The serotonin hypothesis by Gibson explains how carbohydrates such as chocolate contain the amino acid tryptophan. This is used by the brain in the manufacture of the neurotransmitter serotonin. Low levels of serotonin are associated with depression and high levels are associated with mood enhancement. It has been proposed that people with stress or depression take in more carbohydrates because it leads to increased levels of serotonin in the brain which reduces their depression as a means of ‘self-medicating’ low mood. Unfortunately, this increase in serotonin levels only occurs when we take in pure carbohydrates, which is extremely rare. The presence of even a small amount of protein, as in chocolate, prevents the tryptophan entering the brain, and so serotonin levels will not changes. Therefore the serotonin hypothesis is unlikely to explain the antidepressant effects of high carbohydrate diets. However Parket et al argues that chocolate does have a slight anti-depressant effect for some people but not for others. This should not occur according to the serotonin hypothesis- as if it was due to serotonin than we would see the same results in everyone and not just a few individuals.

To research the theories of how mood can influence what one eats Grag et al conducted a repeated measures lab experiment for 2 days where by 2 groups each watched one sad and one happy movie. Each was given a weighed amount of popcorn and at the end of each movie asked to rate their mood on a scale of 1-9 with 1 being happy. At the end the popcorn was also weighed to see how much was consumed by each participant in each of the conditions. The findings showed that when people watch a sad film they ate 28% more popcorn. These findings support both the serotonin hypothesis and the masking hypothesis whereby it was seen that when people were in a low mood they were masking their emotions and therefore ate more than in the happy condition and moreover were self-medicating in the fact that they were eating because they needed more carbohydrates and so were eating more in order to produce more serotonin. However there could have been different factors such as the music in the background which effects eating behaviour. It might not have been the sad movie but the sad music which caused people to eat more. It can be seen that although the study has high control and internal validity it is unclear on what influenced the eating behaviour and that it might have been a combination of the acting, scene and music. Due to this we can say that mood does have an impact on eating behaviour and that a sad mood does seem to increase consumption of foods however others factors might have similar impacts to the reason for this food intake.

Another study researching food consumption carried out by Corsica and Spring supports Grag’s study and both the hypothesis stated whereby carbs do help cheer us up. The findings of the study showed that the carbohydrate drink had a significantly greater ‘anti-depressant’ effect and that when given the choice between the drinks, participants chose the carbohydrate drink over the protein rich drink even though the drinks were calorie and taste matched. This provides high support or the medication model.

While there is research evidence to support the link between food, mood and serotonin, there is a problem with this hypothesis. The serotonin is a biologically based explanation for the link between food and mood and therefore is a reductionist approach to it. It has attempted to explain the link between mood and eating purely based on neurotransmitters which in analysis has been seen as too simplistic to explain such a complex action that is eating behaviour and therefore the hypothesis is flawed as it does to take into consideration any other approaches or factors as to why eating behaviour is seen the way it is and why there are differences. It does not account for psychological