

Year-End Summary: The WSU Complex Social Interactions Lab (2024-2025)

Fulfilling a Legislative Mandate for Safer Communities

The demand for evidence-based practices to inform policy and practice is at an all-time high. The Complex Social Interactions Lab (CSIL) at Washington State University meets this demand with a practical, data-driven approach. Working with law enforcement partners across Washington, the lab transforms complex information into practical tools that refine officer training, inform evidence-based policy and program development and evaluation, and help agencies gain and maintain community trust. The results of the past year confirm the value of this investment.

Investing in People and Expertise

The legislative investment has been crucial for developing the lab's core team of experts. The funding enabled the strategic hiring of a Lab Manager, a Computer Scientist, and a Staff Scientist, creating the expert foundation necessary to manage several complex projects and develop its open-source technology.

This investment also directly empowers the next generation of public safety professionals. To date, over 400 WSU students have participated in the lab. A core group of nearly 100 students participated in the Fall and Spring of the 2024-2025 academic year, contributing a remarkable 4,320 research hours to the meticulous process of watching and labeling events in body-worn camera videos, transcribing interactions, and analyzing data. These students are providing essential support to partner agencies and forming a pipeline of skilled, data-literate professionals prepared for careers in Washington's public safety sector.

A Diverse Research Portfolio Addressing Critical Needs in Policing

The CSIL's research portfolio is intentionally designed to address the most pressing and complex challenges facing Washington law enforcement agencies. With the support of legislative funding, the lab has made significant progress across several critical domains:

Protecting Vulnerable Populations

The CSIL is enhancing its research to improve interactions with vulnerable individuals. One agency-led project involves analyzing a decade's worth of sexual assault case reports from multiple police departments. This project investigates whether—and to what extent—the characteristics of effective report writing and the language used by officers have evolved, and whether these changes are correlated with legal outcomes. Separately, the lab has developed a clinical assessment guide to help officers identify signs of cognitive impairment. This guide provides officers with a practical model for managing these sensitive encounters. Further, it establishes a method for measuring whether new training is affecting officer behavior in their interactions with individuals exhibiting signs of cognitive impairment. Another example of the lab's work in this area is identifying and understanding crisis contacts to help Washington agencies implement advanced de-escalation strategies training. Specifically, the CSIL is partnering with agencies to evaluate the effectiveness of the nationally recognized Integrating Communications,

Assessment, and Tactics (ICAT) training program. This research offers an objective, data-driven approach to assessing the impact of ICAT training on the frequency of crisis contacts and officer-initiated encounters, aiming to ensure that these strategies yield safer and more effective outcomes for individuals experiencing behavioral or mental health crises.

Enhancing Officer Performance and Wellness

Effective policing requires well-supported and resilient officers. The lab's initial on-duty stress cross-validation project successfully identified specific, observable events associated with biometric signs of stress among officers, thereby validating the research concept. With that groundwork in place, the CSIL acquired FDA-approved wearable sensors to help agencies better understand the nature of stress and how it may vary based on shift, duty assignment, and type of interaction. These devices enable the capture of continuous, real-time biometric stress data—a significant advancement in the lab's research capabilities. The data collected will help gain a better understanding of the dynamics of on-duty stress, precisely identify interactions associated with high levels of stress, explore the critical relationship between stress and officer decision-making, and empirically evaluate the impact of agency wellness programs. This initiative will provide objective data-driven insights to help agencies support officer health, resilience, and performance.

Strengthening Equity and Procedural Justice

The lab is committed to ensuring fair and equitable outcomes. One key project in this area involved a partnership with the Center for Policing Equity (CPE) and a Washington law enforcement agency. The lab analyzed 3,698 traffic stop videos to check for potential demographic disparities in officer actions. To strengthen the analysis, the lab developed a detailed system for tracking discretionary decisions, enabling more reliable comparisons between different agencies. Another project aimed to address language barriers. A bilingual team within the lab developed a unique codebook that assesses the impact of access to translation on the clarity of an interaction and an officer's decisions, helping to ensure fairer outcomes for non-English speakers. To measure the quality of interactions, the CSIL also developed and implemented a user-friendly Procedural Justice assessment tool, which has already been used to conduct over 3,300 assessments of traffic stops and other encounters, providing agencies with a clear metric for professional and constitutional policing.

Technology Development that Scales Improvement Statewide

A cornerstone of the CSIL's impact is the development of open-source technology that serves dual roles: as a practical solution to an immediate problem and as a means to enhance research capacity by translating research findings into consistent practice. Two notable technologies, developed in partnership with the Spokane Police Department and the Criminal Justice Training Commission, include:

- The Guided Interactions Web Application serves as a digital guide for officers responding to sensitive calls like domestic violence and, in the future, sexual assault. The application works as a guide, standardizing best practices and prompting officers with trauma-informed questions. It ensures that critical steps, such as completing the Lethality Assessment Program (LAP) and the Strangulation Supplement form, are not overlooked. This directly improves the quality of evidence collected. This technology, deployable on smartphones, tablets, or other computing

devices, addresses concerns about the prevalence of missing required data. As an open-source technology, it will be made available to Washington agencies at no cost.

- The CSIL is leveraging its legislative support to partner with the Washington State Criminal Justice Training Commission (CJTC) to build a statewide Exemplar-Based Training Repository. This project directly confronts a long-standing deficit in police training, which has historically focused on analyzing failures. The repository will instead create an AI-searchable library of expert-vetted videos featuring lawful, appropriate, and effective de-escalation practices. For example, one such video could show an officer using a department-approved "control-hold takedown" on a physically resistant person. This type of model demonstrates how to use leverage and positioning instead of strikes, allowing an officer to control a situation while minimizing injury and ensuring safety for all parties. WSU is building the repository and advanced machine learning framework, while CJTC will provide the crucial subject-matter expertise to evaluate and label the video content. The result of this project will enable trainers to search for force applications and scenarios, such as "successful de-escalation of a mental health crisis in a crowded environment," and instantly access vetted examples for instruction. This joint effort between WSU and CJTC will fundamentally change officer training in Washington, building a culture of improvement based on proven successes.

Future Directions and Continued Impact

Looking ahead, the CSIL will begin using its newly acquired biometric equipment in Fall 2025, offering it at no cost to partner agencies to encourage participation in vital wellness research. By continuing to build strong partnerships with police agencies and community groups, the lab's work will remain grounded in the real-world needs of Washington law enforcement agencies, while also preparing a workforce with the critical data science and applied research skills necessary for modern public safety careers. Furthermore, by introducing agencies to evidence-based practices, the CSIL firmly positions them to compete for federal and national grants that require data analysis and evaluation support.