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da|ra Metadata Schema: Version 3.0

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TECHNICAL *Reports* 2014|07

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DOI:10.4232/10.mdsdoc.3.0

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GESIS – Leibniz-Institut für Sozialwissenschaften 2014

GESIS-Technical Reports

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1 Introduction

1.1 The Registration Agency da|ra

da|ra operates as the registration agency for social science and economic data jointly run by GESIS and ZBW. da|ra pursues the goal of long-term, persistent identification and availability of research data via allocation of DOI names. In keeping with the ideals of good scientific practice there is a demand for open access to existing primary data so as to not only have the final research results but also be able to reconstruct the entire research process. GESIS (http://www.gesis.org) and ZBW (www.zbw.eu) therefore offer a registration service for social and economic research data in cooperation with DataCite (http://www.datacite.org), an international consortium pursuing the goal of supporting the acceptance of research data as independent citable scientific objects. This infrastructure lays the foundation for long-term, persistent identification, storage, localization and reliable citation of research data.

Benefits of DOI names:

- **Permanent, persistent identification:** Each DOI uniquely, unequivocally and permanently identifies the assigned object.
- **Availability of information on the web:** Via the Handle System, each DOI refers to one or more webpages assigned by the publication agent.
- **Semantic Interoperability:** The metadata associated with a DOI enables direct, precise communicating – with each user, from every location, at every point in the production/distribution chain – with regard to every detail of the objects related with one another.

The DOI name is comprised of a unique alphanumeric character string; a prefix and suffix, whereby the prefix always begins with "10" and prefix and suffix are separated by a forward slash. Prefixes are assigned by the International DOI Foundation (IDF) via DataCite. Each data centre is assigned its own prefix thus permitting an unlimited number of DOI names. The suffix is agreed by the publication agent in conjunction with da|ra.

Each DOI name permanently identifies the assigned object as an entity regardless of whether the storage location changes. Updated, structured metadata is assigned to the resource using the DOI name. The allocation of DOI names to the objects transpires automatically following successful transmission of the metadata per object to be registered.

In 2013, da|ra began to develop value-added services. These included preparations for the extension of the registration service to other resource types. As social science and economic research produces not only datasets, but also other resource types it was a logical step. da|ra Version 3.0 was therefore expanded for the registration of the resources Collection, Text, Image, Video, Audio and Interactive Resource.

1.2 The Metadata Schema

The da|ra metadata schema is a list of core metadata properties chosen for the identification of data and retrieval purposes. Each DOI name is linked to a set of metadata, a collection of bibliographical and content information, which describe in detail the registered resources (title, author, publication date, copyright etc.) and present the properties of resources, their structure and contextual relations.

The da|ra metadata schema provides a determined number of mandatory elements – core properties –, that have to be submitted by the publication agent at the time of data registration. Publication agents may also choose to use optional properties to identify their data more clearly.

For all metadata properties the respective names, definitions, attributes, conditions, cardinality (maximum occurrence) as well as value domains are defined. Some properties comply with ISO norms. These norms determine e.g., which code for a language or geographic coverage has to be applied. Controlled vocabularies such as thesauri and classifications are applicable. These vocabularies are complemented by da|ra controlled terms.

Although da|ra complies with the official DataCite Metadata Schema, it has broadened the DataCite metadata by adding some specific properties related to the social sciences and economics.

1.3 Version 3.0 Update[1]

The current version 3.0 is based on the version 2.2.1 of the da|ra metadata schema and has been further developed in line with the DataCite metadata schema, Version 3.0, to achieve greater exposure of social and economic research data outputs for all resource types.

Version 3.0 of the da|ra metadata schema introduces some notable changes:

<u>Addition of</u>:

0.1	Resource Type
3	Collective Title*
3.1	Numbering*
18.3	Geographic Location Point
18.4	Geographic Location Box
23.1	Contributor Type
31.3	Name of Metadata Scheme
31.4	URI of Metadata Scheme
31.5	Type of Metadata Scheme

[1] Properties und subproperties marked with a star (*) were applied in Version 2.2.1 for grey literature.

Addition of new values to controlled lists:

0.1	Resource Type: *Audio, Video, Interactive Resource*
17.1	Description Type: *Methods*
23.1	Contributor Type: *DataCollector, DataManager, Distributor, Editor, Funder, HostingInstitution, Producer, ProjectLeader, ProjectManager, ProjectMember, RegistrationAgency, RegistrationAuthority, RelatedPerson, Researcher, ResearchGroup, RightsHolder, Sponsor, Supervisor, WorkPackageLeader, Other*
31.1	Relation Type: *Has Metadata, Is Metadata for, Is identical to*
31.2	Identifier of Type: *ISTC, PMID*

Deletion of:

38	Editor (in Version 3.0 as a Contributor Type, see 23.1)

Renaming of:

0	General Resource Type (Version 2.2.1 - Resource Type)
4	Creator (Version 2.2.1 - Principal Investigator)
23	Contributor (Version 2.2.1 Data Collector)

Documentation:

The documentation of Version 3.0 of da|ra Metadata Schema includes the following changes:

- Provision of greater detail, explanatory material and definitions for controlled lists
- Indication of recommended metadata, in addition to mandatory and optional
- Addition of more and more varied XML examples on the da|ra website
- Removal from documentation of information about administrative metadata (it is not part of the metadata set submitted by the publication agent).

1.4 A Note about da|ra DOI Registration

da|ra obtains the DOI names via the GESIS membership in DataCite. DataCite is accredited as an official DOI registration agency within the DOI foundation (IDF http://www.doi.org).

TIB Hannover acts as a managing agent of DataCite and organizes the control of prefixes and the connection to IDF. The figuration of the suffixes is done by the publication agents and is determined in the Service Level Agreement.

da|ra governs the assignment of DOI names. It functions as the DOI allocation agency and is not commercially oriented. Besides the DOI allocation, da|ra is responsible for the elaboration of the service agreement (Service Level Agreement) together with the publication agents as well as for the administration of metadata. For both the maintenance and the storage of metadata the data centres are responsible.

Ensuring that metadata is persistent does not exclude its modifiability: data producers have the opportunity to amend the metadata whenever and as often as needed.

2 da|ra Metadata Properties

2.1 Overview

The tables below display in a simple manner the mandatory and optional properties of the metadata schema. Chapter 2.3 of this documentation provides more information about these properties. The documentation applies to all resource types. The properties listed in Table 1 *must* be supplied when submitting metadata. The optional properties listed in *Table 2 may* be supplied when submitting metadata.

Table 1: da|ra Mandatory Properties

Nr.	da|ra Property
0	General Resource Type (with optional resource type sub-property)
1	Title (with optional title sub-properties)
4	Creator (with name identifier sub-properties)
5	Publication Agent (with optional attributes)[2]
6	Registration Agency (with attributes)[3]
7	DOI
8	URL
10	Version
12	Publication Date
28	Availability

[2] The details on the publication agent are generated from the user account. It is not part of the metadata set submitted by the publication agent.

[3] The details on the registration agency are generated from the da|ra database. It is not part of the metadata set submitted by the publication agent.

Table 2: da|ra Recommended and Optional Properties

Nr.	da|ra Property
2	Other Titles (with type sub-property)
3	Collective Title (with type sub-property)
9	DOI Proposal
10	Version
11	Language
13	Alternative Identifier (with type sub-property)
14	Classification Internal (with scheme sub-property)
14A	Classification External (with scheme sub-property)
15	Keywords (controlled) (with scheme sub-property)
16	Keywords (free)
17	Description (with type sub-property)
18	Geographic Coverage (with point and box sub-properties)
19	Sampled Universe
20	Sampling
21	Temporal Coverage (with sub-properties)
22	Time Dimension (with sub-properties)
23	Contributor (with type and name identifier sub-properties)
24	Collection Method (controlled)
25	Collection Method (free)
26	Data (with sub-properties)
27	Notes
29	Availability (free)
30	Rights
31	Relation (with type and relation type sub-properties)
32	Publications
38	Publication Place

2.2 Citation

Usage, analysis and publication of research data and research results require information on author,, location and identification of data. Correct and complete citation of a resource can be created using the following properties of the da|ra metadata schema 3.0 (March 2014):

Creator (Publication Date): Title. Publication agent. Identifier

Creator: The citation is limited to the first five names followed by 'et al.'. If an institution (or institutions) is/are provided as creator(s) only, these will be cited.

Publication date: The date refers only to the year of the publication of the resource.

Title: The title and, if applicable further titles of the resource.

Publication agent: The name of the institution/data centre that published the resource.

Identifier: DOI

It may also be desirable to include information (if applicable) from two optional properties, Version and Type of resource. If so, the recommended form is as follows:

Creator (Publication Date): Title. Version. Publication agent. General Resource Type. Identifier

For citation purposes, the Identifier may optionally appear both in its original format and in a linkable http format:

- In (offline-) media the identifier can be marked by a preceded lowercased "doi:" (analogue to protocols like "http:" or "ftp:"), for example "doi:10.4232/1.10770".

However, a respective entry in the address field of the browser will not automatically lead to the online source as browsers as yet do not recognize the protocol "doi" without an additional plug-in. The address is only dissolved properly, if the DOI name is entered into the text field of a DOI resolver service (e.g. at da|ra or DataCite).

- To directly link to the source of the object, the DOI name should therefore either be printed with the URL of the resolver (http://doi.org/doi:10.4232/1.10770) or highlighted with a hyperlink (doi:10.4232/1.10770) to save space.

Examples of data citations

These citation examples describe research data of the resource type "dataset" of da|ra publication agents and demonstrate effective data citation.

- Fahrenberg, Jochen (2010): Freiburger Beschwerdenliste FBL. Primärdaten der Normierungsstichprobe 1993. Version 1.0.0. ZPID - Leibniz-Zentrum für Psychologische Information und Dokumentation. doi:10.5160/psychdata.fgjn05an08.
  http://doi.org/doi: 10.5160/psychdata.fgjn05an08

- Schmitt-Beck, Rüdiger u.a. (2009): Wahlkampf-Panel (GLES). Version 3.0.0. GESIS - Leibniz-Institut für Sozialwissenschaften. doi:10.4232/1.11131. http://doi.org/doi:10.4232/1.11131
- Weßels, Bernhard u.a. (2011): Landtagswahl Berlin 2011 (GLES). Version 1.0.0. GESIS - Leibniz-Institut für Sozialwissenschaften. doi:10.4232/1.11054. http://doi.org/doi:10.4232/1.11054

2.3 da|ra Properties

Table 3 below provides a detailed description of mandatory properties which must be submitted to da|ra by the publication agents. For an example of how to make a submission in XML format, please see the XML examples for all resource types provided on the da|ra website http://www.da-ra.de/en/technical-information/doi-registration/.
Table 4 provides a detailed description of da|ra recommended and optional properties.

The schema file (XSD) for the validation of XML files is available at http://www.da|ra.de/fileadmin/media/da|ra.de/Technik/dara_v3.0_de_en_04032014.xsd. The schema file contains vocabularies used by da|ra.

The third column, Occurrence (Occ), indicates cardinality/quantity constraints for the properties as follows:

0-n =	optional and repeatable
0-1 =	optional, but not repeatable
1-n =	required and repeatable
1 =	required, but not repeatable

Reference:

XML provides a <language>element for description of language-dependent properties, e.g. Title, Sampled Universe, Sampling, Notes, Description, etc.

Allowed are English and German (according to ISO 639-1: en, de).

Table 3: Expanded da|ra Mandatory Properties

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
0	General Resource Type	The general type of a resource.	1	da|ra controlled list. See Appendix 3.1.1 for definition.
0.1	Resource Type	A description of the resource. The format is open, but the preferred format is a single term of some detail so that a pair can be formed with the property "General Resource Type".	0-1	Example: Text/Article; Image/Animation
1	Title	The title of a resource.	1	Example: EVS - European Values Study 1999 - Germany
4	Creator	The name of principal investigator or author. May be a corporate/institutional or a personal name. Either 4.1 or 4.2 or both.	1-n	
4.1	Person	The name of the person (First name, Middle name, Last Name)	1	Example: Heiko Peters Non-Latin types according to ALA/LC (http://www.loc.gov/catdir/cpso/roman.html
4.1.1	Person ID	Unique identifier of the person. May be supplemented by da|ra if not submitted.	0-n	Example: ISNI ID: 5859 1764 (Heiko Peters) Recommended for use.
4.1.1.1	Vocabulary of Person ID	The name of the person ID scheme.	1	Required if 4.1.1 is used. Examples: Virtual International Authority File (VIAF) http://viaf.org/; International Standard Name Identifier (ISNI http://www.isni.org)
4.1.1.2	URI Name Authority Record	The URI of the name identifier scheme.	0-1	http://www.isni.org
4.1.2	Affiliation	The affiliation of the person.	0-1	Example: Institute for Market Research
4.1.2.1	Affiliation ID	Unique Identifier of the affiliation according to various schemes. May be supplemented by da|ra if not submitted	0-n	Example: ID 2014108-7
4.1.2.1.1	Vocabulary Affilia-	The name of the institution	1	Required if 4.1.2.1 is

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
	tion ID	ID scheme.		used. Example: GND (Gemeinsame Normdatei/Universal Authority File)
4.1.2.1.2	URI Institution Authority Record	Persistent identifier of the name of the institution ID scheme.	0-1	Example: http://www.dnb.de/gnd
4.2	Institution	The name of the institution.	1	Example: Institute for Market Research
4.2.1	Institution ID	Unique identifier of the institution according to various schemes. May be supplemented by da|ra if not submitted.	0-n	Recommended for use. Example: ID 2014108-7
4.2.1.1	Vocabulary of Institution ID	The name of the institution ID scheme.	1	Required, if 4.2.1 is applied. Example: GND (Gemeinsame Normdatei/Universal Authority File)
4.2.1.2	URI Institution Authority Record	Persistent identifier of the name of the institution ID scheme.	0-1	Example: http://www.dnb.de/gnd
	Publication Agent	The name of a person/institution responsible for making the resource available in its present form.	1	The details on the publication agent are generated from the user account. It is not part of the metadata record submitted by the publication agent.
6	Registration Agency	Name of the registration agency (da|ra).	1	The details on the registration agency are generated from the da|ra database. It is not part of the metadata record submitted by the Publication Agent.
7	DOI	Unique Digital Object Identifier, consisting of a prefix (allocated by the International DOI foundation within DataCite) and a suffix.	1	Assignment by the Publication Agent and da|ra once a user account has been created.
8	URL	Each DOI name has an URL to which it resolves. (Landing Page)	1-n	Example: http://info1.gesis.org/dbkse-arch13/sdesc2.asp?no=4975&tdb=D

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
10	Version	The version number of the registered resource to which the metadata record refers. It will be generated automatically if not submitted by the Publication Agent.	1	Example: Version 1.0.0
12	Publication Date	The publication date of the resource submitted by the Publication Agent.	1	ISO 8601 format: YYYY or YYYY-MM-DD
28	Availability (controlled)	Conditions governing the access to primary resource.	1	da|ra controlled list; Keywords in combination with traffic light symbols. (see Appendix 3.1.3)

Table 4: Expanded da|ra Recommended and Optional Properties

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
2	Other Titles	Further titles.	0-n	A title in another language, subtitles.
2.1	Title Type	The type of other titles.	0-n	Required, if 2 is used, da|ra controlled list. See Appendix 3.1.2 for definitions.
3	Collective Title	A title of a book series, working paper series, etc.	0-1	Example: Schriftenreihe des Bundesinstituts für Bevölkerungsforschung
3.1	Numbering	Indication of the source: volume count - journal number - page numbers.	0-1	Example: Vol. 2
9	DOI Proposal	The Publication Agent may suggest a DOI name, if an automatically generated DOI name is not required.	0-1	Example: doi:10.1787/unesco-2011
11	Language	The language in which the resource is available at the Publication Agent	0-1	Recommended for use according to ISO 639-2; e. g. eng, ger
13	Alternative Identifier	An identifier other than the primary identifier of the registered resource. This may be an identifier from the information system of the Publication Agent as well as from other information systems.	0-n	Recommended for use. The dataset number or a Handle from Dataverse hdl:1902.5/71M0016XCB_F_1999
13.1	Alternate Identifier Type	The type of the alternative identifier.	1	Required, if 13 is used; da|ra controlled list. See Appendix 3.1.10
14	Classification Internal	Subject class from GESIS-Classification, ZA-Classification and JEL (Journal of Economic Literature) Classification.	0-n	To support the publication agents, three classifications are provided. Example: Demography. Recommended for use.
14.1	Class ID	Unique identifier of the subject class (no notation).	0-1	For each class only one identifier (no use of notations). Example: 10300 (Demography GESIS-Classification) Recommended for use.
14.2	Vocabulary	The name of the applied subject classification system	1	Required, if 14.1 used, Example:

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
				GESIS-Classification
14.3	URI Classification Authority Record[4]	The URI of the subject identifier scheme.	0-1	Example: GESIS-Classification http://www.gesis.org/unserangebot/recherchieren/thesauri-und-klassifikationen/klassifikationsozialwissenschaften/#c28441
14A	Classification External	Subject class from the classification system of the Publication Agent.	0-n	Recommended for use. Example: Social Policy
14A.1	Vocabulary	The name of the applied classification system of the Publication Agent.	1	Required, if 14A is used. Example: SOEP-Classification
15	Keywords (controlled)	Controlled keywords (Thesauri or controlled vocabulary lists) that describe the content of the resource in detail.	0-n	da|ra provides two Thesauri: Thesaurus for the Social Sciences (TheSoz) and Thesaurus for Economics (STW), Example: Agricultural Statistics (STW). Recommended for use.
15.1	Keyword ID	A unique identifier of the keyword.	1	For each keyword one identifier only. Example: 451923902 (STW) Recommended for use.
15.2	Vocabulary of Keyword ID	The name of the applied Thesauri or controlled vocabulary lists.	1	Required, if 15.1 is used, e.g. STW, TheSoz
15.3	URI Keyword Authority Record	Persistent Identifier of the name of the applied Thesauri or controlled vocabulary lists.	0-1	Example: STW - http://zbw.eu/stw/versions/latest/thsys/70012/about
16	Keywords (free)	Free keywords describing the content of the resource.	0-n	Example: health care reform
17	Description	Description of the resource content.	0-n	Recommended for use.
17.1	Description Type	The type of the description.	1	Required, if 17 is used. Controlled da|ra List.

[4] URI Classification Authority Record is not part of the metadata set submitted by the publication agent and is provided by da|ra.

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
				(see Appendix 3.1.4)
18	Geographic Coverage	Generic term for 18.1 and 18.2	0-n	
18.1	Geographic Coverage (controlled)	Spatial region or named place where the data was gathered or on which the data is focused. ISO 3166 (Parts 1, 2 and 3) is commonly accepted International Standard.	0-1	Recommended for use. ISO 3166-2/3. Example: DE / Germany, DE-BY (Bayern)
18.2	Geographic Coverage (free)	Geographic units on which the resource focuses. The option to indicate certain units, in case they cannot be found in the controlled vocabulary list.	0-1	Recommended for use. Example: Northern Germany or FRG without West Berlin Labelling of the next related higher-level standard unit in the linked field 18.1 (e.g. Germany) is required.
18.3	Geographic Location Point	A point location in space.	0-1	Recommended for use. A point contains a single latitude-longitude pair, separated by whitespace. e.g. 31.233000 -67.302000
18.4	Geographic Location Box	The spatial limits of a place.	0-1	Recommended for use. A box contains two white space separated latitude-longitude pairs, with each pair separated by whitespace. The first pair is the lower corner (normally south west), the second is the upper corner (normally north east), e.g. 41.090000 -71.032000 42.893000 -68.211000
19	Sampled Universe	Elementary units about which inferences are to be drawn and to which analytic results refer.	0-1	Example: Adults in Eastern and Western Germany
20	Sampling	The type of the sample and sample design used to select the survey respondents to	0-1	Example: Stratified sample or quota sample.

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
		represent the population.		
21	Temporal Coverage	Generic term for 21.1 und 21.2	0-n	
21.1	Temporal Coverage (controlled)	Temporal coverage refers to a time period during which the data was collected or observations made or to a time period that an activity or collection is linked to intellectually or thematically.	0-1	Calendar function, option to leave the day and /or month open. Example: 1990-10-05 - 1991-10-09; 2002-12; 2005
21.2	Temporal Coverage (free)	Provides the possibility to indicate the temporal coverage, if the calendar mode cannot be applied or as a supplement to 21.1.	0-1	Information on survey waves, seasons, etc. Example: autumn 1989.
22	Time Dimension	Generic term for 22.1-22.3	0-n	
22.1	Time Dimension (controlled)	Describes the time dimension of the data collection.	0-1	da|ra controlled list (see Appendix 3.1.5)
22.2	Time Dimension (free)	Describes the time dimension of the data collection.	0-1	Provides the possibility to describe the time dimension if there are no equivalent terms in the controlled vocabulary.
22.3	Frequency	The time frequency at which data is collected at regular intervals.	0-1	Example: annually
23	Contributor	The person or/and institution responsible for collecting, managing, distributing, or otherwise contributing to the development of the resource.	0-n	Recommended for use. Example: Smith, John Non-Latin types according to ALA/LC
23.1	Contributor Type	The type of contributor of the resource.	1	Required, if 23 is used. da|ra controlled list (see Appendix 3.1.6)
23.2	Contributor ID	Uniquely identifies an individual or legal entity, according to various schemes. May be supplemented by da|ra if not submitted.	0-n	Recommended for use. Example: ISNI 0000 0000 3894 2993 (John Smith)
23.2.1	Vocabulary Contributor ID	The name of the contributor ID scheme.	1	Required, if 23.2 is used. Example: International Standard Name Identifier (ISNI)

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
23.2.2	URI Name Authority Record	The URI of the name of the contributor ID scheme.	0-1	http://www.isni.org
24	Collection mode (controlled)	The method used to collect the data.	0-1	da|ra controlled list (see Appendix 3.1.7)
25	Collection mode (free)	The method used to collect the data	0-1	Possibility to describe the collection mode if there are no appropriate terms in the controlled vocabulary.
26	Dataset	Generic term for 26.1 - 26.9	0-n	
26.1	Type of Units	Describes the entity being analysed or observed in the resource.	1	Required if 26.2 is used; da|ra controlled list (see Appendix 3.1.8)
26.2	Number of Units	The number of units being analysed or observed in the resource.	0-1	Example: 3759
26.3	Number of Variables	The number of variables used in the resource.	0-1	Example: 210
26.4	Type of Data	The type of collected data	0-1	Example: aggregated data, clinical data
26.5	File Name	The name of the file of the resource to which the respective fingerprint (see 26.8) refers (if necessary indicating the name of the directory).	0-n	An identified object can contain multiple files with related separated fingerprints. Allocation via file name: e.g. brpr91os99_pd.txt
26.6	File Format	The technical format of the data file.	0-n	Example: STATA, SPSS, SAS, CSV, TXT
26.7	Size	Size information on the data file.	0-n	Recommended for use. Example: 5 MB
26.8	Data Fingerprint	The checksum which confirms the authenticity of the file.	0-n	Recommended for use. Example: 00994e0caa89bc6bf394c12d9a2e72e6
26.9	Method Fingerprint	Technical procedure generating data fingerprints (if necessary indicating the name of the directory).	0-n	Recommended for use. Example: MD5
27	Notes	References to further relevant information on a resource.	0-1	Example: number of cases per geographic unit, etc.
29	Availability (free)	Additional specification of	0-1	Example:

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
		data availability.		Data usage is subject to written data privacy agreement.
30	Rights	Any rights information for the resource.	0-1	Example: Copyright
31	Relation	Identifier of related resources.	0-n	Example: urn:nbn:de:bsz:21-opus-2971
31.1	Kind of Relation	The relationship of the resource being registered and the related resource.	1	Required, if 31 is used, da|ra controlled list (see Appendix 3.1.9)
31.2	Identifier Type	The type of the related identifier.	1	Required, if 31.1 is used. da|ra controlled list (see Appendix 3.1.10)
31.3	Name of Metadata Scheme	The name of Metadata Scheme.	0-1	Use only with this relation pair: HasMetadata/IsMetadataFor
31.4	URI of Metadata Scheme	The URI of the related Metadata Scheme.	0-1	Use only with this relation pair: HasMetadata/IsMetadataFor
31.5	Type of Metadata Scheme	The type of the related Metadata Scheme, linked with the schemeURI.	0-1	Use only with this relation pair: HasMetadata/IsMetadataFor Examples: XSD, DDT, Turtle
32	Publications	Scientific publications relating to the registered resource in terms of content.	0-n	
32.1	Structured recording of publications	Structured recording of publications relating to the registered resource in terms of content.	0-n	
32.1.1	Author	The name of the author(s) or of the editor(s).	0-n	Example: Peter Karl Wellenberg Non-Latin types according to ALA/LC Either the author or the editor name has to be submitted.
32.1.2	Editor	The name of the institution(s) or person(s).	0-n	Either the author or the editor name has to be submitted.
32.1.3	Title	The title of the publication.	1	Example: East Germans and West Germans in the mirror of three questionnaire tests.

Nr.	da|ra Property	Definition	Occ	Examples, allowed values, other constraints
32.1.4	Year	The year of publication.	0-1	2004
32.1.5	Publisher	The name of the publisher.	0-1	Springer
32.1.6	Publication Place	The place of publication.	0-n	Heidelberg, Berlin
32.1.7	Journal/Series	The name of the journal/series.	0-1	The European Journal of Social Science Research
32.1.8	Volume	The volume of the journal/series.	0-1	3
32.1.9	Issue	The issue of the journal/series.	0-1	Jg. 3-4
32.1.10	Anthology	The name of the anthology.	0-1	Example: in: Jahrbuch für Wirtschaftsgeschichte
32.1.11	Page	The number of pages.	0-1	258 p. or pp.135-167
32.1.12	ISBN	International Standard Book Number	0-1	978-3-8329-0905-5
32.1.13	ISSN	International Standard Serial Number	0-1	10131-469 (print) 10131-470 (online)
32.1.14	Document Type	The type of the publication.	0-1	da|ra controlled list (see Appendix 3.1.11)
32.1.15	sowiport ID	The internal sowiport identifier used to import and display literature metadata from SOLIS, SSOAR, etc. May be supplemented by da|ra if applicable.	0-1	The internal element in da|ra, repeatable in line with the complex 32.
32.1.16	PID	Further Persistent Identifier related to the publication.	0-n	Example: DOI, URN, Handle, PURL
32.1.16.1	Identifier Type	The type of a further Persistent Identifier.	1	Required, if 32.1.16 is applied. da|ra controlled list (see Appendix 3.1.10)
32.2	Unstructured Recording of Publication	Unstructured bibliographic information	0-n	
32.2.1	PID	Further Persistent Identifier related to publications	0-n	Example: DOI, URN, Handle, PURL
32.2.1.1	Identifier Type	The type of a further Persistent Identifier	1	Required, if 32.2.1 is used. da|ra controlled list (see Appendix 3.1.10)
38	Publication Place	Place of Publication	0-n	Applies only to General Resource Type: Text

2.4 XML Example

Examples for various resource types can be found at:
http://www.da-ra.de/en/technical-information/doi-registration/

2.5 XSD Schema

The XML Schema is available here:
http://www.da-ra.de/en/technical-information/doi-registration/
doi: 10.4232/10.mdsxsd.3.0
Note that the schema and this documentation will always have the same version number.

2.6 Other da|ra Services

For information about other da|ra services that pertain to da|ra metadata records, including the Metadata Upload, the da|ra web service (API), Metadata Search and the Service Level Agreement (SLA), please visit da|ra homepage at http://www.da-ra.de.

3 Appendices

3.1 Appendix 1: da|ra Controlled Vocabulary Definitions

3.1.1 General Resource Type

Identifier	Type	Definition[5]
1	Collection	An aggregation of resources of various types. If a collection exists of a single type, use the single type to describe it.
2	Dataset	Data encoded in a defined structure. Structured information encoded in lists, tables, databases, etc., which will normally be in a format available for direct machine processing. Unstructured numbers and words are usually registered as text.
3	Text	A resource consisting primarily of words for reading. Note that facsimiles or images of texts are still of the genre text.
4	Video	The recording, reproducing, or broadcasting of moving visual images.
5	Image	A visual representation other than text. Note that facsimiles or images of texts are still of the genre text.
6	Audio	A resource whose content is primarily audio or intended to be realized in audio.
7	Interactive Resource	A resource requiring interaction from the user to be understood, executed, or experienced.

3.1.2 Title Type

Identifier	Type	Definition[6]
1	Alternative Title	An alternative identifying name given to the resource.
2	Translated Title	The translation of the title into another language.
3	Subtitle	A secondary, usually explanatory title of the resource.
4	Original Title	A former title, if there was a change of title.

[5] da|ra General Resource Type definitions have been borrowed from the DCMI Type Vocabulary. See: http://dublincore.org/documents/dcmi-terms/#H7

[6] Definitions originate from the Oxford English Dictionary http://www.oxforddictionaries.com/

3.1.3 Availability controlled

Identifier	Type	Definition
1	Download	Data and documents are released for everybody.
2	Delivery	Data and documents can be delivered.
3	On-site	Data and documents can be used on-site only.
4	Not available	Data and documents are not available.
5	Unknown	No information is provided.

3.1.4 Description Type

Identifier	Type	Definition[7]
1	Abstract	A brief description of the resource and the context in which the resource was created.
2	SeriesInformation	Information about a repeating series, such as volume, issue, number, pages.
3	TableOfContents	A listing of a table of Contents.
4	Methods	The technology methodology employed for the study or research.
5	Other	Other description information that does not fit into an existing category.

3.1.5 Time Dimension

Identifier	Descriptor	Definition[8]
1	Longitudinal	Data collected repeatedly over time to study change in a population.
2	Longitudinal.CohortEventBased	Data collected over time about a group of individuals that are connected in some way or have shared some significant experience within a given period. Examples: birth, disease, education, employment, family formation, participation in an event.
3	Longitudinal.TrendRepeatedCrossSection	Studies different samples/different groups of people from the same population at several points in time, using the same set of questions/variables. Conclusions are drawn for the population. Examples: public opinion polls,

7 da|ra definitions of Description Type have been borrowed from the DataCite Metadata Schema descriptions. See: http://schema.datacite.org/meta/kernel-3/doc/DataCite-MetadataKernel_v3.0.pdf(last updated January, 2014)

8 da|ra definitions of Time Dimension have been borrowed from the DDI Controlled Vocabulary for Time Method. See: http://www.ddialliance.org/Specification/DDI-CV/TimeMethod_1.1.html

		elections studies, etc.
4	Longitudinal.Panel	Data collected over time from, or about, the same sample of respondents.
5	Longitudinal.Panel.Continuous	Reports from the panel are collected on a regular basis.
6	Longitudinal: Panel: Interval	Measurements are taken only when information is needed.
7	Time Series	Data collected repeatedly over time to study change in observations. These are typically "objective" measurements of phenomena that can be observed externally, as opposed to attitudes/opinions or feelings. Examples may include economic/financial indicators, natural/meteorological phenomena, vital statistics, etc.
8	TimeSeries: Continuous	Phenomena are measured at every instant in time. Examples: lie detectors, electrocardiograms, etc.
9	TimeSeries: Discrete	Measurements are taken at (usually regularly) spaced intervals. Examples: macroeconomics (weekly share prices, monthly profits, sales); meteorology (hourly temperature); measurements of individuals (blood pressure, weight, height); sociology (crime figures, employment figures), etc.
10	Cross-section	Data about a population are obtained only once.
11	Cross-section ad-hoc follow-up	Data collected at one point in time to complete information collected in a previous cross-sectional study; the decision to collect follow-up data is not included in the study design.
12	Other	Use if the time method is known, but not found in the list.

3.1.6 Contributor Type

Identifier	Type	Definition[9]
1	ContactPerson	Person with knowledge of how to access, troubleshoot, or otherwise field issues related to the resource.
2	DataCollector	Person/institution responsible for finding, gathering/collecting data under the guidelines of the author(s) or Principal Investigator (PI).
3	DataManager	Person (or organization with a staff of data managers, such as a data center) responsible for maintaining the finished resource.
4	Distributor	Institution tasked with responsibility to generate/disseminate copies of the resource in either electronic or print form.
5	Editor	A person who oversees the details related to the publication format of the resource.
6	Funder	Institution that provided financial support for the development of the resource.
7	HostingInstitution	Typically, the organization allowing the resource to be available on the Internet through the provision of its hardware/software/operating support.
8	Producer	Typically a person or organization responsible for the artistry and form of a media product.
9	ProjectLeader	Person officially designated as head of project team or subproject team instrumental in the work necessary to development of the resource.
10	ProjectManager	Person officially designated as manager of a project. Project may consist of one or many project teams and sub-teams.
11	ProjectMember	Person on the membership list of a designated project/project team.
12	RegistrationAgency	Institution/organization officially appointed by a Registration Authority to handle specific tasks within a defined area of responsibility.
13	RegistrationAuthority	A standards-setting body from which Registration Agencies obtain official recognition and guidance.
14	RelatedPerson	A person without a specifically defined role in the development of the resource, but who is someone the author wishes to recognize.
15	Researcher	A person involved in analyzing data or the results of an experiment or formal study. May indicate an intern or assistant to one of the authors who helped with research but who was not so "key" as to be listed as an author.
16	ResearchGroup	Typically refers to a group of individuals with a lab, department, or division; the group has a particular, defined focus

[9] da|ra definitions of Contributor Type have been borrowed from the DataCite Metadata Schema descriptions. See: http://schema.datacite.org/meta/kernel-3/doc/DataCite-MetadataKernel_v3.0.pdf (last updated January, 2014)

		of activity.
17	RightsHolder	Person or institution owning or managing property rights, including intellectual property rights over the resource.
18	Sponsor	Person or organization that issued a contract or under the auspices of which a work has been written, printed, published, developed, etc.
19	Supervisor	Designated administrator over one or more groups/teams working to produce a resource or over one or more steps of a development process.
20	WorkPackageLeader	A Work Package is a recognized data product, not all of which is included in publication. The package, instead, may include notes, discarded documents, etc. The Work Package Leader is responsible for ensuring the comprehensive contents, versioning, and availability of the Work Package during the development of the resource.
21	Other	Any person or institution making a significant contribution to the development and/or maintenance of the resource, but whose contribution does not "fit" other controlled vocabulary for contributorType.

3.1.7 Collection Mode

Identifier	Descriptor	Definition[10]
1	Interview	The purpose of a research interview is to collect information to be used in the answering of a research question.
2	Interview: Face-to-face	An interview in which an interviewer and a respondent are in a direct face-to-face interaction.
3	Interview: Telephone	An interview in which an interviewer and a respondent communicate per telephone.
4	Interview: E-mail	A method of data collection that consists of sending questionnaire to a respondent by email.
5	Interview: CATI	Computer Assisted Telephone Interviewing
6	Interview: CAPI	Computer Assisted Personal Interviewing
7	Self-completed questionnaire	Self-completed questionnaires are surveys that respondents complete for themselves.
8	Self-completed questionnaire: Paper/pencil	Questionnaire handed directly to the respondent who completes it on the spot and hands it back.
9	Self-completed questionnaire: Web-based	Questionnaires completed on the Web.

[10] da|ra descriptions of Collection Mode correspond to the descriptions of the Standard Dictionary of the Social Sciences: Wolfgang J. Koschnick. München, London, New York, Paris 1992.

10	Self-completed questionnaire: CASI	Computer assisted self-interviewing (CASI) is a technique for survey data collection in which the respondent uses a computer to complete the survey questionnaire without an interviewer administering it to the respondent.
11	Self-completed questionnaire: ACASI	ACASI is designed as a self-administered questionnaire on a computer. The computer displays the text of each question and its answer alternatives while presenting a pre-recorded interviewer's voice, which reads these to the respondent, who listens privately through headphones. Respondents answer by touching the appropriate response option on the computer monitor.
12	Coding	Coding refers to an analytical process in which data, in both quantitative form (such as questionnaires results) and qualitative (such as interview transcripts) are categorised to facilitate analysis.
13	Transcription	Transcription is a specific kind of data entry that means turning oral language into written form. This means listening to an audio or video recording (or possibly live speech in realtime transcription) and then typing it as a written transcript.
14	Compilation	The raw data must be compiled so that the taxonomic analysis can be performed and data can be broken up into respective parts and segments.
15	Synthesis	The combination of elements into a whole.
16	Recording	Recordings of respondents' or test persons' answers or responses.
17	Simulation	Simulation involves creation of an artificial situation similar to the actual life situation.
18	Observation	Observational studies attempt to understand cause-and-effect relationships.
19	Observation: Field	Field observations are a method where people are observed in 'real' locations and situations, such as workplaces, homes, etc.
20	Observation: Laboratory	Laboratory observation means observing the individual (s) in a laboratory setting, paying close attention to his/her reaction or behavior.
21	Observation: Participant	A research technique designed to collect information within a non-laboratory context that is at least partially determined by the observer's presence.
22	Experiments	An experiment is a controlled study in which the researcher attempts to understand cause-and-effect relationships. The study is "con-

		trolled" in the sense that the researcher controls (1) how subjects are assigned to groups and (2) which treatments each group receives.
23	Focus Group	A special type of group in terms of purpose, size, composition, and procedures. A focus group is typically composed of seven to twelve participants who are unfamiliar with each other and conducted by a trained interviewer. These participants are selected because they have certain characteristics in common that relate to the topic of the focus group.
24	Other	Use if the collection mode is known, but not found in the list.

3.1.8 Type of Units

Identifier	Type	Definition[11]
1	Individual	Any individual person, irrespective of demographic characteristics, professional, social or legal status, or affiliation.
2	Organization	Any kind of formal administrative and functional structure - includes associations, institutions, agencies, businesses, political parties, schools, etc.
3	Family	Two or more people related by blood, marriage (including step-relations), adoption or fostering and who may or may not live together. For example, used when researching the extent to which people provide support and assistance for their relatives.
4	Family: Household family	A more specific term, refers only to related people who live in the same household at a point in time. If not known whether the analysis unit is "Family" or "Household family", use "Family".
5	Household	A person or a group of persons who share the same dwelling unit and common living arrangements. These common living arrangements may include pooling some, or all, of their income and wealth, and consuming certain types of goods and services collectively, mainly housing and food.
6	Housing Unit	A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters.

[11] da|ra definitions of Type of Units have been borrowed from DDI Controlled Vocabulary for Analyses Unit http://www.ddialliance.org/Specification/DDI-CV/AnalysisUnit_1.0.0.html

7	Event/Process	Any type of incident, occurrence, or activity. Events are usually one-time, individual occurrences, with a limited or short duration. Examples: criminal offenses, riots, meetings, elections, sports competitions, terrorist attacks, natural disasters like floods, etc. Processes typically take place over time, and may include multiple "events" or gradual changes that ultimately lead, or are projected to lead, to a particular result. Examples: court trials, criminal investigations, political campaigns, medical treatments, education, athletes' training, etc.
8	Geographic Unit	Any entity that can be spatially defined as a geographic area, with either natural (physical) or administrative boundaries.
9	Time Unit	Any period of time: year, week, month, day, or bimonthly or quarterly periods, etc.
10	Text Unit	Books, articles, any written piece/entity.
11	Group	Two or more individuals assembled together or having some unifying relationship.
12	Object	Anything material, but inanimate, that has an independent existence and may be perceived by the senses. Examples: objects of art (paintings, sculptures, etc.) or weapons, or vehicles, etc.
13	Other	Use if the unit of analysis is known, but not found in the list.

3.1.9 Kind of Relation

Identifier	Type	Definition[12]
1	IsCitedBy	indicates that B includes A in a citation
2	Cites	indicates that A includes B in a citation
3	IsSupplementedTo	indicates that A is a supplement to B
4	IsSupplementedBy	indicates that B is a supplement to A
5	IsContinuedBy	indicates that A is continued by the work B
6	Continues	indicates A is a continuation of the work B
7	IsNewVersionOf	indicates A is a new edition of B, where the new edition has been modified or updates
8	IsPreviousVersionOf	indicates A is a previous edition of B
9	IsPartOf	indicates A is a portion of B; may be used for elements of a series
10	HasPart	indicates A includes the part B

[12] da|ra definitions of Kind of Relation have been borrowed from the DataCite Metadata Schema descriptions. See: http://schema.datacite.org/meta/kernel-3/doc/DataCite-MetadataKernel_v3.0.pdf (last updated January, 2014)

11	IsReferencedBy	indicates A is used as a source of information by B
12	References	indicates B is used as a source of information for A
13	IsDocumentedBy	indicates B is documentation about/explaining A
14	Documents	indicates A is documentation about/explaining B
15	isCompiledBy	indicates B is used to compile or create A
16	Compiles	indicates B is the result of a compile or creation event using A
17	IsVariantFormOf	indicates A is a variant or different form of B, e.g. calculated or calibrated form or different packaging
18	IsOriginalFormOf	indicates A is the original form of B
19	HasMetadata	indicates A relates to an external file of additional metadata B
20	IsMetadataFor	indicates A is additional metadata for a work or re-source B
21	IsIdenticalTo	indicates that A is identical to B, for use when there is a need to register two separate instances of the same resource

3.1.10 Identifier Type

Type	Definition[13]
ARK	Archival Resource Key; URL designed to support long-term access to information objects. In general, ARK syntax is of the form (brackets indicates [optional] elements: [http//NMA/Jark:/NAAN/Name/Qualifier]
DOI	Digital Object Identifier; a character string used to uniquely identify an object. A DOI name is divided into two parts, a prefix and a suffix, separated by a slash.
EAN13	European Article Number, now renamed International Article Number, is a 13-digit barcoding standard which is a superset of the original 12-digit Universal Product Code (UPC) system.
EISSN	Electronic International Standard Serial Number; ISSN used to identify periodicals in an electronic form (eISSN or e-ISSN).
Handle	A handle is an abstract reference to a resource.
ISBN	International Standard Book Number; a unique numeric book identifier. There are two formats: a 10-digit ISBN format and a 13-digit ISBN.
ISSN	International Standard Serial Number; a unique 8-digit number used to identify a print or electronic periodical publication.
ISTC	International Standard Text Code; a unique number assigned to a textual work. An

[13] da|ra definitions of Identifier Type have been borrowed from the DataCite Metadata Schema descriptions. See: http://schema.datacite.org/meta/kernel-3/doc/DataCite-MetadataKernel_v3.0.pdf (last updated January, 2014)

	ISTC consists of 16 numbers and/or letters.
LISSN	The linking ISSN of ISSN-L enables collocation or linking among different media versions of a continuing resource.
LISD	Life Science Identifiers;a unique identifier for data in the Life Science domain. Format: urn:lsid:authority:namespace:identifier:revision
PMID	PubMed identifier; a unique number assigned to each PubMed record.
PURL	Persistent Uniform Resource Locator. A PURL has three parts: (1) a protocol, (2) a resolver address, and (3) a name.
UPC	Universal Product Code is a barcode symbology used for tracking trade items in stores. Its most common form, the UPC-A, consists of 12 numerical digits.
URL	Uniform Resource Locator, also known as web address, is a specific character string that constitutes a reference to a resource. The syntax is: scheme://domain:port/path?query_string#fragment_id.
URN	Uniform Resource Name; is a unique and persistent Identifier of an electronic document. The syntax is: urn:<NID>:<NSS> The leading **urn:** sequence is case-intensive, **<NID>** is the namespace identifier, **<NSS>** is the namespace-specific string.

3.1.11 Document Type

Identifier	Type	Definition[14]
1	Working Paper	A preliminary scientific or technical paper released for input and critique (most often grey literature).
2	Article	A nonfictional literary composition that forms an independent part of a publication e. g. in a journal or magazine.
3	Report	A written account of something that one has observed, heard, done, or investigated and that is prepared on ad hoc, periodic, recurring, regular, or as required basis.
4	Book/Monograph	A set of written, printed, illustrated or blank sheets that conjoin into one literary work. A monograph is a non-serial publication on a single subject or an aspect of a subject, usually by a single author.
5	Manuscript	A book, document, or other composition written by hand as well as text submitted to the publisher or printer in preparation for publication, regardless of the format.
6	Reference Book	A book, such as a dictionary or encyclopaedia, to which one can refer for authoritative information and intended primarily for consultation rather than for consecutive reading.
7	Review	An evaluation of e. g. a publication, theory or synthesis of research on a topic at that moment in time.
8	Series	A (regularly) sequence of publications like books or journal articles that have (roughly) the same subject.

[14] Definitions originate from the Oxford English Dictionary http://www.oxforddictionaries.com/.

9	Journal	Newspaper or magazine that deals with a particular subject or professional activity and that is issued in a regular cycle.
10	Newspaper	A printed publication (usually issued daily or weekly) consisting of folded unstapled sheets and containing news, articles, advertisements and correspondence.

3.2 Appendix 2: Mappings

3.2.1 da|ra version 2.2.1 to da|ra version 3.0

No.	Property (da|ra 2.2.1)	XSD-element (da|ra 2.2.1)	No.	Property (da|ra 3.0)	XSD-element (da|ra 3.0)
0	Resource Type	resourceType	0	General Resource Type	resourceType
1	Title	titleName	1	Title	titleName
2	Other Titles	titleName	2	Other Titles	titleName
2.1	Title Type	titleType	2.1	Title Type	titleType
3	Collective Title	titleName	3	Collective Title	collectiveTitle
3.1	Numbering	numbering	3.1	Numbering	numbering
4	Principal Investigator	principalInvestigator	4	Creator	creator
4.1	Person (First Name, Middle Name, Last Name)	person (firstName, middleName, lastName)	4.1	Person (First Name, Middle Name, Last Name)	person (firstName, middleName, lastName)
4.1.1	Person ID	identifier	4.1.1	Person ID	identifier
4.1.1.1	Vocabulary of Person ID	identifierSchema	4.1.1.1	Vocabulary of Person ID	identifierSchema
4.1.1.2	URI Name Authority Record	schemaURI	4.1.1.2	URI Name Authority Record	schemaURI
4.1.2	Affiliation	name	4.1.2	Affiliation	name
4.1.2.1	Affiliation ID	identifier	4.1.2.1	Affiliation ID	identifier
4.1.2.2	Vocabulary Affiliation ID	identifierSchema	4.1.2.1.1	Vocabulary Affiliation ID	identifierSchema
4.1.2.3	URI Vocabulary Affiliation ID	schemaURI	4.1.2.1.2	URI Institution Authority Record	schemaURI
4.2	Institution	name	4.2	Institution	name
4.2.1	Institution ID	identifier	4.2.1	Institution ID	identifier
4.2.2	Vocabulary of Institution ID	identifierSchema	4.2.1.1	Vocabulary of Institution ID	identifierSchema
4.2.3	URI Institution Authority Record	schemaURI	4.2.1.2	URI Institution Authority Record	schemaURI
5	Publication Agent	-	5	Publication Agent	-
6	Registration Agency	-	6	Registration Agency	-
6.1	Homepage Registration Agency	-	6.1	Homepage Registration Agency	-
6.2	Contact Registration Agency	-	6.2	Contact Registration Agency	-
6.3	E-Mail Registration Agency	-	6.3	E-Mail Registration Agency	-

No.	Property (da|ra 2.2.1)	XSD-element (da|ra 2.2.1)	No.	Property (da|ra 3.0)	XSD-element (da|ra 3.0)
6.4	Registration Agency ID	-	**6.4**	Registration Agency ID	-
7	DOI	-	**7**	DOI	-
8	URL	dataURL	**8**	URL	dataURL
9	DOI Proposal	doiProposal	**9**	DOI Proposal	doiProposal
10	Version	currentVersion	**10**	Version	currentVersion
11	Language	resourceLanguage	**11**	Language	resourceLanguage
12	Publication Date	publicationDate	**12**	Publication Date	publicationDate
13	Alternative Identifier	identifier	**13**	Alternative Identifier	identifier
13.1	Alternate Identifier Type	type	**13.1**	Alternate Identifier Type	type
14	Classification Internal	classificationInternal	**14**	Classification Internal	clssificationInternal
14.1	Class ID	identifier	**14.1**	Class ID	identifier
14.2	Vocabulary	schema	**14.2**	Vocabulary	schema
14.3	URI Classification Authority Record	-	**14.3**	URI Classification Authority Record	-
14.A	Classification External	term	**14.A**	Classification External	term
14.A.1	Vocabulary	schema	**14.A.1**	Vocabulary	schema
15	Keywords (controlled)	controlledKeyword	**15**	Keywords (controlled)	controlledKeyword
15.1	Keyword ID	identifier	**15.1**	Keyword ID	identifier
15.2	Vocabulary of Keyword ID	schema	**15.2**	Vocabulary of Keyword ID	schema
15.3	URI Keyword Authority Record	-	**15.3**	URI Keyword Authority Record	-
16	Keywords (free)	keyword	**16**	Keywords (free)	keyword
17	Description	freetext	**17**	Description	freetext
17.1	Description Type	type	**17.1**	Description Type	type
18	Geographic Coverage	geographicCoverage	**18**	Geographic Coverage	geographicCoverage
18.1	Geographic Coverage (controlled)	geographicCoverageControlled	**18.1**	Geographic Coverage (controlled)	geographicCoverageControlled
18.2	Geographic Coverage (free)	freetext	**18.2**	Geographic Coverage (free)	freetext
19	Sampled Universe	sampled	**19**	Sampled Universe	sampled
20	Sampling	method	**20**	Sampling	method
21	Temporal Coverage	temporalCoverage	**21**	Temporal Coverage	temporalCoverage
21.1	Temporal Cover-	startDate/date||	**21.1**	Temporal Cover-	startDate/date||

No.	Property (da|ra 2.2.1)	XSD-element (da|ra 2.2.1)	No.	Property (da|ra 3.0)	XSD-element (da|ra 3.0)
	age (controlled)	monthyear|| year &&|| endDate/date|| monthyear|| year		age (controlled)	monthyear|| year &&|| endDate/date|| monthyear|| year |
21.2	Temporal Coverage (free)	temporalCoverageFree	**21.2**	Temporal Coverage (free)	temporalCoverageFree
22	Time Dimension	timeDimension	**22**	Time Dimension	timeDimension
22.1	Time Dimension (controlled)	timeDimensionControlled	**22.1**	Time Dimension (controlled)	timeDimensionControlled
22.2	Time Dimension (free)	timeDimensionFree	**22.2**	Time Dimension (free)	timeDimensionFree
22.3	Frequency	frequency	**22.3**	Frequency	frequency
23	Data Collector	person/firstName|| middleName|| lastName || institutionName/name	**23**	Contributor	person/firstName|| middleName|| lastName || institutionName/name
23.1	Data Collector ID	identifier	**23.2**	Contributor ID	identifier
23.2	Vocabulary of Data Collector ID	identifierSchema	**23.2.1**	Vocabulary of Contributor ID	identifierSchema
23.3	URI Name Authority Record	schemaURI	**23.2.2**	URI Name Authority Record	schemaURI
24	Collection Mode (controlled)	collectionModeControlled	**24**	Collection Mode (controlled)	collectionModeControlled
25	Collection Mode (free)	modeFree	**25**	Collection Mode (free)	modeFree
26	Dataset	dataSet	**26**	Dataset	dataSet
26.1	Type of Units	unitType	**26.1**	Type of Units	unitType
26.2	Number of Units	numberUnits	**26.2**	Number of Units	numberUnits
26.3	Number of Variables	numberVariables	**26.3**	Number of Variables	numberVariables
26.4	Type of Data	dataType	**26.4**	Type of Data	dataType
27	Technical Description of the Data	file	**-**	-	-
27.1	File Name	name	**26.5**	File Name	name
27.2	File Format	format	**26.6**	File Format	format
27.3	Size	size	**26.7**	Size	size
27.4	Data Fingerprint	fingerprint	**26.8**	Data Fingerprint	fingerprint
27.5	Method Fingerprint	fingerprintMethod	**26.9**	Method Fingerprint	fingerprintMethod
28	Notes	text	**27**	Notes	text
29	Availability (controlled)	availabilityControlled	**28**	Availability (controlled)	availabilityControlled

No.	Property (da|ra 2.2.1)	XSD-element (da|ra 2.2.1)	No.	Property (da|ra 3.0)	XSD-element (da|ra 3.0)
30	Availability (free)	availabilityText	**29**	Availability (free)	availabilityText
31	Rights	rightsText	**30**	Rights	rightsText
32	Relation	identifier	**31**	Relation	identifier
32.1	Kind of Relation	relationType	**31.1**	Kind of Relation	relationType
32.2	Identifier Type	identifierType	**31.2**	Identifier Type	identifierType
33	Publications	publication	**32**	Publications	publication
33.1	Structured Recording of Publication	structuredPublication	**32.1**	Structured Recording of Publication	structuredPubli-cation
33.1.1	Author	author/firstName|| middleName|| lastName	**32.1.1**	Author	au-thor/firstName|| middleName|| lastName
33.1.2	Editor	name	**32.1.2**	Editor	name
33.1.3	Title	title	**32.1.3**	Title	title
33.1.4	Year	year	**32.1.4**	Year	year
33.1.5	Publisher	publisher	**32.1.5**	Publisher	publisher
33.1.6	Publication Place	places	**32.1.6**	Publication Place	places
33.1.7	Journal/Series	journal	**32.1.7**	Journal/Series	journal
33.1.8	Volume	volume	**32.1.8**	Volume	volume
33.1.9	Issue	issue	**32.1.9**	Issue	issue
33.1.10	Anthology	anthology	**32.1.10**	Anthology	anthology
33.1.11	Pages	pages	**32.1.11**	Pages	pages
33.1.12	ISBN	isbn	**32.1.12**	ISBN	isbn
33.1.13	ISSN	issn	**32.1.13**	ISSN	issn
33.1.14	Document Type	doctype	**32.1.14**	Document Type	doctype
33.1.15	sowiport ID[15]	sowiportID	**32.1.15**	sowiport ID	sowiportID
33.1.16	PID	ID	**32.1.16**	PID	ID
33.1.16.1	Identifier Type	pidType	**32.1.16.1**	PID Type	pidType
33.2	Unstructured Recording of Publication	freetext	**32.2**	Unstructured Recording of Publication	freetext
33.2.1	PID	ID	**32.2.1**	PID	ID
33.2.1.1	Identifier Type	pidType	**32.2.1.1**	Identifier Type	pidType
38	Editor	name/firstName|| mid-dleName|| lastName	**23.1**	Contributor Type: Editor	per-son/firstName|| middleName|| lastName || institution-Name/name

[15] The internal Identifier of the publication available at the social science portal sowiport.

No.	Property (da|ra 2.2.1)	XSD-element (da|ra 2.2.1)	No.	Property (da|ra 3.0)	XSD-element (da|ra 3.0)
38.1	Editor ID	identifier	**23.2**	Contributor ID	identifier
38.1.1	Vocabulary of Editor ID	identifierSchema	**23.2.1**	Vocabulary of Contributor ID	identifierSchema
38.1.2	URI Authority Dataset	schemaURI	**23.2.2**	URI Name Authority Record	schemaURI
39	Publication Place	glPlace	**38**	Publication Place	glPlace

3.2.2 da|ra version 3.0 to DataCite version 3.0

No.	XSD-element (da|ra 3.0)	No.	DataCite 3.0
0	resourceType	10.1	resourceTypeGeneral
0.1	typeName	10	ResourceType
1	titleName	3	Title
2	titleName	3	Title
2.1	titleType	3.1	titleType
3	titleName	17	Description (description-Type:Seriesinformation 17.1)
3.1	numbering	17	Description (descriptionType: Seriesin-formation 17.1)
4	creator	2	Creator
4.1	firstName, middleName, lastName	2.1	creatorName
4.1.1	identifier	2.2	nameIdentifier
4.1.1.1	identifierSchema	2.2.1	nameIdentifierScheme
4.1.1.2	schemaURI	2.2.2	schemeURI
4.1.2	name	-	-
4.1.2.1	identifier	-	-
4.1.2.1.1	identifierSchema	-	-
4.1.2.1.2	schemaURI	-	-
4.2	name	2.1	creatorName
4.2.1	identifier	2.2	nameIdentifier
4.2.1.1	identifierSchema	2.2.1	nameIdentifierScheme
4.2.1.2	schemaURI	2.2.2	schemeURI
5	-	4	Publisher
6	-	7 7.2 7.1	Contributor contributorType/contributorName
7	-	1 1.1	Identifier identifierType
8	dataURL	-	-
9	doiProposal	-	-
10	currentVersion	15	Version
11	resourceLanguage	9	Language
12	publicationDate/date|| monthyear|| year	5	PublicationYear
13	identifier	11	AlternateIdentifier
13.1	type	11.1	alternateIdentifierType
14	classificationInternal	6	Subject
14.1	identifier	6.1	subjectSchema
14.2	schema	6.1	subjectSchema
14.3	-	6.2	schemeURI
14A	term	6	Subject
14A.1	schema	6.1	subjectSchema

No.	XSD-element (da|ra 3.0)	No.	DataCite 3.0
15	controlledKeyword	6	Subject
15.1	identifier	6.1	subjectSchema
15.2	schema	6.1	subjectSchema
15.3	-	6.2	schemeURI
16	keyword	6	Subject
17	freetext	17	Description
17.1	type	17.1	descriptionType
18	geographicCoverage	-	-
18.1	geographicCoverageControlled	18	GeoLocation
18.2	freetext	18	GeoLocation
18.3	geoLocationPoint	18.1	geoLocationPoint
18.4	geoLocationBox	18.2	geoLocationBox
19	sampled	17	Description (descriptionType:methods 17.1)
20	method	17	Description (descriptionType:methods 17.1)
21	temporalCoverage	-	-
21.1	startDate/date|| monthyear|| year &&|| endDate/date|| monthyear|| year	8	Date (dateType 8.1 -collected)
21.2	temporalCoverageFree	8	Date (dateType 8.1 -collected)
22	timeDimension	-	-
22.1	timeDimensionControlled	-	-
22.2	timeDimensionFree	-	-
22.3	frequency	-	-
23	person/firstName|| middleName|| lastName &&|| institutionName/name	7.2	contributorName
23.1	contributorType	7.1	contributorType
23.2	identifier	7.3	nameIdentifier
23.2.1	identifierSchema	7.3.1	nameIdentifierScheme
23.2.2	schemaURI	7.3.2	schemeURI
24	collectionModeControlled	17	Description (descriptionType:methods 17.1)
25	modeFree	17	Description (descriptionType:methods 17.1)
26	dataSet	-	-
26.1	unitType	-	-
26.2	numberUnits	-	-
26.3	numberVariables		
26.4	dataType		
26.5	name	-	-
26.6	format	14	Format
26.7	size	13	Size

No.	XSD-element (da|ra 3.0)	No.	DataCite 3.0
26.8	fingerprint	**-**	-
26.9	fingerprintMethod	**-**	-
27	text	**-**	-
28	availabilityControlled		
29	availabilityText	**-**	-
30	rightsText	**16**	Rights
31	identifier	**12**	RelatedIdentifier
31.1	relationType	**12.2**	relationType
31.2	identifierType	**12.1**	relatedIdentifierType
31.3	relatedMetadataSchema	**12.3**	relatedMetadataScheme
31.4	schemaURI	**12.4**	schemeURI
31.5	schemaType	**12.5**	schemeType
32	publication	**-**	-
32.1	structuredPublication		
32.2	freetext	**-**	-
38	glPlace	**-**	-

3.2.3 da|ra version 3.0 to DDI version 3.1

No.	XSD-element (da|ra 3.0)	DDI 3.1
0	resourceType	
1	titleName	s:StudyUnit/r:Citation/r:Title
2	titleName	s:StudyUnit/r:Citation/r:SubTitle s:StudyUnit/r:Citation/r:AlternateTitle s:StudyUnit/r:Citation/r:AlternateTitle translated="true"
2.1	titleType	
4	creator	wrapping element
4.1	person/ firstName|| middle-Name|| lastName	s:StudyUnit/r:Citation/r:Creator OR a:Archive/a:OrganizationScheme/a:Individual/a: Name
4.1.1	identifier	a:Archive/a:OrganizationScheme/a:Individual/ a:ResearcherID/a:Identifier
4.1.1.1	identifierSchema	a:Archive/a:OrganizationScheme/a:Individual/a:ResearcherID/a:Type
4.1.1.2	schemaURI	a:Archive/a:Individual/a:Individual/a:ResearcherID/a:URI
4.1.2	name	a:Archive/a:OrganizationScheme/a:Organization/a:Organization Name
4.1.2.1	identifier	a:Archive/a:OrganizationScheme/a:Organization/r:UserID
4.1.2.1.1	identifierSchema	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName/r:UserID@type
4.1.2.1.2	schemaURI	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName/a:location/a:URL
4.2	name	s:StudyUnit/r:Citation/r:Creator/ a: Name or s:StudyUnit/a:Archive/a:OrganizationScheme/a:Organization
4.2.1	identifier	a:Archive/a:OrganizationScheme/a:Organization/r:UserID
4.2.1.1	identifierSchema	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName/r:UserID @type""
4.2.1.2	schemaURI	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName/a:location/a:URL
5	-	s:StudyUnit/r:Citation/r:Publisher
6	-	s:StudyUnit/r:Citation/r:Contributor role="RegistrationAgency" OR a:Archive/a:OrganizationScheme/a:Organization/a:Organization Name With a:Role/ r:Description= "RegistrationAgency"
7	-	s:StudyUnit><r:Citation><r:InternationalIdentifier type="DOI> OR pi:PhysicalInstance/pi:DataFileIdentification/r:UserID type="DOI"
8	dataURL	pi:PhysicalInstance/pi:DataFileIdentification/pi:URI
9	doiProposal	
10	currentVersion	IF Version syntax is like n.n.n: pi:PhysicalInstance version=""
11	resourceLanguage	s:StudyUnit/r:Citation/r:Language

No.	XSD-element (da|ra 3.0)	DDI 3.1
12	publicationDate/date|| monthyear|| year	s:StudyUnit/r:Citation/r:PublicationDate/r:SimpleDate
13	identifier	s:StudyUnit/r:UserID OR s:StudyUnit/a:Archive/a:ArchiveSpecific/a:Item/a:CallNumber
13.1	type	s:StudyUnit/r:UserID type=""
14	classificationInternal	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Subject
14.1	identifier	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Subject
14.2	schema	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Subject
14.3	-	
14A	term	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Subject
14A.1	schema	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Subject@codeListID
15	controlledKeyword	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Keywords
15.1	identifier	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Keywords
15.2	schema	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Keywords@codeList ID
15.3	-	
16	keyword	s:StudyUnit/r:Coverage/r:TopicalCoverage/r:Keywords
17	freetext	s:StudyUnit/r:Abstract/r:Content
17.1	type	s:StudyUnit/r:Abstract/r:UserID
18	geographicCoverage	
18.1	geographicCoverageControlled	s:StudyUnit/r:Coverage/r:SpatialCoverage
18.2	freetext	s:StudyUnit/r:Coverage/r:SpatialCoverage
19	sampled	s:StudyUnit/r:UniverseReference/r:ID With ID pointing to Universe: c:ConceptualComponent/c:UniverseScheme/c:Universe/c:Human Readable
20	method	s:StudyUnit/dc:DataCollection/dc:Methodology/r:SamplingProce dure
21	temporalCoverage	
21.1	startDate/date|| monthyear|| year || endDate/date|| monthyear|| year	s:StudyUnit/r:Coverage/r:TemporalCoverage/r:ReferenceDate/r:S tartDate OR r:EndDate
21.2	temporalCoverageFree	s:StudyUnit/r:Coverage/r:TemporalCoverage/r:ReferenceDate/r:S tartDate OR r:EndDate
22	timeDimension	
22.1	timeDimensionControlled	s:StudyUnit/dc:DataCollection/dc:Methodology/dc:TimeMethod
22.2	timeDimensionFree	s:StudyUnit/dc:DataCollection/dc:Methodology/dc:TimeMethod
22.3	frequency	s:StudyUnit/d:DataCollection/d:CollectionEvent/d:DataCollectio nFrequency/a:IntendedFrequency
23	person/firstName|| middle-Name|| lastName &&|| institutionName/name	s:StudyUnit/a:Archive/a:OrganizationScheme/a:Organization/or a:OrganizationName/a:Relation/a:OrganizationReference OR a:IndividualReference

No.	XSD-element (da|ra 3.0)	DDI 3.1
23.2	identifier	s:StudyUnit/a:Archive/a:OrganizationScheme/a:Organization/r:UserID type="DataCollectorID">
23.2.1	identifierSchema	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName
23.2.2	schemaURI	a:Archive/a:OrganizationScheme/a:OrganizationSchemeName/a:location/a:URL
24	collectionModeControlled	s:StudyUnit/dc:DataCollection/dc:CollectionEvent/dc:ModeOfCollection
25	modeFree	s:StudyUnit/dc:DataCollection/dc:CollectionEvent/dc:ModeOfCollection
26	dataSet	(wrapper)
26.1	unitType	s:StudyUnit/r:AnalysisUnitsCovered
26.2	numberUnits	s:StudyUnit/pi:PhysicalInstance/pi: GrossFileStructure/pi: CaseQuantity
26.3	numberVariables	s:StudyUnit/l:LogicalProduct/l:DataRelationship/l:LogicalRecord/r:VariableQuantity
26.4	dataType	s:StudyUnit/r:KindOfData
26.5	name	s:StudyUnit/pi:PhysicalInstance/pi:DataFileIdentification/pi:Path
26.6	format	s:StudyUnit/pd:PhysicalDataProduct/pd:PhysicalStructureScheme/pd:PhysicalStructure/pd:Format OR a:Archive/a:ArchiveSpecific/a:Itema:Format
26.7	size	s:StudyUnit/<pi:PhysicalInstance/pi:GrossFileStructure/pi:CaseQuantity OR (if unit "datafile" is known) a:Archive/a:ArchiveSpecific/a:Item a:DataFileQuantity
26.8	fingerprint	s:StudyUnit/pi:PhysicalInstance/pd:Fingerprint/pd:Value
26.9	fingerprintMethod	s:StudyUnit/pi:PhysicalInstance/pd:Fingerprint/pd:AlgorithmSpecification
27	text	s:StudyUnit/a:Archive/r:Notes
28	availabilityControlled	s:StudyUnit/a:Archive/a:Access/a:AccessConditions/a:AccessType
29	availabilityText	s:StudyUnit/a:Archive/a:Access/a:AccessConditions/a:AccessType
30	rightsText	s:StudyUnit/dcore:DCElements/dcore2:rights
31	identifier	s:StudyUnit/OtherMaterial/r:UserID
31.1	relationType	s:StudyUnit/OtherMaterial/r:Relationship/r:RelationshipDescription
31.2	identifierType	s:StudyUnit/OtherMaterial/r:UserID@type