



NUTRITION CONNECTION

THE BRAIN SCIENCE BEHIND COMFORT FOODS

BY KRISTIN KLINEFELTER, MS, RDN, LDN

NANCY SMILED THROUGH HER TEARS as she opened the shiny emerald green box. Upon her first smell of this thoughtful Christmas present from her niece, she was overcome with emotion. How could the fresh scent and pleasing sight of these holiday mints bring her instantly back to her childhood and overwhelm her with nostalgia?

Nancy was experiencing the strong emotions that we often associate with “comfort foods.” The smell, taste, and sight of certain foods can bring us right back to the cozy, pleasant feelings of the past. For Nancy, the beautifully wrapped and delicious-smelling mints brought her back to her childhood when her mother brought them home from the department store where she worked.

Food can bring strong emotions and pleasure. How can we mimic these pleasant experiences for our clients? Can simply discussing comfort foods with clients provide a meaningful experience and be a part of our nutrition services and therapy? You may also be curious about the brain science surrounding this phenomenon. First, I invite you to ponder the question, *What is one food or beverage that creates positive emotions for you?*

Now that you have this food in mind, think about what your brain and body are experiencing. Are you filled with comfortable emotions? Do you notice tension or stress fading away? Before you talk yourself into this being a placebo effect, let’s explore what might be chemically happening in your body.

THE BRAIN AND COMFORT FOODS

When we perceive that we are safe and our needs are being met (by eating comfort food, for example), our brain chemicals begin to change. When we eat our comfort food, our hypothalamus releases dopamine, a neurotransmitter. Think of neurotransmitters as chemical messengers between neurons, telling our body to do something. Dopamine tells our body that it can expect a reward. Dopamine can impact our body by improving digestion, blood flow, memory, focus, mood, sleep, and stress management skills. Simply thinking about our comfort food can trigger a dopamine release and begin a cycle of motivation and reward. Other hormones that you may be familiar with that work together with dopamine include serotonin and adrenaline. Some animal studies suggest that these hormones that reduce stressful emotions may be released when eating our comfort foods, therefore leading to a habitual desire to eat them (Jacques et al., 2019).

Now that we understand the positive effects that dopamine can create by eating comfort foods, we should distinguish that there are certain foods that can reduce stress symptoms, but not through the same mechanism. Many ‘functional foods’ provide antioxidants, anti-inflammatory effects, and specific nutrient needs, resulting in improved mental health. Functional foods can be defined as foods that offer health benefits beyond nutritional value. Berries, nuts, fatty-fish, whole grains, and dark leafy greens are



just a few functional foods that give us a mood boost. I am pretty sure I have never had a client tell me those foods are on their comfort food list!

Now imagine that you have been thinking about that comfort food and how you are going to eat it after work. Oh no! When you get home, it is gone! You may now experience lower levels of dopamine; your mood may become depressed and your cravings for the food may be heightened even more. You can't stop thinking about that food!

What if your comfort food has poor nutritional quality because it is high in sugar and unhealthy fat? Does this negatively affect your brain chemicals and health? A study from *Neuron* found that the combination of perceived stress and eating comfort food can switch our brain's ability to feel full and satisfied (Chi Kin Ip et al., 2023). The hormone called leptin is responsible for sending fullness signals to our brain,



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IT IS A HEALTHY EXPERIENCE!

and if we listen to those signals, we stop eating. If we have high levels of stress hormones, such as cortisol, our levels of leptin decrease while our levels of ghrelin, the hunger hormone, increase. If we are experiencing stress symptoms that result in uncontrolled indulgences of comfort foods, we may be at increased risk for chronic disease such as obesity and chronic stress effects (Chi Kin Ip et al., 2023).

You may be wondering at this point if eating comfort foods is harmful for our health. If a comfort food simply brings a smile, happy feelings, good memories or positive emotions, it is a healthy experience! However, if a person begins to treat stress symptoms with their comfort foods, or emotionally eats as a pattern, the result may be poor mental and physical health. The difference may depend on a person's relationship with food. If a person does not have

ways other than eating to cope with stress, it may become a problem.

Dr. Laurel Mellin, founder of Brain Based Health, uses the program to assist clients to “spiral up” from emotional eating (Mellin, 2023). With the aforementioned studies and resources, it is safe to say that if you suspect a client is struggling with unhealthy eating behaviors, you can be a resource for them to seek treatment. I remind clients who are struggling with their relationship with food that nutrition therapy must be combined with mental health therapy for comprehensive treatment. It is not in the scope of practice for a CDM, CFPP or an RDN to provide psychological or mental health counseling.

Now back to that comfort food and how we can create meaningful experiences for our clients. We know that food can be the focus of special events and generate extremely meaningful experiences. Partnering with other departments—such as recreational, occupational, or speech therapy—can elevate the experience even further.

WAYS TO CREATE NOSTALGIA THROUGH FOOD EXPERIENCES

Give comfort foods as gifts. Nutrition services can collaborate with recreational therapy to create gift baskets full of traditional comfort foods, such as soups and baked goods. The gift baskets can be distributed to individuals who are ill, for special occasions, or employment milestones.

Host a monthly cooking class. The cooking classes can be holiday or seasonally themed. Also consider engaging intergenerational groups in the activities. I recently polled my community college students (average age 18) about comfort foods, and many replied that their favorite comfort foods are made by a family member and they hope they can carry on the tradition in generations to come.

Create a memory board with food graphics. Food can be art and invoke positive emotions just by viewing it. Create visual interest on a board in the dining room by printing food photos from blogs or Pinterest. Including a recipe of the month or taste testing with the display can elevate the food experience for clients.

Conduct a comfort foods workshop. Use the sample graphics included in this article to host a trip down memory food lane!

- Arrange chairs around a table or in a circle.
- Hand out the comfort foods flashcard (at right).
- Ask participants: “What is your favorite comfort food?”
- Do a circle “whip” around to have people speak about their favorite comfort food and a memory associated with it. Remind them it is OK to pass.
- Post the flashcards or write the foods on a poster or whiteboard for visual learners.

- Act as a facilitator, moving the conversation along or redirecting people as needed. This activity generates a lot of fun conversations!
- You can expand on this activity by cooking some of the food items or creating a comfort foods cookbook.

TRADITIONAL
COMFORT FOODS
such as mashed potatoes,
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fortified with additional
nutrients to improve
nutrition outcomes for
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USE COMFORT FOODS IN YOUR NUTRITION SERVICES TREATMENT PLANS

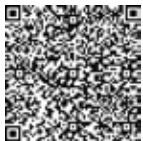
Food first: Fortified comfort foods: Most likely you have conducted ‘make vs. buy’ studies as well as food acceptance CQI projects showing

that clients accept supplemental nutrition in the form of real food better than commercial supplements. Traditional comfort foods such as mashed potatoes, pasta, and desserts can be fortified with additional nutrients to improve nutrition outcomes for clients.

End-of-life nutrition care: When a client is at the end of their life, nutrition is palliative and not therapeutic. I have too many sad stories of individuals not being permitted to order whatever they want off of the room service menu when terminally ill. My dear friend, Mike, was not allowed to order a bagel after a surgery for his pancreatic cancer, because of his ‘diabetic’ diet order. When possible, work with the interdisciplinary team (IDT) to liberalize diets and provide foods that bring comfort to terminally ill clients. We can provide important nutritional care by supplying food items requested by clients who are ill, as long as consumption is safe for them. Engage your IDT to ensure documentation and standing orders are set up for these situations.

Cooking therapy for memory care or rehab: When clients are rehabbing back to baseline from acute illness or disease, nutrition therapy is vital. A person who just had a stroke might do well preparing their mom’s recipe for homemade macaroni and cheese in occupational therapy. A memory support group can connect with their loved ones while preparing and eating foods from their childhood. This is a good time to remind ourselves that dementia can reduce our sense of taste and smell, so “spicing up” food may be necessary. We also know that smells can trigger memories. Aromatic food can be a meaningful way to create a trip down memory lane for those who have dementia.

Whether you conduct a comfort foods workshop, or simply engage in conversation with a client during mealtime, talking about and focusing on comfort foods will create positive emotions for people of all ages. Here’s to a delicious, cozy meal! 



REFERENCES

Scan QR code to view the list of resources for this article.





My comfort food is: _____

Memory associated with this food: _____

COMFORT FOODS WORKSHOP


Arrange chairs around a table or in a circle.
Hand out Comfort Foods Flash Cards.
Ask participants: “What is your favorite comfort food?”

Do a circle “whip” around to have people speak about their favorite comfort food and a memory associated with it. Remind them it is OK to pass.

Write the foods on a poster or whiteboard for visual learners.

Act as a facilitator, moving the conversation along or redirecting people as needed. This activity generates a lot of fun conversations! You can expand on this activity by cooking some of the food items or creating a comfort foods cookbook.



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CE QUESTIONS | NUTRITION CONNECTION



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This **Level II NUTRITION** article assumes that the reader has a thorough knowledge of the topic. The desired outcome is to facilitate application of knowledge into practice by drawing connections among ideas and using information in new situations.

Reading *The Brain Science Behind Comfort Foods* and successfully completing these questions online in the ANFP Marketplace has been approved for 1 hour of continuing education for CDM, CFPPs. To earn 1 CE hour, visit www.anfp.org/market and select **Edge CE Articles** within the Publications section. Purchase the article and complete the quiz.

- Which hormone is released when we consume comfort foods?
 - Cortisol
 - Leptin
 - Dopamine
- Eating comfort foods can:
 - Trigger positive memories
 - Create a meaningful food experience
 - Both A and B
- Eating comfort foods may be a problem for mental and physical health if:
 - A person begins to treat stress symptoms with their comfort foods and does not have ways other than eating to cope with stress
 - They can't stop smiling when eating a comfort food
 - They tell long stories about their comfort food
- How can comfort foods be used in nutrition therapy?
 - Add protein powder and butter to mashed potatoes for clients on a weight gain program
 - Prepare homemade macaroni and cheese in a memory care support group
 - Both A and B
- What is the definition of functional foods?
 - Foods that aid in digestion and absorption
 - Foods that help our brain function more efficiently
 - Foods that offer health benefits beyond their nutritional value
- Which statement accurately describes the role of the CDM, CFPP if a client has a disordered relationship with food?
 - The CDM, CFPP should refer the client to a multidisciplinary team including a mental health professional and an RDN
 - The CDM, CFPP can counsel the client on emotional eating
 - The CDM, CFPP should work with the client on a selective food list
- Which statement is *false* about comfort foods?
 - All foods can fit into a balanced meal pattern, even if comfort foods are eaten that do not have high nutritional quality
 - Eating too many comfort foods can create disordered eating
 - Comfort foods can be used as functional foods in a high-risk nutrition program
- How can you create nostalgia through food experiences?
 - Host a monthly cooking class
 - Create a memory board with food graphics
 - Both A and B



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