

Kanza Khan
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EDUCATION

- 2019
(anticipated) University of Southern Mississippi, Hattiesburg, MS
Ph.D., Psychology with a focus in Brain and Behavior
- 2017 University of Southern Mississippi, Hattiesburg, MS
M.A., Psychology with a focus in Brain and Behavior
- 2013 University of Minnesota, Rochester, MN
B.S., Health Sciences

RESEARCH EXPERIENCE

- 2013 - present University of Southern Mississippi, Hattiesburg, MS
Graduate Student, Advisor: David J. Echevarria
Sleep behavior in Zebrafish, Anxiety in Zebrafish
- 2009 - 2013 University of Minnesota, Rochester, MN
Undergraduate Researcher, Advisor: Robert L. Dunbar
Social Paradigms, and Operant Learning in Zebrafish

PUBLICATIONS

Echevarria, D. J., **Khan, K. M.** (2017). Rest in the zebrafish. *International Journal of comparative psychology* (in press).

Khan, K. M., Collier, A. D., Meshalkinab, D. A., Kysilc, E. V., Khatskod, S. L., Kolesnikovad, T., Morzherind, Y. Y., Warnick, J. E., Kalueff, A. V., Echevarria, D. J. (2017). Zebrafish models in neuropsychopharmacology and CNS drug discovery. *British Journal of Pharmacology* (in press).

Caramillo, E. M., **Khan, K. M.**, Collier, A. D., & Echevarria, D. J. (2015). Modeling PTSD in the zebrafish: Are we there yet?. *Behavioural brain research*, 276, 151-160.

Collier, A. D., **Khan, K. M.**, Caramillo, E. M., Mohn, R. S., Echevarria, D. J. (2014) Zebrafish and conditioned place preference: A translational model of drug addiction. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 55:16-25

BOOK CHAPTERS

Echevarria, D. J., **Khan, K. M.** (2017). Sleep phenotypes in zebrafish. In A. V. Kalueff (Ed.), *The rights and wrongs of zebrafish: principles of behavioral phenotyping and CNS disease modeling* (pp. 221-239). New York, NY: Springer.

Khan, K. M., Echevarria, D. J. (2016). Feeling Fishy: Trait Differences in Zebrafish (*Danio rerio*). In J. Vonk & A. Weiss (Eds.), *Personality in Non-human Animals* (accepted). New York, NY: Springer.

MANUSCRIPTS IN PREPARATION OR UNDER REVIEW

Khan, K. M., Echevarria, D. J. (2017). *Pulling all-nighters: The effect of sleep disruption on activity and anxiety in the zebrafish*. Manuscript submitted for publication.

Hajnal, A., **Khan, K. M.**, Kelty-Stephen, D. G., Palatinus, Z., Clark, J. D., Doyon, J. K., Surber, T., Caramillo, E. M., Collier, A. D., Echevarria, D. J. (2017). *Predicting stress through multiscale interactions in adult zebrafish (*Danio rerio*)*. Manuscript in preparation.

Khan, K. M., Echevarria, D. J. (2017). *Assessing inter- and intra-session habituation to anxiety tasks in the adult zebrafish*. Manuscript in preparation.

Khan, K. M., Echevarria, D. J. (2017). *Modeling the placebo effect in zebrafish: implications for drug discovery?* Manuscript in preparation.

Paris-Harbison, R., **Khan, K. M.**, Echevarria, D. J. (2017). *The effects of extended caffeine exposure on activity and anxiety in the adult zebrafish (*Danio rerio*)*. Manuscript in preparation.

Frick, E. Sims, H., Caramillo, E. M., **Khan, K. M.**, Echevarria, D. J. (2017). *The right fit: finding the ideal volume and exposure time for drug delivery in zebrafish*. Manuscript in preparation.

Caramillo, E. M., **Khan, K. M.**, & Echevarria, D. J. (2017). Memory effects of methylene blue in the zebrafish. Manuscript submitted for publication.

Caramillo, E. M., **Khan, K. M.**, & Echevarria, D. J. (2017). Effects of scopolamine on memory in the zebrafish. Manuscript in preparation.

Caramillo, E. M., **Khan, K. M.**, & Echevarria, D. J. (2017). Memory effects of isolation stress in the zebrafish. Manuscript in preparation.

CONFERENCE PRESENTATIONS

Khan, K. M., Echevarria, D. J. Sleep and anxiety in the zebrafish. Hattiesburg, MS: Graduate Student Symposium, 2017.

Khan, K. M., Caramillo, E. M., Collier, A. D., Doyon, Clark, J. D., J. K., Surber, T., Echevarria, D. J., & Hajnal, A. Multiscale interactions predict stress in adult zebrafish (*Danio rerio*). San Diego, California: *Society for Neuroscience*, 2016.

Clark, J. D., Doyon, J. K., Surber, T., **Khan, K. M.**, Caramillo, E. M., Collier, A. D., Echevarria, D. J., & Hajnal, A. Multiscale interactions predict stress in adult zebrafish (*Danio rerio*). Clemson, South Carolina: *International Society for Ecological Psychology America*, 2016.

Paris-Harbison, R., **Khan, K. M.**, Caramillo, E. M., Collier, A. D., Echevarria, D. J. *Behavioral and Physiological Responses to a Predator Following Sleep Cycle Manipulation in Adult Zebrafish*. Hattiesburg, MS: Undergraduate Symposium on Research and Creative Activity, 2016.

Hyter, C. G., **Khan, K. M.**, Echevarria, D. J. *Understanding Shoaling Patterns in Adult Zebrafish*. Hattiesburg, MS: *Mississippi Academy of Sciences*, 2016.

Khan, K. M., Lodinger, N. R., Collier, A. D., Caramillo, E. M., Echevarria, D. J. *Assessing the effects of light dark manipulation and caffeine exposure on zebrafish sleep behavior*. Hattiesburg, MS: Graduate Student Symposium, 2015.

Khan, K. M., Lodinger, N. R., Collier, A. D., Caramillo, E. M., Echevarria, D. J. *Assessing the effects of light-dark manipulation and caffeine exposure on zebrafish sleep behavior*. Victoria, Canada: *International Behavioral Neuroscience Society*, 2015.

Button, T. B., **Khan, K. M.**, Echevarria, D. J. *Assessing behavioral change elated to stress-induced cortisol release in the zebrafish*. Hattiesburg, MS: Undergraduate Symposium on Research and Creative Activity, 2015.

Khan, K. M. *Assessing Sleep Behavior in Zebrafish*. Hattiesburg, MS: University of Southern Mississippi, 3 Minute Thesis, 2014.

Echevarria, D. J., Collier, A. D., Caramillo, E. M., **Khan, K. M.** Zebrafish and conditioned place preference: A translational model of drug reward. Washington D.C., *Society for Neuroscience*, 2014.

Heyduk, C.R., **Khan, K. M.**, Risinger, J. E., Harley, C. R., Hubbard, L. J., Scheffler, K. M., Spindler, A. L., Suchy, A. M., Poshusta, T. J., Clark, K. J., Petzold, A. M., Dunbar, R. L. *Exploring the Associations between Stress and Learning within Groups of Zebrafish: Preliminary Studies*. San Diego, CA: *Society for Neuroscience*, 2013.

Risinger, J. E., **Khan, K. M.**, Heyduk, C. R., Suchy, A. M., Spindler, A. L., Scheffler, K. M., Hubbard, L. J., Harley, C., Doyle, E. M., Petzold, A. M., Dunbar, R. L. *Longevity of a learned behavior in groups of zebrafish*. San Diego, CA: *Society for Neuroscience*, 2013.

Khan, K. M., Doyle, E. M., Risinger, J. E., Heyduk, C. R., Geier, T. J., Petzold, A. M., Dunbar, R. L. Exploring Social Dominance and Transfer of Learning in *Danio rerio*: preliminary studies. New Orleans, LA: Society for Neuroscience, 2012.

TEACHING EXPERIENCE

Introduction to Statistics for the Behavioral Sciences (PSY360): University of Southern Mississippi, Summer 2017, Summer 2015, Fall 2014.

Psychology 360 provides an introduction to the principles and techniques of statistics commonly employed in the behavioral sciences. In class assignments and exercises focused on the understanding of the theory behind each statistical technique. Students also learned how to perform hypothesis tests by hand, and via statistical software (SPSS).

Health Psychology (PSY400), University of Southern Mississippi: Fall 2016

This course discusses psychology's contributions to enhancement of physical health, prevention and treatment of illness and identification of illness risk factors. In this interactive course, students explored various trends in health and psychology and studied the potential risks and implicated benefits of foods (e.g., GMO's) and health behaviors (e.g., vaping versus cigarette smoking).

Research Methods in the Behavioral Sciences (PSY361), University of Southern Mississippi: Summer 2016

Psychology 361 is an extension of the introductory statistics course for psychology research. In this class, students explore different kinds of research methods in psychology. Through written reports and class discussions, students perform literature searches and develop a unique study for a research proposal.

General Psychology (PSY110), University of Southern Mississippi: Spring 2017, Fall 2015.

Psychology 110 is a first year class in which student are introduced to the main branches and topics in psychology. Written assignments and in-class activities foster an engagement with the material and allow students to understand the development of psychology as a science, and the impact it has on society.

PROFESSIONAL WORKSHOPS

Khan, K.M., Lodinger, N.R., Collier, A.D., Caramillo, E.M., Echevarria, D.J. *Assessing the effects of light-dark manipulation and caffeine exposure on zebrafish sleep behavior*. International Stress and Behavior Society workshop, Miami, FL, June, 2015.

Khan, K.M., Lodinger, N.R., Echevarria, D.J. (2014) *Assessing Sleep Behavior in Zebrafish*. International Stress and Behavior Society workshop, Washington, D.C., November 2014.

PROFESSIONAL MEMBERSHIPS

2014 – present International Behavioral Neuroscience Society

2013 – present Society for Neuroscience

AD HOC REVIEWER

2017 – present Journal: *Zebrafish*