

DRAWING NO. RS-001	REVISION A	MODULE Behavioral & Social Science	LANGUAGE English
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Researching Human Behavior: A Scope Guide

How to turn a question about people — how they think, decide, or act — into a real, ethical, ISEF-compliant research project. No lab, no equipment, no budget required.

SKILL LEVEL: BEGINNER-INTERMEDIATE

TIMELINE: 4-8 WEEKS

EST. COST: \$0

01 Objective

Behavioral and social science is the most accessible research category that exists — it needs no lab, no specialized equipment, and no funding, just a well-designed study and a group of people willing to answer honestly. It's also the category where students most often get their project rejected or flagged, not because the idea was bad, but because they collected data before getting the required approval, or asked questions that couldn't actually answer what they wanted to know. This guide exists to prevent both mistakes. By the end, you'll be able to turn a vague interest ("does social media affect teenagers") into a specific, measurable, defensible research question — and you'll know exactly what paperwork has to happen before you collect a single response.

02 What Makes a Strong Project in This Category

The difference between a weak and a strong behavioral science project almost never comes down to the topic — it comes down to whether the question is **operationalized**: turned from a fuzzy idea into something you can actually measure. "Does stress affect students" is not researchable as written. "Is there a measurable difference in self-reported concentration scores between students who took a 10-minute break and students who didn't, immediately before a timed task" is. The second version tells you exactly what to measure, how to measure it, and what a result would even mean.

03 Choosing Your Scope

WORKED EXAMPLE — NARROWING A TOPIC

Too broad: "How does screen time affect teenagers?"

Still too broad: "Does screen time affect academic performance?"

Researchable: "Is there a correlation between self-reported hours of recreational screen time in the two hours before bed and self-reported sleep quality, among students aged 15–17 at a single school?"

Notice what changed: a specific age range, a specific time window, a specific pair of measurable variables, and a defined population. That's the level of precision a real project needs — vague topics produce vague, unusable data.

04 Methodology & Data Collection

- **Surveys/questionnaires.** Write questions that measure one thing at a time — avoid "double-barreled" questions ("do you feel stressed and unmotivated?" is really two questions). Pilot-test your survey on 3–5 people first to catch confusing wording before it costs you real responses.
- **Avoiding leading questions.** "Don't you agree that screens are harmful?" biases the answer before it's given. Neutral framing — "How would you describe your screen use?" — produces usable data.
- **Sampling.** Be explicit about who you surveyed and how you reached them (a self-selected online sample behaves very differently from a randomly assigned class). Your conclusions can only honestly apply to the population you actually sampled.
- **Observational studies** (watching and recording behavior rather than asking about it) avoid self-report bias but raise their own consent questions — covered in Section 05.

05 Compliance & Ethics — Read Before You Collect Any Data

THIS SECTION IS NOT OPTIONAL

Any ISEF-track project involving human participants requires review **before** data collection begins — collecting data first and seeking approval after is one of the most common reasons student projects get disqualified. The relevant document is **ISEF Form 4 (Human Participants and Informed Consent)**, completed with your Adult Sponsor before you contact a single participant.

- **Minors need two layers of permission.** If any participant is under 18, you need both the participant's own assent and written permission from a parent/legal guardian — not just one or the other.
- **Some minimal-risk studies can be waived.** An SRC/IRB may waive the written consent requirement for anonymous surveys or questionnaires that involve only minimal risk and don't collect identifying information — but that waiver decision is made by the review committee, not by you deciding it "seems fine."
- **If your study involves any of the following, expect closer review:** collecting names or contact information, questions that could cause emotional distress, deception of participants, or research on vulnerable populations (young children, individuals with disabilities).

- **Talk to your school's science fair coordinator or Adult Sponsor early.** They can point you to the specific SRC/IRB process your affiliated fair uses — this varies by fair, so MMI can't give you one universal answer, only the general shape of the requirement.

06 Analysis & Interpretation

Most beginner behavioral studies produce two kinds of data, and each has a natural first analysis:

DATA TYPE	EXAMPLE	STARTING ANALYSIS
Categorical (groups/labels)	Yes/no answers, multiple choice categories	Percentages, frequency counts, chi-square test for comparing groups
Numerical/scale	1–5 rating scales, hours of sleep, test scores	Averages (mean), comparing two group averages (t-test), correlation between two numeric variables

You don't need advanced statistics to run a legitimate study — a clearly reported average, a clean comparison between two groups, and an honest acknowledgment of your sample size are more convincing to judges than a complex test applied without understanding it.

07 Common Pitfalls

MISTAKE	WHY IT'S A PROBLEM	FIX
Collecting data before approval	Can disqualify the entire project regardless of quality	Complete Form 4 with your Adult Sponsor first — always
Leading or double-barreled questions	Produces biased or uninterpretable data	Pilot-test every survey on a few people before sending it out
Tiny, self-selected sample presented as general	Conclusions won't hold up to basic scrutiny	State your actual sample honestly; don't overclaim what it proves
No anonymization plan	Ethical and compliance issue, especially with minors	Decide how responses are anonymized before collecting a single one

08 Where This Goes Next

From scope guide to submission

Once your question is operationalized and Form 4 is approved, you're running a real behavioral science study — the same category ISEF calls *Behavioral & Social Sciences*. See *The Project Blueprint* in the ISEF & University Playbook for how to turn your results into a compliant abstract and board, and the *Regional Pipeline Index* for where to actually submit it.

If your question involves comparing behavior against environmental conditions — noise, temperature, crowding — pair this with **RS-002 (Environmental & Earth Science)** for the measurement side.