Maura Twillman* (mtwill2@students.towson.edu), MD, and Diana Cheng (dcheng@towson.edu). Linear momentum in pairs figure skating: Mathematics behind the art of lifts.

Lifts are an aesthetically pleasing and athletic part of a pairs skating program, and certain aspects of these lifts can be described mathematically. Pairs skaters’ combined velocity in the lift is a function of their individual masses & initial velocities. We report on undergraduate mathematics education research analyzing how secondary students reasoned quantitatively about conservation of linear momentum in the context of pairs lifts. (Received August 11, 2016)