Rady Children's Hospital – San Diego
and University of California, San Diego

Adult Informed Consent

Developing a computational electroencephalogram (EEG) paradigm to study prediction error in anorexia nervosa

Introduction

Dr. Guido K.W. Frank and associates are doing this research and asking for your consent to participate. This section provides a summary of important information. The rest of the form provides additional details.

- Research is voluntary- whether or not you join is your decision. You can discuss your decision with others (such as family, friends or another physician).
- You can say yes but change your mind later.
- If you say no, we will not hold your decision against you.
- Your decision will not affect your health care or any other benefits you may be entitled to.
- You can say no even if the person inviting you is part of your healthcare team.
- Please ask questions or mention concerns before, during or after the research.

We are trying to find out how your brain responds to different types of rewards. We want to look at images from an MRI device and an EEG device and see if they are similar. This could help researchers find better ways of studying the brain in people with eating disorders.

You will first complete and interview and/or questionnaires to tell us if you can be in the study. If you can be in the study, you will have two types of brain scans 1 day apart. On the first day, your will have an MRI scan. An MRI measures the blood flow in the brain using a magnet. On the second day, you will have two EEG scans. An EEG records the electrical brain activity using sensors. On each scan day, you will eat breakfast, complete questionnaires and then have a scan that lasts about one hour where you will be given

sweet and neutral taste solutions and play a game. Each study visit day will last up to 2 hours.

The most commonly expected risks of the study are discomfort from filling out the questionnaires and being in the MRI scanner for about an hour.

This is not a treatment study. Your other option is not to participate in the study.

Please take your time to make your decision. Discuss it with your family. Additional, detailed information about this research is provided below. Please feel free to ask questions before signing this consent.

STUDY INVESTIGATOR AND SPONSOR

Investigator(s): Dr. Guido K.W. Frank

Sponsor: National Institute of Mental Health

WHY HAVE YOU BEEN ASKED TO PARTICIPATE AND HOW YOU WERE SELECTED?

You have been asked to participate in this study because you are a healthy control and at normal weight or you are underweight and struggle with anorexia nervosa. Anorexia nervosa is an eating disorder. It can make a person very afraid of gaining weight, refuse food, and lose weight.

HOW MANY PEOPLE WILL TAKE PART IN THE STUDY?

84 subjects will be in this study.

HOW LONG WILL YOU BE IN THE STUDY?

You will be in the study for up to 3 months (depending on scheduling). This will include the initial phone screening, questionnaire packet, psychiatric assessment, MRI scan and EEG scans.

You can stop participating at any time. However, if you decide to stop from participating in the study, we encourage you to talk to the research doctor.

WHAT IS INVOLVED IN THE STUDY?

This is what will happen if you join the study:

If you were recruited from local advertisements in the community, you will participate in 2 phone calls at the beginning of the study.

- Prior to reviewing this form, you may have completed a first screening phone call where we asked you some basic questions about your physical condition and general health as well as reviewed the assent form with you (10 minutes).
- If you qualify and agree to participate, we will mail you a paper copy of the assent and several questionnaires to complete (it will take about an hour to complete the questionnaire packet).
- When we receive the questionnaires and assent form back, you will get a second phone call from us where we will let you know if you qualify and can continue in the study. If you don't or if we don't hear back from you in 3 months, any information we collected about you will be destroyed.

- If you qualify and agree to go on with the study, we may do one more screening questionnaire with you during a second phone call (about 60 minutes). If you qualify and agree to continue in the research, we will schedule an in person visit.

If you are recruited from Rady Children's Hospital Medical Behavioral Unit or UC San Diego Health Eating Disorders Center for Treatment and Research, we will ask you screening questions in person when we meet with you.

- If you qualify and agree to be in the research, we will give you with a paper copy of the assent and several questionnaires to complete. It will take about an hour to complete the questionnaire packet.

If you join the study, you will complete the following:

1. Screening Visit (60 minutes, in-person)

- We will ask you about your psychiatric and medical history before you are scheduled for the brain imaging study. We will ask you questions about what illness you may have had. We will also ask you personal questions about how you have been feeling including questions about any times when you may have been depressed or gotten very anxious or afraid of certain situations. You will be asked questions about trauma you may have experienced. You may choose not to answer any questions.
- In addition, we will ask you about your drug and medication history. If you are taking certain medications, you may not be able to participate in this study. While you are in this study, it is important that you do not drink any alcoholic beverages or take any drugs or medications unless you tell the research investigators.
- If you qualify for the study, you will be scheduled for the brain imaging study.

2. Study Visit 1 (1.5 hours, in-person)

You may complete 1 MRI brain scan that will take about 30 minutes.

The brain scan is done using a machine called magnetic resonance imaging (MRI) scanner. This is a large magnet that can be used to study the brain. This type of machine is very commonly used in hospitals to detect whether someone has an injury for instance in the brain or other body parts. This procedure does not involve any radiation. In some situations it may not be possible for you to complete the Brain Imaging fMRI Study due to scheduling limitations. You can still complete the EEG brain scans even if you do not complete the MRI brain scan.

- On the day of the MRI scan, we ask you and your parent to be at the Sharp and Children's MRI Center, 7910 Frost St Suite 110, San Diego, CA 92123 in the morning, usually between 7 and 8 am.
- A urine pregnancy test will be done. We will do this test regardless of age, even if you believe you are not pregnant. If you are pregnant or nursing, you will not be able to participate in this study.
- We will give you with a standard breakfast or you will eat according to your meal plan if you are in an eating disorder treatment program.

- You will be asked to test sugar solutions and rate those for your personal sweetness and pleasantness experience. You will be testing various sugar solution strengths. In order to test that, you will be given 9 small samples of the solutions with about ½ teaspoon (2 ml) that you will swallow. The test for solutions will take about 10 minutes.
- Before the MRI scan you will be familiarized with tubes that deliver taste stimuli to your mouth. You will be shown how to position the tubes in your mouth and to wipe your tongue once around in your mouth after each taste application. You cannot participate in the MRI part of the study if you have difficulty with this procedure.
- The MRI will create a picture of your brain. One type of picture called MR scan will show what your brain looks like. The other pictures show us how much blood is flowing through your brain.
    - For this, you will be placed in a large donut-like machine (MRI scanner).
    - The scanning will take about 30 minutes.
    - Your head will be placed in a special helmet-like "head-holder" to keep your head still.

3. Study Visit 2 (1.5 hours, in-person)

You will complete 1 EEG brain scan at Study Visit 2.

The EEG is a portable machine that will sit on your head like a helmet. The EEG machine has sensors that measure your brain activity. This type of machine is very commonly used in hospitals to detect whether someone has an injury in the brain. This procedure does not involve any radiation.

- On the day of the EEG scans, we ask you and your parent to be at UC San Diego Health Eating Disorders Center for Treatment and Research in the morning, usually between 7 and 8 am.
- Just like at Study Visit 1, you will be given breakfast and you will be asked to test and rate the sugar solutions.
- Before each EEG scan you will be familiarized with tubes that deliver taste stimuli to your mouth. You will be shown how to position the tubes in your mouth and to wipe your tongue once around in your mouth after each taste application.
- During the EEG scan, we will put a device on your head that looks like a helmet. It has sensors that will record your brain activity during the tasks.
- We will video record your head with the EEG helmet. We will use this video so we can tell where the electrodes were placed.

During the MRI and EEG scans, you will be asked to do a taste task. During this task you will be asked to hold the taste tubes in your mouth. At certain times, small amounts (1 ml, which is about 1/5 of a teaspoon) of liquids of either sugar water or a tasteless solution will be delivered into your mouth. Before each taste solution you will see a colorful picture on goggles that you are wearing in the scanner. You will be asked to predict what solution will follow each picture by pressing a button on a box. This will take 28 minutes for the MRI scan and 35 minutes for the EEG scan.

If you are enrolled in the study when you are a patient on the Medical Behavioral Unit at Rady Children's Hospital San Diego, we may wait to complete your MRI and EEG scans until you are no longer in inpatient treatment at Rady Children's Hospital San Diego. Due to transportation limitations we may not be able to transport you to/from Sharp and Children's MRI Center where the MRI scan will take place or UC San Diego Health Eating Disorders Center for Treatment and Research where the EEG scan will take place.

Altogether, assessments will take about 3 hours, Study Visit 1 and Study Visit 2 will take about 2 hours for each visit. In total, the study will last about 7 hours on 3 different study days over about 2 weeks.

Study Procedures Chart for Participants from the Community

	Initial Phone Screen	Detailed Eligibility Screen	Screening Visit	Study Visit 1	Study Visit 2
Initial Screening	X				
Informed Consent (through mail)		X			
Questionnaire Packet		X			
Biological Screening Form		X			
SCID-5 Diagnostic Interview			X		
In person Consent and Interview with PI			X		
Urine Pregnancy Test				X	
Taste Test				X	
MRI Scan				X	
EEG Scan					X
Scan Day Assessments				X	X

Study Procedures Chart for Participants from Rady Children's Hospital Medical Behavioral Unit or UC San Diego Health Eating Disorders Center for Treatment and Research

	Consent Visit	Screening Visit	Study Visit 1	Study Visit 2
Initial Screening	**X**			
Informed Consent	**X**			
Questionnaire Packet		**X**		
Interview with PI		**X**		
SCID Diagnostic Interview		**X**		
Urine Pregnancy Test			**X**	
Taste Test			**X**	
MRI Scan			**X**	
EEG Scan				**X**
Scan Day Assessments			**X**	**X**

WHAT ARE THE RISKS OF THE STUDY?

Participation in this study may involve some added risks or discomforts. In addition to the risks described at the beginning of this form.

1. Risk of filling out the questionnaires

You may experience some psychological discomfort or fatigue when filling out questionnaires. You do not have to complete the questionnaires in one sitting. You can choose not to answer any question that makes you uncomfortable.

If we discover that you describe emotional distress, then we will evaluate if you are in need for a referral for professional help. Such a referral may range from counseling to referral to the authorities for emergency treatment.

2. Risks of the taste task procedure

While in the scanner, you may experience a gagging response or nausea/stomach discomfort to certain tastes.

If you are uncomfortable with the testing procedure, the study can be stopped at any time.

3. Risk of loss of confidentiality

Some of the information collected, such as whether you have used illegal substances, could place you at risk for criminal or civil liability or may be damaging to your ability to get a job, affect your reputation, or have other consequences if it were to become public.

4. Risk of an MRI Scan

You should NOT have an MRI scan if you have <u>metal</u> or <u>electronic devices</u> inside your body. Heart pacemakers and insulin pumps are examples of electronic devices.

The most common side effects of having an MRI scan are the following

- You may experience flashing lights in the eyes. This is caused by the magnetic waves and is not harmful. This usually goes away after a few minutes.
- There is a risk of muscle aches from lying on your back for a total amount of about 60 minutes in the scanner.
- Banging noises that the MRI machine makes while taking pictures of your brain are loud. You will be wearing headphones and ear plugs to minimize this noise.
- Muscle twitches during the magnetic resonance imaging procedure may occur.
- Some people having this procedure become anxious and afraid of closed spaces. If this happens to you, you can stop this procedure at any time.
- If you are pregnant or think you may be pregnant, you should not take part in this research.
- If you have any metal clips or plates in your body or a pacemaker, you should tell the investigator about it. We will carefully screen you for any metal in your body.

Before going into the scanner we will carefully screen you to make sure you are safe to have an MRI scan. Before the scan starts we will give you pillows and a blanket to make you more comfortable. The ear plugs and headphones will muffle the noise and protect your ears. We will check on you throughout the scan to make sure that you are comfortable and will give you a buzzer that alerts us of an issue. You can stop the scanning procedures at any time.

5. Risk of EEG

The sensors on the device helmet will record the activity in your brain and do not produce any sensation. It is possible that wearing the about 1.5 pound headset will be experienced as uncomfortable. You can stop these procedures at any time if you are uncomfortable.

There may be risks associated with this study, which are currently unforeseeable.

For more information about these risks and side effects, ask your study doctor.

If we find out during the study that you may be a danger to others or to yourself we will need to contact emergency services or the police department to ensure that you and others are safe.

ARE THERE RISKS TO THE REPRODUCTIVE SYSTEM OR A DEVELOPING FETUS?

The effects of the MRI procedures may pose some unforeseeable risks to a developing fetus. For this reason, participants in this investigational study should not become pregnant and we require that all female participants take a pregnancy test on Study Visit 1 before the MRI scan. If you have a positive pregnancy test, we will withdraw you from the study. If you become pregnant or if there is any chance of pregnancy (e.g., late menstrual period), please contact the study personnel immediately so that we may provide medical assistance and counseling.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY?

In addition to the benefits listed at the beginning of this form the investigator may also learn more about how brain function drives binge eating.

WHAT HAPPENS IF YOU CHANGE YOUR MIND ABOUT PARTICIPATING?

If you decide that you no longer wish to continue in this study, you will need to let Dr. Frank or a member of his research staff know.

You will be told if any important new information is found during the course of this study that may affect your wanting to continue.

CAN YOU BE REMOVED FROM THE STUDY WITHOUT YOUR CONSENT?

The study doctor may decide to stop your participation without your permission if the study doctor thinks that being in the study may cause you harm, or for any other reason.

WHAT ABOUT CONFIDENTIALITY?

Every reasonable effort will be made to keep your records confidential. All data will be kept in a locked file cabinet only accessible to the study team, and on a password protected computer. All direct identifying information such as name and medical record number will be destroyed at the end of the study.

While you are in this study all related records may be made available to:

- The funding sponsor (National Institute of Mental Health)
- The UCSD Institutional Review Board (for the protection of human subjects in research)
- Other regulatory agencies responsible for overseeing research, such as the federal Office for Human Research Protections
- The Food and Drug Administration (FDA)
- The study doctor and his research team

A copy of this form, and the HIPAA authorization form that you will sign will be placed in your medical record. Your records and information will not be released without your permission unless required by law.

This research is covered by a Certificate of Confidentiality from the National Institute of Mental Health (NIMH). Researchers with this Certificate may not disclose or use information, documents, or biospecimens that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other action, suit, or proceeding, or be used as evidence unless you have consented for this use. Information, documents, or biospecimens protected by this Certificate cannot be disclosed to anyone else who is not connected with the research *unless* there is a federal, state, or local law that requires disclosure (such as to report child abuse, elder abuse, intent to hurt self or others, or communicable diseases), you have consented to the disclosure, including for your medical treatment; or it is used for other scientific research, as allowed by federal regulations protecting research subjects.

The Certificate cannot be used to refuse a request for information from personnel of federal or state government agency sponsoring the project that is needed for auditing or program evaluation by [name funding agency] which is funding the project or for information that must be disclosed in order to meet the requirements of the Food and Drug Administration (FDA). You should also understand that a Certificate of Confidentiality does not prevent you from voluntarily releasing information about yourself or your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide consent to allow the research to release it.

The Certificate of Confidentiality will not be used to prevent disclosure for any purpose you have consented to in this informed consent document including research data in the medical record.

Under California law, we must report information about known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder including physical, sexual, emotional, and financial abuse or neglect. If any investigator has or is given such information, he or she may be required to report such information to the appropriate authorities.

We may need to report information about known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder including physical, sexual, emotional, and financial abuse or neglect. If any investigator has or is given such information, he or she may report such information to the appropriate authorities.

Personal identifiers might be removed from the information or biospecimens collected as part of the research. After such removal, the information or biospecimens could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

Biospecimens (such as blood, tissue, or saliva) collected from you for this study and/or information obtained from your biospecimens may be used in this research or other research, and shared with other organizations. You will not share in any commercial value or profit derived from the use of your biospecimens and/or information obtained from them.

If the study results are published or presented, you will not be identified.

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This Website will not include information that can identify you. At most the Website will include a summary of the results. You can search this Website at any time.

WILL YOU RECEIVE ANY RESULTS FROM PARTICIPATING IN THIS STUDY?

You may request a copy of the in-depth diagnostic psychiatric interview, which may be helpful to your treatment provider. You may also request to review this interview with the PI. If you would like a copy of the interview results, please let Dr. Frank or his research staff know and they will print you a copy of the results. You may call Dr. Frank with questions or if you would like to review the interview results with him. You will not receive any other results from participating in this study.

WHAT ARE THE COSTS?

There are no costs associated with participation in this study.

WHAT IF YOU ARE INJURED IN THE STUDY?

If you are injured as a direct result of participation in this research, Rady Children's Hospital – San Diego or the University of California will provide any medical care needed to treat those injuries. Neither Rady Children's Hospital – San Diego nor the University will provide any other form of compensation to you if you are injured. You may call the Human Research Protections Program Office at 858-246-HRPP (858-246-4777) for more information about this, to inquire about your rights as a research subject or to report

research-related problems.

WILL YOU BE COMPENSATED?

- You will be paid $25 for the Questionnaire Packet and Initial Screenings.
- You will be paid $25 for the In Person Interview with the PI.
- You will be paid $100 for the MRI Scan.
- You will be paid $100 for the EEG Scan.

This will add up to a total of $250 if you complete all the visits and win the maximum when playing the guessing game. If you leave the study early, or if we have to take you out of the study, you will be paid only for the visits you have completed.

If there are any issues that arise after you have arrived at the MRI Center on the day of your Study Visit (such as a problem with the MRI or EEG machine) that require rescheduling the Study Visit, we will compensate you an additional $50 for your time. If this occurs, the total compensation will be $300.

If you are excluded prior to Study Visit 1, your compensation will be in the form of an electronic gift card to Amazon or Target.

It is important to know that payments for participation in a study is taxable income and we have to report your compensation to the IRS. If you are excluded or stop your participation in the study prior to completing the first MRI Scan/Study Visit, it will not be necessary for us to report your electronic gift card amount to the IRS.

You will receive a flash drive that contains an image of your brain for you to keep. However, this image will not be read by a radiologist and therefore is not diagnostic or able to tell us for sure if you have anything wrong with your brain. If you have any questions or concerns about your scan, please contact Dr. Frank directly at 858-246-2053.

WHO DO YOU CALL IF YOU HAVE QUESTIONS OR PROBLEMS?

For questions about the study or a research-related injury, contact the researcher:

Guido Frank
gfrank@health.ucsd.edu
858-246-2053

WHAT ARE YOUR RIGHTS AS A RESEARCH SUBJECT?

Taking part in this study is voluntary. You may choose to not take part or you may choose to leave the study at any time. Your decision will not result in any penalty or loss of benefits to which you are entitled. If you have questions about your rights you may call:

You will be told about any new information that may affect your health, welfare, or willingness to stay in this study.

Consent to be Contacted for Future Research Studies (Optional)

There may be future studies that you are eligible to participate in. Please initial below whether you agree or do not agree for us to contact you about participating in future studies. This is optional. Your decision to participate, or to not participate, in these additional procedures will not affect your ability to participate in the main study you agreed to above.

Initial next to your choice:

_____ You agree to be contacted for future research

_____ You **do not** agree to be contacted for future research

Consent to Allow the Research Team to Share your Information with UC San Diego Health Eating Disorders Center for Treatment and Research (Optional)

You may also opt-in to allowing the research team to share your information in the following manner below.

Initial next to your choice:

_____ You agree to allow the data collected to be shared with your health provider at UC San Diego Health Eating Disorders Center for Treatment and Research (e.g. to assist clinicians and treatment teams in assessing which strategies might be most effective based on your current measures).

_____ You **do not** agree to allow the data collected to be shared with your health provider at UC San Diego Health Eating Disorders Center for Treatment and Research (e.g. to assist clinicians and treatment teams in assessing which strategies might be most effective based on your current measures).

Initial next to your choice:

_____ You agree to allow the data collected to be shared with researchers/research teams at UC San Diego Health Eating Disorders Center for Treatment and Research for use in other eating disorder research studies.

_____ You **do not** agree to allow the data collected to be shared with researchers/research teams at UC San Diego Health Eating Disorders Center for Treatment and Research for use in other eating disorder research studies.

SIGNATURE AND CONSENT TO BE IN THE STUDY:

Your signature below means that you have read the above information about this research study and have had a chance to ask questions to help you understand what you will do in this study and how your information will be used.

You can change your mind later if you want to. You will be given a copy of this consent form and a copy of the Subject's Bill of Rights. By signing this consent form you are not giving up any of your legal rights.

You agree to participate in this research study.

NAME OF PARTICIPANT	AGE
SIGNATURE OF PARTICIPANT	DATE
SIGNATURE OF THE PERSON CONDUCTING THE INFORMED CONSENT DISCUSSION	DATE

SUBJECT'S BILL OF RIGHTS

It is important that the purpose and procedures of the research study are fully understood and that consent is offered willingly. A subject in a research study or someone, who is asked to give consent on behalf of another person for such participation, has the right to the following:

1. Be informed of the nature and purpose of the research.

2. Be given an explanation of all procedures to be followed and of any drug or device to be used.

3. Be given a description of any risks or discomforts, which can be reasonably expected to result from this research study.

4. Be given an explanation of any benefits, which can be reasonably expected to the subject as a result of this research study.

5. Be informed of any appropriate alternative procedures, drugs, or devices that may be advantageous and of their relative risks and discomforts.

6. Be informed of any medical treatment, which will be made available to the subject if complications should arise from this research.

7. Be given an opportunity and encouraged to ask any questions concerning the study or the procedures involved in this research.

8. Be made aware that consent to participate in the research may be withdrawn and that participation may be discontinued at any time without affecting continuity or quality of medical care.

9. Be given a copy of the signed and dated written consent form.

10. Not be subjected to any element of force, fraud, deceit, duress, coercion, or any influence in reaching the decision to consent or to not consent to participate in the research.

If you have any further questions or concerns about your rights as a research subject, please contact your research doctor or the UCSD Human Research Protections Program at 858-246-HRPP (858-246-4777).