1. Project Identification and Abstract

1.1. * Type of Submission:

- Research Protocol or Study on Human Subjects
- Grant/Contract Only
- Facilitated Review (NCI CIRB)
- USC/CHLA Collaborative Review
- Use of Humanitarian Use Device (Not Research)
- Ceded Review (Utilize approval by an outside IRB)

1.2. * Full Title of Research Protocol

Social and Moral Development, Phase II

aka Development of Conduct Problems: Genetic and environmental interface
aka Risk Factors for Antisocial Behavior

1.3. * Short Title

Social and Moral Development, Phase II

1.4. Abstract: Provide a simple explanation of the study and briefly address (in 1 to 2 sentences) each of the following points: rationale; intervention; objectives or purpose; study population or sample characteristics; study methodology; description of study arms (if appropriate); study endpoints or outcomes; follow-up; statistics and plans for analysis.

Risk factors and antisocial behavior and aggression, may be genetically and/or environmentally mediated. A longitudinal study of twins and their family members allows this major question to be addressed. In Phase I of this study (2000-2005), two waves of data collection have already taken place: 1st wave (twins age 9-10); 2nd wave (twins age 11-12). In Phase II (during 2008-2010), we aim to re-test as many of the original subjects as possible on two more occasions: 3rd wave (twins age 14-15); 4th wave (twins age 16-17). The 3rd wave assessment obtains information about the children’s prosocial and antisocial behavior, cognitive abilities, and physiological responses (heart rate, sweating) for a variety of stimuli (emotional pictures, mild tones and other noises). Assessments of their social environments and experiences are also made, through interviews of the twins and their primary caregivers, as well as information from the schools and teachers. The primary focus of the study remains the same as in Phase I: to understand the roots of aggressive and antisocial behavior. Our aim is to continue this study until the children are young adults (age 25).

1.5. * Select which IRB you are requesting review from:

USC-University Park Campus (UPC)

2. Study Personnel

2.1. Study Personnel and their roles:

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Organization</th>
<th>Study Role</th>
<th>Certifications</th>
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<td>PSYCHOLOGY</td>
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<td>NEUROSCIENCE</td>
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1/39
2.2. Is the Principal Investigator a student, resident, fellow, other trainee, or visiting scholar at USC/CHLA?
   - Yes
   - No

2.3. If there are any individual collaborators from other institutions, check here:

2.5. Specify the group/organization who has reviewed this study for scientific merit:

2a. Collaborators from other institutions

   This screen is required if there are collaborators from other institutions (Question 2.3.)

   Collaborators from other institutions:
   
<table>
<thead>
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<th>Last Name</th>
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<th>Role</th>
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<td></td>
<td></td>
<td></td>
<td>Statistical genetic analyst</td>
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4. Funding Information

4.1. What existing, planned, or pending support will be used for this study? (check all that apply)
   - Cooperative Group (SWOG, COG, RTOG, etc.)
   - CTSI
   - Department of Defense (DOD) Funds
   - Departmental/Institutional Funds
   - Federal Grant/Contract
   - Foundation Grant/Contract
   - Industry
   - Intramural/Internal Grant
   - Residual Funds
   - State or Local Grant/Contract
   - Subcontract from another institution
   - No Funding
   - Other

4.2. If the funding source has undergone separate review by the IRB (i.e., cooperative group grants, umbrella grants, multi-project/program grants, center grants), try to select it from the list using the "Add" button. If the funding source is not displayed in the list, enter the information in question 4.4.

   Grant #  Principal Investigator  Grant Title
4.2.1. If the grants selected in question 4.2 fund multiple studies, please attach the specific pages of the grant that are relevant to THIS study.

4.4. Add the details of each source of funding for this study.

Sponsor | Principal Investigator | Type of Funding
---------|------------------------|------------------

5. Type of Study Review

5.1. Select the type of review that you are requesting for this study:

- Full Committee Review
- Expedited Review
- Exempt Review
- Coded Specimens/Data

5a. Type of Study Review - Expedited Review

This screen is required if you are requesting an expedited review for this study (Question 5.1.) If this is the incorrect review type, please return to page 5 to make changes.

5a. If you checked expedited review, please choose the applicable category from the list and attach your data collection forms below (click on the abbreviated category to receive the full description):

- (1) Clinical studies of drugs and medical devices only when condition (a) or (b) is met...
- (2) Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture...
- (3) Prospective collection of biological specimens for research purposes by noninvasive means...
- (4) Collection of data through noninvasive procedures routinely employed in clinical practice, excluding procedures involving x-rays or microwaves...
- (5) Research involving materials that have been collected, or will be collected solely for nonresearch purposes...
- (6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- (7) Research on individual or group characteristics or behavior or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies...

6. Study Location(s)

6.1. Select the locations where this study will be conducted by the USC/CHLA investigator(s) (check all that apply):

- HSC - Health Sciences Associated Locations
- UPC - University Park Associated Locations
6.2. Are there other sites besides USC/CHLA involved in the research?
   ☐ Yes  ☐ No

6.3. Is USC/CHLA the coordinating site or are there sites where USC/CHLA is conducting the study?
   ☐ Yes  ☐ No

6b. UPC Location(s)

This screen is required if you indicated UPC - University Park Associated Locations (Question 6.1.)

6b.1. UPC Locations (check all that apply and provide detail where indicated):

   Location
   ☑ Faculty office
   ☑ Campus location (includes ISI and ICT)
   ☐ Off-campus location

   If campus location, please specify:

6b.2. If off-campus location, please specify:

9. Methods and Procedures - Selected Descriptors/Community Engaged Research

Note: The list of items below IS NOT an all-inclusive list of methods and procedures available to investigators. The list only includes items that will trigger additional questions specific to areas of research or are necessary for the review process.

9.1. This study will involve: (check all that apply)
   ☑ Prospective collection of data/specimens
   ☐ Use of existing or retrospective data/specimens

9.2. Study Procedures: (check all that apply)
   ☑ Audio/Video Recordings or Photographs
   ☑ Behavioral Observations and/or Behavioral Experimentation
   ☐ Behavioral Interventions
   ☐ Deception
   ☑ Interview/Focus Groups
   ☐ Population-based Field Study
   ☑ Psychophysiological Testing
   ☑ Surveys/Questionnaires/Psychometric Testing
9.4. Will data from this study be submitted to the NIH Genome-Wide Association Studies (GWAS) data repository?  
☐ Yes  ☐ No

9.5 Does your study involve community-engaged research (community-engaged research addresses community needs and involves the community in research plan, conduct of study, etc)?  
☐ Yes  ☐ No

10. Characteristics of the Study Subject Population

10.1. What is the maximum number of subjects you plan to recruit for this site? (Integer values only)  
2355

10.1.1. If this is a multi-site study, indicate the projected total subject accrual. (Integer values only)

10.1.2. If necessary, provide further explanation of accrual goals for all subject populations.  
The original sample in Phase I (Waves 1 and 2) was 1857 (i.e., twins and triplets from 616 families, plus their primary caregivers). An additional 166 families (n=498 twins and caregivers) were added in Phase II (Wave 3), bringing the total number of participants to be 2355. Only subjects who previously participated in Waves 1, 2, or 3 have been invited to participate in Wave 4.

Although the target accrual was requested to be 2499, the actual enrollment for this study is N=2355. Please note that somewhere along the way in our continuation applications in Wave 4, the total number of ENROLLED subjects became inaccurately counted. An amendment requested that the number of enrolled participants be modified to reflect the correct number of tested subjects in Wave 4.

Also note that no new subjects have been recruited for Phase II of this study. All participants in Wave 4 were previously enrolled (i.e., participants in earlier waves.)

No new recruitment materials will be required, as these families are already in our database and are just now being contacted for participation. Most of them have been in contact with our staff previously, but just have never been scheduled.

An addendum was added for previous participants, and an addition was been made to the 4th Wave consent forms to include the analysis of specific DNA sequences known to be associated with particular aspects of behavior, mood, and social functioning.

We also attach here the new Certificate of Confidentiality from , which will apply to all new families in Phase II of this study.

10.2. Describe the inclusion criteria for enrollment.  
All families (n=616) who participated in the 1st wave assessment are eligible to participate in Phase II of
this longitudinal study. This includes the twins or triplets (n=1241 children) and their caregivers (n=616), for a total N=1857 individuals.

New families were recruited using the same procedures as in 1st wave, i.e., through letters sent to families identified as having twins, explaining the study in detail and inviting them to contact us if they are interested in participating. Based on our earlier recruitment efforts in 1st wave, we have an abundance of families in our current twin register, who did not participate at that time but who have already expressed an interest in participating in our studies. These families will be used as the primary source from which we will sample new families to replace any that are lost from the original sample. The only requirement for participation of new families are (1) the twins must be age 14 or 15-years old at the 3rd wave assessment; (2) twins must be proficient enough in English to understand the interviews and procedures; and (3) the primary caregivers must be proficient in either English or Spanish. We interview the children in English only, and the caregivers are interviewed in either English or Spanish. All participants in the 1st wave are eligible for 3rd wave testing.

Including original subjects in Phase I, along with new families recruited in Phase II, the TARGET enrollment was 2355 (including original Wave I families, plus new families recruited in Wave 3).

No new subjects were enrolled for Wave 4. Only subjects who participated in one of the earlier waves were eligible for participation in Wave 4.

10.3. Describe the exclusion criteria for enrollment.
For new families, exclusions will be made on the basis of age of the twins (younger than 14 or older than 15), English proficiency in the children, and English or Spanish proficiency in the caregivers.

10.3.1. If there are any age, ethnic, language, or gender-based exclusion criteria, please provide justification.
For Wave 3, children (twins or triplets) must be 14 or 15 at the time of testing. Children must have spoken proficiency in English, while caregivers must have either English or Spanish proficiency.

11. Research Objectives and Background

11.1. Describe the specific objectives or aims of the study and hypotheses or research questions.
The proposed investigation utilizes a genetically informative twin-family design to study biological and social contributors to aggression and antisocial behavior. A primary objective is to understand both biological and social pathways between genes, experiences, and antisocial behavior. The study of twins’ behavior and psychophysiological responses enables the separation of genetic and environmental influences through statistical analyses of twin similarity (correlations).

The study will examine new data on the twins’ behavior and psychophysiological responding at ages 14-15, and again at ages 16-18. The new data will also be compared to prior data collected at earlier ages, in order to understand developmental pathways for aggressive and antisocial behavior from childhood to adolescence.

11.2. Provide a summary of the background of the study, and explain how this research will contribute to existing knowledge. Describe previous work that provides a basis to show that the proposed research can be carried out without undue risk to human subjects. Include relevant citations.
Biosocial models are becoming widely accepted in most domains of human behavior, including antisocial behavior. Biological factors, such as hormones, neurotransmitters, nutrition, and physiological arousal covary with antisocial behavior (Raine, 1993). Social factors also contribute significantly to antisocial behavior. Moreover, social factors may be especially important in amplifying the effects of biological variables. Our understanding of aggression and other antisocial behaviors, and thus our ability to avert them, requires detailed knowledge of the joint effects of biological and social factors, and particularly their interactions (Raine, Farrington, Brennan, and Mednick, 1997).
Both genetic and environmental factors also contribute to antisocial outcomes (Baker, 1986; Raine, 1993; Rhee & Waldman, 1997). The relative effects of heredity and environment depend on several factors, however, including age and type of antisocial behavior. Heritability appears greatest for adults and non-violent law-breaking behaviors, measured through criminal convictions.

Despite considerable attention to both biosocial models and gene-environment models of antisocial behavior, virtually no study has yet combined both types of models comprehensively. Investigating biological and social variables in a genetically informative design would provide the opportunity to disentangle their heritable and non-heritable sources of variation. Just as it would be erroneous to assume a priori that biological variables are purely genetically based, it would also be mistaken to assume that social variables are based purely on environmental or experiential factors. For example, the primary dimensions of socioeconomic status (education, occupation, and income) each show substantial genetic variance (Taubman, 1976; Posner, Baker & Martin, 1993; Tambs, Sundet, Magnus & Berg, 1989). Other studies have demonstrated non-genetic variance in measured biological variables: for example, hormonal variations in neonates have been largely explained by environmental factors (Sakai, Baker, Jacklin & Shulman 1992).

While biological markers such as physiological underarousal, known to be associated with delinquent outcomes, may be genetically based, environmental factors may also play a considerable role (Sakai, 1990; Lykken, Iacono, W.G., McGue, M., & Bouchard, T.J., 1988). For example, early experiences could conceivably mediate the known relationship between heart-rate and aggressive behavior.

The proposed investigation utilizes a genetically informative twin-family design to study biological and social contributors to aggression and antisocial behavior. A primary objective is to understand both biological and social pathways between genes, experiences, and antisocial behavior.

Specification of the genetic and environmental basis of both social and psychophysiological predictors of antisocial behavior is critical for understanding the causal nature of these predictors. From another perspective, it is also important to begin to identify exactly what biological and social factors may underlie any genetic basis of antisocial behavior. In spite of what limited evidence we currently have that biological factors do play some role in antisocial behavior, it is still unclear whether relationships among biology and antisocial behavior are genetically or environmentally mediated. It is also of critical importance to identify specific aspects of the environment that may serve as protective and/or risk factors. The ethnic and socioeconomic variability of the sample will also allow greater generalizability to the diverse population in Los Angeles, where antisocial, aggressive, and violent behavior present serious threats to the community at large.

12. Methods and Procedures - Prospective Studies

12.1. Describe in detail the design and methodology of the study. Provide a detailed description of the planned data collection, specific outcomes, and criteria for evaluation and endpoint definition. If applicable, include information on stratification or randomization plans. Include the frequency and duration of each activity and the total length of subject participation.

The study uses a Twin-Family design, which allows the investigation of both genetic and environmental factors in behavior. Twins and their primary caregivers will be studied using survey questionnaires, structured interviews, cognitive tests, and psychophysiological recording methods during a 4-5 hour visit to the laboratory. The 3rd wave assessment will be made when the children are aged 14-15 years. Surveys and structured interviews are administered to both the children and the caregiver, while cognitive tests and physiological measurements are only done in the children during 3rd wave. Physiological measures will assess heart rate, electrodermal (skin conductance), and electromyographic (cheek and brow muscle activity) responses. Saliva samples are also obtained from the twins to measure hormones related to stress and development. The assessments are primarily a subset of those used for 1st and 2nd waves, using procedures previously approved by the IRB in August 2000 (1st wave), and in an amendment during 2003 (2nd wave).

As in earlier assessments, during 3rd wave children will complete questionnaires concerning (a) their own antisocial (delinquent) and aggressive behavior, (b) their perceptions of their parents behavior toward him or herself and their co-twin, (c) their perceptions of their parents behavior toward one another, and (d)
characteristics of their peer groups. The questionnaires will be administered primarily in an interview format during the laboratory visits, although some questionnaires will be sent home and completed prior to their visit, to reduce the time of the laboratory visit. Surveys to be completed at home will involve the least sensitive information, such as self-reported personality traits and life events. A list of the childrens surveys and interviews is provided in Table 1.

Each childs resting heart-rate (HR) and skin conductance level (SCL) will be measured using electrodes attached to the wrist and hand. Children participate in a series of tasks during which HR and SCL are measured. These include several computer-administered tasks where the child listens to tones, watches short film clips, watches the presentation of letters and objects on the screen in front of them, or answers questions about their behavior and reactions to the procedures. A description of these tasks and the order in which they are presented are presented in Table 2.

Caregivers complete parallel questionnaires concerning their childrens behavior, as well as their own behavior. Caregivers also complete questionnaires concerning (a) family demographics, and (b) the probable zygosity (monozygotic or dizygotic) of the twins, based on their physical similarities. A list of the caregiver surveys is provided in Table 3.

We will also assess reading ability in both the twins and the primary caregivers. This information is used to evaluate the ability of participants to read and understand surveys, as well as to investigate the causes and effects of reading disability. Several additional cognitive tasks are also administered to the children, to assess global intellectual functioning. A list of these tasks and brief descriptions are provided in Table 4. The new tasks being added to 3rd wave are marked with an asterisk (*).

We routinely videotape the twins during their laboratory assessments, for purposes of coding their behaviors as part of our investigation. Although we had originally given participants the option of not being videotaped during 2nd wave assessment, we later realized the necessity of having a videotaped record in order to code for movement, facial expression, and other behaviors important to our investigation. DNA samples will also be collected from families for which zygosity could not be determined during Phase I (1st or 2nd waves) of the study. Previous samples failed to provide clear results for several families, due to weak samples, and various problems with the procedures used by the USC genotyping laboratory. In order to obtain accurate zygosity determination for families missing these results from Phase I, we will collect new DNA samples from the two twin and at least one parent, using non-invasive cheek-brushing procedures. DNA will be extracted from the brushes in the genetic testing laboratory at the USC Health Sciences Campus. The DNA samples from the twins and their parents were used to establish the zygosity of each same-sex twin pair.

We will also collect additional saliva samples from each child, in order to investigate cortisol changes during the course of the laboratory visit. This portion of the study was used in 2nd wave previously, and was approved by the IRB in June 2003.

A Teacher Survey will also be sent to each of the twins’ teachers. This survey asks about the behavior of each twin, as well as school performance. Schools are also asked to provide attendance records, achievement test scores, and behavior files for each twin.

A mail survey option will also be made available to families who are interested in participating in the followup study, but who cannot come to the lab for some reason. The mail surveys will require less than one hour for each child to complete at home, and less then 1.5 hours for the caregivers. The surveys and consent forms will be returned to USC by mail.

In addition to mail surveys, a phone survey option will be made available to families who are interested in participating in the 3rd wave follow-up, but who cannot come to the lab for some reason or cannot commit to a larger block of time. The phone surveys will require less than twenty minutes for the caregiver to complete and less than twenty minutes for each child to complete as well. Families would be sent an information sheet in the mail which would describe the phone survey procedures and inform them of our intent to call them. The actual survey procedure would consist of a tester asking each participant a short series of questions, lasting less than 20 minutes per participant. Consent will be obtained verbally over the phone, and notes will be logged regarding verbal consent.

Families who cannot be reached by phone will be sent the “phone surveys” through the mail, in what we now call the “short mail survey” packet. As described elsewhere, the phone surveys are a subset of the
larger set of surveys used in the lab. This packet is not as extensive as the regular mail survey packet that has been used for the past two years in 3rd wave.

All participants who have completed any of the Wave 1, 2, or 3 assessments will be invited for a 4th wave assessment, when the twins are age 16-18. The Wave 4 protocol involves a subset of measures and procedures used in previous waves, including both surveys, interviews and psychophysiological recording. Several new measures have been added or used to replace earlier instruments which are no longer age appropriate for the children.

The possibility of genetic markers for social and antisocial behavior will be investigated by looking at specific DNA sequences known to be associated with particular aspects of behavior, mood, and social functioning. Consent forms for DNA have been modified to include this possibility, along with the previously approved procedure to examine DNA for purposes of zygosity determination. Although we may find associations between gene variations and behavior in the total sample in this study, these associations will not provide information with enough precision to say anything meaningful about one person. We do not know how to apply these results to the prediction of individual behaviors or psychological traits. Therefore, with the exception of the zygosity determination based on subjects' DNA samples, no other information specifically will be given to an individual subject regarding their DNA.

12.1.a  If needed, copy-and-paste any tables here and reference in the question above. (Please remove table from here and attach as a document at 40.1. This is a deprecated field - only used for existing studies.)

Tables were loaded as attachments in response to staff queries prior to the review.

12.1.2.  Provide a detailed description of the planned data collection, specific outcomes, and criteria for evaluation and endpoint definition.

The 3rd wave assessment in this longitudinal study will take place during a 4-5 hour laboratory visit at USC (main campus). Some surveys will be sent home for completion prior to the lab visit, in order to reduce the length of the in-lab assessment.

The behavioral outcomes (aggression and antisocial behavior) in the children will be compared between twins to investigate genetic and environmental effects. If monozygotic (MZ) co-twins are more similar in their behavior compared to dizygotic (DZ) co-twins, genetic influence in the behavior are inferred. Aggressive and antisocial behavioral outcomes will also be compared to the measured risk factors in 3rd wave (personality, relationships with parents and peers, home environment, psychophysiological responses, cortisol levels) to investigate further the etiologies of behavioral problems during adolescents. Correlations between 3rd wave data and earlier assessments will also be computed, in order to investigate the developmental course of antisocial behavior from childhood to adolescence.

A reduced protocol is available for families who choose to participate in the laboratory visit, but who do not have sufficient time to complete the full laboratory assessment.

An internet survey protocol is also available as an option for participation in 3rd wave. This is roughly equivalent to the Mail Survey option, but all surveys are done on-line using Qualtrics survey system.

A phone survey protocol is also available as an option for participation in 3rd wave. The protocol has been greatly reduced, and all surveys are done over the telephone.

A "short mail survey" option is also available, which involves sending the phone surveys through the mail to any original participants who have not withdrawn from the study, but who have not participated in some other way (lab visit, regular mail survey, internet survey, phone survey).

The 4th wave laboratory assessment involves a subset of previously used tasks and measures, with exception of a few surveys which have replaced earlier ones or which are more appropriate for this age group. The total lab visit will take approximately 3.5 hours for the entire family (both twins and the caregiver).
12.2. Describe the statistical considerations for the study, how the sample size was determined, and how the results will be analyzed, if applicable.
Genetic and environmental influences are investigated by examining correlations between co-twins, and comparing these for MZ and DZ pairs. Correlations between behavioral outcomes and risk factors (social and biological) are used to investigate further the etiology of behavioral problems. The original sample size of 605 families was determined to provide sufficient power for detecting genetic and shared family environmental influences of a modest magnitude. Retaining as many of these original families as possible in the 3rd and 4th waves of this study will be critical for longitudinal analyses, i.e., so that we may predict adolescent behavior from earlier childhood measures.

19. Methods and Procedures - Interview/Focus Groups

*This screen is required if you indicated the use of Interview or Focus Groups as a procedure (Question 9.2.)*

19.1. Attach copies of any scripts and/or questions that will be used to guide the interviews/groups.

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20. Methods and Procedures - Psychophysiological Testing

*This screen is required if you indicated the use of Psychophysiological Testing as a procedure (Question 9.2.)*

20.1. List all instruments and psychophysiological measures that will be used for this study.

Table 2: 3rd Wave Psychophysiology Assessment - Task Descriptions

<table>
<thead>
<tr>
<th>NOTE: HR = Heart Rate; RSA = Respiratory Sinus Arythmia; (cardiovascular) SCL = Skin Conductance Level; SCR = Skin Conductance Response; NS-SCR = Non-specific Skin Conductance Response; TV = Tonal volume (cardiovascular); EMG = Electromyographic (face muscle) activity</th>
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<tr>
<td>1. Rest periods 1 and 2: Task: Each rest period consists of 3 minutes where subjects sit quietly. Measures: Resting (or baseline) autonomic responses including heart rate (HR), respiratory sinus arrhythmia (RSA), tonal volume (TV), skin conductance level (SCL) and skin-conductance responses (SCRs).</td>
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<td>2. Orienting: Task: Consists of 5 minutes in which different sounds (such as a cuckoo clock, rooster, and a baby crying) are presented. Measures: autonomic responses including, HR, SCR, RSA, TV</td>
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<td>3. Go/NoGo: Task: subjects are presented a four-square matrix in which either the letter P or R will appear randomly in one of the four quadrants. One letter, the target letter, is presented frequently and the other rarely. Subjects are asked to make a motor response to the frequent letter (go) and withhold their response to the infrequent letter (no-go). Measures: behavioral responses to the Go and NoGo letters (errors of omission and commission and Go reaction times).</td>
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<td>4. Startle: Task: subjects are presented a series of slides depicting pictures designed to elicit positive and negative emotions. Slides are followed by a brief blast of white noise. Measures: autonomic responses (HR, RSA, TV, SCR/SCL) as well as Electromyographic fluctuations (EMG) or recordings of orbicularis oculi muscle of the left eye.</td>
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<td>5. Count-down: Task: subjects are presented with numbers counting down from 12-0; when the number hits 0, subjects are present a brief blast of white noise. In addition, the subjects are also presented with white noise that does not follow the number count-down. Measures: autonomic responses (SCR, HR, RSA, TV).</td>
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<td>6. Mental Arithmetic: Subjects are asked to perform mental arithmetic (subtracting the number 13 repeatedly, beginning with the number 1271). The subject must start over whenever a mistake is made, and continue subtracting for two minutes. Measures: autonomic responses (HR, NS-SCRs, RSA).</td>
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7. Embarrassing Questions: Task: subjects are asked to respond to various negative (embarrassing) and neutral behaviors. Measures: autonomic responses (HR, NS-SCRs, RSA).

8. Speech Task: Task: subjects are asked to make a 3 minute speech, in which they are required to complete an original ending to a suspenseful story. Measures: autonomic responses (HR, SCR, RSA) as well as behavioral responses of shame or guilt (such as looking away, putting head down, or blushing).

9. Gambling Task: Task: subjects are asked to select any card from a choice of four decks. The card they select will either give them money (a large or small sum) or take away money (a large or small sum). The goal of the game is to make as much money as possible. Some decks are more risky and give a large amount of money, but also take away a large amount as well, while other decks are more conservative. Measures: autonomic responses (HR, SCR, RSA) as well as behavioral responses (such as how often subjects pick from a high-yielding deck vs. picking from a more conservative deck).

*New Task in 3rd wave. All other tasks not marked with an asterisk were used in prior assessments during either 1st and/or 2nd wave.

4th wave psychophysiology testing includes items 1-3, 5 and 9 from above. One new task is included in the 4th wave assessment:

10. Conditioning Task: Subjects view 6-8 slides (previously used in the Startle Task, #4 above), while the slides are paired with various tones which vary in loudness (maximum 90 db).

20.1.1. **Attach information or diagrams that explain how the measures are being used, if applicable.**

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### 21. Methods and Procedures - Surveys/Questionnaires/Psychometric Testing

_This screen is required if you indicated the use of Surveys, Questionnaires, or Psychometric Testing (Question 9.2.)_

21.1. **List all of the measures/instruments that will be used for this study and attach copies below. Explain the purpose of the measures and indicate if any have been previously validated.**

   **Table 1: Child surveys**

   - Conflict Tactic Scale - Caregiver Revision 3
   - Child Aggression Questionnaire
   - Twin Life Events
   - Parental Monitoring - Primary Caregiver (Wave 3 Revision)
   - Child Psychopathy Scale
   - Pubertal Development Scale - Self Report
   - Alcohol Expectancy Questionnaire
   - Peer Delinquency Interview/Substance Use and Influence Questionnaire
   - Child Friendship Questionnaire
   - Parent to Child Affect
   - Delinquency Interview - 3
   - Child Behavior Checklist
   - Antisocial Process Screening Device - Twin Self-Report
   - Barratt's Impulsivity Scale
   - Nutrition Diary: Home assessment
   - Nutrition Diary: In-lab assessment
   - Substance Use - Revised
   - Awards and Activities
   - Junior Temperament Character Inventory
   - Interpersonal Reactivity Index
   - Twin CES-D (Depression)
   - Zung Anxiety Scale
Romantic Relationships
HARE Psychopathy Checklist: Youth Version
Diagnostic Interview Schedule for Children (Structured interview) *
* No computerized copy available. Paper copy available upon request.

Table 2: Psychophysiology tasks

Table 3: Caregiver surveys

Conflict Tactic Scale - Caregiver Revision 3
Child Aggression Questionnaire
Parental Monitoring - Primary Caregiver (Wave 3 Revision)
Child Psychopathy Scale
Twin Pubertal Development Scale
Twin's medication info sheet
Parent to Child Affect
Antisocial Process Screening Device - Parent Version
Awards and Activities
Parents and Peers
Head Injuries Survey
Demographics Questionnaire
Child Behavior Checklist
Conflict Tactic Scale - Spouse
Substance Use - Self
Substance Use - Other biological parent
Substance Use - Step-parent/other figure
Barratt's Impulsivity Scale - Caregiver
Nutrition Diary: Home assessment
Nutrition Diary: In-lab assessment
Your Neighborhood
Perceived Stress Scale
Caregiver Life Events
Caregiver CES-D
Diagnostic Interview Schedule for Children (Structured interview) *
* No computerized copy available. Paper copy available upon request.

Table 4: Cognitive tasks in children: 3rd wave

Trails A & B
Wisconsin Card Sort Task
Woodcock Johnson (Reading Measures)
Letter Word
Word Attack
*Reading Fluency
*Passage Comprehension

*New Task in 3rd wave. All other tasks not marked with an asterisk were used in prior assessments during either 1st and/or 2nd wave.

Table 5.
Teacher survey.

Table 6: New 4th wave Surveys and Interviews for children
EPQ - Personality
EQ - Empathy Questionnaire
TCI - Personality
Social Attitudes Survey
Theory of Mind (TOM)
PAI - Borderline Personality Traits

Table 7: New Online Survey
21.2. Attach copies of all measures/instruments that will be used for this study.

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22. Special Subject Populations

22.1. Indicate any vulnerable subject populations you intend or expect to enroll in the research: (check all that apply)

- Normal Volunteers
- Employees or Students
- Adults not Competent to Consent (or likely to lose the capacity to consent during the study)
- Non-English Speaking Populations
- Minors (subjects under 18 years of age)
- Pregnant Women / Human Fetuses
- Neonates (infants under 30 days old)
- Prisoners/Detainees
- Wards
- None of the above

22d. Special Subject Populations - Non-English Speaking Subjects

This screen is required if you indicated you will be recruiting non-English speaking subjects (Question 22.1.)

22d.1. Describe how you will communicate with non-English speaking participants. (check all that apply)

- The use of interpreters
- Translated informed consent documents
- Translated short forms
- Other

22d.1.1 Please explain:

Spanish-speaking schedulers and testers will be used to communicate with Spanish-speaking participants (caregivers). Surveys, consent forms, and all other written communication will be translated into Spanish for these participants.

22d.2. If the study will likely include subjects and families for whom Spanish is the primary language, the consent documents must be translated into Spanish. Select the method of translation.

- Investigator will provide the IRB with a translation of the approved consent form
- Request that the IRB office translate (HSIRB Only)
22d.3. If the research will primarily include subjects who speak a language other than English or Spanish, the informed consent documents should be translated into that language. Indicate the languages and method of translation.

Language Translation Method

There are no items to display

22e. Special Subject Populations - Minors

This screen is required if you indicated Minors (subjects under 18 years of age) as a special subject population (Question 22.1.)

22e.1. Provide a justification for involving minors in this research: (check all that apply)

☐ The condition, situation, or issue under study affects minors.

☐ Adults have already been studied, but we do not yet know how minors are affected.

☐ The condition does not affect adults, only children.

☒ Other

Please explain:

Our objective is to understand the development of conduct problems in children and adolescents. Thus, a population of minors is required, since they are the subject of study.

22e.2. Choose the proposed category of permissible research with children.

Category

☐ a. 46.404 - Research not involving greater than minimal risk.

☐ b. 46.405 - Research involving greater than minimal risk but presenting the prospect of direct benefit to the individual subjects.

☐ c. 46.406 - Research involving greater than minimal risk and no prospect of direct benefit to individual subjects, but likely to yield generalizable knowledge about the subject's disorder or condition.

☐ d. 46.407 - Research not otherwise approvable which presents an opportunity to understand, prevent, or alleviate a serious problem affecting the health or welfare of children.

22e.3. Indicate the age ranges of the minors involved in this research: (check all that apply)

7 years - 13 years

14 years - 17 years

23. Study Resources

23.1. Describe the time the investigators have available to conduct and complete the research and justify that it is sufficient. Please check-off the items that apply to this study.

☐ Employed interns, residents, fellows, or postdocs with dedicated time to conduct this research.

☒ Employed faculty and or staff with dedicated time to conduct this research.

☒ Students with dedicated time as part of their training to conduct this research.

☒ Volunteers

☐ Other
23.1. Please specify:

The 3rd wave assessment will be conducted over the course of three years. We expect to assess up to 20 families per month, which will provide ample opportunity to complete assessments of 605 families (i.e., since 20 x 36 = 720).

4th wave assessments will be conducted over the course of 2.5 years. We aim to test 20 families per month, which should be ample time.

23.2. Describe the staff and justify their qualifications. Please check-off the items that apply to this study.

- All biomedical investigators are privileged and credentialed to perform the study activities in the study locations.
- All study staff are trained and credentialed to perform the duties assigned to them.
- All study staff have fulfilled the training mandated by their respective departments or institutions.
- Other

23.2.1. Please specify:

Most existing staff members worked on this project during Phase I, i.e., doing assessments during 1st or 2nd wave. They are already trained to do the interviews, cognitive tests, and structured interviews. New staff will be hired as needed, and provided extensive training in the methods and procedures. Most testers will hold a BA or MA already, although some advanced undergraduates will also be trained as testers. New testers undergo about four weeks of training, and are supervised throughout the project, through examination of videotapes, review of their scoring, and weekly meetings with supervisors. Teams of three testers are required for each family, so there is a good opportunity for training and supervision, especially of new testers.

23.3. Describe the study facilities and justify they are adequate.

Data collection is performed in the laboratory of the PI, in the laboratory. Two suites of offices are used where all computers and other equipment are housed. Computer servers which store the data are also housed in these rooms, and are kept in well secured inner rooms with deadbolt locks that are used after working hours.

23.4. Describe how staff and others will receive necessary information and training to assist in the conduct of this study.

Extensive training is provided to all testers prior to their being allowed to meet any of the participants. This involves meeting with supervisors, reading background materials, watching training videos, and practicing tests with existing staff members who are already experienced testers. Weekly meetings are held for testers to review ongoing issues, and their work is reviewed with 24 hours of testing for any given family.

23.5 Describe the method(s) by which subjects will be identified, eligibility will be determined, and by whom. (deprecated field, used to be 23.1 - only used for existing studies)

All families who participated in the 1st wave assessment are eligible to participate in Phase II of this longitudinal study.

New families will be recruited using the same procedures as in 1st wave, i.e., through letters sent to families identified as having twins, explaining the study in detail and inviting them to contact us if they are interested in participating. Based on our earlier recruitment efforts in 1st wave, we have an abundance of families in our current twin register, who did not participate at that time but who have already expressed an interest in participating in our studies. These families will be used as the primary source from which we will sample new families to replace any that are lost from the original sample.

The only requirement for participation of new families are (1) the twins must be age 14 or 15-years old at the 3rd wave assessment; (2) twins must be proficient enough in English to understand the interviews and procedures; and (3) the primary caregivers must be proficient in either English or Spanish. We interview the children in English only, and the caregivers are interviewed in either English or Spanish. All participants in the 1st wave are eligible for 3rd wave testing.
24. Subject Recruitment and Informed Consent

24.1. Recruitment Tools that will be used by the local site (check a box only if your site will control the use or distribution of the recruitment tool): (check ALL that apply)

- E-mail/Electronic Mailing List
- Brochure
- Flyers
- Letters
- Newspaper/Magazine Advertisements
- Radio/Television Announcements
- Subject or Participant Pool
- Telephone Scripts
- Verbal (Personal Solicitation)
- Website / Social Media Outlets
- Other
- None of the above

24.1.1. Please specify:
Subjects have already participated in Phase I of this project.

24.1.2. Describe how you will be obtaining contact information:

24.1.3. Describe in detail all recruitment strategies for each participant group (including controls) involved in this study. Explain who will approach the participants, how and when the participants will be approached, and what will be said. (deprecated field, used to be 24.3 - only used for existing studies)

Twins were originally recruited through the local school districts as well as through private schools in Los Angeles. Monozygotic (MZ) and dizygotic (DZ) twins are studied, including both males and females, and both same-sex and opposite sex pairs. We aim to re-assess as many of the 605 families as possible in the 3rd wave assessment, when the children are 14-15 years old. The original families are already aware that they will be contact for participation in this new phase, since (a) they were told this during their prior visits and (b) they were reminded of this in a recent newsletter sent to them. Families will be contacted (by letter and by phone) to schedule their 3rd wave assessment during a time when their twins are in the specified age range (14-15). Based on their anticipation of this new assessment, some families have already called us to inquire about setting up an appointment for 3rd wave testing.

New families will be recruited from the same population to replace any families who drop out of the study, so that a total sample size of at least 600 families can be retained over time.

Only families previously participating in Waves 1-3 will be invited to participate in 4th wave testing.

24.2. Attach copies of all recruitment tools that will be used by the local site. (Do not attach any advertising or recruitment materials that will not be used at the local site or under control of the local site.)

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24.3. Informed Consent and Waivers:

** Please note that child assent and parental permission will be addressed on subsequent pages. Do not complete the following consent questions if adults will not be participating in the study. **

Check the type(s) of consent or waiver of consent planned for this study: (check ALL that apply)

- [ ] Written/signed consent (participants will sign an informed consent document)
- [ ] An information sheet will be provided and/or verbal consent obtained
- [ ] Waiver of consent (participants will not be asked to sign a consent document or be given an information sheet)
- [ ] Alteration of the elements of consent (participants will sign a consent document, but one or more of the basic required elements of consent will be altered or waived)

24.3.1. If the informed consent process for adults (see above) will differ for certain parts of the study (e.g., specific procedures or populations) please explain below.

24.4. Select the applicable justification for not obtaining written/signed informed consent:

- [ ] The research is no more than minimal risk of harm to subjects and does not involve any procedures for which written consent is normally required outside the research setting (for example, written consent is not needed for minimal risk surveys or non-invasive health measurements in everyday life).

- [ ] The only record linking the participant and the research data would be the signed consent document, and the main risk to participants would be a breach of confidentiality (participants could suffer from social stigma or embarrassment or other harms if it became known that they participated in research that identified them as having issues including, but not limited to, risky sexual behaviors, drug use, HIV or mental health problems). NOTE: THIS STILL REQUIRES SUBMISSION OF CONSENT FORMS AND DOCUMENTATION OF THE SUBJECTS' WISHES.

24.7. Attach copies of the informed consent documents(s), information sheets, and any statements of new information/findings or consent addenda (as applicable) that will be used in this study. This set should also contain any assent or parental permission documents that will be used.

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**IRB Informed Consent Templates and Forms**

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**Personnel from section 2.1 obtaining consent/permission/assent:**
24.8. Describe the circumstances and location of the process of recruitment and consent: (check ALL that apply)

- [X] In a private area
- [ ] In a waiting room, open ward, group, or public setting
- [X] Online, over the telephone, by mail, or via fax
- [ ] Other

24.9. Describe how you will assess the individual's comprehension of the research and what it means to participate, including understanding of the voluntary nature of participating. (check ALL that apply)

- [ ] An assessment tool will be used. (attach a copy of the tool below)
  - This will be verbally assessed. Individuals will be asked to answer the following questions (as applicable): (1) What are you being asked to do? (2) What question is this study trying to answer? (3) What are the potential risks of participating in this study? (4) How often will you need to come in for study visits? (5) What is the difference between participating in this study and your standard medical care? (6) What should you do if you decide to withdraw from the study?
- [X] Other (specify below)

24.9.2. If Other, please explain:

Consent and assent forms will be reviewed with each participant on the phone prior to their visit, and then again upon arrival to the laboratory. All participants will be asked if they understand what giving consent or assent means, and remind them that they may end participation at any time. Children will be observed carefully by trained examiners throughout their visit, to watch for any signs of discomfort. Procedures will be halted if at any time a child appears distressed.

For internet surveys, the consent and assent procedures are reviewed with the caregiver on the phone. Phone numbers are provided to both the parents and twins in the introductory email and the consent and assent forms on line, so that they may contact someone in our lab with any questions they have.

For phone surveys, the consent and assent procedures are reviewed over the phone, with special emphasis placed on confidentiality and exceptions to confidentiality, voluntary nature of the study, rights of study participants, survey procedures, and who to contact with additional questions or comments. Notes will be logged regarding the verbal consent.

Both consent and assent forms for the SHORT MAIL SURVEYS will be returned by mail along with the completed surveys.

24.10. Describe all measures that will be taken during the recruitment and consent process to ensure that individuals have adequate time to consider participation and to safeguard against potential coercion and undue influence: (check ALL that apply)

- [X] They will not be forced, threatened or coerced in any way to participate in this research, and no undue influence or other form of constraint will be used to recruit individuals to participate in this research or to retain currently enrolled subjects. (Note: Coercion is the use or threat of the use of force to gain compliance. Undue influence is when an individual who is in a position of authority (e.g., physician, teacher, employer) exerts inappropriate or excessive manipulation to gain power and compliance over a vulnerable individual (potential research subject).
Constraint means force, obligation or pressure.)

They will not be punished or denied something which they would normally receive (e.g., threatening to withdraw health services to which an individual would otherwise be entitled) if they choose not to participate in this research or choose to withdraw early from participation.

They will be given an adequate amount of time to consider participation in the study relative to the initiation of study procedures.

The information presented to individuals during recruitment and consent will reflect that provided in the informed consent document/informed consent script.

The recruitment and consent process will not promise them a certainty of cure or benefit beyond what is outlined in the informed consent document/informed consent script.

The recruitment and consent process will take place in an area in which it is possible to maintain privacy and confidentiality.

They will be given the opportunity to take the informed consent document home in order to discuss participation with their family, friends and/or others before making a definitive decision.

They will receive payment for their participation, but the amount of payment will be commensurate with their participation (not an inducement for participation), and receipt of the payment will not be contingent upon the individuals completion of the study. (Note: The specific method, schedule and amount of payment must be outlined in the payment section of the application.)

Other (explain below)

24.10.1. If Other, please explain:

Subjects are reminded at various times that their participation is voluntary, and that they may withdraw from the study at any time. When contacting subjects by letter, we routinely provide this reminder, and explain the procedures required for withdrawing. They simply need to call our lab to ask to be taken off the list of participants, or may request this in writing.

While making phone calls to try and reach our participants, we systematically keep track of the frequency with which we call them, whether or not contact was made, and the make note of any indication that the family might be too busy or uninterested in the study at that time. We make it a point not to call or leave messages more than 3 or 4 times within a reasonable period of time. If messages are left this frequently with no return phone call, we classify the family as "difficult to contact", and follow up with a letter asking them to call us, and reminding them of the procedures to withdraw from the study. We are extremly sensitive to our participants' attitudes towards our study and our staff, and make every effort not be annoying or burdensome, while at the same time trying to keep in contact with these valuable longitudinal participants. To date, only 35 families have explicitly asked not to be contacted for future participation, (mostly because of busy schedules, moving out of state, or death of family members). No families have written or called to complain about the frequency or nature of our contact with them.

24.10.2. Describe the consent process. Discuss when and where the consent process will take place relative to the initiation of the study procedures. Describe how prospective participants/families will be permitted to discuss their participation with others before signing the consent form. Describe the steps taken to provide the prospective participant sufficient opportunity to consider whether or not to participate in the study. If more than one consent form will be used in the study, explain when and how each form will be used to obtain consent from participants. (deprecated field, used to be 30.2 - only used for existing studies)

Both parental consent and child assent will be obtained prior to their participation in 3rd and 4th wave laboratory assessments. Parental permission to contact teachers and obtain medical records will be obtained separately. Additional consent forms will also be completed by the twins teachers if they choose to participate in the study.

As part of the informed consent procedure for minors, the procedures and questionnaires will be explained in detail to both parents and children. Parents will be given the opportunity to review the children's interview questions prior to their completion. Consent and assent forms for laboratory visits will be sent home prior to their visit, and signed before completing any surveys to be completed prior to their visit. A staff member will call the families to verify receipt of their surveys and consent/assent forms, and review these with each participant on the phone. The consent and assent forms will then be reviewed again with both the parent and each child upon their arrival at the USC laboratory. Both the children and parent(s) will be informed that they may end
participation at any time.

For mail surveys, both parent consent and youth assent forms are sent along with the surveys to be completed by each individual. Separate envelopes are included for each individual to return their surveys and consent/assent forms independently.

For internet surveys, both parent consent and youth assent forms are presented as the first page in the link to the surveys. Subjects must read and agree to participating in the study before proceeding to the surveys. Parents provide permission to contact their twins over the phone, at which time they provide email addresses for the twins.

For phone surveys, subjects will be sent a letter explaining our intent to call them and also an information sheet that explains the survey procedures as well as confidentiality issues. Once they have agreed to participate, consent/assent will be obtained over the phone. Prior to speaking to the twins, verbal permission will be obtained from the caregiver. Notes will be logged regarding verbal consent, including date, time, and tester name. Key points will be highlighted during the consenting procedure, including confidentiality and exceptions to confidentiality, the voluntary nature of the study, rights of study participants, and who to contact with additional comments or questions.

For SHORT MAIL SURVEYS, a new parental consent form has been added, which is a minor revision of the consent form already used for regular mail surveys. The only change is in the description of the survey packet, which is shorter than the regular packet. The SHORT MAIL SURVEYS are identical to the phone surveys. Written parental consent will be obtained using this form, and twin assent will be obtained using the same assent form already being used for regular mail surveys (i.e., no change to the twin assent form was required).

An addendum requesting permission for analysis of existing DNA specimens for certain genetic markers of social and antisocial behavior will be sent to all previously tested families.

24A. Assent

24A.1. Assent and Waivers:

Check the type(s) of assent or waiver of assent planned for this study: (check ALL that apply)

☑ Written assent (participants will sign an assent document)
☐ An information sheet will be provided and/or verbal assent obtained
☐ Waiver of assent (participants will not be asked to sign an assent document or be given an information sheet)

24A.4. Ensure that copies of the assent documents(s), information sheets, and any statements of new information/findings or assent addenda (as applicable) that will be used in this study are attached here. (this is the same field as 24.4. on the prior page)

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24A.5. Personnel from section 2.1 obtaining consent/permission/assent:

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Parental Consent (DNA for zygosity testing) | History

Parental Consent (DNA for zygosity testing) SPANISH | History

PI Revised Twin DNA Consent 4th Wave with Markers, dated 12-14-2010.doc | History

Youth Assent (DNA for zygosity testing) | History
24A.6. **Describe the circumstances and location of the process of recruitment and assent:** (check ALL that apply)

- [x] In a private area
- [ ] In a waiting room, open ward, group, or public setting
- [x] Online, over the telephone, by mail, or via fax
- [ ] Other

24A.7. If minors will turn 18 years of age during the course of their participation, describe how informed consent will be obtained. If you do not plan to obtain consent, please explain and complete the waiver of consent section on page 24, beginning at question 24.3.

24A.8. **Describe how you will assess the individual’s comprehension of the research and what it means to participate, including understanding of the voluntary nature of participating.** (check ALL that apply)

- [ ] An assessment tool will be used. (attach a copy of the tool below)

This will be verbally assessed. Individuals will be asked to answer the following questions (as applicable): (1) What are you being asked to do? (2) What question is this study trying to answer? (3) What are the potential risks of participating in this study? (4) How often will you need to come in for study visits? (5) What is the difference between participating in this study and your standard medical care? (6) What should you do if you decide to withdraw from the study?

- [x] Other (specify below)

24A.8.2. **If Other, please explain:**

Consent and assent forms will be reviewed with each participant on the phone prior to their visit, and then again upon arrival to the laboratory. All participants will be asked if they understand what giving consent or assent means, and remind them that they may end participation at any time. Children will be observed carefully by trained examiners throughout their visit, to watch for any signs of discomfort. Procedures will be halted if at any time a child appears distressed.

For internet surveys, the consent and assent procedures are reviewed with the caregiver on the phone. Phone numbers are provided to both the parents and twins in the introductory email and the consent and assent forms online, so that they may contact someone in our lab with any questions they have.

For phone surveys, the consent and assent procedures are reviewed over the phone, with special emphasis placed on confidentiality and exceptions to confidentiality, voluntary nature of the study, rights of study participants, survey procedures, and who to contact with additional questions or comments. Notes will be logged regarding the verbal consent.

Both consent and assent forms for the SHORT MAIL SURVEYS will be returned by mail along with the completed surveys.

24A.9. **Describe all measures that will be taken during the recruitment and assent process to ensure that individuals have adequate time to consider participation and to safeguard against potential coercion and undue influence:** (check ALL that apply)

- They will not be forced, threatened or coerced in any way to participate in this research, and no undue influence or other form of constraint will be used to recruit individuals to participate in this research or to retain currently enrolled subjects. (Note: Coercion is the use or threat of the use of force to gain compliance. Undue influence is when an individual who is in a position of authority (e.g., physician, teacher, employer) exerts inappropriate or excessive manipulation to gain power and compliance over a vulnerable individual (potential research subject). Constraint means force, obligation or pressure.)

- [x] They will not be punished or denied something which they would normally receive (e.g., threatening to withdraw health services to which an individual would otherwise be entitled) if they choose not
to participate in this research or choose to withdraw early from participation.

They will be given an adequate amount of time to consider participation in the study relative to the initiation of study procedures.

The information presented to individuals during recruitment and consent will reflect that provided in the informed consent document/informed consent script.

The recruitment and consent process will not promise them a certainty of cure or benefit beyond what is outlined in the informed consent document/informed consent script.

The recruitment and consent process will take place in an area in which it is possible to maintain privacy and confidentiality.

They will be given the opportunity to take the informed consent document home in order to discuss participation with their family, friends and/or others before making a definitive decision.

They will receive payment for their participation, but the amount of payment will be commensurate with their participation (not an inducement for participation), and receipt of the payment will not be contingent upon the individual's completion of the study. (Note: The specific method, schedule and amount of payment must be outlined in the payment section of the application.)

Other (explain below)

24A.9.1 If Other, please explain:

Both parental consent and child assent will be obtained prior to their participation in 3rd and 4th wave laboratory assessments. Parental permission to contact teachers and obtain medical records will be obtained separately. Additional consent forms will also be completed by the twins teachers if they choose to participate in the study. As part of the informed consent procedure for minors, the procedures and questionnaires will be explained in detail to both parents and children. Parents will be given the opportunity to review the children's interview questions prior to their completion. Consent and assent forms for laboratory visits will be sent home prior to their visit, and signed before completing any surveys to be completed prior to their visit. A staff member will call the families to verify receipt of their surveys and consent/assent forms, and review these with each participant on the phone. The consent and assent forms will then be reviewed again with both the parent and each child upon their arrival to the USC laboratory. Both the children and parent(s) will be informed that they may end participation at any time.

For mail surveys, both parent consent and youth assent forms are sent along with the surveys to be completed by each individual. Separate envelopes are included for each individual to return their surveys and consent/assent forms independently.

For internet surveys, both parent consent and youth assent forms are presented as the first page in the link to the surveys. Subjects must read and agree to participating in the study before proceeding to the surveys. Parents provide permission to contact their twins over the phone, at which time they provide email addresses for the twins.

For phone surveys, subjects will be sent a letter explaining our intent to call them and also an information sheet that explains the survey procedures as well as confidentiality issues. Once they have agreed to participate, consent/assent will be obtained over the phone. Prior to speaking to the twins, verbal permission with be obtained from the caregiver. Notes will be logged regarding verbal consent, including date, time, and tester name. Key points will be highlighted during the consenting procedure, including confidentiality and exceptions to confidentiality, the voluntary nature of the study, rights of study participants, and who to contact with additional comments or questions.

For SHORT MAIL SURVEYS, a new parental consent form has been added, which is a minor revision of the consent form already used for regular mail surveys. The only change is in the description of the survey packet, which is shorter than the regular packet. The SHORT MAIL SURVEYS are identical to the phone surveys. Written parental consent will be obtained using this form, and twin assent will be obtained using the same assent form already being used for regular mail surveys (i.e., no change to the twin assent form was required).

An addendum requesting permission for analysis of existing DNA specimens for certain genetic
24P. Parental Permission

24P.1. Parental Permission and Waivers:

Check the type(s) of parental permission or waiver of permission planned for this study: (check all that apply)

- [x] Written permission (parents or legal guardians will sign a consent document)
- [ ] An information sheet will be provided and/or verbal permission obtained
- [ ] Waiver of permission (parents or legal guardians will not be asked to sign a consent document or be given an information sheet)
- [ ] Alteration of the elements of permission (parents or legal guardians will sign a consent document, but one or more of the basic required elements of consent will be altered or waived)

24P.5. Ensure that copies of the informed consent, parental permission documents(s), information sheets, and any statements of new information/findings or addenda (as applicable) that will be used in this study are attached here. (this is the same field as 24.4. and 24a.2.)

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24P.6. Describe the circumstances and location of the process of recruitment and parental permission:
(check all that apply)

- In a private area
- In a waiting room, open ward, group, or public setting
- Online, over the telephone, by mail, or via fax
- Other

24P.7. Describe how you will assess the individual's comprehension of the research and what it means to participate, including understanding of the voluntary nature of participating. (check all that apply)

- An assessment tool will be used. (attach a copy of the tool below)

This will be verbally assessed. Individuals will be asked to answer the following questions (as applicable): (1) What are you being asked to do? (2) What question is this study trying to answer? (3) What are the potential risks of participating in this study? (4) How often will you need to come in for study visits? (5) What is the difference between participating in this study and your standard medical care? (6) What should you do if you decide to withdraw from the study?
24P.7.2. If Other, please explain:

Consent and assent forms will be reviewed with each participant on the phone prior to their visit, and then again upon arrival to the laboratory. All participants will be asked if they understand what giving consent or assent means, and remind them that they may end participation at any time. Children will be observed carefully by trained examiners throughout their visit, to watch for any signs of discomfort. Procedures will be halted if at any time a child appears distressed.

For internet surveys, the consent and assent procedures are reviewed with the caregiver on the phone. Phone numbers are provided to both the parents and twins in the introductory email and the consent and assent forms on line, so that they may contact someone in our lab with any questions they have.

For phone surveys, the consent and assent procedures are reviewed over the phone, with special emphasis placed on confidentiality and exceptions to confidentiality, voluntary nature of the study, rights of study participants, survey procedures, and who to contact with additional questions or comments. Notes will be logged regarding the verbal consent.

Both consent and assent forms for the SHORT MAIL SURVEYS will be returned by mail along with the completed surveys.

24P.8. Describe all measures that will be taken during the recruitment and parental permission process to ensure that individuals have adequate time to consider participation and to safeguard against potential coercion and undue influence: (check all that apply)

- They will not be forced, threatened or coerced in any way to participate in this research, and no undue influence or other form of constraint will be used to recruit individuals to participate in this research or to retain currently enrolled subjects. (Note: Coercion is the use or threat of the use of force to gain compliance. Undue influence is when an individual who is in a position of authority (e.g., physician, teacher, employer) exerts inappropriate or excessive manipulation to gain power and compliance over a vulnerable individual (potential research subject). Constraint means force, obligation or pressure.)
- They will not be punished or denied something which they would normally receive (e.g., threatening to withdraw health services to which an individual would otherwise be entitled) if they choose not to participate in this research or choose to withdraw early from participation.
- They will be given an adequate amount of time to consider participation in the study relative to the initiation of study procedures.
- The information presented to individuals during recruitment and consent will reflect that provided in the informed consent document/informed consent script.
- The recruitment and consent process will not promise them a certainty of cure or benefit beyond what is outlined in the informed consent document/informed consent script.
- The recruitment and consent process will take place in an area in which it is possible to maintain privacy and confidentiality.
- They will be given the opportunity to take the informed consent document home in order to discuss participation with their family, friends and/or others before making a definitive decision.
- They will receive payment for their participation, but the amount of payment will be commensurate with the their participation (not an inducement for participation), and receipt of the payment will not be contingent upon the individuals completion of the study. (Note: The specific method, schedule and amount of payment must be outlined in the payment section of the application.)

24P.8.1. If Other, please explain:

Both parental consent and child assent will be obtained prior to their participation in 3rd and 4th wave laboratory assessments. Parental permission to contact teachers and obtain medical records will be obtained separately. Additional consent forms will also be completed by the twins teachers if they choose to participate in the study. As part of the informed consent procedure for minors, the procedures and questionnaires will be explained in detail to both parents and children. Parents will be given the opportunity to
review the children's interview questions prior to their completion. Consent and assent forms for laboratory visits will be sent home prior to their visit, and signed before completing any surveys to be completed prior to their visit. A staff member will call the families to verify receipt of their surveys and consent/assent forms, and review these with each participant on the phone. The consent and assent forms will then be reviewed again with both the parent and each child upon their arrival to the USC laboratory. Both the children and parent(s) will be informed that they may end participation at any time.

For mail surveys, both parent consent and youth assent forms are sent along with the surveys to be completed by each individual. Separate envelopes are included for each individual to return their surveys and consent/assent forms independently.

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For phone surveys, subjects will be sent a letter explaining our intent to call them and also an information sheet that explains the survey procedures as well as confidentiality issues. Once they have agreed to participate, consent/assent will be obtained over the phone. Prior to speaking to the twins, verbal permission will be obtained from the caregiver. Notes will be logged regarding verbal consent, including date, time, and tester name. Key points will be highlighted during the consenting procedure, including confidentiality and exceptions to confidentiality, the voluntary nature of the study, rights of study participants, and who to contact with additional comments or questions.

For SHORT MAIL SURVEYS, a new parental consent form has been added, which is a minor revision of the consent form already used for regular mail surveys. The only change is in the description of the survey packet, which is shorter than the regular packet. The SHORT MAIL SURVEYS are identical to the phone surveys. Written parental consent will be obtained using this form, and twin assent will be obtained using the same assent form already being used for regular mail surveys (i.e., no change to the twin assent form was required).

An addendum requesting permission for analysis of existing DNA specimens for certain genetic markers of social and antisocial behavior will be sent to all previously tested families.

25. Financial Obligation and Compensation

25.1. Financial Obligation: Describe who pays for financial obligations that the subject may incur as a result of participating in the study.

- All costs are paid by the sponsor or funding agency.
- Research costs are paid by the sponsor or funding agency. Other costs are the responsibility of the participants and/or their healthcare plans.
- All costs are the responsibility of the participants and/or their healthcare plans.
- Study drug will be provided but not the costs of preparation or administration, which will be the responsibility of the participants and/or their healthcare plans.
- All costs are covered by the department/division.
- There are no financial obligations related to participation.
- Other

25.1.1. If other is selected, please specify:
No financial obligations are required, other than costs for a few families for transporting themselves to the USC laboratories. Even still, families traveling more than 15 miles each way to USC will be provided a travel allowance to cover this cost.
25.2. Payment for Participation: Describe how much, if any, financial or other form of compensation will be provided to the subject/family. Describe the requisite conditions that must be fulfilled to receive full or partial compensation. Describe the proposed method of timing and disbursement. If children are involved, please specifically address how the compensation will be distributed to children.

All families will be paid by check or cash at the end of the laboratory assessment.

For full participation in the 5-hour protocol procedures, the family may receive a total of [__]. The following is the compensation breakdown:
- Caregiver participation in interviews: [__]
- Children's participation in interviews and cognitive testing: [__] (per child)
- Children's participation in Psychophysiology assessment: [__] (per child)

For families participating in the reduced 3-hour protocol, they may receive a total of [__]. The following is the compensation breakdown:
- Caregiver participation in interviews: [__] (per child)
- Children's participation in interviews: [__] (per child)
- Children's participation in Psychophysiology assessment: [__] (per child)

Several bonuses will also be provided as incentives for being on-time and participating in testing on weekdays. If families attend the session without prior cancellation, or if they reschedule within 7 days of an originally scheduled session, they will receive a bonus of [__]. Additionally a [__] bonus will be added if they arrive on time to their appointment. One additional incentive [__] is provided for families attending on weekdays (i.e., not weekends or holidays). The total compensation that a family will receive if they complete all parts of the study and qualify for the bonuses is [__] for completion of the full 5-hour protocol or [__] for completion of the reduced 3-hour protocol.

A travel allowance (up to [__]) will also be provided for families traveling more than 15 miles each way to the USC laboratory.

For the mail survey option, individuals will be paid [__] for their participation. A [__] gift bonus will be given for return of the surveys within a specified timeframe (usually 3 weeks from the date surveys were sent home).

Subjects will be compensated for their participation in 4th wave laboratory testing as follows:
- Participation in Part 1 (Parents Interview): [__]
- Participation in Part 2 (Childrens Interview): [__] per child
- Participation in Part 3 (Psychophysiology): [__] per child
- Returning Family incentive: [__] per family
- Weekday testing incentive: [__] per family
- Travel allowance (>15 miles from home to USC): [__] per family
- Mail Surveys [__] per person

For internet surveys, twins will receive [__] for completing Part I and an additional [__] for completing Part II (total = [__] per child); caregivers will receive [__] for completion of all surveys.

For phone surveys, each participant will receive [__] for completing all phone surveys.

For SHORT mail surveys (which are the same as phone surveys), each participant will receive [__] for completing and returning these surveys.

26. Participant Privacy and Data Confidentiality

26.1. Privacy Protections: Privacy is a participants ability to control how other people see, touch, or obtain information about his/her self. Violations of privacy can involve circumstances such as being photographed or videotaped without consent, being asked personal questions in a public setting, being seen without clothing, being observed while conducting personal behavior, or disclosing information about abortions, HIV status, or illegal drug use.

Select the provisions to protect the privacy of the individual during screening, consenting, and conduct of the research: (check ALL that apply)
Research procedures will be conducted in person in a private setting.

Data will be captured and reviewed in a private setting.

Only authorized research study personnel will be present during research related activities.

The collection of information about participants is limited to the amount necessary to achieve aims of the research.

Participants will not be approached in a setting or location that may constitute an invasion of privacy or could potentially stigmatize them.

Other (specify below)

26.1.1. Please specify:

Each child is given an identification (ID) number. Information linking names to ID numbers is kept in locked file cabinets in the PIs laboratory and office during the period of data collection. Subject scores are made available only to the immediate research team. All data files are coded with only the ID number.

Most interview data are collected directly onto a computer, using software for on-line surveys. Any paper forms used are marked with the numerical ID number for the participant.

We are applying for renewal of a Certificate of Confidentiality from [ ] for this study. This Certificate will protect the investigators from being forced to release any research data in which the study participants are identified, even under a court order or subpoena, without their written consent.

There is only one situation in which we may share information collected in this study with outside authorities: If any child provides information that they are being abused, or that another child is being abused, we will take the appropriate steps in reporting this information to the proper authorities.

For internet surveys, unique URL links will be sent to each participant, which will direct them to their personal surveys. Each person will only have access to the surveys linked to their personal ID number, and no other person outside the research team will have access to their recorded responses. The data will be stored with ID numbers only, and any links between subject names and ID numbers will be kept on password-protected laboratory computers.

For phone surveys, prior to speaking to the twins, verbal permission would be obtained from the caregiver. The twin will then be instructed to relocate to a room that was private (if possible), to try to increase privacy and confidentiality. This is true of both twins and caregivers.

26.2. Confidentiality Precautions: Confidentiality is an extension of the concept of privacy; it refers to the participants understanding of, and agreement to, the ways identifiable information will be collected, stored, and shared. Identifiable information can be printed information, electronic information, or visual information such as photographs.

How will the research data/specimens be recorded? (check ALL that apply)

- Data and/or specimens will be directly labeled with personal identifying information. (Identifiable)
- Data and/or specimens will be labeled with a code that the research team can link to personal identifying information. (Coded)
- Data and/or specimens will not be labeled with any personal identifying information, nor with a code that the research team can link to personal identifying information. (Anonymous)
- Other (explain below)

26.3. How will the research data and/or specimens be protected against inappropriate use or disclosure? (check ALL that apply)
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26.3.1. Please specify the physical location and describe how data will be secured to protect confidentiality.

All data are stored on computers or in locked file cabinets in the laboratory of the PI [redacted]. Computers are secured with passwords, and are also kept in rooms with deadbolt locks during non-working hours. Only project staff have access to these data.

DNA is stored in the Genomic Core Facility on the USC Health Sciences Campus. Only the Genomic Core staff has access to the DNA. The DNA is not labeled with any identifying information and is only linked to a specific subject by a numeric ID that is known only to the PI and members of the project staff.

26.4. Will coded or identified data and/or specimens be released to a third party (external to USC/CHLA)?

- [ ] Yes
- [ ] No

26.4.1. Specify what data and/or specimens will be released, to whom (the individuals and/or agencies), and why.

DNA is stored in the Genomic Core Facility on the USC Health Sciences Campus, and only the Genomic Core staff has access to this data. This data has no identifying information and is only linked to a specific subject by a numeric ID that is known only to the PI and members of the project staff.

No other data will be released outside the study team.

26.5. What will happen to the research data and/or specimens at the conclusion of the study? (check ALL that apply)

- Direct identifiers and/or the key to the codes will be destroyed upon completion of the research (all
26.5.1. If Other is selected, please specify:
The data (coded by ID numbers) will be maintained by the PI indefinitely. Files linking subject ID numbers to identifying information will remain in locked file cabinets of the PI until completion of the study. Given the longitudinal design of this study, we expect this to be sometime during young adulthood (age 20-25) of the twins, or after the high risk period for antisocial behavior has been completed. The completion of the study will depend, in part, on the availability of funding for future follow-up assessments.

26.6. Do you have, or plan to apply for, a DHHS issued Certificate of Confidentiality for this study?
☐ Yes ☐ No

26.6.1. Please attach the Certificate of Confidentiality.

26.6.2. Certificate of Confidentiality Expiration Date:
12/31/2015

26.7 If audio/video recordings or photographs will be used, will you be anonymizing or deidentifying materials? If so, how will this be done and when.
We routinely videotape the twins during their laboratory assessments, for purposes of coding their behaviors as part of our investigation. Although we had originally given participants the option of not being videotaped during 2nd wave assessment, we later realized the necessity of having a videotaped record in order to code for movement, facial expression, and other behaviors important to our investigation. The subjects' full names or other identifying information are never recorded on any video. Videocassettes and cases are marked with ID numbers, and are kept in locked file cabinets or small rooms with deadbolt locks in the PI's laboratory.

27. Risk/Benefit Assessment - Risks

27.1. Risks, Discomforts and Potential Harms: Describe the risks associated with each research intervention. Include consideration of physical, psychological, social, and other factors.
(check all that apply)
☐ Discrimination based on genetic findings.
☐ Some people may find it upsetting to learn that they have certain mutations or errors in genes that could lead to future health problems for themselves or their children.
☑ Some of the questions may make the participant feel uneasy or embarrassed.
There is a small risk that people who are not connected with this study will learn a participants
The participants are providing highly sensitive, personal information in this study. If people not connected with the study learn this information, they could have problems getting a new job, keeping their current job, finding housing, or getting insurance (health, disability, or life insurance). In highly unlikely situations, they could be charged with a crime.

Biomedical risks, including drug, device, biologics, radiation, surgery or other research procedures (please specify).

The research includes the risk or disclosure that a participant may engage in self-harm or attempt suicide.

Venipuncture risks including: mild discomfort (or pain), bruising and swelling around the puncture site, dizziness or fainting, or infection (rare).

Other (specify below)

27.1.1. Describe the biomedical or other possible risks and discomforts participants could experience during this study:

The study involves collection of sensitive data regarding self-report delinquency, as well as one's view of his or her family relationships. Some children or their parents may feel uncomfortable thinking about or reporting this information, to the extent that they have engaged in delinquent behavior or that they have negative views of their family members.

Also, some children may feel anxious or embarrassed about having the plastic recording disks attached to their skin during the psychophysiology session. We emphasize to the children that there is no pain or physical risk involved in this procedure. The removal of the stickers may, however, cause minor irritation similar to that caused by the removal of band-aids, but this irritation, if it occurs, usually disappears within minutes. Discomfort is minimized as much as possible by talking with the child, explaining what we are doing, showing them pictures of other children with the disks in place, and allowing them to watch cartoons during the disk application.

There is some risk to the children completing the mail surveys at home, which may result from their parents looking at their responses. Surveys to be completed at home, however, are generally of a non-sensitive nature (e.g., recording what they eat in a given day, what kinds of life events were experienced in the past year, and personality self-report instruments). We never send home any survey for the children to complete which asks about specific antisocial behaviors in themselves or their peers.

Nonetheless, both children and caregivers are instructed NOT to share their answers to any survey with another person, although there is no guarantee that they will comply with this request. It is important to keep in mind, however, that these families have all participated in prior assessments, and will have agreed to complete mail surveys at home as an alternative to a laboratory visit. We have no evidence that any of these families have broken the confidentiality that we have requested from them in their prior participation, so it is expected that parents looking at children's survey responses will happen extremely rarely, and that there will be little or no negative consequences of this to the children.

27.2. Describe the precautions that will be taken to minimize risks/harms. (check all that apply)

- We will use our best efforts to keep the findings in this study as confidential as possible.
- Subjects can choose to skip or stop answering any questions that make them uncomfortable.
- Data will be coded and identity stored separate from data.
- Data will be collected anonymously.
- Biomedical precautions, including precautions relating to drugs, devices, biologics, radiation, surgery or other research procedures (please specify).
- Venipuncture by individuals certified and privileged to perform the procedure.
- Other (specify below)

27.2.1. Other precautions (including biomedical precautions) that will be taken to minimize risks/harms include:
Several steps are taken to minimize the potential risks or discomforts: (1) All questionnaires are completed in our research laboratory, either in private or in the presence of a trained interviewer. (2) It is explained to the subjects that the information they provide will not be shared with anyone outside of the research team, including other family members participating in the study. (3) Parents are instructed not to discuss the content of the interviews with their children, and the twins are instructed not to discuss the interviews with each other. (4) All interviewers are carefully trained and supervised, to ensure good rapport with each child, as well as the ability to detect any psychological disturbance that may occur during the interviews. (5) No one outside of our research team has access to the information the participants provide. All of these procedures are explained fully to the study participants, using informed consent and assent forms for both the children and the parents.

Given the nature of this community-based sample, we do not expect serious psychological problems to arise except rarely. During the 1st and 2nd wave assessments, we did not encounter any serious psychological problems for any of our participants. However, if any psychological disturbance does result during the 3rd wave interview or while filling out questionnaires—this may either be identified by the trained interviewer, a parent, or the child him or herself—the interview process will be interrupted. At this time, the trained interviewer will engage in a discussion with the child, and may bring in one of the primary investigators or testing supervisor or parent as necessary. The child will be reminded that he or she may stop the interview at any time, or refuse to answer any questions that cause them serious discomfort. The principal investigator in this project will attempt to handle all such problems through individual counseling on a limited basis, but will refer cases as necessary to more long-term counseling programs. We will routinely provide children and their parents with hotline numbers and/or referral numbers for counseling services. For example, the Human Relations Center (HRC) here at USC has resource guides for Los Angeles County. The counselors at the hotline or referral number provided will direct the child to pertinent resources and counselors as needed.

Participating families will be responsible for any financial costs in obtaining these services.

Should a problem arise with regard to breach of confidentiality (i.e., parents reading the answers provided by their children in mail surveys), the same procedures that we would follow in breach of confidentiality problems arising during laboratory testing will be implemented for the surveys. In the event that we discover a breach of confidentiality between parents and children, we will call each individual to discuss the situation. That is, if any problem is detected (e.g., violation of confidentiality), a trained tester will call the child and parent to discuss individually, evaluate the situation, and offer assistance to the family as needed.

To aid in subjects understanding of the procedures of the study, including the completion of informed consent/assent forms, a research assistant calls each family to review the packet after its receipt, and makes sure that they each understand the directions for completing the take-home surveys and maintaining confidentiality. Informed consent and assent are reviewed with each subject on the phone.

Consent and assent forms are also reviewed again on the day of laboratory testing.

For families participating via the mail survey options only, each twin and the caregiver will be called shortly after receiving their packet in the mail. The consent and assent forms will be reviewed on the telephone, and any questions about the surveys or procedures for returning the forms will be addressed. Subjects are encouraged to call the twin project lab for questions or assistance. Each subject is also instructed to complete their surveys independently, and to place them into sealed envelopes for return to the study office.

28. Risk/Benefit Analysis - Potential Benefits and Alternatives

28.1. Describe any potential for direct benefits to participants in the study: (check all that apply)

- [ ] There are no direct benefits to some or all of the research participants
- [ ] Improvement in some or all of participants’ symptoms
28.1. Describe other potential benefits to participants:
Parents will receive feedback of group results of the study, in addition to individual reports of their children's cognitive performance (in areas of reading and general intellectual ability). In addition, a laboratory report of the zygosity (monozygotic or dizygotic) of each same-sex pair is provided to each family of same-sex twins. This may be important in future medical situations for individual twins. There are no other direct benefits to participants in this study.

28.2. Describe potential benefits to society, if any. (check all that apply)

- The advancement of knowledge
- A new treatment or therapy for the condition under study
- None

28.2.1. Describe other potential benefits to society:
This study may add to our scientific understanding of children's social, moral, and emotional development. Subjects' participation in the study may help enable us to understand how inherited (genetic) factors and experiences (environment) may shape children's behaviors. This understanding of the causes of children's behavior may eventually help us to predict and treat problem behaviors that other children may engage in. Results from this study may lead to benefits to other parents, educators, and society in general, by enabling our ability to predict, understand, and treat children's problem behaviors.

28.3. What are the alternatives to participation? (check all that apply)

- Not participating
- Continue current medical care for their condition
- Participation in other research studies
- Palliative care
- No treatment or therapy
- Participate in other subject pool activities
- Other (specify below)

28.3.1. Describe other alternatives to participation:
The alternative is not to participate in the 3rd wave or 4th wave assessments of this study. Subjects will remain eligible to participate in future assessments, however, should they choose to do this.

28.4. Risks in relation to benefits:

- The potential benefits to the research participants justify exposure of the participants to the risks.
- The potential benefits to humanity justify exposure of the participants to the risks.

28.4.1. Other risk benefit analysis:
While the collection of this data concerns personal and sensitive information, subjects are assured of the utmost confidentiality of the research team as well as confidentiality from their co-twin and parents.

The benefits of the knowledge gained in this area outweigh risk to the subjects in that this knowledge may aid in formulation of programs to help adolescents who exhibit high antisocial tendencies as well as determine important etiologies of this behavior.

35. Is the HIPAA Privacy Rule Applicable?

35.1. Do you intend to access, review, collect, use or disclose protected health information (PHI) in your research? Answer yes if you intend to do any of the following:

- Look at medical records (paper or electronic) to identify potential research participants
- Look at clinic logs to identify potential research participants
- Record demographic information obtained from medical records (paper or electronic)
- Record health information obtained from medical records (paper or electronic)
- Obtain information from laboratory reports, pathology reports, radiology reports or images, or other reports from medical or mental health testing and treatment
- Obtain information from medical billing records
- Record or use medical record numbers or other information that could be used to identify an individual (review the list of HIPAA identifiers below)

☐ Yes  ☐ No

35.2. Do you intend to record data that contains any of the 18 elements defined by HIPAA as identifiers (listed below), in your research?

☐ Yes  ☐ No

- Name/Initials
- Street address, city*, county*, precinct*, zip code*, or equivalent geocodes*
- All elements of dates (except year) directly related to an individual (date of birth, admission date, discharge date, date of death)*
- Elements of date, including year, for persons 90 or older
- Telephone number
- Fax number
- Electronic mail address
- Social Security Number
- Medical record number
- Health plan identification number
- Account number
- Certificate/license number
- Vehicle identifiers and serial numbers, including license plate number
- Device identifiers and serial number
- Web addresses (URLs); Internet IP addresses
- Biometric identifiers, including finger and voice print
- Full face photographic images and any comparable images
- Any other unique identifying number, characteristic, or code*

35.3. Are you going to record only the personal identifiers marked with an asterisk (*)? If so, you may be able to obtain or use such health information from a healthcare provider for research purposes without an authorization. Under the HIPAA Privacy Rule, this data constitutes a limited data set. If you are creating or obtaining a limited data set, you must complete a Data Use Agreement. Attach a copy of the signed Data Use Agreement below.
36. HIPAA Analysis

This screen is only required if you indicated HIPAA is applicable by answering "yes" to Question 35.1.

36.1. If you are using or accessing protected health information in order to identify potential participants, indicate if these activities fall under the rules for Activities Preparatory to Research, if you will be applying for a Partial Waiver of HIPAA Authorization for the purposes of screening and recruiting, or if neither option applies.

- (CHLA Only) Activities Preparatory to Research
- Partial Waiver of HIPAA Authorization for screening, recruiting, and identifying participants
- None of the Above

36.2. If you are using or accessing protected health information to conduct the research, please select whether you will be obtaining authorization from the participant or requesting a Full Waiver of HIPAA Authorization.

- Obtaining HIPAA authorization from participant
- Full Waiver of HIPAA Authorization

36.2.1. If you are obtaining authorization from the participant, attach the HIPAA authorization forms here (USC Only). Please click here to download the HIPAA Authorization template forms from OPRS.

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39. Conflict of Interest Information

Do any of the participating study investigators or other research personnel (or their immediate family/domestic partner) have a financial interest (equal to or exceeding $10,000 per year) and/or intellectual property interest in the sponsor or products used with this project? Conflicts of interest may include (but are not limited to) any of the following items below: equity (stocks or options, do not include mutual funds); consulting fees; speaking fees; gifts; a position as a Corporate Officer or on the Board of Directors; other employment relationships; trademarks or copyrights; licensing agreements; royalty rights; or patent holdings; or compensation that will be affected by the outcome of the study. If so, describe which party or parties have a conflict of interest and indicate the nature and extent of the conflict of interest. Note: recruitment bonuses of any amount must be disclosed.

- Yes
- No

39.2. If yes, attach a completed Financial and Intellectual Interest Disclosure Form for each person who has a potential conflict to be managed.

39.3. To the investigator’s knowledge does the Institution have financial and or intellectual property interests in the sponsor or the products used in this project?
40. Additional Supporting Documents

40.1. Attach any other documents that have not been specifically requested in previous questions, but are needed for IRB review.

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</tr>
</tbody>
</table>

40.2. If there is any additional information that you wish to communicate about the study include it below. Please note, this section should not be used instead of the standard application items.

99. Instructions for Submission

You have reached the end of the application. When you are sure of the content, the following steps may be taken to submit your application for review.

1. Click the "Finish" button on the top or bottom application navigator bar to return to the workspace.
2. Use the SmartForm Progress Calculator to determine that all sections of the application are filled out correctly.
3. Use the "Send Study Ready Notification" activity to send an email to the Principal Investigator and Co-Investigators with instructions for reviewing and submitting the application.
4. All listed Co-Investigators (indicated in item 2.1) must use the "Agree to Participate" activity and answer yes.
5. Once all the Co-Investigators have agreed to participate, the Principal Investigator (indicated in item 2.1) can submit the application by using the "Submit Application to _____", where _____ indicates the IRB you are submitting to.
6. The PI will have to check the PI endorsement box. The PI will also have to check the student endorsement box if it is applicable.
7. The application is submitted. The state indicator in the top left of the workspace will no longer display Pre Submission.
8. The PI and Study Contact Person will receive an email confirming the application has been submitted.

2a. Collaborator from Other Institution

2a.1. First Name:

2a.2. Last Name:

2a.3. Institution:
2a.4. * Role:
Statistical genetic analyst

2a.5. Documents:
name  Version  Modified
There are no items to display

4.4. Funding Source

Please enter the fields below and click 'OK' when done.

4.4.1. * Name of Sponsor:

4.4.2. * Named Principal Investigator:

4.4.3. Institution awarded the grant-award:
USC

4.4.4. Grant-award number provided by the Sponsor:

4.4.5. Title of the Funding Project, if applicable:

4.4.6. * Type of Funding:

4.4.7. Attach a copy of the proposal/contract/grant with the project budget. (salary information need not be displayed or included.)
name

Interface | History