

SOCIAL INFLUENCE ON GOAT KID CALLS DURING DEVELOPMENT

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INTRODUCTION

In mammals lacking evidence for vocal learning, individuals are assumed to have similar calls if they are related and share some aspects of their vocal apparatus. **Social experience** is believed to have no effect on the development of vocalisations. We investigated the vocal ontogeny of goat kids (at one and five weeks old) to determine if their calls were affected by relatedness and social group membership.

Relatedness was assessed by comparing **Full-Siblings (FS)** versus **Half-Siblings (HS)**, and **social group membership** was measured by comparing half-siblings raised in the **Same Group (SG)** or **Different Groups (DG)**.

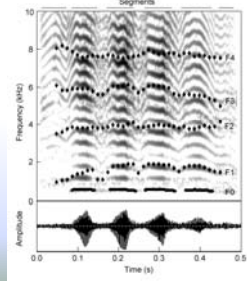
METHODS

Recordings



4 groups of 5-7 kids recorded at **one Week (1W)** and **five Weeks (5W)** postpartum

Analyses



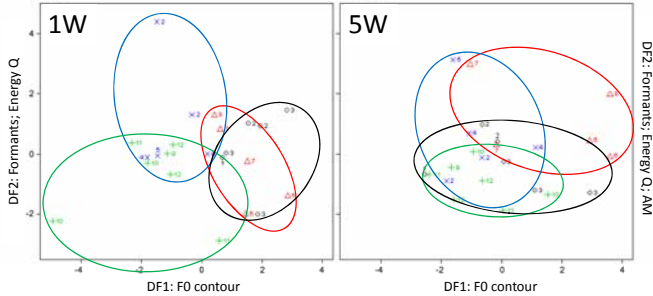
8 calls/kid at 1W and at 5W

Acoustic measures: source-related vocal features (F0); filter-related vocal features (formants and energy quartiles); intensity measures and call duration

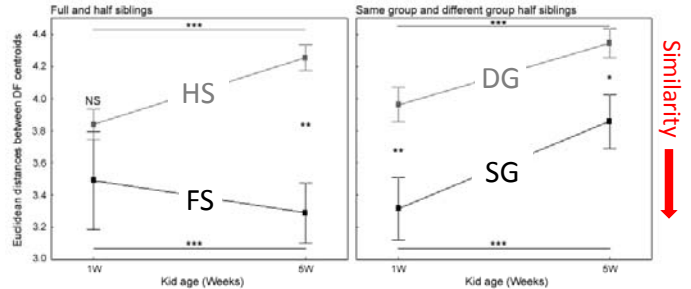
Statistics: PCA – DFA – Euclidean distances between DF centroids (permutation tests)

RESULTS

Centroids of discriminant function scores of 1W and 5W kid calls



Sibling and group similarities



<p>Relatedness similarity FS = HS at 1W; FS > HS at 5W FS at 5W > FS at 1W; HS at 5W < HS at 1W</p>	<p>Group similarity SG > DG at 1W and 5W SG and DG at 1W > SG and DG at 5W</p>
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Calls of twins were more similar than calls of half-sibling kids at five weeks postpartum, but not at one week postpartum.

Calls of half-siblings were more similar when they had been raised in the same group than in different groups at both one week and five weeks old.

DISCUSSION

Group specific indicators in kid vocalisations

Goat calls show some plasticity at an early age and their social environment shapes ontogeny.

Potential function: increase in call similarity between conspecifics to facilitate kin or group recognition

Mammal vocalisations could be more flexible than previously believed, showing a possible pathway in the evolution of vocal learning.



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