**Editorial comments:**  
  
\*Please make sure that your references comply with JoVE instructions for authors.   
-In-text formatting: corresponding reference numbers should appear as superscripts after the appropriate statement(s) in the text of the manuscript. Please revise the formatting in the representative results section.  
-Citation formatting should appear as follows: (For 6 authors or less list all authors. For more than 6 authors, list only the first author then *et al.*): [Lastname, F.I., LastName, F.I., LastName, F.I. Article Title. *Source*. **Volume** (issue), FirstPage - LastPage, DOI, (YEAR).]

**Response:** The in-text references have been modified to comply with the instructions. In addition, the volume has been set in bold type in the references.

**Reviewers' comments:**  
  
**Reviewer #1:**   
Description  
This manuscript describes a technique for describing behavioral movements in Drosophila by video tracking. This capability has been valuable for progress in the field of neurogenetics since its earliest days of tracking daily rhythms in circadian rhythm movements, and recently in high-speed recordings of escape behavior. The attraction of the present manuscript is that it describes methodologies of low-cost video tracking allowing for the first time, access to this type of analysis to all laboratories. This is an especially attractive notion for teaching laboratories, including high school-level teaching labs.  
  
Critique  
No weaknesses are apparent in the presentation. The methodology is presented in step-by-step detail using easily available equipment and software. I especially enjoyed descriptions of the limitations of the methodology and ideas about how the methodology might be expanded.  
  
*Additional Comments to Authors:*  
N/A  
  
  
**Reviewer #2:**   
*Manuscript Summary:*   
Overall, the paper is well written and the techinque should be of interest of many in the Drosophila research field. The ability to quantify locomoter and seizure behavior is often an expensive undertaking and this procotol clearly lays out a technique the mitigates the high cost of such experiments. The authors demonstrate the validity of their system using bang sensitive and seizure prone fly lines that have been treated with a compound that can improve the neurological phenotypes.   
  
*Major Concerns:*  
1. For the protocol text, I would add a paragraph describing the type of food used and how the drug was administered. Was the food cooked or instant reconsituted food? Did the drug require a vehicle such as DMSO? If so then there should be a vehicle only control in the experiments. Was the drug mixed into the food or placed on a filter paper on top? This is also where I would move the first mention of the concentration of drug administered.

**Response:** The type of food is now described in the protocol. The drug was mixed directly with the food so no vehicle was used. This is described in the text.

*Minor Concerns:*  
1. I recommend minor changes to the text. I would add the species name when introducing your model organism in the Abstract and Introduction. I assume this is Drosophila melanogaster.

**Response:** This change has been made.

2. For the seizure assay, was the fly also under a petri dish? What did you do to prevent the fly from flying away?

**Response:** The fly was not under a petri dish. When these flies finish undergoing seizure-like activity they are extremely hypoactive and do not move extensively or fly until well after the recording of the seizure-like activity has stopped. Covering the fly is not necessary to perform the recording.

3. Statistical analysis description is missing. I would add a paragraph to the methods or add information into the text detailing which method was used to determine p values. I am assuming this is the student's t test, but it should be stated in the text.

**Response:** In all cases, the non-parametric Mann-Whitney U test was used to test for statistical significance because of the non-normal distribution of the data. This is now indicated in the figure legends.

4. Figure 7 legend text should be changed to say CS instead of wildtype to match the other legendes that use CS flies.

**Response:** This change has been made.

5. Figure 1 and Figure 5, I would add unit of measure to the scale bar and not just state it in the legend.

**Response:** These changes have been made to the figures.

6. Figure 1, Figure 5, and Figure 7 I would identify the fly type and treatment (if necessary) above each data set to make it clear for a reader scanning the paper. I know this is stated in the legend, but adding a label to the figure will be of additional help to the reader.

**Response:** These changes have been made to the figures.

*Additional Comments to Authors:*  
I would change the text about any vortexer will suffice. Cheap mini vortexers are not sufficient in some cases to induce paralysis in some bang sensisitive strains. I would state the model of vortexer you utilized for your studies.

**Response:** The comments on the Reagents and Supplies for the vortexer has been changed to the following: “Most standard size vortexers such as the Vortex Genie 2 will suffice.”