

# Brooklyn College Science Day 2019

We invite you to present your research at the 2019 Brooklyn College Science Research Day! The event will be held on Friday, May 3, 2019 in the Student Center. The deadline for submission is Friday, April 19, 2019. Science Day abstracts will be accepted for review from undergraduates, graduate students, and post-docs affiliated with Brooklyn College. We will also review abstract submissions from high school students who are working with a faculty mentor from Brooklyn College. No other high school submissions will be reviewed or accepted.

If you have any questions, please email us at [scienceday.bc@gmail.com](mailto:scienceday.bc@gmail.com).

*Skip to question 1.*

## Presenter Information

This is an application to submit your abstract for Brooklyn College Science Day 2019 electronically. All fields are required to be completed or the abstract will not be accepted. All abstracts MUST be submitted by 5 p.m. EST on Friday, April 19, 2019. No exceptions will be made.

You will receive an acknowledgement that your abstract has been received when you submit it. An email about whether your abstract has been accepted as submitted or requires editing will be sent to the email address provided below. If you do not receive an acknowledgement of receipt within a few days of your submitting it, please email us at [scienceday.bc@gmail.com](mailto:scienceday.bc@gmail.com).

This application consists of four sections: Presenter Information, Research Information, Abstract Submission, and Poster Information. If you have questions about the submission rules or procedures, please contact [scienceday.bc@gmail.com](mailto:scienceday.bc@gmail.com) before the final deadline.

**1. Full Name:**

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**2. If you are a CUNY student, please enter your CUNY EMPLID:**

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**3. Please enter a phone number where you can be reliably reached:**

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**4. When would be the best time to call you?**

*Mark only one oval.*

Morning

Afternoon

Evening

Other:

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**5. Please enter an email address that you check regularly:**

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6. Please enter your home address (street, city, state, zip):

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7. Choose your current level of education

Mark only one oval.

- High school student
- Undergraduate student
- Graduate student
- Post-doctoral fellow

8. Please enter the high school you attended (include the city and state where it is located)

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## Research Information

9. Please enter your current research affiliation (department, college, high school):

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10. Please choose the discipline of your project:

Mark only one oval.

- Anthropology
- Biology
- Chemistry
- Computer Information Science
- Earth and Environmental Science
- Engineering
- Health and Nutrition Science
- Mathematics
- Neuroscience
- Physics
- Psychology
- Speech and Communication Science

11. If your project is supported by a grant, please enter it here:

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## Research Advisor Information

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12. **Full Name:**

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13. **Institution:**

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14. **Academic Department:**

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15. **Office Telephone #:**

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16. **Email Address:**

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## Abstract Submission

Brief instructions for writing abstracts:

The purpose of an abstract is to provide a summary of your project that will inform interested individuals of the contents. The wording must be written in a manner so that any scientifically minded individual, even those from another discipline, can understand the project's important points. Before you submit your abstract, your research mentor needs to read and approve it.

The following should each be summarized in a few sentences:

- Background information necessary to understand the project and its importance.
- The problem that was investigated and the hypothesis.
- Outline of the materials and methods used in the actual experimentation.
- Summary of the results obtained from experimentation.
- The conclusions drawn from results.
- The importance or potential applications that the research offers.

Do not be concerned with including all of the details in the abstract. The key point to remember when writing an abstract is to keep the wording brief and concise. It is also important to use complete sentences and to avoid personal pronouns like "I" and "My." Abstracts should be long enough to provide the necessary information needed to understand the project's basic points and importance, but should be no more than 1,800 characters, including spaces.

ABSTRACT EXAMPLE (from Science Research Day 2001) :

The goal of this study is to isolate the gene controlling sexual fusion in Chlamydomonas. In the attempt to isolate this gene we are using an isolated fusion defective mutant (gain-b int-) to screen the indexed genomic library of Chlamydomonas DNA. The purpose of using the library is to find a DNA segment that will make the mutant fusion competent. Once we find the DNA segment that will make this mutant fusion competent, we can retrieve the segment of DNA that complements the mutants and then clone the gene. It is hoped that this technique will lead us to a single gene that directly controls gametic fusion in Chlamydomonas. Once the gene is found we will be able to determine the sequence and analyze the structure of the fusion protein.

17. **Please type the title of your abstract in CAPITAL letters (no more than 200 characters, including spaces):**

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Author's Names. Please type each author's name (first, middle initial, last) and affiliation in the following format: John R. Doe, Brooklyn College.

18. 1.

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19. 2.

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20. 3.

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21. 4.

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22. 5.

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23. 6.

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24. 7.

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**25. A maximum of two presenters is allowed per poster. If there will be more than one presenter, please list the name of the second student presenter, along with the affiliation. (Example: John R. Doe, Department of Chemistry, Brooklyn College)**

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**26. Please indicate the second presenter's status**

*Mark only one oval.*

- High School Student
- Undergraduate Student
- Graduate Student
- Post-doctoral fellow.

27. **Compose your abstract in the box below. The abstract must be no more than 1800 characters including spaces. The easiest way to do this is to write the abstract in a program such as MS Word and use the Review function to count characters. Then copy into the box below when the completed abstract has 1800 characters or less.**

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28. **Two judges will be assigned to each poster. Please list any possible judging conflicts (e.g. former mentors, former research project managers) for your research poster:**

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## Poster Information

Instructions for posters

- Posters should be no larger than 42" wide by 36" high.
- Posters should indicate the title, the authors' names, and institutional affiliations.
- Posters should be constructed either to be pinned or taped to the wall, or stand on a tabletop (see examples below). You must tell us when you submit which format (wall or table) you will be using. If you change your mind and don't tell us, we can't guarantee that there will be space for your poster as space is limited.
- Posters should be clear and textual material should be kept brief. Illustrations, graphs, and text should be legible from a distance.
- Posters may have more than one author, but can be entered in only one division.
- Student presenter(s) must be present throughout the session, and should be prepared to discuss the work with judges and visitors. Advisors are encouraged to attend, but the poster should be presented by the student.

29. **Some posters are constructed to hang vertically on a poster board or wall, and others to stand by themselves on a table. Please indicate which format you will be using; your poster will be assigned a display location based on this choice. See below for examples of each type.**

*Mark only one oval.*

- Wall poster
- Table poster

## Example of a Wall poster

**PSY-13**

**The Effects of Drawing On Children's Mood**  
Olivia Exama, Irfa Kafayat, Jennifer E. Drake, Ph.D.  
Arts and Development Lab, Department of Psychology, Brooklyn College, CUNY

**Abstract**

Previous research has shown that drawing improves children's mood when used to distract rather than express a sad mood. When in a sad mood, what do children draw spontaneously? Following a sad mood induction, we asked children to draw whatever they pleased. We found that children drew as a way to distract themselves from a negative mood and they drew events that made them happy or things that they were good at in order to boost their mood.

**Introduction**

- An important part of children's development is learning how to regulate emotions (Denham, 1998).
- Drawing can be used as a form of communication for children since they become captivated when they have the opportunity to draw (Gardner & Winner, 1982).
- Drawing improves mood in children when used to distract rather than express emotions (Drake & Winner, 2013).

**Question**

- Will the act of free drawing increase mood after a sad mood induction?
- Will children spontaneously use drawing as a way to distract from a sad mood?
- What will children draw after experiencing a sad mood?

**Hypothesis:** Children will use drawing as a way to distract themselves from the negative events taking place in their lives.

**Participants:** 46 children 6-8 years olds ( $M_{age} = 7;8$ )

**Methods**

Baseline Mood Induction

Mood Induction

Mood After Drawing

Enjoyment

Competence

Absorption

Overall Enjoyment of Drawing

**Results and Discussion**

**Mood Improvement Over Time**

**Distraction vs. Expression**

**Specificity of Drawings**

**Conclusion**

- Drawing can be an effective way to instantly improve mood by serving as a form of distraction.
- As a result of allowing children to draw what they ple majority drew pictures of their families or things that enjoyed.
- A limitation was how long ago or how recent the sad place. If the event occurred months/years ago then t not feel as sad as a child whose negative event took p or days ago.

Example of a Table poster.

**Brooklyn College**

**The Effect of Temperature on the Frequency of Vocalization of *Myiopsitta monachus* (Monk Parakeet)**  
Bella Fatma & Dr. Frank W. Grasso, BioMetric & Cognitive Robotics Lab, Department of Psychology, Brooklyn College

**Introduction**

*Myiopsitta monachus* have geographic cultural isolates with great levels of population size and genetic diversity. The first such isolate was recorded in the United States in the 1990s.

They can now be seen to place such in Chicago and New York. Two locations very close to each other in the same city. These birds seem to be heard and may cause stress and power impacts in urban areas.

Although most in size, these birds are quite fascinating. They are very social and have a very complex social structure. They are very vocal and have a very complex social structure. They are very vocal and have a very complex social structure.

On the other side of the world, the Monk Parakeet is a very social bird. They are very vocal and have a very complex social structure. They are very vocal and have a very complex social structure.

**Hypothesis**

There have been studies that have shown that the frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature.

**Results**

Data was organized and analyzed using RStudio. A total of 197 values were analyzed. The frequency of temperature is shown in Figure 1.0 to show that temperatures were collected at a variety of different temperatures. However, the concentration of temperatures was mostly between 50° and 75°.

Figure 1.1 shows the frequency of each call. Chatter and contact calls were more frequent than other calls. The data that was collected contained 100 calls or more calls were analyzed due to the significant number of values that remained after the data was cleaned and analyzed. The data that was collected contained 100 calls or more calls were analyzed due to the significant number of values that remained after the data was cleaned and analyzed.

Figure 2.1 is a multiple showing the frequency of vocalization in very to each different size. Note that the highest frequency of calls at about 50°. A significant difference was found between the 50° and the frequency of other calls. The p-value being 0.001. An F-test was also required to represent the relationship between the 50° and the frequency of other calls. The p-value being 0.001. An F-test was also required to represent the relationship between the 50° and the frequency of other calls.

**Procedure**

Fourteen Monk Parakeets and two pairs of Monk Parakeets were used as representative samples to test the hypothesis. Several different temperatures were used to represent the temperatures that the Monk Parakeets live in. Each pair of Monk Parakeets was used to represent the temperatures that the Monk Parakeets live in. Each pair of Monk Parakeets was used to represent the temperatures that the Monk Parakeets live in.

**Discussion**

Our hypothesis was that the frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature.

**Future Research**

There have been studies that have shown that the frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature. The frequency of vocalization of the Monk Parakeet is affected by temperature.

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## Permission to Use Photographs

Photographs and/or video will be taken at Brooklyn College Science Day. These materials may be used in printed or online publicity, including social media. By checking "Yes" below you grant Brooklyn College full rights to use images or video taken of you during the event. If you do not wish to be photographed, check "No" below.

**30. Do you grant Brooklyn College the right to use photos or video of you taken during Science Day 2019?**

*Mark only one oval.*

- Yes, I grant Brooklyn College the right to use photos or video of me.
- No, I do not wish to be photographed.

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