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N5Digital

ULTRAPROCESSED FOODS

INTRODUCTION

Fast growing obesity in the population of our country raises a question: WHY? Especially when compared to the other countries of the world. In our N5Digital podcasts, we are discussing two key components of the equation “ULTRAPROCESSED FOODS – SOFT ADDICTION” (the contributor), “ULTRAPROCESSED FOODS – MOLECULAR FRAGMENTATION” (mechanics of processing, biology, and possible consequences).

We are starting with the SOFT ADDICTION podcast that will be followed up by the podcast, ULTRAPROCESSED FOODS – MOLECULAR FRAGMENTATION.” In this podcast we will go into the possible negative health consequences related to the mechanical processing of grown produce and meats reducing the sizes of particulates of those foods to the sub-micrometer level.

SOFT ADDICTION

We designed the discussion of SOFT ADDICTION by **hypothesizing** that food manufacturers design ultra-processed foods (UPFs) in ways that promote dependency or "soft addiction." While there may not be direct evidence of deliberate intent to create "addictive" foods in the same way that tobacco or drugs are addictive, there is substantial evidence that the design and marketing of these foods exploit biological, psychological, and social factors to encourage overconsumption and habitual use.

Here’s what is known about Soft Addiction:

1. Evidence of Addiction-Like Responses to Food

- **Neurological Responses:** Studies show that highly palatable foods—those high in sugar, salt, and fat—can activate the brain's reward system similarly to drugs. This includes the release of dopamine, which reinforces behaviors and creates cravings.
- **Loss of Control:** Some individuals exhibit behaviors akin to substance addiction, such as binge eating or compulsive consumption, particularly with certain ultra-processed foods.

2. Intentional Formulation of Hyper-Palatable Foods

Food manufacturers invest heavily in research and development to optimize the "**bliss point**" of products—the precise combination of sugar, salt, and fat that makes foods most pleasurable and difficult to resist. This is not accidental but a calculated strategy to enhance sales.

- **Flavor Optimization:** Techniques such as layering flavors (e.g., adding sugar to salty snacks) and manipulating texture (e.g., crunchiness or creaminess) are designed to keep consumers eating.

- **Satiety Suppression:** Many UPFs are low in protein and fiber, which are essential for satiety, making it easy to overconsume them.
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3. Use of Additives and Substances

While most food additives are deemed safe for consumption, their impact on behavior and consumption patterns can raise concerns:

- **Artificial Sweeteners:** Some studies suggest that artificial sweeteners can alter the brain's reward system, creating a preference for sweetness that may drive overconsumption.
 - **Flavor Enhancers:** Additives like monosodium glutamate (MSG) amplify taste, making foods more appealing but also encouraging consumption beyond satiety.
 - **Emulsifiers and Texturizers:** These create desirable textures (e.g., creaminess in ice cream) that increase the sensory appeal and encourage repeat purchases.
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4. Behavioral and Marketing Strategies

- **Portion Engineering:** Packaging and portion sizes are often designed to make it difficult to stop eating (e.g., "snack-sized" packages that encourage eating multiple portions).
 - **Convenience and Accessibility:** UPFs are ubiquitous and heavily marketed, ensuring they are a constant presence in consumers' lives.
 - **Targeting Vulnerable Populations:** Marketing often targets children and low-income groups, who may be more susceptible to food-related dependency due to their biological and socio-economic vulnerabilities.
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5. Comparison to Tobacco Industry Tactics

There are parallels between the food and tobacco industries:

- **Internal Documents:** Some leaked industry documents reveal discussions about optimizing the addictive potential of foods, akin to the tobacco industry's efforts to enhance nicotine addiction.
 - **Lobbying and Misinformation:** Both industries have engaged in lobbying against regulations and funding research to cast doubt on public health concerns.
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Is There Evidence of Deliberate Addiction Strategies?

Direct evidence of intent to create addiction-like dependencies is scarce, likely due to the secrecy of corporate practices. However:

- A 2013 article in *The New York Times Magazine*, “The Extraordinary Science of Addictive Junk Food,” detailed how industry insiders, including scientists and executives, deliberately engineered products for maximum consumption.
 - Studies reveal that companies use psychological and neuroscientific principles to influence consumer behavior, which, while not explicitly framed as creating addiction, closely mirrors those mechanisms.
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Conclusion: Soft Addiction by Design

While it may not be explicitly acknowledged as a strategy, the combination of hyper-palatable formulations, sensory enhancements, and aggressive marketing suggests that food manufacturers exploit mechanisms that make UPFs difficult to resist. Whether this constitutes "soft addiction" depends on definitions and intent, but the outcome—overconsumption and habitual dependency—aligns with addiction-like behaviors.

Addressing this issue may require greater transparency in food manufacturing, stricter regulations on additives and marketing, and more public awareness of how these foods are designed to influence behavior.

Stay tuned to our follow up podcast, ULTRAPROCESSED FOODS – MOLECULAR FRAGMENTATION.” In this podcast we will go into the possible negative health consequences related to the mechanical processing of grown produce and meats by reducing the sizes of particulates of those foods to the sub-micrometer level.