

The Persistence of Neotenous Behaviors in *Felis catus* with Respect to Owner's Nurturing Behavior

Author: Karina Palermo- palermok1@udayton.edu

Advisor: Greg Elvers

Introduction

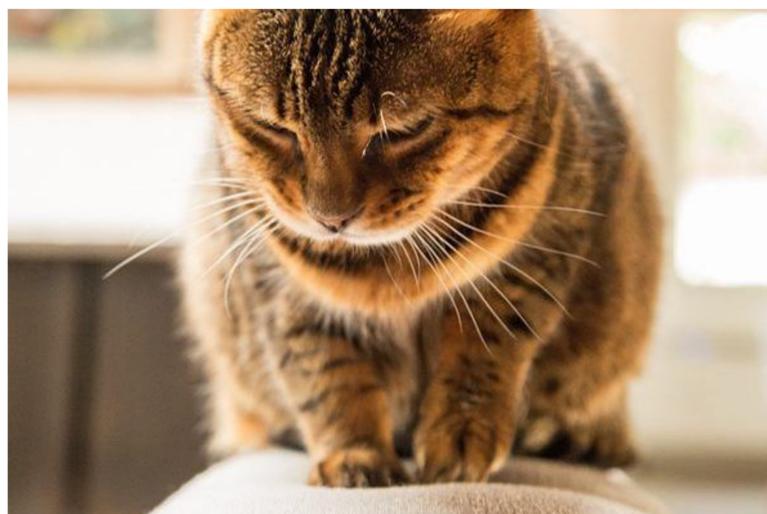
- Bradshaw et al. (2012) reports three physical and behavioral changes in cats due to domestication
 - Reduced brain size
 - Reduction of adrenal glands
 - Persistence of juvenile behaviors
- Price (1999) explains that changes in animal behavior as a result of domestication are often due to the changes in their social environment.
- Why does domestication of *Felis catus* result in the persistence of neotenous (juvenile) behaviors? (purring, kneading, meowing, allorubbing)

Method

- 89 patrons of the Gem City Catfé responded
- Cats must be at least two years of age (adult)
- Interpersonal Adjective Scale questionnaire measured nurturance
 - 8 point response scale for each of 64 adjectives
 - ex) "soft hearted", "accommodating"
- Emotional expressions, instrumental acts and neotenous behaviors questionnaire made by researcher (Locke & Prinz, 2002)
 - Emotional expressions: How often do I pet, talk, hold my cat?
 - Instrumental acts: How often do I brush, play, give a treat to my cat?
 - Neotenous behaviors: How often does my cat purr, knead, meow, sleep next to me?

Hypothesis

The frequency of neotenous behaviors of *Felis catus* will increase with an increase in the frequency of owner's behaviors which are consistent with nurturance from a queen (mother cat).



Analysis of Data and Results

- Multivariate regression to predict neotenous behaviors from nurturance, emotional expressions and instrumental acts
- Adjusted $R^2 = .376$

Predictor	Standardized β Coefficient	t	p
Instrumental	-.201	-2.172	.033
Emotional	.638	6.822	< .001
Nurturance	.161	1.882	.063

Discussion

- Emotional expressions by owner are similar to behaviors of queens to kittens and tend to increase neotenous behaviors
- Nurturing behaviors by owner are similar to behaviors of queens to kittens and tend (marginally significant) to increase neotenous behaviors
- Instrumental acts by owners are not similar to behaviors of queens to kittens and tend to decrease neotenous behaviors
- Future research may include adjusting the instrumental acts given in the survey to better reflect the behavior of a queen towards her kittens, such as scruffing

References

- Bradshaw, J. W. S., Casey, R. A., & Brown, S. L. (2012). *The behaviour of the domestic cat*. London, United Kingdom: CABI.
- Locke, L. M., & Prinz, R. J. (2002). Measurement of parental discipline and nurturance. *Clinical Psychology Review*, 22, 895-929. [http://dx.doi.org/10.1016/S0168-1591\(99\)00087-8](http://dx.doi.org/10.1016/S0168-1591(99)00087-8)
- Price, E. O. (1999). Behavioral development in animals undergoing domestication. *Applied Animal Behavioural Science*, 65, 245-271. [https://doi.org/10.1016/S0168-1591\(99\)00087-8](https://doi.org/10.1016/S0168-1591(99)00087-8)