

Drawing Donors: How psychology researchers use mind/body strategies to break down barriers to blood donation

July 4 2013



Jennifer Kowalsky uses a rubber arm to create an optical illusion, which allows her to simulate blood draws and gauge responses of volunteers. (Photo credit: Rob Hardin)

(Medical Xpress)—While blood donation needs in the United States are being met, this is largely credited to a rise in first-time donors. The American Red Cross recently lowered the age of donor eligibility, which has led to an increase in high school blood drives in those states where

16-year-olds are now eligible.

What the field isn't seeing, however, is an increase in donors returning.

"The most frequent repeat donor group is the 40 to 49-year-old age bracket, and so there's an interesting shift that has the potential to happen in the coming years," says Jennifer Kowalsky, a doctoral student in psychology. "Our most frequent donors are going to hit the age of increased medical procedures. They're going to shift from donors to recipients of blood products."

Although there are various factors that motivate or deter people when donating blood, Kowalsky is focused on removing one particular barrier. During [blood donations](#), [oxygen levels](#) in the brain are characteristically diminished, and for some donors this can result in lightheadedness and nausea.

Kowalsky is the first researcher to focus on proactive strategies to maintain steady levels of cerebral oxygen in donors. For her master's thesis she tested a method called "applied [muscle tension](#)," which involves cyclically tensing quad, glute, and core muscles during donation. She found promising results.

"Jen's study demonstrated for the first time that this technique helped to maintain elevated levels of oxygenated blood flow in the brain during the blood draw," says Christopher France, a professor of psychology who is Kowalsky's academic advisor. Her work has potentially important implications not just for [blood donors](#), he notes, but a wide variety of people who are at risk of fainting due to existing medical or [psychological conditions](#).

In her quest to develop more intervention techniques, Kowalsky has embarked on a new study that uses an optical illusion. The experiment

consists of covering a volunteer's arm and instructing her to focus on a fake model limb-the kind that phlebotomists use for practice-that is situated in the real arm's place.

The administrator simultaneously strokes both the real and fake arms, which produces the sensation of the fake arm being part of the subject's body. Essentially, the volunteer's mind "adopts" the rubber appendage as her own.

The psychological effect of the [optical illusion](#) is so strong that when a simulated blood draw is conducted on the rubber arm, Kowalsky is able to chart physiological changes in the subject's respiration. She hopes to determine a potential association between these changes and subsequent adverse reactions in blood donors.

Provided by Ohio University

Citation: Drawing Donors: How psychology researchers use mind/body strategies to break down barriers to blood donation (2013, July 4) retrieved 21 September 2024 from <https://medicalxpress.com/news/2013-07-donors-psychology-mindbody-strategies-barriers.html>

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