

CAMDEN CUTLIP and PAMELA DAVEY HUGGINS, Biology Program, Fairmont State University, Fairmont, WV 26554. THE EFFECT OF VAPING ON THE DEVELOPMENT AND CRANIOFACIAL MORPHOLOGY OF *XENOPUS LAEVIS* EMBRYOS

Vaping is a type of nicotine usage in which an artificial cigarette is used as the delivery system. Originally marketed as the healthier alternative to smoking cigarettes, vaping has led to an increase in the amount of pulmonary issues by users. Our objective for this research was to test whether the consumption of nicotine and flavor additives through vaping is as harmful to developing embryos as that obtained through smoking traditional cigarettes. For this research, we exposed developing *Xenopus laevis* embryos to nicotine from vaping solution with 3 differing propylene glycol: vegetable glycerin ratios (30:70, 50:50, 70:30) as well as smoke from a well-known cigarette brand, all of which contain 12 mg of nicotine. We exposed the embryos to the same amount of nicotine and byproducts that would be consumed by the average pregnant American woman who either vapes or smokes traditional cigarettes. Embryos were exposed from Stage 10 (yolk plug) to Stage 43 (freeswimming tadpole with most yolk consumed). Tadpoles were sacrificed and mounted, and Image J was used to determine if there were any differences in craniofacial morphology between treatments. Preliminary results are encouraging and indicate possible developmental effects of different VG: PG ratios.

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