Green tea is a beverage of Asia which has recently become more popular in the US. Increasing numbers of studies are validating some of its numerous reputed health benefits. Three uses seem of most interest to college students: mental alertness, human papilloma virus, and weight loss.

Green tea contains caffeine, so it is no surprise that moderate consumption (1-4 cups a day) seems to prevent a decline in alertness and cognitive capacity when consumed throughout the day. Green tea extract without caffeine has not been studied for this indication. Sugar added to caffeine does seem to increase the effect on alertness.

Different strains of the human papilloma virus (HPV) cause genital warts and cervical cancer. A particular brand of green tea extract ointment is available by prescription. It completely clears up to 60% of warts after 16 weeks. One study of 51 women with precancerous changes of the cervix demonstrated improvement in 70% of cases, compared to 10% of controls. This is promising, but needs to be repeated with a much larger group of women. There is early evidence of partial protection from a few cancers.

A green tea extract containing green tea catechins and caffeine was associated with weight loss of 1-3 pounds. This does not mean it caused it (the study was not designed to prove that), and weight loss was not maintained with continued consumption of the product. Green tea catechins without caffeine were not associated with weight loss. These compounds have not been thoroughly studied: a meta analysis of all the studies meeting basic criteria for inclusion evaluated 15 studies, with a total of 1243 patients. This is woefully under-powered for meaningful interpretation. (In comparison, the over-the counter weight loss med Alli was studied in 30,000 patients, in 100 studies.) While green tea has been consumed for centuries, people in societies with food shortage would have given it up had it lead to significant weight loss at normal dosages. The predominant finding in recent large studies is that weight loss occurs when intake of food calories is less that the expenditure of calories in daily life and exercise. The bottom line is that likely you will not be harmed (except financially!) with taking these supplements at the recommended doses, but you are also unlikely to lose significant weight unless you change your exercise and dietary habits.

The use of extracts, and those products containing additive ingredients (especially ma huang/ephedra and bitter orange) have the potential to cause significant harm especially if combined with additional caffeine, oral decongestants (pseudoephedrine, phenylephrine,) illegal drugs, or in persons sensitive to caffeine and those with anxiety, insomnia, and iron deficient anemia. This is magnified if they are taken in doses higher than recommended, with birth control pills, cimetadine (tagamet), nicotine, and some prescription drugs. There have been reports of liver toxicity with use of extracts, and one report of a stroke in an athlete.