

# Jakob “Koby” Shaykin

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## Education

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- 2016 – 2020**      **B.S.**, Psychology: Behavioral Science, Western Michigan University  
**Honors:** Magna cum laude (GPA: 3.81)  
**Minor:** Integrated Holistic Health and Wellness  
**Thesis:** Conditioned Place Preference with Low Dose Mixtures of 3,4-methylenedioxypyrovalerone (MDPV) and  $\alpha$ -pyrrolidinopentiophenone ( $\alpha$ -PVP) in Male and Female Sprague-Dawley Rats  
**Mentor:** Lisa E. Baker Ph.D.
- 2020 – 2022**      **M.S.**, Experimental Psychology, University of Kentucky  
**Concentration:** Cognitive Neuroscience  
**Graduate Certificate:** Applied Statistics  
**Thesis:** Effects of Social Isolation and Adolescent Ethanol Exposure on Adult Drinking and Nicotine Co-Use  
**Mentor:** Michael T. Bardo Ph.D.
- 2022 – Present**      **Ph.D.**, Experimental Psychology, University of Kentucky  
**Concentration:** Cognitive Neuroscience  
**Graduate Certificate:** Applied Statistics  
**Thesis:** Functional and Genomic Signatures of Escalated Fentanyl Use  
**Mentor:** Michael T. Bardo Ph.D.

## Research Statement

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My research is focused on developing translational preclinical rodent models of opioid use disorder (OUD) with a focus on escalation of high-potency synthetic opioids and the development of adrenergic adjuncts to traditional fentanyl countermeasures. I am interested in developing novel treatments for substance use disorders and uncovering the neural mechanisms that underpin these behaviors. Moreover, I am uncovering transcriptomic differences related to a phenotype that is prone to escalate fentanyl self-administration. It is my goal to improve upon current rodent models to better mimic the human condition in the hopes of improving clinical treatment outcomes.

## Research Experience

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- 2018 – 2020**      **Undergraduate Research Assistant**  
Location: Western Michigan University  
Behavioral Economic Research Collaborative  
Supervisors: Anthony DeFulio Ph.D., Mark Rzezutek Ph.D.  
**Description:** Examined the role of how preclinical behavioral contrast models mediate the value of reinforcers.
- 2019 – 2020**      **Undergraduate Research Assistant**  
Location: Western Michigan University  
Behavioral Neuroscience Laboratory  
Supervisors: Lisa E. Baker Ph.D., Harmony I. Risca Ph.D.  
**Description:** Assessed the rewarding effects of synthetic cathinones in isolation and in combination with other psychostimulants.
- 2020 – Present**      **Graduate Research Assistant**  
Location: University of Kentucky  
Bardo Laboratory  
Supervisor: Michael T. Bardo Ph.D.  
**Description:** I am evaluating adrenergic adjuncts to be used in combination with opioid antagonists to better reverse the locomotor and respiratory depressant effects of fentanyl. I am also assessing phenotypical differences in fentanyl escalation.
- 2023 – Present**      **Graduate Research Assistant**  
Location: University of Kentucky  
Turner Laboratory  
Supervisor: Jill R. Turner Ph.D.  
**Description:** I am also examining genes that are highly associated with the predictive value of OUD escalation using methods such as bulk and single-cell RNA sequencing.
- Undergraduate Mentees:** Cameron Evans, Luke Sawyers, Lidia Olyha, Ellie Quinkert, Joshua Hales, Jocelyn Martin, Meagan Blanchard,

## High School Mentees: Ben Haase

### Publications

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1. Chandler, C.M., **Shaykin, J.D.**, Peng, H., Pauly, J.R., Nixon, K., & Bardo M.T. (2022). Effects of Voluntary Adolescent Intermittent Alcohol Exposure on Social Isolation on Adult Intake in Male Rats. *Alcohol*, 104, 13-21. [PMCID: PMC8885928]. DOI: [10.1016/j.drugalcdep.2022.109298](https://doi.org/10.1016/j.drugalcdep.2022.109298)
2. **Shaykin, J.D.\***, Malone, S.G\*, Stairs, D.J., & Bardo M.T. (2022). The Neurobehavioral Effects of Environmental Enrichment and Drug Abuse Vulnerability: An Updated Review. *Pharmacology, Biochemistry and Behavior*, 221:173471. [PMCID: PMC10189610]. DOI: [10.1016/j.pbb.2022.173471](https://doi.org/10.1016/j.pbb.2022.173471) \*shared first-author
3. **Shaykin, J.D.**, Denehy, E.D., Martin, J.R., Chandler, C.M., Luo, D., Taylor, C.E., Sunshine, M.D., Turner, J.R., Alilain W.J., Prisinzano, T.E., Bardo, M.T. (in press). Targeting Alpha1- and Alpha2- Adrenergic Receptors as a Countermeasure for Fentanyl-Induced Locomotor and Respiratory Depression. *Journal of Pharmacology and Experimental Therapeutics*.
4. **Shaykin, J.D.**, Olyha, L.N., Van Doorn C.E., Hales, J.D., Chandler, Hopkins, D.M., C.M., Nixon, Beckmann, J., Pauly, J.R., K., Bardo, M.T. (in preparation). Effects of Ethanol Consumption in Group and Isolate Housed Adolescent Male Rats on Adult Drinking and Ethanol-Nicotine Co-Use.
5. **Shaykin, J.D.**, Baker L.E. (in press). Conditioned Place Preference with Low Dose Mixtures of 3,4-methylenedioxypyrovalerone (MDPV) and  $\alpha$ -pyrrolidinopentiophenone ( $\alpha$ -PVP) in Male and Female Sprague-Dawley Rats. *Behavioural Pharmacology*.

### National and International Conference Presentations and Posters

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- Shaykin, J.D., Denehy, E.D., Martin, J.R., Chandler, C.M., Luo, D., Taylor, C.E., Sunshine, M.D., Turner, J.R., Alilain W.J., Prisinzano, T.E., Bardo, M.T. (June 2023). Targeting Alpha1- and Alpha2- Adrenergic Receptors as a Countermeasure for Fentanyl-Induced Locomotor and Respiratory Depression. *The College on Problems of Drug Dependence*.
- Shaykin, J.D., Denehy, E.D., Martin, J.R., Chandler, C.M., Luo, D., Taylor, C.E., Sunshine, M.D., Turner, J.R., Alilain W.J., Prisinzano, T.E., Bardo, M.T. (April 2023). Targeting Alpha1- and Alpha2- Adrenergic Receptors as a Countermeasure for Fentanyl-Induced Locomotor and Respiratory Depression. *University of Kentucky Substance Use Research Event*.
- Shaykin, J.D., Martin, J.R., Chandler C.M., Denehy, E.D., Turner, J.R., Alilain W.J., Prisinzano, T.E., Bardo, M.T. (September 2022). Alpha2 Noradrenergic Receptor as a Target for Reversing Fentanyl-Induced Respiratory Depression. *Neuroscience Clinical-Translational Research Symposium*.
- Shaykin, J.D., Chandler, C.M., Nixon, K., Bardo, M.T. (June 2022). Effects of Ethanol Consumption in Group and Isolate Housed Adolescent Male Rats on Adult Drinking and Ethanol-Nicotine Co-Use. *The College on Problems of Drug Dependence*.
- Shaykin, J.D., Chandler, C.M., Nixon, K., Olyha, L.N., Bardo, M.T. (June 2022). Social Isolation Combined with Adolescent Voluntary Ethanol Exposure Increases Subsequent Addiction Vulnerability. *European Behavioral Pharmacology Society*.
- Shaykin, J.D., Chandler, C.M., Nixon, K., Bardo, M.T. (February 2022). Effects of Ethanol Consumption in Group and Isolate Housed Adolescent Male Rats on Adult Drinking and Ethanol-Nicotine Co-Use. *University of Kentucky Substance Use Research Event*.
- Shaykin, J.D., Chandler, C.M., Bardo, M.T., (February 2021). Effects of Adolescent Ethanol Exposure via Intraperitoneal Injection on Voluntary Adult Ethanol-Nicotine Co-Use. *University of Kentucky Substance Use Research Event*.
- Chandler, C.M., Shaykin, K., Nixon, K., and Bardo, M.T. (June 2021). Effects of Adolescent Intermittent Alcohol Exposure and Social Isolation on Voluntary Adult Alcohol Intake in Rats. *European Behavioral Pharmacology Society*.
- Chandler, C.M., Shaykin, K., Nixon, K., and Bardo, M.T. (June 2021). The Effects of Adolescent Intermittent Alcohol Exposure on Voluntary Adult Alcohol Intake and Alcohol and Nicotine Co-Use. *The College on Problems of Drug Dependence*.
- Risca, H.I., Conway, C.N., Shaykin, J.D., Baker, L.E. (October 2019). Conditioned Place Preference with Low Dose Mixtures of 3,4-methylenedioxypyrovalerone (MDPV) and 3,4-methylenedioxymethamphetamine (MDMA) in Male and Female Sprague-Dawley Rats. *Society for Neuroscience*.
- Risca, H.I., Conway, C.N., Shaykin, J.D., Baker, L.E. (May 2019). Conditioned Place Preference with Low Dose Mixtures of 3,4-methylenedioxypyrovalerone (MDPV) and 3,4-methylenedioxymethamphetamine (MDMA) in Male and Female Sprague-Dawley Rats. *Michigan Chapter of the Society for Neuroscience*.

### Honors and Awards

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2023	University of Kentucky Outstanding TA Award
2022	Robert Lipman Fellowship (\$5000)
2022	European Behavioral Pharmacology Society Travel Award (\$500)
2016-2020	Dean's List, WMU

**2017-2020** Lurie Children's Children Scholarship  
**2019** College of Arts and Sciences Undergraduate Research and Creative Activities Award (\$750)  
**2019** Lee Honors College Research and Creative Activities Award (\$2000)  
**2019** PSI CHI Undergraduate Research Grant (\$1500)

**Professional Affiliations and Roles**

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<b>2023-</b>	Psychology Graduate Student Representative	Ambassador
<b>2021-</b>	Research Society on Alcoholism	Member
<b>2020-</b>	European Behavioral Pharmacology Society	Member
<b>2020-</b>	College on Problems of Drug Dependence	Member
<b>2018</b>	PSI CHI: The International Honor Society in Psychology	Treasurer
<b>2016</b>	Alpha Lambda Delta Honors Fraternity	Member

**Teaching Experience**

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***Teaching Assistant – University of Kentucky***

<b>Fall 2020</b>	PSY 215 Experimental Psychology	<b>Fall 2022</b>	PSY 456 Behavioral Neuroscience Lab
<b>Spring 2021</b>	PSY 215 Experimental Psychology	<b>Spring 2023</b>	PSY 312 Brain and Behavior
<b>Fall 2021</b>	PSY 456 Behavioral Neuroscience Lab		
<b>Spring 2022</b>	PSY 333 Abnormal Psychology	<b>Fall 2023</b>	PSY 456 Behavioral Neuroscience Lab

***Teaching Assistant – Western Michigan University***

**Spring 2019** PSY 3300 Advanced Research Methods

**Software and Programming Experience**

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**Software/Tools:** Med-PC; Prism; SAS; RStudio; SPSS; JMP; OBS Studio; ImageJ; Excel, BioRender