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# **“A Microgravity-Themed Collaborative Intervention Promoting Student Selection of a STEM Career Pathway”**

*A Data management plan created using the DMPTool*

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## Data generated by the project

The measures and approaches will likely qualify for exemption from IRB review under 45 CFR 46.101(b), but the research plan will be submitted for review as appropriate by the Baylor University Human Research Protections Program as well as the school district’s IRB process, if necessary, in which the intervention will be conducted.

Qualitative and quantitative data will be collected in the form of student, teacher, and parent surveys, interviews, and extant records from the school databases (e.g., student course selections, climate survey results). Materials will all be created de novo or transcribed into standard Microsoft Office applications (Word, Excel, and PowerPoint). For the purpose of wider, long-term access, primary documents will be converted at regular intervals into pdf documents.

More specifically, data for each tier of the project will include[SS1] :

**Tier 1** (classroom mini drop tower experiments): Curriculum for microgravity classroom mini drop tower experiments; Teacher professional development sign in sheet, agenda, and survey feedback; Pre-post student interest surveys of STEM-related careers and intended selection of endorsement;

**Tier 2** (BRIC experiments and TSTC Challenger Center missions): Curriculum for microgravity BRIC extended microgravity experiments; QR codes and curriculum for NASA artifacts; Teacher professional development sign in sheet, agenda, and survey feedback; Pre-post student interest surveys of STEM-related careers and intended selection of endorsement; Parent sign-in sheets to BRIC interest meeting; Parent survey/interview?

**Tier 3** (Drop Tower experiments): Microgravity student club meeting notes and agendas; Student and mentor interviews; Parent sign-in sheets to student presentations

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[SS1]@PTB- up to you guys- just putting in a few things we might consider to be helpful

## Period of data retention

Data will be retained indefinitely dependent upon storage capacity. All data will be stored both on the CASPER computer servers located at the lab and on the PI’s 18TB server maintained and backed up by ITS and located offsite on the primary Baylor campus. Public access to research products will be regulated by Baylor University in order to protect privacy and confidentiality concerns, as well to respect any proprietary or intellectual property rights. Legal offices will be consulted on a case-by-case basis to address any concerns, if necessary. Terms of use will include proper attribution to the PI and authors along with disclaimers of liability in connection with any use or distribution of the research data. Archiving and Preservation of Access Research products will be made available immediately after publication. Journal publications will be available

online from respective journal websites and linked to by the PI's CASPER website. All data generated as a result of this project will be backed up daily to protect from loss of data from hardware failures, fire, theft, etc.

### **Data format and dissemination**

Results of the research will be made available in digital form in pdf, spreadsheet tables, tab-delimited files, or image files. Images will be saved in standard image formats such as JPEG, TIFF, or PNG. Main research products will be available online in digital form. Manuscripts will appear in PDF, and contain text, calculations, drawings, plots, and images. The targeted journals for the results of this research project, American Physical Society (APS), Division of Plasma Physics (DPP), Laboratory of Subatomic Physics & Cosmology (LPSC), American Astronomical Society (AAS), etc. all provide a downloadable PDF copy of the manuscript on the web. In addition, the PI will link to these journal publications from CASPER's website under the "Publications" section. Primary data and other supporting materials created or gathered in the course of the work will be shared with other researchers upon reasonable request and within a reasonable time of the request.

### **Data storage and preservation of access**

### **Additional possible data management requirements**