1. **Research Title:**
Content-Based Metrics for Team Coordination/Communication

2. **Individual Sponsor:**
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3. **Academic Area/Field and Education Level**
Human Factors, Research Psychology, or Computer Science (MS or PhD)

4. **Objectives:**
A top priority of the Operational Learning Sciences Branch (711 HPW/RHWO) is to define and objectively quantify readiness standards for individuals and teams. Current RHWO research involves team coordination and communication analytics that inform real-time assessment for training in complex environments (i.e., Operational Test and Training Infrastructure). The objective of this research opportunity is to develop and expand content-analysis models for robust analysis of multi-speaker audio recordings. The student researcher may conduct literature review on content-based analysis, natural language processing, or team coordination patterns within operational training domains. Researcher will also work with RHWOW and NAMRU-D researchers in the development and validation of such metrics. The final products of this research will result in opportunities for publication and integration into RHWO's training evaluation portfolio.

5. **Description:**
This work will involve the research and development of quantifiable metrics, such as semantic overlap, domain-specific language coding, and other content-based measures for near real-time team communication analysis. The researcher will develop and validate such metrics using natural language processing on samples of operational training data (i.e. video, audio, transcript). Research tasks may include statistical analysis requiring proficiency in Matlab, JMP, and Python. Motivated applicants will submit novel ideas and research concepts that specific to content-based analysis of team coordination.

6. **Research Classification/Restrictions:** Controlled Unclassified Information (CUI)

7. **Eligible Research Institutions:**
Universities local to WPAFB preferred, but not required.

NOTE: Case Number: AFRL-2024-5346. Cleared on 26 SEP 2024.