

# Effect of Movie Violence, on Mood, Stress, Appetite Perception and Food Preferences in a Random Population

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Introduction: Violence exposure has been shown to have effects at a psychological level, such as change in attitude toward aggression and making people prone to violent acts, and in developing addictive behaviors in children and adolescents (2, 3). However, violence in media also impacts acutely the body at a somatic level. In fact, media violence increases heart rate (4), blood pressure (5) and affects cardiovascular health at a more general level (6). Although extensive work has been done on the effect of media violence on attitudes, behaviors, and cardio-vascular health, very little is known about media violence and its effect on appetite, eating behavior and attitude toward foods specifically. Can media violence directly trigger food consumption upon exposure to it as well as influence social norms relating to food consumption? Would watching violent scenes affect our appetite control system, making it more “impulsive” and shifting our food preferences? The complexity of the mechanisms by which media violence affects our body and mind and probably our appetite, means that research is very valuable to help us understand and highlight the mechanisms behind this effect, thus allowing us to intervene and implement strategies to decrease the impact of media violence on attitudes and behaviors.

The present study aimed at investigating the immediate acute effect of violence in movies, on mood, stress, and appetite perception and food preferences.

Methods: Protocol: 447 subjects (F= 202; M= 239) completed a validated visual analogue scales questionnaire (VAS) to record their subjective feelings of hunger, satiety, and desire to eat immediately at their way out of a movie. Movies were divided into 3 categories: horror n=96 (Mama, The Conjuring), romance or comedy n=188 (Safe Haven, Scary Movie, Pitch Perfect, We're the Miller, Turbo, Smurf, Planes) and drama or action n=163 (Lonely place to die, Jack the Giant, Olympus has fallen, GI Joe, Snitch, Pearsy Jackson, Two guns). The sample population was randomly chosen, before getting into any of the movies and was asked if they would agree to answer our questionnaire straight after the end of the movie. Movie theaters were located in Beirut, Lebanon. Body weight and height and the time of last meal were also recorded.

The statistical analysis was done on SPSS v.17. Descriptive statistics were first conducted, followed by One-way ANOVA to test for differences between different movie categories. Pearson's correlations were used to determine the relationship between variables. We chose to analyze only 9 of the questions that are relevant to the research question in order to avoid possible results due to excessive statistical analysis. Significance was set at  $p < 0.05$ .

Results: Average age was 21.7 y (SD=5.0) and average BMI was 23.4 Kg/m<sup>2</sup> (SD=3.9). There was a significant difference between the 3 movie categories for the Tensed feeling ( $p=0.003$ ; Action>Horror>Romance), The Anxious feeling ( $p=0.021$ ; Horror>Action>Romance), The sleepy feeling ( $p=0.000$ ; Romance>Action>Horror) and a preference to eat something Sweet ( $p=0.019$ ; Romance>Action>Horror).

No significant difference was seen for hunger or for other food preferences.

The Hunger feeling was highly correlated with a high preference to eat something sweet, fatty, salty or savory ( $p=0.000$  for all). But did not correlated with any of the tensed, stressed or anxious feelings or even the time of the last meal. However the time of last meal positively correlated ( $p=0.000$ ) with the question: How much do you think you can eat? The Sleepy feeling correlated with a preference for Sweet ( $p=0.014$ ) and Fatty foods ( $p=0.000$ ).

Conclusion: The type of movie e.g. horror impacts the subject by making him feel more tensed and anxious, however romance makes him feel sleepier. Movie types didn't seem to affect hunger or appetite (through stress or anxiety) but rather triggers some food preferences, such as a preference for sweet after a romance movie, which is the opposite for a horror movie.

This is a first of a kind pilot study that elucidates the acute effect of violence and its consequent stress, on food intake and preferences. It allowed us to have a first vision on the impact of receiving violence passively through watching a movie for 2 hours on our eating behavior and stress level. The study is very basic in its design, and its results lead to the need of a more complex investigation in which adjustments for eating during the movie will be done. However the strength of the design is that it is integrated in real life situation and it is not an imitation of the reality in a lab.