important in inhibiting head injuries, and does so by lowering the force of a collision on the helmet wearer's head.

$$F = m*a = m*\Delta v/\Delta t$$

Figure 2. The equation for force. Force is equal to mass multiplied by acceleration. It is also equal to mass multiplied by the change in velocity divided by the change in time.

As the equation in Figure 2 demonstrates, force and change in time have an inverse relationship; as the change in time grows, the force lessens. This is how the foam lining decreases the force on the head of the person wearing a helmet. The foam slows the head down, which increases the length of time it takes for the head to meet the collision. This increase in the change in time decreases the force on the head.

2.2.2 Helmet Use Statistics. Though helmet use in the United States has increased over time, it is still not universal. According to the National Ski Areas Association, 67% of skiers and snowboarders wear a helmet, which leaves 33% that do not wear a helmet while on the slopes. However, this number varies greatly by age. Figure 3, seen below, demonstrates the steady decline in helmet use as children reach adulthood. Only 53% of skiers and snowboarders aged 18 to 24 years old wear a helmet, representing the lowest percentage of helmet users among any age group.

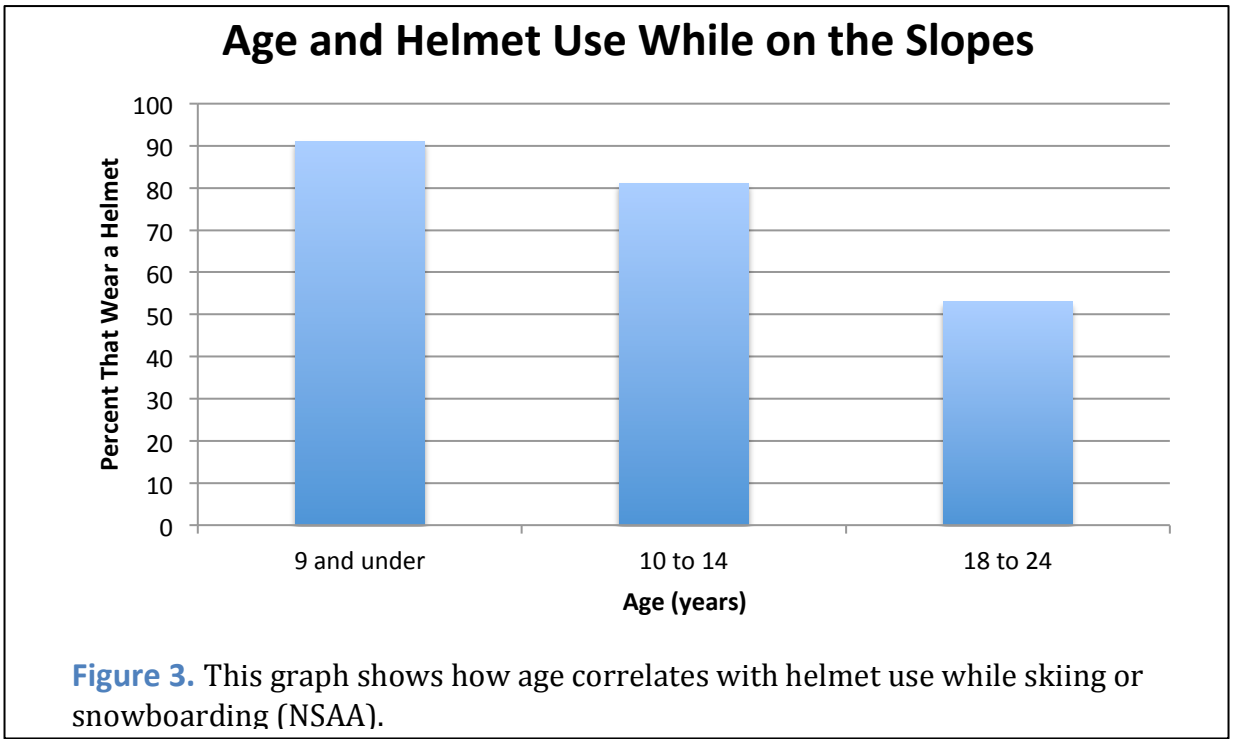

Figure 3. This graph shows how age correlates with helmet use while skiing or snowboarding (NSAA).