proporcione el código de programación estadística utilizado en los análisis, para posibilitar su replicación.
- Proporcione información sobre hasta qué punto se ajusta el modelo a los datos de redes observados, y analice cualquier implicación importante del ajuste del modelo.

Ética y Equidad

- Exponga cómo se explicó y cómo se garantizó la confidencialidad a los participantes, incluidas las consideraciones sobre la posible identificación de individuos en las visualizaciones y los informes. Aclare cómo entendieron los participantes que se podía recopilar información sobre ellos incluso si decidían no participar, o bien que la no participación impedía que se recopilara información sobre ellos.
- Reflexione explícitamente sobre cualquier sesgo potencial sobre las estructuras de la red (y de los resultados en general) que puedan tener sus raíces en los métodos de estudio de la red (por ejemplo, no capturar redes completas, la falta de participación organizacional o de grupos específicos, la sobrerrepresentación, etc.). Al hacerlo, piense en términos de equidad y justicia social, económica y sanitaria.

Source (Original English version): https://doi.org/10.1371/journal.pone.0285236

Translation: Isidro Maya Jariego

Annex II. Application of Network Data Reporting Recommendations by Thematic Research Area.

	Recommendations and challenges for reporting network data				
Thematic area	Conceptualization	Operationalization	Data collection and management	Analysis and results	Ethics and equity
Personal networks and social support	Studies focus on how personal relationships contribute to specific social and behavioral outcomes.	Symmetrical binary ties are more common than weighted or directed ties. Networks are defined by the informant's subjective perception.	Sampling personal networks involves a high workload in data management and storage.	Summary indicators, network typologies, and personal network visualizations are commonly used.	Collecting data on third parties poses challenges for confidentiality and informed consent.
Economic, labor, and employment studies	Research centers on the role of leaders and interest groups in elite formation and local socioeconomic development.	Basic indicators of structural cohesion and leadership are used in the analyzed social systems.	Databases on inter-organizational relations in specific regional contexts are used.	Network density and individual centrality measures are the most frequently used descriptive indicators.	Research data are often used to improve governance strategies and interoperability between actors.
Internet and online communities	Strategies are often used to identify communities within networks defined by timeframes or thematic constraints.	Simple relations such as Facebook contacts, Twitter (X) retweets or mentions, and email exchanges are examined.	Digital databases allow for the collection of large volumes of social exchange data.	Cohesive subgroup identification and modular segmentation are used to describe large, complex networks.	Debates focus on privacy, data security, consent, and personal data protection regulations.

Traditional applications of network analysis	Networks are used descriptively to analyze co-authorship, scientific citation, corporate boards, and political elites.	Network boundaries are influenced by the database and focus on the most relevant actors.	Databases from academic publications or board memberships are commonly used, among other secondary sources.	Visualizations are combined with descriptive use of individual centrality indicators.	Public data are commonly used, though often in contexts with institutional and political implications.
Immigration and other topics	Chain migration models have been integrated with recent analyses of structural properties in personal networks.	Case studies dominate in the description of association networks and migration systems.	Demographic databases on population movement are used to study migration systems.	Basic statistics and qualitative interpretation are used to describe migrants' personal networks.	The politicization of migration affects the collection of relational data.

Note. Authors' own analysis. Based on publications from the journal REDES (2002–2023).

Submitted: 30-11-2024
Revised: 07-01-2025
Accepted: 08-01-2025