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Anxiolytic effects of kava extract and kavalactones in the chick social separation-stress paradigm

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Abstract Rationale: *Piper methysticum* extract (kava kava) possesses numerous therapeutic properties, but it is unknown which of its principle constituents (kavalactones) subserve such effects. **Objectives:** This experiment sought to characterize the putative anxiolytic properties of *P. methysticum* extract and its six principle kavalactones in the chick social separation-stress paradigm. **Methods:** Eight-day-old chicks received intraperitoneal injections of either vehicle, chlordiazepoxide (5.0 mg/ml per kg), *P. methysticum* extract (containing 30% kavalactones), kavain, dihydrokavain, methysticin, dihydromethysticin, yangonin, or desmethoxyyangonin (30 mg/ml per kg for kava compounds) 30 min prior to being tested in the presence of two conspecifics or in isolation for a 3-min observation period. Latency to adopt a ventral recumbent posture to index sedation, number of vocalizations to index separation distress, and a composite pain score (in response to 50 μ l 0.10% formalin injection into the plantar surface of the foot) to index stress-induced analgesia served as dependent measures. **Results:** Both chlordiazepoxide and *P. methysticum* extract attenuated separation-induced distress vocalizations and stress-induced analgesia. Dihydrokavain attenuated separation-induced distress vocalizations. **Conclusions:**