

## Concept Clearance: Resource and Capacity Building to Advance the Science of Aggression across Species and Disciplines

### Background and NOFO development activities

Aggression is interpersonal behavior aimed at intentionally harming another individual ([Anderson & Bushman, 2002](#)). Aggression consists of a heterogeneous set of behaviors with many proximal and ultimate causes, emerging within a variety of biopsychosocial ecosystems. Aggression is a transdiagnostic phenotype across mental health and neurological disorders and can emerge in the context of Alzheimer's disease and other related dementias. Severe aggressive behavior in children can be transient and treatable, or it may persist into adulthood. Aggression can result from exposures to adverse psychosocial environments and can be exacerbated by substance and alcohol abuse and environmental toxicants. Aggressive behavior can cause or exacerbate health inequities and disparities. More broadly, aggressive behavior can be an adverse effect of various disease states or a side effect of interventions, affecting the safety and health of caregivers and the ultimate success of treatment.

Understanding the mechanisms, moderators, and potential mitigators of aggressive behavior requires diverse perspectives from the biomedical, behavioral, and social sciences. Despite significant advances in both animal and human research on aggressive behavior, silos between the two, including the use of different terminology and tools, have stymied progress in identifying individuals at risk, developing appropriate prevention and treatments, and improving the efficacy and effectiveness of available treatments. Furthermore, inconsistent funding across federal agencies has hindered the development of a sustainable research workforce. In particular, mechanistic understanding of aggressive behavior has been an under-resourced area of research (e.g., [Cunningham et al., 2020](#); [Williams et al., 2022](#)) despite the public health costs (e.g., in 2021 there were 1.4 million emergency department visits for assault and over 26,000 homicide deaths, [per the CDC](#)).

In 2020-2021, a subgroup of the NIH-wide Violence Research working group (which now has members across 13 Institutes, Centers, and Offices) began to explore ways to increase and improve research on health-relevant aggressive behavior. Following a Request for Information (2022 [summary](#)), a workshop was held in June 2023 ([recordings and agenda, summary](#)), bringing together experts in psychology, neuroscience, criminology, ethics, evolutionary biology, and behavioral genetics across both human and animal research to highlight gaps and opportunities. The workshop highlighted as a primary gap the need for bridge-building activities across disciplines and species to advance mechanistic understanding of aggressive behavior.

### Initiative scope and objectives

We propose resource-related research projects (R24s) as a logical first step in advancing research on the multilevel mechanisms of aggression through cross-species and cross-discipline bridge building. R24s are designed to support research projects that will enhance the capability of resources to serve biomedical research and have been successfully used to support resource and capacity building in BSSR (e.g., [RFA-AG-22-013](#), [PAR-14-324](#)). The following NOFO priorities were identified by expert input from the RFI, workshop, and working group:

- **Naturalistic and ecologically valid experimental paradigms** that can be applied analogously across both animal and human research to bridge disciplinary silos and translational gaps;
- **Improved measurement tools** (e.g., social behavior classified by computational modeling) to yield consensus on taxonomies and ontologies to catalyze progress;
- **Cross-species data consortia** (e.g., behavioral data, brain data, genetic data) to accelerate research advances;
- **Team science collaborations and meetings** to facilitate dialogue across levels of analysis and disciplines, including neuroscience, psychology, evolutionary biology, behavioral genetics, criminology, and sociology;
- **Training** to support the field moving forward, including in bioethics;
- **Outreach to and collaboration** among researchers across translational continuum, practitioners, and those in need of treatment to ensure use-inspired research with a strong foundational basis.

Projects could focus on one or more of these priorities in resource and capacity building to move the field forward, potentially leading to the development of future funding opportunities (e.g., R01s, center awards). OBSSR intends to set aside funds for an R24 RFA to support this work. OBSSR plans to publish a NOFO in FY25 and expects to fund 4-6 awards for up to 5 years beginning in FY26.