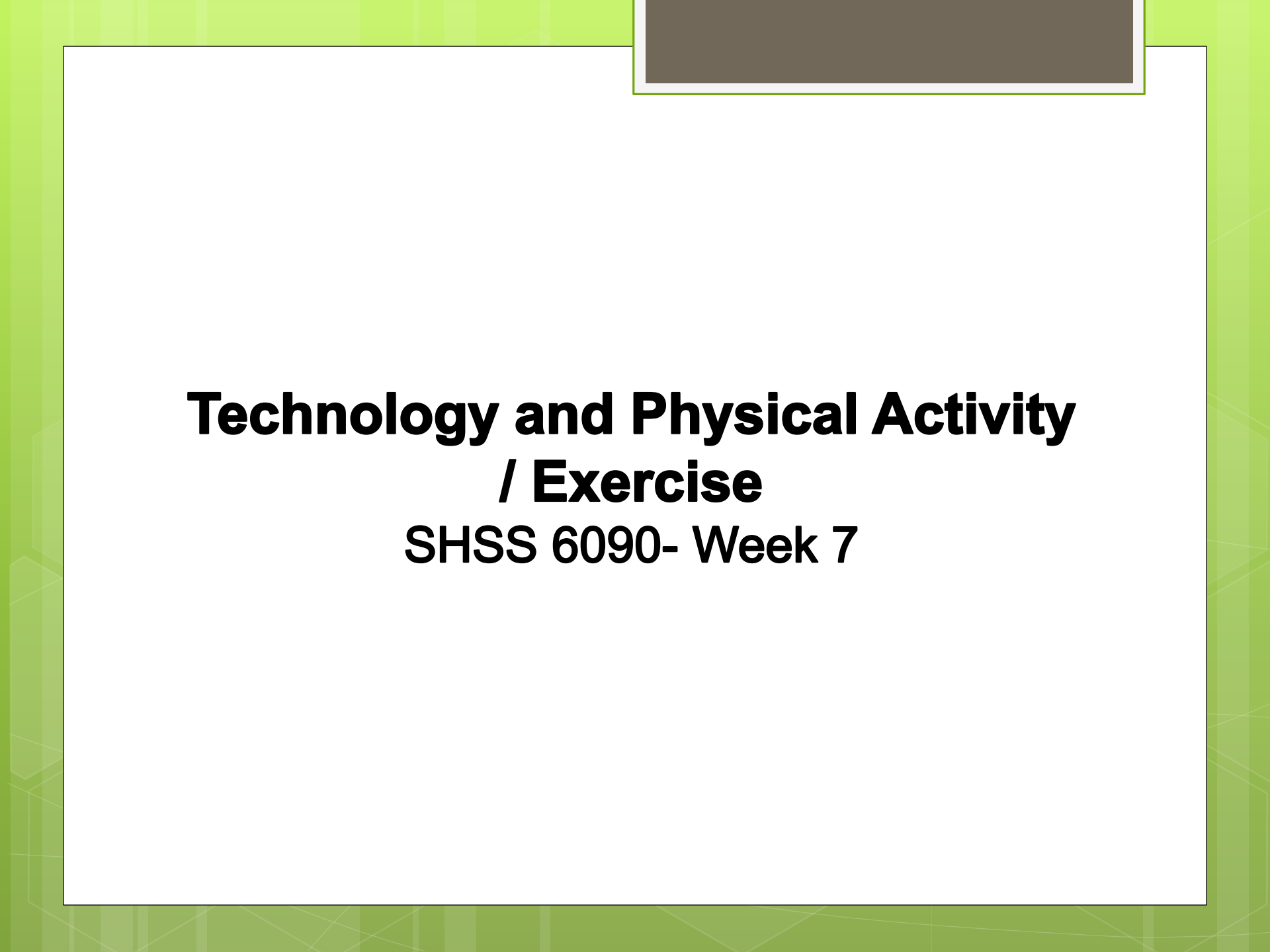




Technology and Physical Activity / Exercise

SHSS 6090- Week 7

Television Viewing / Screen time...

- Lowry *et al.* (2002) states that viewing television is the greatest source of sedentary behaviour behind sleeping.
- There are several mechanisms through which media especially viewing television (TV) may contribute to obesity and several researchers have attempted to comprehend the potential influences of these mechanisms (Jordan *et al.*, 2008).
- These mechanisms include:
 - 1) The effects of television viewing on obesity.
 - 2) The presence of a television set in the bedroom.
 - 3) The displacement of physical pursuits with sedentary pursuits.
 - 4) The effects of food advertising on obesity.
 - 5) The impact of media on dietary habits.

Television Viewing

- Several longitudinal studies document a relationship between risk of obesity and television viewing (Strasburger, 2011).

A British birth cohort study by Viner and Cole (2005) found that individuals who watched more hours of television had higher BMI scores. They found that each additional hour of television viewed increased the risk of obesity by 7%.

A Longitudinal birth cohort study by Hancox *et al.* (2004) found the average weeknight television viewing in individuals aged 5 to 15 years was significantly associated with higher BMI scores.

Kaur *et al.* (2003) found that individuals who watch television for two or more hours a day were twice as likely to be obese compared to individuals who watch less than two hours.

Television Set in the Bedroom

- Having a television set in an a adolescents or child's bedroom appears to have an affect on an individuals weight status (Strasburger, 2011).
- A cross-sectional study by Dennison *et al.* (2002) found that from 2,761 children, 40% had television sets in their bedroom and those who had them were more likely to be obese.
- Adachi *et al.* (2007) found that from 2,343 children aged 9 to 12 years of age, having a television in the bedroom was a risk factor for obesity.
- A study by Barr-Anderson *et al.* (2008) found that individuals with a television set in their room were less physically active, ate greater amounts of junk food, and spent more time watching television than those without a television in their room.

The Displacement of Physical Pursuits with Sedentary Pursuits

- Physical activity decreases in individuals as media use increases (Strasburger, 2011). This decrease in physical activity may lead to positive energy balance.
- Sisson *et al.* (2010) found that individuals that hardly engage in physical activity and engage in high leisure time sedentary behaviour - twice as likely to be overweight than less sedentary individuals.
- Cox *et al.* (2012) found that television viewing affects children's weight status by displacing physical pursuits.
- Nelson *et al.* (2006) found longitudinal increases in sedentary behaviour such as computer use, coupled with longitudinal decreases in physical activity.

Food Advertising

- The influence of food advertising on individuals have been the subject of considerable research over the past decade (Gorn and Goldberg, 1982).
- Food advertisements may influence food requests, preferences, and choices, which may influence an unhealthy diet (Chamberlain *et al.*, 2006).

Prior to legislation to prevent this:

- More than 80% of advertisements seen on televisions are for fast food outlets and unhealthy snacks (Harrison and Marske, 2005).
- The foods that are advertised on television are inconsistent with the dietary guidelines (Dietz and Gortmaker, 1985).
- Food advertisements tend to emphasize foods and drinks that are nutritionally poor and foods that are calorically dense (Robinson, 1999).

Online regulation?

Recommendations

- Televisions should be removed completely from children and adolescents bedrooms as it may reduce the hours spent in front of the television (Jordan et al., 2008).
 - Parents should limit the total of non-educational media screen time to two hours or less a day.
- Parents should be encouraged to discuss the impact of food advertising to their children / educate the individuals about nutrition / monitor their television viewing (Strasburger, 2006).
 - Education programs on media in schools, community-based programs, and childcare centers.
 - These programs are highly affective and may have the potential to reduce the negative effects of media on young peoples overall health (Strasburger, 2011).

Media use in preventing overweight / obesity

- The relationship between obesity and television viewing is dependent on what is being viewed. Over the years, home exercise DVD's have become an exceptional popular alternative to engage in aerobic activities.
- Several studies have found that DVD workouts indicate elevation in caloric expenditure (Sternlicht *et al.*, 2013; Luetttgen, 2012).
 - Overall, home DVD workouts could be an alternative option to increase physical activity and to minimize the risk of obesity.
 - However, there is a lack of research that specifically examines the efficacy of the DVDs in preventing health problems such as obesity.

Interactive games

- It is assumed that physical activity decreases as screen-based media increases which contributes to obesity.
- However, the introduction to interactive games may be beneficial in preventing obesity by promoting energy expenditure and enhancing physical activity (Strasburger, 2011).
- Graf *et al.* (2009) results suggest that energy expenditure rates were equivalent to moderate-intensity walking.
- Mellecker and McManus (2008) found that heart rate and energy expenditure were higher during active gaming than at rest.
- Smartphone apps?

Exergaming...Task.

- Consider whether the use of technology is an appropriate means of getting people to be physically active.