CASSANDRA WHITLATCH, Dept of Natural Science, Fairmont State University, Fairmont, WV, 26554, and KRISTY HENSON, Dept of Natural Science, Fairmont State University, Fairmont, WV, 26554. Blood spatter impact accuracy on nonporous surfaces and how it affects criminal investigation.

The purpose of this research was to test the validity of the Bathazard equation ($\sin\theta = (W/L)$) on nonporous, passive, blood-spattered surfaces. The Bathazard equation was formulated and tested solely on porous surfaces. Nonporous and porous surfaces have different properties and react differently affecting the size and shape of the blood spatter. To test the validity of the Bathazard equation I tested passive drops of blood from average female and male fingertip heights at $90°$, $60°$, and $45°$ angles on porous and nonporous surfaces. Blood drop height and width were measured after immediate impact and again after an hour. An hour was selected because it is the average time from a crime being committed until it is investigated by police in West Virginia. Results show that the angle variation of the porous standards did not typically yield accurate impact angles when using the Bathazard equation. Nonporous surfaces did not yield accurate impact angles for any test using the Bathazard equation. The Bathazard equation is not a suitable formula to use when analyzing passive blood spatter on nonporous surfaces because it yields inaccurate results of blood evidence in criminal cases.