

Exploring public perceptions of future wearable computing

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The study found that in both countries, the wrist and the forearm were the most preferred locations for e-textiles, as well as the most normal placement when watching someone use the devices. Credit: Georgia Tech/Halley Profita

As scientists develop the next wave of smartwatches and other wearable computing, they might want to continue focusing their attention on the arms and the wrists. According to a recent Georgia Tech study, portable electronic devices placed on the collar, torso, waist or pants may cause awkwardness, embarrassment or strange looks.

In a paper titled "[Don't Mind Me Touching My Wrist](#)," Georgia Tech researchers reported the results of a case study of interaction with on-body technology in public. Specifically, they surveyed people in both the United States and South Korea to gain cultural insights into perceptions of the use of e-textiles, or electronic devices, stitched into everyday clothing.

For the study, researchers directed participants to watch videos of people silencing incoming phone calls using e-textile interfaces on various parts of their body, including wrists, [forearms](#), [collarbones](#), torsos, [waists](#) and the front pant pocket. They were asked to describe their thoughts about the interaction (such as whether it appeared normal, silly or awkward) and its placement on the body.

In general, the study found that in both countries, the wrist and the forearm were the most preferred locations for e-textiles, as well as the most normal placement when watching someone use the devices.

"This may be due to the fact that these locations are already being used for [wearable technology](#)," said Halley Profita, a former Georgia Tech industrial design graduate student who led the study. "People strap smartphones or MP3 players to their arms while exercising. Runners wear GPS watches."

According to the study:

- Gender of the technology user affected opinions about the interaction. For example, Americans were uncomfortable when men used a device located at the front pant pocket region or when women reached for their torsos or collarbones.
- South Koreans reported exceptionally low acceptance of women using the devices anywhere except for their arms.
- Respondents expressed differing views on the most important

factors on deciding how to use e-textiles. Americans focused on ease of operation and accessibility; South Koreans raised personal perception issues.

"South Koreans also said they wanted an easy-to-use system, but the [technology](#) should not make them look awkward or weird," Profita said. "This isn't surprising because their culture emphasizes modesty, politeness and avoidance of embarrassing situations."

The findings were presented in September at the International Symposium in Wearable Computing in Switzerland. While at Georgia Tech, Profita was advised by Professors Ellen Yi-Luen Do Thad Starner, a [wearable computing](#) pioneer. She is currently a doctoral candidate in computer science at the University of Colorado-Boulder.

Provided by Georgia Institute of Technology

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