

## **Materials Design Analysis Reporting (MDAR) Checklist for Authors**

The MDAR framework establishes a minimum set of requirements in transparent reporting applicable to studies in the life sciences (see Statement of Task: [doi:10.31222/osf.io/9sm4x](https://doi.org/10.31222/osf.io/9sm4x)). The MDAR checklist is a tool for authors, editors and others seeking to adopt the MDAR framework for transparent reporting in manuscripts and other outputs. Please refer to the MDAR Elaboration Document for additional context for the MDAR framework.

**Materials**

<b>Antibodies</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	NO	
<b>Cell materials</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
<b>Cell lines:</b> Provide species information, strain. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID	NO	
<b>Primary cultures:</b> Provide species, strain, sex of origin, genetic modification status.		
<b>Experimental animals</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
<b>Laboratory animals:</b> Provide species, strain, sex, age, genetic modification status. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID	NO	
<b>Animal observed in or captured from the field:</b> Provide species, sex and age where possible	NO	
<b>Model organisms:</b> Provide Accession number in repository (where relevant) <b>OR</b> RRID	NO	
<b>Plants and microbes</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
<b>Plants:</b> provide species and strain, unique accession number if available, and source (including location for collected wild specimens)	NO	
<b>Microbes:</b> provide species and strain, unique accession number if available, and source	NO	
<b>Human research participants</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	The Research Ethics Committee of the University of Murcia has exempted the research from being submitted to the Research Committee due to the characteristics of the study (radiographic images used routinely in clinical practice, without any contact with patients). Lines 57-58 and 144-146: "Our study was granted exemption from requiring ethics approval since the complete and irreversible anonymisation of the images did not involve patient data processing."	
Provide statement confirming informed consent obtained from study participants.	NOT REQUIRED	
Report on age and sex for all study participants.	NOT REQUIRED	

**Design**

<b>Study protocol</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
For clinical trials, provide the trial registration number <b>OR</b> cite DOI in manuscript.	NOT REQUIRED	
<b>Laboratory protocol</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
Provide DOI or other citation details if detailed step-by-step protocols are available.	NOT REQUIRED	
<b>Experimental study design (statistics details)</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
State whether and how the following have been done, <b>or</b> if they were not carried out.		
Sample size determination	NOT CARRIED OUT	
Randomisation	Lines 181-183: "The average of the measurements at each retest of two randomly selected observers of each group was employed for the agreement estimation within each experience group and between the different experience groups."	
Blinding	Lines 165-167: "To avoid bias, the sequence in which the radiographs were presented was randomly assigned in each of the measurement rounds by the study coordinator, who kept the randomisation key confidential."	
Inclusion/exclusion criteria	Lines 140-142: "We conducted a prospective and observational study of 33 scoliotic curves in 21 selected standing posteroanterior full-length spine X-ray of patients with AIS, with equivalent image quality and without defects." Lines 148-150: "The selected X-rays showed mild scoliosis (with curves between 11° to 20°, 4 cases), moderate scoliosis (between 21° and 40°, 11 cases) and severe scoliosis (over 40°, 6 cases)."	
<b>Sample definition and in-laboratory replication</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
State number of times the experiment was replicated in laboratory	NOT REQUIRED	
Define whether data describe technical or biological replicates	NOT REQUIRED	
<b>Ethics</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	The Research Ethics Committee of the University of Murcia has exempted the research from being submitted to the Research Committee due to the characteristics of the study (radiographic images used	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	NOT REQUIRED	
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	NOT REQUIRED	
<b>Dual Use Research of Concern (DURC)</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval	NO	

## Analysis

<b>Attrition</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified in advance.	Lines 193-195: "The measurement error distributions' norm was improved by identifying values lower than Q1-(1.5RIC) and higher than Q3+(1.5RIC). These values were considered outliers and were eliminated from each distribution." Lines 196-198: "We have removed outliers based on statistical methods because of their effect on the loss of	
<b>Statistics</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
Describe statistical tests used and justify choice of tests.	Lines 184-193: "For the intra- and inter-group concordance analysis of the software and manually measurements, the validity (MBE, Mean Bias Error), the reliability (SD), the standard error of the sample (SEM), the minimum detectable change (MCD95) and the intra-class correlation coefficient of absolute concordance were calculated using a two-factor random-effects model (ICC (2,1). We have assessed intra- and inter-observer reliability according to the criteria by Landis and Koch (< 0 indicate no agreement, 0.00 to 0.20 indicate slight agreement, 0.21 to 0.40 indicate fair agreement, 0.41 to 0.60 indicate moderate agreement, 0.61 to 0.80 indicate substantial agreement, and 0.81 to 1.0 indicate almost perfect or perfect agreement). The Bland-Altman graph was also obtained for the concordance between manual and software measurement methods analysis." Statistical analyses are the most appropriate following	
<b>Data Availability</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
State whether newly created datasets are available, including protocols for access or restriction on access.	All the data used in the statistical study are available in the article.	
If data are publicly available, provide accession number in repository or DOI or URL.	NO	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	NO	
<b>Code Availability</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
For all newly generated code and software essential for replicating the main findings of the study:		
State whether the code or software is available.	The software code is based on the equation showed in the manuscript.	
If code is publicly available, provide accession number in repository, or DOI or URL.	<a href="https://doi.org/10.1155/2021/5523775">https://doi.org/10.1155/2021/5523775</a>	

## Reporting

<b>Adherence to community standards</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
MDAR framework recommends adoption of discipline-specific guidelines, established and endorsed through community initiatives. Journals have their own policy about requiring specific guidelines and recommendations to complement MDAR.		
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist	ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication.	

(eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.		
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