

## Modifying Cognitive Strategies for Comparing Proportions

NCT06635577

Version Date: 08/02/2024



**Title of Research:** Changing Quantitative Reasoning Across Development

**Principal Investigator:** Michelle Hurst, PhD

This online consent form is part of an informed consent process for research, and it will provide information that will help you decide whether you want to take part in the research. It is your choice whether to take part or not. Ask questions if there is anything in the form that is not clear to you. If you decide to take part, instructions at the end of the document will tell you what to do next. Your alternative to taking part in the research is not to take part in it.

**Who is conducting this research?**

Michelle Hurst is the Principal Investigator of this research. A Principal Investigator has the overall responsibility for the conduct of the research. However, there are often other individuals who are part of the research team. Michelle Hurst may be reached at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu).

This study is sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, an institute of the National Institutes of Health.

**Why is this research being done?**

The goal of this study is to understand how people think about different kinds of information, how the way we think changes across the lifespan, and how we can change people's behavior and strategies.

**Who may take part in this research and who may not?**

All typically developing adults, between 18- and 65-years-old.

**Why have I been asked to take part in this research?**

You are within the eligibility criteria.

**How long will the research take and how many participants will take part?**

The single study session will last about 20-40 minutes.

**What will I be asked to do if I take part in this research?**

You will be given information about quantities, visually (such as a set of items) or with symbols (such as a percentage) and asked to make judgements about the information. You might also be asked to make judgements about objects, answer survey questions about your preferences and personality, and explain how you selected your choices for different parts of the study. Either before or during these activities, you may be given some instructions about what strategies you should use, be provided additional information or training related to the concepts in the activities, or be asked to do another task at the same time, such as listen to music or repeat a phrase. We will audio record your session so that we can analyze your verbal behavior during the study. You will also be asked to fill out a survey with additional questions about yourself.

**What are the risks of harm or discomforts I might experience if I take part in this research?**

We do not foresee risks to subjects participating in this study.

**Are there any benefits to me if I choose to take part in this research?**

There are no known direct benefits from taking part in this study. However, many participants find the studies interesting and enjoy participating.

**What are my alternatives if I do not want to take part in this research?**



There are no alternative treatments available. Your alternative is not to take part in this research

**How will I know if new information is learned that may affect whether I am willing to stay in the study?**

During the research, you will be updated about any new information that may affect whether you are willing to continue taking part in the research. If new information is learned that may affect you after the research or your follow-up is completed, you will be contacted.

**Will I receive the results of the research?**

In general, we will not give you any individual results from the study. If you are interested in receiving a summary of the research results after completion of the study, please contact our research team at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu).

**Will there be any cost to me to take part in this study?**

There are no costs to you for participating in this research.

**Will I be paid to take part in this study?**

You will be given \$5 for participating in the study, in the form of an e-gift card to your email address or cash.

**How will information about me be kept private or confidential?**

Your personal information will be stored securely and separately from your responses in the study. Information that could identify you will not be shared outside the research team and required oversight agencies (Rutgers Institutional Review Board, U.S. Department of Health and Human Services, and the National Institutes of Health) unless explicit permission is given (except as required by law, see Certificate of Confidentiality below). After information that could identify you has been removed, de-identified information (including deidentified transcripts from audio recordings, if applicable) collected for this research may be made publicly available on data repositories (e.g., the Open Science Framework at <https://osf.io>) and used by us or others without obtaining additional permission from you.

**Certificate of Confidentiality**

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. This means that the researchers cannot release or use information, documents, or samples that may identify you in any action or suit unless you say it is okay. They also cannot provide them as evidence unless you have agreed. This protection includes federal, state, or local civil, criminal, administrative, legislative, or other proceedings. An example would be a court subpoena.

There are some important things that you need to know. The Certificate does not stop reporting that federal, state or local laws require. Some examples are laws that require reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others. The Certificate cannot be used to stop a sponsoring United States federal or state government agency from checking records or evaluating programs. The Certificate does not stop disclosures required by the federal Food and Drug Administration (FDA). The Certificate also does not prevent your information from being used for other research if allowed by federal regulations.

Researchers may release information about you when you say it is okay. For example, you may give them permission to release information to insurers, medical providers or any other persons not connected with the research. The Certificate of Confidentiality does not stop you from willingly releasing information about involvement in this research. It also does not prevent you from having access to your own information.



**What will happen to my information—data, recordings and/or images—collected for this research after the research is over?**

All data (including identifiable data and recordings, if applicable) will be stored for a minimum of six years, and up to indefinitely, by the research team on secure cloud storage and password protected computers and hard drives. De-identified data (i.e., after removing all identifiable information that links the data to you) will also be stored indefinitely on public repositories, as described above. All data may be used for other research we conduct without obtaining additional consent.

**What will happen if I do not wish to take part in the research or if I later decide not to stay in the research?**

It is your choice whether to take part in the research. You may choose to take part, not to take part or you may change your mind and withdraw from the research at any time. If you do not want to enter the research or decide to stop taking part, your relationship with the research staff will not change, and you may do so without penalty and without loss of benefits to which you are otherwise entitled.

You may also withdraw your consent for the use of data already collected about you, but you must do this in writing to Michelle Hurst. If the data has already been deidentified and shared and/or used in publications, we may not be able to withdraw that already used data.

**Who can I contact if I have questions?**

If you have questions, concerns, or complaints about the research, wish more information or if you feel you may have suffered a research related injury, you can contact the Principal Investigator, Dr. Michelle Hurst, and her research team at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu).

If you have questions, concerns, problems, information or input about the research or would like to know your rights as a research participant, you can contact the Rutgers IRB/Human Research Protection Program via phone at (973) 972-3608 or (732) 235-9806 OR via email [irboffice@research.rutgers.edu](mailto:irboffice@research.rutgers.edu), or you can write us at 335 George Street, Liberty Plaza Suite 3200, New Brunswick, NJ 08901.

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If you are 18 years of age or older, understand the statements above, and consent to take part in the study, click on the "I Agree" option and press the next button. If not, you may close this window or click the "I Do Not Agree" option and select next, which exit you from this screen/program.

☐ I Agree

☐ I Do Not Agree

Please download or print a copy of this consent form for your records.

## Parental Consent

**TITLE OF RESEARCH:** Changing Quantitative Reasoning Across Development

**Principal Investigator:** Michelle Hurst, PhD

The information in this parental/legal guardian permission form will provide more details about the research and what will be asked of your child if you permit them to take part in it. If you have any questions now or during the research, you should feel free to ask them and should expect to be given answers you completely understand. After all of your questions have been answered and you wish your child to take part in the research, you will be asked to sign this permission form. You are not giving up any of your child's legal rights by permitting them to take part in this research or by signing this parental/legal guardian permission form.

### **Who is conducting this research?**

Michelle Hurst is the Principal Investigator of this research. A Principal Investigator has the overall responsibility for the conduct of the research. However, there are often other individuals who are part of the research team.

Michelle Hurst may be reached at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu)

This study is sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, an institute of the National Institutes of Health.

### **Why is this research being done?**

The goal of this study is to understand how people think about different kinds of information, how the way we think changes across early childhood, and how we can change people's behavior and strategies.

### **Who may take part in this research and who may not?**

Typically developing children within the target age range may participate in this study.

### **Why has my child been asked to take part in this research?**

Your child is within the eligible age range.

### **How long will the research take and how many participants will take part?**

The study session will last about 20-40 minutes. In most cases, we will only ask to see your child for one session, but sometimes we may ask your child to take part in additional sessions. If that is the case, we will contact you to ask about additional sessions and all future visits are optional.

### **What will my child be asked to do if they take part in this research?**

During the session, your child will be asked to do some activities designed to assess knowledge and strategies for thinking about different kinds of information. These activities might involve comparing quantities, such as deciding which of two sets of dots is more or which of two game spinners with different probabilities is better for winning. Other activities might involve making decisions about pictures and shapes, such as matching shapes or deciding what direction a shape or picture is facing. Your child might also do activities involving age-appropriate language, math, and memory games, such as labeling pictures of objects, counting or arithmetic, and remembering a series of words or images. Either before or during these activities, your child may be given some instructions about what strategies they should use, be provided additional information or training related to the concepts in the activities, or be asked to do another task at the same time, such as listen to music or repeat a phrase. In addition, you might be asked to complete a survey about yourself, your child, and/or your family.

Audio recording is required to participate in this study. The audio recordings will be used for data analysis, as some of the research requires your child to speak aloud and these responses will be recorded. Only your child's vocalizations related to the research (e.g., their answers to the questions, their repeating of the instructions or required phrase) will be analyzed, and any background noise or conversations will be ignored. These audio recordings will not be shared outside the research team unless you provide explicit permission.

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Paper version if needed: Rutgers logo/letterhead

With your permission, we may video record your child's participation in this study. You do not have to provide permission to be video recorded to take part in the main research. The recordings will be used for research and training purposes within our research lab. At the end of this form, we will also ask your permission to use the videos for research purposes outside the research team, educational purposes outside the research team, and for public purposes (e.g., including on our website). You do not have to provide permission for these optional uses. The recordings may include the following information that could identify you or your child: faces, names, and information about your home or your child's school in the background of the video (if applicable).

**What are the risks of harm or discomforts my child might experience by taking part in this study?**

We do not anticipate any harm or discomfort for your child by taking part in this study, beyond the risks encountered in daily life. When listening to audio is required, we may ask your child to use lab-supplied headphones with age-appropriate volume limits enabled. You can opt out of allowing your child to wear headphones at the bottom of this form. There is a risk your child may be bored or frustrated by some of the activities. There is a risk of a breach of confidentiality of your child's participation or information, which we will minimize as described below.

**Are there any benefits to my child if they take part in this research?**

There are no known direct benefits from taking part in this study. However, many children find the studies fun and enjoy participating in them.

**What are my child's alternatives if I do not want to take part in this research?**

There are no alternatives available. Your alternative is not to allow your child to take part in this research.

**How will I know if new information is learned that may affect whether I am willing to allow my child to stay in the research?**

During the research, you will be updated about any new information that may affect whether you are willing to allow your child to continue taking part in the research. If new information is learned that may affect your child after the research or their follow-up is completed, you will be contacted.

**Will I receive the results of the research?**

In general, we will not give you any individual results from the study. If you are interested in receiving a summary of the research results after completion of the study, please contact our research team at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu).

**Will there be any cost for my child to take part in this research?**

You will not incur any costs by partaking in this study.

**Will my child be paid to take part in this research?**

You will be given \$10 for participating in the study, in the form of an e-gift card to your email address or cash. Your child will also receive a personalized certificate and be able to select a small gift from our prize box as a thank you.

**How will information about my child be kept private or confidential?**

Your child's personal information will be stored securely and separately from their responses in the study. Information that could identify your child will not be shared outside the research team and required oversight agencies (Rutgers Institutional Review Board, U.S. Department of Health and Human Services, and the National Institutes of Health) unless explicit permission is given (except as required by law, see Certificate of Confidentiality below). After information that could identify your child has been removed, de-identified information (including deidentified transcripts from audio recordings, if applicable) collected for this research may be made publicly available on data repositories (e.g., the Open Science Framework at <https://osf.io>) and used by us or others without obtaining additional permission from you. If you provide

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permission for video recording and your child's session is recorded, we will only share the video recordings in accordance with the privacy level you selected.

### **Certificate of Confidentiality**

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. This means that the researchers cannot release or use information, documents, or samples that may identify you or your child in any action or suit unless you say it is okay. They also cannot provide them as evidence unless you have agreed. This protection includes federal, state, or local civil, criminal, administrative, legislative, or other proceedings. An example would be a court subpoena.

There are some important things that you need to know. The Certificate does not stop reporting that federal, state or local laws require. Some examples are laws that require reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others. The Certificate cannot be used to stop a sponsoring United States federal or state government agency from checking records or evaluating programs. The Certificate does not stop disclosures required by the federal Food and Drug Administration (FDA). The Certificate also does not prevent your information from being used for other research if allowed by federal regulations.

Researchers may release information about you or your child when you say it is okay. For example, you may give them permission to release information to insurers, medical providers or any other persons not connected with the research. The Certificate of Confidentiality does not stop you or your child from willingly releasing information about involvement in this research. It also does not prevent you or your child from having access to your/their own information.

### **What will happen to my child's information—data, recordings and/or images collected for this research after the research is over?**

All data (including identifiable data and recordings, if applicable) will be stored for a minimum of six years, and up to indefinitely, by the research team on secure cloud storage, password protected computers and hard drives, and in locked cabinets (in the case of physical or paper data). De-identified data (i.e., after removing all identifiable information that links the data to your child) will also be stored indefinitely on public repositories, as described above. All data may be used for other research we conduct without obtaining additional parental/legal guardian permission from you.

### **What will happen if I do not wish my child to take part in the research or if I later decide that I do not wish my child to stay in the research?**

It is your choice whether your child takes part in the research. You may choose to have your child take part, not to take part, or you may change your mind and withdraw your child from the study at any time. If you do not want your child to enter the study or decide to stop taking part, their relationship with the study staff will not change, and your child may do so without penalty. You may also withdraw your consent for the use of data already collected about your child, but you must do this in writing to Dr. Michelle Hurst ([quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu) or [michelle.hurst@rutgers.edu](mailto:michelle.hurst@rutgers.edu)). If the study data has already been de-identified and shared, you may not be able to withdraw your child's data.

### **Who can I call if I have questions?**

If you have questions, concerns, problems, wish more information about your child's participation in the research, you can contact the Principal Investigator, Dr. Michelle Hurst, and her research team at [quadlab@psych.rutgers.edu](mailto:quadlab@psych.rutgers.edu).

If you have questions, concerns, problems, information or input about the research or would like to know your rights as a research participant, you can contact the Rutgers IRB/Human Research Protection Program via phone at (973) 972-3608 or (732) 235-9806 OR via email [irboffice@research.rutgers.edu](mailto:irboffice@research.rutgers.edu), or you can write us at 335 George Street, Liberty Plaza Suite 3200, New Brunswick, NJ 08901.

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I have read this entire form, or it has been read to me, and I believe that I understand what has been discussed. All my questions about this form or this study have been answered. A copy of this form has been provided to me (or been made available to me to download).

Parent Name: [TYPE TEXT BOX for online forms]

Child's Name: [TYPE TEXT BOX for online forms]

Child's Date of Birth: [TYPE TEXT BOX for online forms, requiring date entry]

Today's Date: [TYPE TEXT BOX for online forms]

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**Parental Permission in Study Participation:**

☐ Yes, I agree to have me and my child participate in this study.

☐ No, I do not agree to have me and my child participate in this study.

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**Parental Permission for Headphone Use:**

☐ Yes, I agree to allow my child to wear headphones, provided by the study team, if necessary.

☐ No, I will not allow my child to wear headphones.

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**Parental Permission for Study Recording:**

☐ Yes, I agree to have my child's session video recorded. I understand that this is not a requirement for participating in the study.

☐ No, I do not agree to have my child's session video recorded.

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**Privacy Levels for Study Recordings:**

If you opted to allow for video recording, please select which (if any) optional uses of video you allow (please **select all that apply**):

☐ I give permission for the session recording or excerpts and images of the recording to be shown at scientific meetings or for educational purposes outside the research team. I understand that sometimes, these presentations are in public settings or may be recorded and that the recordings might become available online (e.g., YouTube). In giving my permission, I trust that authorized researchers will use their professional judgment and uphold ethical principles in determining which excerpts or images to present and to which audiences.

☐ I give permission to share data from this session with authorized researchers outside the research team in a secure library called Databrary. Authorized researchers may use the material for non-commercial research and educational purposes.



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☐ I give permission for the research team to use the recordings, or excerpts/images from the recordings, in public facing ways, such as on their newsletter or website.