



Data Integrity in Philosophy, Sociology and Education Research

Scientific and Technical Advisory Council [STAC], of the Special Journals Publisher [SJP]

Citation:

Scientific and Technical Advisory Council (STAC) of the Special Journals Publisher (SJP): Data Integrity in Philosophy, Sociology, and Education Research. Special Journal of Philosophy, Sociology, and Education, [SJ-PSE], 2020; 1 (1):1-7

Correspondence: editorialoffice@spparenet.org

Background

Taking a close look at the diversity of challenges facing man, it is logical to wonder why surpassing the equilibrium of supremacy over human challenges seems elusive to humans despite the acclaimed advancement in technology and knowledge in the 21st century. To move forward man seriously needs to go back to the drawing board to re-evaluate and overhaul all strategies needed to add some innovations to be sure of success.

In this position paper, Special Journals Publisher outlines its accepted perspectives of the integrity of Philosophy, Sociology, and Education Research data published and to be published in its database for the perusal of our stakeholders, partners, friends, and well-wishers and admirers of its journals.

General definitions

Data may be seen and defined as symbols, facts, characters, values, information, or any

This open access publication is Licensed under a creative common’s attribution 4.0 international License

other form of identity that can help confirm the outcome of observations, experiences, or encounters (1,2). Data are known facts that are used to confirm another fact and to erase all forms of doubts and speculations (3,4). Integrity means truthfulness and honesty and data may be a fact but without integrity, it is worthless and ultimately useless (5,6)

Specific definitions

Data integrity in Philosophy, Sociology, and Education Research may be defined as the degree of novelty and uniqueness of Philosophy, Sociology, and Education Research data that is free from variables that challenge its originality, quality, and relevance (7). No result-oriented decision in Philosophy, Sociology, and Education Research can be made without this type of data to avoid a colossal and historic mistake. Data integrity in Philosophy, Sociology, and Education Research may also be defined and score data as one with high integrity and with demonstrable high accuracy, reliability, stringently error-free, and without bias. (8)

Legal data in Philosophy, Sociology, and Education Research are data that do not contradict the dictates of professional bodies, associations, and most importantly the law of the land (9). Legal data in Philosophy, Sociology, and Education Research does not attract any fine or tax upon publication and no one in the society is disallowed to touch, quote, or use it. The integrity of a data protocol describes the measures used to ensure the validity and accuracy of a data set or all data contained in a database (10). Philosophy, Sociology, and Education Research data validation and accompanying protocols are optimized protocols that also adds to the quality and public acceptance of databases (11),

Checks and balances of data integrity in Philosophy, Sociology, and Education Research (12)

There are so many quality control checks and balances designed to reduce errors and increase the integrity of Philosophy, Sociology, and Education Research data, published in our database. Philosophy, Sociology, and Education Research data quality assurance principles if piloted are of a great deal of importance in promoting the integrity of Philosophy, Sociology, and Education Research data published by a database (13). These integrity checks and balances are based on existing rules and regulations with little modification to fit into the objectives of Philosophy, Sociology, and Education Research projects at hand. These rules exist in any discipline established overtime to stabilize the practice or corporate utilization of such rules for the ultimate benefit of the stakeholders (14)

Data transformation and coding for integrity in Philosophy, Sociology, and Education Research (15)

The importance of Philosophy, Sociology, and Education Research data integrity is also obvious when creating relationships between dissimilar data elements before being stored in a database. These make retrieval easy and certain without data loss or compromise. The concept of data integrity in Philosophy, Sociology, and Education Research ensures that the data is transformed and transferred from one stage of data management to another is accurate and stringently free of error so that when the information is stored in the database (16), its value and reliability is inferred regardless of the duration for which it is stored or the frequency of access.

Data integrity and safety concerns in Philosophy, Sociology, and Education Research (17, 18)

Philosophy, Sociology, and Education Research data integrity encompass safety concern measures taken to protect data from misuse, piracy, and adulteration. Philosophy, Sociology, and Education Research data integrity are preserved when time is taken to decide which data is available to who and which data is not available or accessible to who. Therefore, any technology that will help preserve the security of data to achieve the ultimate good for which the technology was designed, would be a step in a positive direction. This is very serious because success in hacking or breaking into a database without authorization may lead to Philosophy, Sociology, and Education Research data misuse and this can affect any organization negatively to the extent of threatening the existence of such an organization. The end-goal of data security is to protect your data from external or internal breaches (19).

Data integrity and quality concepts in Philosophy, Sociology, and Education Research (20)

Every organization has a standard and quality of data storage and retrieval. This impacts the standard and defines the volume of traffic the database draws. Philosophy, Sociology, and Education Research data quality concepts ensure that the data stored in a database is compliant with defined standards and requirements and this can be done using a set of rules on a specific or complete dataset, stored in the target database. On the other hand, Philosophy, Sociology, and Education Research data integrity deal with the accuracy and completeness of

data present in the database and it covers all aspects of data quality and advances further by executing several rules and procedures that oversee how information is entered, deposited, transmitted, and many more.

Physical data Integrity in Philosophy, Sociology, and Education Research (21, 22)

The physical integrity of Philosophy, Sociology, and Education Research data is protected against external factors, such as natural disasters, power outages, or hackers. Moreover, human faults, storage attrition, and several other problems can also make it unmanageable for data operators to obtain information from a database. The print database is subject to external forces and interference to ensure that stored data are not retrieved when needed. Stored data that are not retrievable are useless and definitely will drawback advances by several decades instead of advancing it. Special journals Publisher recently deals with online media and may have no big problems with Physical data integrity

Entity data Integrity in Philosophy, Sociology, and Education Research (23)

Entity integrity is a logical data integrity type that depends on the grouping of data items using defined codes, and associated passwords to help systematic arrangement and storage of datasets so that retrieval of such data will not be an issue. This is because human errors and technical difficulties, contribute to major systemic challenges in database management. The purpose is to make sure that data is very unique and not recorded several times. Entity integrity stores data in a tabular format, which can be interconnected and used in a range of ways.

Referential data Integrity in Philosophy, Sociology, and Education Research (24)

Referential data integrity is a logical data integrity type that defines a series of procedures that encourage data managers to store data properly and reliably which makes retrieval and usage very easy. In referential Philosophy, Sociology, and Education Research data integrity, data managers make sure that only the required alterations, additions, or removals happen via rules implanted into the database's structure about the way foreign keys and passwords are used to access data. These rules might include conditions that; first, remove duplicate Philosophy, Sociology, and Education Research data records, second, warrant that data is precise, and/or third, prohibit recording data that is not suitable or out of scope with database guidelines.

Domain data Integrity in Philosophy, Sociology, and Education Research (25, 26)

Domain integrity is a logical data integrity type that we can define as the ability to identify a defined area of specialization and outline how datasets are stored to reflect such identified domain. Again, rules and regulations are designed and set out guides that preserve and protect the quality of such data from external uninvited interferences. An assortment of procedures is therefore designed to ensure the precision of every data item is maintained in such a domain. Domain data integrity encompasses rules and other processes that restrict the format, type, and volume of data recorded in a database. It ensures that every column in a relational database is in a defined domain. (27)

User-Defined Data Integrity in Philosophy, Sociology, and Education Research (28)

User-defined data integrity is a logical data integrity type that comprises of the rules defined by the operator to fulfill their specific requirements in dataset management. The entity, referential, and domain integrity are not enough to refine and secure Philosophy, Sociology, and Education Research data. Particular rules must be considered and integrated into Philosophy, Sociology, and Education Research data integrity processes to meet standards.

Factors Affecting Data Integrity (29-32)

Entering or managing Philosophy, Sociology, and Education Research data manually increases the chances of errors, duplications, or deletion. Often, the entered data fails to follow the apt protocol, or the errors in the manual entry can extend to the execution of processes, hence corrupting the results. Computer systems and high technology software are now available to check for accuracy at the point of Philosophy, Sociology, and Education Research data entry to remove or reduce errors even reduce such data are stored. A transfer of error occurs if the data is not successfully transferred from one site within a database to another. These errors usually occur when a Philosophy, Sociology, and Education Research data item exists in the target table but is absent from the source table within a relational database. The computerized data management systems take care of any incongruity eliminating the multiplicity effects in data management. Your data's integrity can also be compromised due to spyware, malware, and viruses invading a computer and altering, deleting, or stealing data. There is a lot of

antiviruses and antimalware's that can be installed to take care of these

Significance and best practices of data integrity (33, 34)

The whole essence of Philosophy, Sociology, and Education Research data integrity research and questions are summed up in what it can do to help advance information when and where needed and how best to use this information in the best interest of the stakeholders. The significance may therefore include but not limited to the facts that:

- It can also be seen as widely available and can be traced back to the original
- Protecting the validity and accuracy of data also increases stability and performance
- The ability to reuse and maintain data adds to its integrity as well.
- For data to be complete, its rules, relationships, dates, definitions, and lineage must be accurate
- Ensures consistency in the data model, value, and types before and after storage and retrieval
- Ensure that the data stored in a database can be found and linked to other data
- External data back up guarantees that such an entire data set can be recovered in a database accident
- It strengthens the stability of data, offers optimum performance, and makes it reusable and maintained easily.
- Data backup and duplication is critical for ensuring data integrity.
- input validation to preclude the entering of invalid data,
- Error detection/data validation to identify errors in data transmission, and
- Security measures such as data loss prevention, access control, data encryption, and more.

Conclusion

Philosophy, Sociology, and Education Research data integrity are therefore invaluable in this era of technological advancement and complex evolution of norms and theories orchestrated and induced by natural social, economic, and environmental challenges that have continued to threaten human existence on earth. Resources are limited, the mistake will be too costly and redundancies are not allowed in this struggle for supremacy over emerging and re-emerging challenges. Data integrity is one factor that will put humans ahead of the inherent challenges that come to our ways.

References

1. Leonelli S. What Counts as Scientific Data? A Relational Framework. *Philos Sci.* 2015 Dec 1;82(5):810-821.
2. Goodwin MA, Stange KC, Zyzanski SJ, Crabtree BF, Borawski EA, Flocke SA. The Hawthorne effect in direct observation research with physicians and patients. *J Eval Clin Pract.* 2017 Dec;23(6):1322-1328.
3. Fanelli D. How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data. *PLoS One.* 2009 May 29;4(5):e5738.
4. George SL, Buyse M. Data fraud in clinical trials. *Clin Investig (Lond).* 2015;5(2):161-173
5. David TJ, Ellson S. Is lack of integrity a useful concept when dealing with health and social care pre-registration student fitness to practice cases? *Med Leg J.* 2020 Nov;88(1_suppl):50-54.
6. Fahey RA, Hino A. COVID-19, digital privacy, and the social limits on data-

- focused public health responses. *Int J Inf Manage*. 2020 Dec;55:102181.
7. Leung L. Validity, reliability, and generalizability in qualitative research. *J Family Med Prim Care*. 2015 Jul-Sep;4(3):324-7.
 8. Ienca M, Ferretti A, Hurst S, Puhan M, Lovis C, Vayena E. Considerations for ethics review of big data health research: A scoping review. *PLoS One*. 2018 Oct 11;13(10):e0204937.
 9. Lim MYH, Lin V. Governance in the health workforce: how do we improve on the concept? A network-based, stakeholder-driven approach. *Hum Resour Health*. 2021 Jan 2;19(1):1.
 10. Dyck MJ, Culp K, Cacchione PZ. Data quality strategies in cohort studies: lessons from a study on delirium in nursing home elders. *Appl Nurs Res*. 2007 Feb;20(1):39-43.
 11. Gernant SA, Adeoye-Olatunde OA, Murawski MM, Jaynes H, Chewning B, Knox LM, Iii MM, Schommer JC, Snyder ME. Experiences Applying Technology to Overcome Common Challenges in Pharmacy Practice-Based Research in the United States. *Pharmacy (Basel)*. 2020 May 30;8(2):93.
 12. Matam, Manjunath, and Joseph Walters. "Data-integrity Checks and Balances in Monitoring of a Solar PV System." *2019 IEEE 46th Photovoltaic Specialists Conference (PVSC) (2019): 1276-1281*.
 13. Houston L, Probst Y, Yu P, Martin A. Exploring Data Quality Management within Clinical Trials. *Appl Clin Inform*. 2018 Jan;9(1):72-81.
 14. Pandi-Perumal SR, Akhter S, Zizi F, Jean-Louis G, Ramasubramanian C, Edward Freeman R, Narasimhan M. Project Stakeholder Management in the Clinical Research Environment: How to Do it Right. *Front Psychiatry*. 2015 May 18;6:71.
 15. Iorns E, Chong C. New forms of checks and balances are needed to improve research integrity. *F1000Res*. 2014 May 28;3:119.
 16. Jansen P, van den Berg L, van Overveld P, et al. Research Data Stewardship for Healthcare Professionals. 2018 Dec 22. In: Kubben P, Dumontier M, Dekker A, editors. *Fundamentals of Clinical Data Science [Internet]*. Cham (CH): Springer; 2019. Chapter 4.
 17. Oldman AH, Cumpsteay AF, Martin DS, Grocott MPW. Data integrity issues: the catalyst for a more robust approach to research on perioperative oxygen therapy? *Perioper Med (Lond)*. 2019 Jul 4;8:7.
 18. Seh AH, Zarour M, Alenezi M, Sarkar AK, Agrawal A, Kumar R, Khan RA. Healthcare Data Breaches: Insights and Implications. *Healthcare (Basel)*. 2020 May 13;8(2):133.
 19. Houston L, Probst Y, Yu P, Martin A. Exploring Data Quality Management within Clinical Trials. *Appl Clin Inform*. 2018 Jan;9(1):72-81.
 20. Phuc-Loi Luu, Phuc-Thinh Ong, Thanh-Phuoc Dinh, Susan J Clark, Benchmark study comparing leftover tools for genome conversion of epigenome sequencing data, *NAR Genomics and Bioinformatics*, Volume 2, Issue 3, September 2020, lqaa054,
 21. Yaacoub JA, Salman O, Noura HN, Kaaniche N, Chehab A, Malli M. Cyber-physical systems security: Limitations, issues, and future trends. *Microprocess Microsyst*. 2020 Sep;77:103201.
 22. Brooksbank C, Camon E, Harris MA, Magrane M, Martin MJ, Mulder N, O'Donovan C, Parkinson H, Tuli MA,

- Apweiler R, Birney E, Brazma A, Henrick K, Lopez R, Stoesser G, Stoehr P, Cameron G. The European Bioinformatics Institute's data resources. *Nucleic Acids Res.* 2003 Jan 1;31(1):43-50.
23. Reason J. Human error: models and management. *West J Med.* 2000 Jun;172(6):393-6.
24. Ferreira JE, Takai OK. Understanding Database Design. 2007 Sep 12. In: Gruber A, Durham AM, Huynh C, et al., editors. *Bioinformatics in Tropical Disease Research: A Practical and Case-Study Approach* [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2008. Chapter A02.
25. Korteling JE, Brouwer AM, Toet A. A Neural Network Framework for Cognitive Bias. *Front Psychol.* 2018 Sep 3;9:1561.
26. Hegyi H, Kalmar L, Horvath T, Tompa P. Verification of alternative splicing variants based on domain integrity, truncation length, and intrinsic protein disorder. *Nucleic Acids Res.* 2011 Mar;39(4):1208-19.
27. McKeever L, Nguyen V, Peterson SJ, Gomez-Perez S, Braunschweig C. Demystifying the Search Button: A Comprehensive PubMed Search Strategy for Performing an Exhaustive Literature Review. *JPEN J Parenter Enteral Nutr.* 2015 Aug;39(6):622-35.
28. Monda J, Keipeer J, Were MC. Data integrity module for data quality assurance within an e-health system in sub-Saharan Africa. *Telemed J E Health.* 2012 Jan-Feb;18(1):5-10.
29. Zozus MN, Pieper C, Johnson CM, Johnson TR, Franklin A, Smith J, Zhang J. Factors Affecting Accuracy of Data Abstracted from Medical Records. *PLoS One.* 2015 Oct 20;10(10):e0138649.
30. Ward MJ, Self WH, Froehle CM. Effects of Common Data Errors in Electronic Health Records on Emergency Department Operational Performance Metrics: A Monte Carlo Simulation. *Acad Emerg Med.* 2015 Sep;22(9):1085-92.
31. Hogan WR, Wagner MM. Accuracy of data in computer-based patient records. *J Am Med Inform Assoc.* 1997 Sep-Oct;4(5):342-55.
32. Sittig DF, Singh H. Defining health information technology-related errors: new developments since to err is human. *Arch Intern Med.* 2011 Jul 25;171(14):1281-4.
33. Rattan AK. Data Integrity: History, Issues, and Remediation of Issues. *PDA J Pharm Sci Technol.* 2018 Mar-Apr;72(2):105-116.
34. Oldman AH, Cumpstey AF, Martin DS, Grocott MPW. Data integrity issues: a catalyst for a more robust approach to research on perioperative oxygen therapy? *Perioper Med (Lond).* 2019 Jul 4;8:7.

Submit your papers for publication to Special Journal of Philosophy, Sociology and Education [SJ-PSE] online below <https://sjsociology.spparenet.org/submit/> or by email attachment to us at editorialoffice@spparenet.org