CONSENT TO PARTICIPATE IN RESEARCH

You are being asked to participate in a research study conducted by Robert Furberg, PhD, Senior Clinical Informaticist, at RTI International. Your participation in this study is entirely voluntary. Please read the information below and ask questions about things you do not understand, before deciding whether or not to participate.

# Purpose

The purpose of this research is to understand the relationship between police officer activity, workload, location, and physical stress responses in officers. There is limited field research that has examined stress among officers during their regular patrol duties and even less research on using contemporary wearable biometrics to track real physiological responses to stress. Using recent advances in wearable biometric sensors, we are exploring stress responses that are the result of routine policing activities. This is preliminary research; we will be collecting data from up to three officers for a one-month period.

You are eligible to participate in this project because you are a sworn officer with the [AGENCY].

# Study Procedures

You are being asked to participate in this project for approximately 30 days. Participation will include:

1. An entry interview at the beginning of the project- This is anticipated to take 3-4 hours and will be conducted on RTI’s campus. This interview will familiarize you with the study goals, the research procedure, and the hardware you will be asked to wear.
2. Data collection via biometric device
   * Wearing a biometric monitoring device during work shifts for a 30-day period- The device has sufficient storage to last through approximately 24 hours of data collection. A project staff member will collect the device and provide a replacement device that has been fully charged. We anticipate data collection for eight days total. Each device change is expected to take 10-15 minutes and we will coordinate with you to reduce the burden of these meetings. You may request a copy of your own biometric data from the research team.
   * Wearing a biometric monitoring device during the times following non-work hours- You may be asked to wear the device during the times between shifts. This will allow us to understand how work stress impacts non-work times.
   * Wearing a biometric monitoring device in concert with other officers- If you are assigned to a two-officer patrol unit, you and your co-worker may both be wearing monitoring devices at the same time. This will allow us to understand how different people react to similar environmental conditions.
3. You will be asked to install a mobile device app (known as the Photographic Affect Meter or PAM), on your personally owned phone. This app will prompt you to select an image that most closely represents your current and immediate emotional state. We will use these data to categorize physiological response with self-reported measures of affect.
4. You will be asked to track your activities during off-duty data collection. We will use these data to understand physiological response in relation to activities.
5. An exit survey at the conclusion of the 30-day period- This is anticipated to take 3-4 hours and will be conducted on RTI’s campus.
6. Project staff may re-contact you in the future to gather more information about specific interactions or events that occurred during the monitoring period.
7. Project staff may re-contact you in the future to gauge your interest in participating in additional data collection.

# Data We Will Collect

* Biometric data from a wrist-worn biometric sensor.
  + Accelerometer (movement data)
  + Pulse rate
  + Blood volume
  + Skin temperature
  + Skin conductivity
* Agency level data collected directly from [AGENCY]
  + AVL logs
  + Call logs
  + Crime/incident data
* Self-reported affect via the PAM
* Self-reported activity logs during non-work times

# How we will protect your privacy

Any information that is obtained from this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. We will take the following steps to keep information about you confidential, and to protect it from unauthorized disclosure, tampering, or damage:

* During the study, your department identification number will be necessary to link your personal data with official agency records. Once these data are collected and merged, any link between your name and these data will be destroyed.
* Access to files generated during this study will be limited to research staff at RTI.
* Your responses to the entry and exit survey will not be shared with [AGENCY] unless specifically authorized by you.
* Cloud services necessary for this project (including the collection of location data) and biometric sensor data have undergone a security review by RTI’s Information Technology Service. They have determined that these systems meet the security requirements necessary to be used in a research setting.
* We will take every effort to prevent others from identifying you based on study results. We will only report general characteristics about you and results will be aggregated over a range of days. You will never be identified by name.
* Your activity log will be limited in scope and will not cover any drug, alcohol, or medication usage.

# Compensation

You will be compensated for completing the entry and exit interviews. Each interview is expected to last 3 to 4 hours. You will be compensated $200 for each completed interview for a possible total of $400. You are eligible for this compensation even if you later withdrawal from participating in the research as long as you complete the entry and exit interviews.

# Risk, benefits, and alternatives

Your risks from participating in this study include:

* Minor physical risks-
  + Current leakage through EDA electrodes- The EDA circuit drives a small amount of ionic

current through the skin to operate. The max current of the device is 100 μA as required by IEC 60601-1:2005.

* + Eye Exposure to LED light- The device has powerful LEDs on the backside of the case which are normally concealed while wearing. You may be exposed to the light if you remove the device. Do not look directly into the LED light source.
  + Heat produced by the LED light- The LED produces a small amount of heat. The device has insulation to protect you.
  + Battery- Batteries have a low energy density and an explosion is a rare event.
  + Water resistance- the device is splash proof and will operate normally after contact with sweat, rain or splashes. The device is not fully waterproof so do not submerge it in liquid or wear it in the shower.
  + Biocompatibility- The device is made of a well-known biocompatible material and the manufacturer is qualified, ensuring that no contamination occurs during the manufacturing process. If skin irritation occurs discontinue wearing the device and notify project staff.
  + Skin diseases- We will clean and disinfect the device between wearing to prevent the transmission of skin diseases.
* Medical information- This is not a medical study, the biometric device is not being used as a medical device, and your activity and biometric responses will not be reviewed by a medical doctor. The biometric device is not approved by the FDA for use in medical research. You will be able to view your own biometric data, if interested, by requesting the information from project staff. We will transmit this information to you after encrypting and password protecting the data.
* Re-identification of information- Even though we will not identify you directly, it may be possible for someone to identify your participation in this study if they have access to additional information. You will be wearing a biometric device in public. This is a pilot study with few participants. This makes it difficult to guarantee anonymity even if you are not explicitly identified.

There are no direct benefits to you for participating in this research project. Others may benefit in the future from the information we find in this study.

You have the option of not participating in this study, and will not be penalized for your decision.

# Participation and Withdrawal

You can choose whether or not to be in this study. Participation is entirely voluntary. Refusal to participate or discontinuing participation will not result in the loss of any benefits to which you are otherwise entitled. **You may discontinue participation by declining to submit already collected data currently stored on the device, by discontinuing wearing the device, or by returning the device to the research team.** You are free to not complete the activity logs or dismiss questions from the app. You may direct the research team to not re-contact you in the future.

# Who to contact for more information

Study related questions should be directed to:

Robert Furberg, PhD

rfurberg@rti.org

919-316-3726

If you have any questions about your rights as a study participant, you can call RTI's Office of Research Protection at (919) 316-3358 in Durham, NC or 1-866-214-2043 (a toll-free number).

By signing this consent form you acknowledge that you have read this document and agree to participate in the research project.

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