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Research report

Threatened belonging and preference for comfort food among the securely attached ☆

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ABSTRACT

Research has shown that comfort food triggers relationship-related cognitions and can fulfill belongingness needs for those secure in attachment (i.e., for those with positive relationship cognitions) (Troisi & Gabriel, 2011). Building on these ideas, we examined if securely attached individuals prefer comfort food because of its "social utility" (i.e., its capacity to fulfill belongingness needs) in one experiment and one daily diary study using two samples of university students from the United States. Study 1 ($n = 77$) utilized a belongingness threat essay among half of the participants, and the results showed that securely attached participants preferred the taste of a comfort food (i.e., potato chips) more after the belongingness threat. Study 2 ($n = 86$) utilized a 14-day daily diary design and found that securely attached individuals consumed more comfort food in response to naturally occurring feelings of isolation. Implications for the social nature of food preferences are discussed.

Introduction

People eat food to satisfy hunger, because food tastes good, out of habit, and even out of boredom. Recent research suggests another reason why people eat: certain kinds of food – foods people identify as *comfort foods* – can trigger feelings of relational connection, particularly among those with strong social ties (i.e., secure attachment style, Troisi & Gabriel, 2011). Comfort foods are foods that people consume in order to attain psychologically comfortable or pleasant states (Wansink, Cheney, & Chan, 2003), and they often do so when specific circumstances elicit a desire for their consumption (Wansink & Sangerman, 2000). Self-reported definitions of comfort foods also highlight aspects of the food related to the consumption context, the consumption experience, and relational associations with the food (LeBel, Lu, & Dubé, 2008). Indeed, comfort food seems to be strongly associated with people's social and emotional functioning. However, to date, research has not explored how the social nature of comfort food may influence people's preference for it. Thus, the current research sought to determine if people's preferences for comfort food are shaped by its ability to make people feel socially connected, or what we henceforth call its "social utility."

Food choices and preferences

Numerous factors contribute to food consumption and evaluations of food. Unsurprisingly, people tend to evaluate highly palatable foods, like those high in sugar and fat, more favorably than less palatable food (e.g., Berridge, 2009; de Castro, Bellisle, Dalix, & Pearcey, 2000; Le Magnen, 1986). Indeed, for evolutionary reasons, organisms have developed preferences for such foods in order to maintain the homeostatic processes necessary to ensure their survival (e.g., appropriate calorie intake, body fat stores, vitamin levels) (e.g., Harris, Clay, Hargreaves, & Ward, 1933; Hebb, 1955; Hepper, 1988). The current research extends beyond physiological reasons for food consumption to focus on social reasons for food consumption, which also play a critical role in understanding food preferences (Wansink et al., 2003). From an early age, humans' preferences for particular foods are shaped by social factors. For example, children develop preferences for foods they have been exposed to more frequently (Sullivan & Birch, 1990), and foods that are paired with attention from adults (Birch, Zimmerman, & Hind, 1980). The development of preferences for these particular food items among children indicates that food plays a role in people's social lives.

People's ongoing emotional experiences also shape eating behavior and perceptions of food. For example, people often report an increased appetite (Kandiah, Yake, Jones, & Meyer, 2006) and consume more food when they experience negative emotions, presumably as an attempt to alleviate or cope with such negative emotions (e.g., Arnow, Kenardy, & Agras, 1995; van Strien, Frijters, Bergers, & Defares, 1986; Yacono Freeman & Gil, 2004). The experience of negative emotions is often the result of thwarted

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psychological needs, and increased eating in response to negative emotions may be a result of such thwarted needs. Indeed, there is strong evidence that people are motivated to fulfill psychological needs, including the desire to establish and maintain a sense of connection with others (Baumeister, Brewer, Tice, & Twenge, 2007; Ryan & Deci, 2000). Numerous researchers have pointed out that the need for social connection drives many cognitions, emotions, and behaviors, and failure to satisfy this need can have detrimental consequences, including anxiety, loneliness, depression, and other psychological disorders (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Baumeister & Leary, 1995; Leary, 1990). As previous research has demonstrated, people are more likely to engage in emotional eating and food consumption when their psychological needs, particularly needs for social connection, are unfulfilled (Andrews, Lowe, & Clair, 2011; Baumeister, DeWall, Ciarocco, & Twenge, 2005; Oaten, Williams, Jones, & Zadro, 2008; Oliver, Huon, Zadro, & Williams, 2001; Raspopow, Matheson, Abizaid, & Anisman, 2013; Robinson, Tobias, Shaw, Freeman, & Higgs, 2011; Timmerman & Acton, 2001).

We contend that one reason why people's interest in food is piqued during the experience of negative emotions is because some foods are linked with feelings of belonging (e.g., Birch et al., 1980; Oliver et al., 2001; Troisi & Gabriel, 2011; Wansink & Sangerman, 2000; Wansink et al., 2003). Furthermore, because of the risks associated with poor social connections, including dangers such as mental and physical health problems (Bartholomew et al., 2011; Leary, 1990), physical pain (Eisenberger, Lieberman, & Williams, 2003), and increased risk of suicide (Rothberg & Jones, 1987), finding ways to mitigate threatened feelings of belonging in the absence of close relationships is imperative. Previous research suggests that social surrogates, such as watching one's favorite television show or reading a novel (Derrick, Gabriel, & Hugenberg, 2009; Gabriel & Young, 2011), can satiate the need for belongingness. Recent research has also identified comfort food as a social surrogate (Troisi & Gabriel, 2011). In addition to being able to alleviate feelings of loneliness (and perhaps because of it), we argue that comfort food will also be especially preferred because it can reduce feelings of belongingness threat. When people alter their motivation and behavior toward food because of negative emotions, feelings of isolation, past experiences with food, and its overall social significance, it is clear that food plays a role well beyond that of mere satiety. Furthermore, if people experience a greater motivation to consume food when they experience heightened social needs, it may also be true that people's perceptions of that food's taste would be altered as well. Indeed, just as the body craves salt when it needs to retain water and fat when it needs to retain energy stores (e.g., Gilhooly et al., 2007; Morris, Na, & Johnson, 2008), perhaps it craves foods that provide emotional comfort during the experience of psychological stressors such as threats to belongingness. A rich literature on food consumption as a method of self-medication supports this notion (e.g., Dallman, Pecoraro, & la Fleur, 2005; Tsenkova, Boylan, & Ryff, 2013; Yacono Freeman & Gil, 2004).

Comfort food and its social utility

Although many would describe comfort foods as foods that are low in healthful properties, research shows that such foods are better defined as foods which help people attain a psychologically comfortable or pleasant state (Wansink et al., 2003), and by reducing feelings of loneliness after a social threat (Troisi & Gabriel, 2011). Lending credibility to the fact that comfort food is not a term simply synonymous with unhealthy food, the foods people come to consider comfort foods differ based on factors such as gender (e.g., Wansink et al., 2003), age (e.g., Dubé, LeBel, & Lu, 2005), and geographical region (e.g., Gerding & Weinstein, 1992). Indeed, comfort foods are idiosyncratic to the individual and most people's perceptions of comfort food seem to highlight social factors related to the food. Self-reported definitions of comfort food highlight aspects of the food related to the consumption context, the consumption experience, and relational ties and associations with the food (LeBel et al., 2008).

It is true that many individuals consume comfort food in an attempt to alleviate numerous negative emotional experiences (e.g., Wansink et al., 2003). However, it is also true that the effectiveness of comfort food at eliminating negative emotions, broadly defined, is questionable. Indeed, some recent research suggests that comfort food is not effective at eliminating general states of sadness (Wagner, Ahlstrom, Redden, Vickers, & Mann, 2014). In an attempt to clarify the means through which comfort food may produce its effects, Troisi and Gabriel (2011) established the link between comfort food and feelings of interpersonal connection, suggesting that comfort food can serve as a reminder of others. In their first experiment on this topic, they found that participants who were given the opportunity to consume their comfort food (i.e., chicken noodle soup) showed heightened cognitive activation of the relationship concept compared to participants who did not consider the soup to be a comfort food. A second experiment examined the ways in which comfort food may protect against feelings of social isolation. Because comfort foods are associated with relationships, (Troisi & Gabriel, 2011, Experiment 1) comfort foods should only be protective if relationship cognitions are positive (i.e., if the food serves a positive social function). Securely attached individuals have generally positive associations with and trust in relationships, whereas those who are not securely attached have more mixed and often negative experiences with relationships (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994; Mikulincer, 1998; Mikulincer & Shaver, 2007; Mikulincer, Shaver, Sapir-Lavid, & Avihou-Kanza, 2009). An abundance of evidence indicates that securely attached individuals perceive others as reliable, loving, and concerned with their sense of well-being, whereas those who are not securely attached are more fearful and concerned about achieving consistent love and care from others (e.g., Konrath, Chopik, Hsing, & O'Brien, 2014; Mikulincer, 1998; Shaver & Hazan, 1993). Thus, people with different attachment styles have significantly different ways in which they view their relationships with others. Consequently, in their second experiment, Troisi and Gabriel (2011) predicted and found that comfort food reduced feelings of loneliness from a belongingness threat, but only among those with a more favorable view of others (i.e., those with a secure attachment style).

In summary, research has provided preliminary evidence that comfort food has social utility. Comfort foods serve as a reminder of social relationships, and they can ease feelings of belongingness threat among those who are securely attached. Drawing from past work on food preferences, emotional eating, the need to belong, and social surrogates, in the current research we examine whether comfort food is enjoyable *because* of its social utility. Specifically, we suggest that people should prefer comfort food more if it can alleviate a threatened sense of social connection – as it should if it serves as a reminder of favorable, but not unfavorable, social relationships. We hypothesized that the taste and likelihood of consuming comfort food should be influenced by current feelings of isolation and enduring perceptions of relationships with others (i.e., attachment style). Using an experimental design in a controlled laboratory, Study 1 examined the hypothesis that taste evaluations of a comfort food would be more favorable among individuals who are securely attached (vs. non-securely attached) and have been exposed to a belongingness threat. Using a daily diary design, Study 2 examined the hypothesis that people who are securely attached should be more likely to consume comfort food in response to feelings of isolation than those who are non-securely attached.

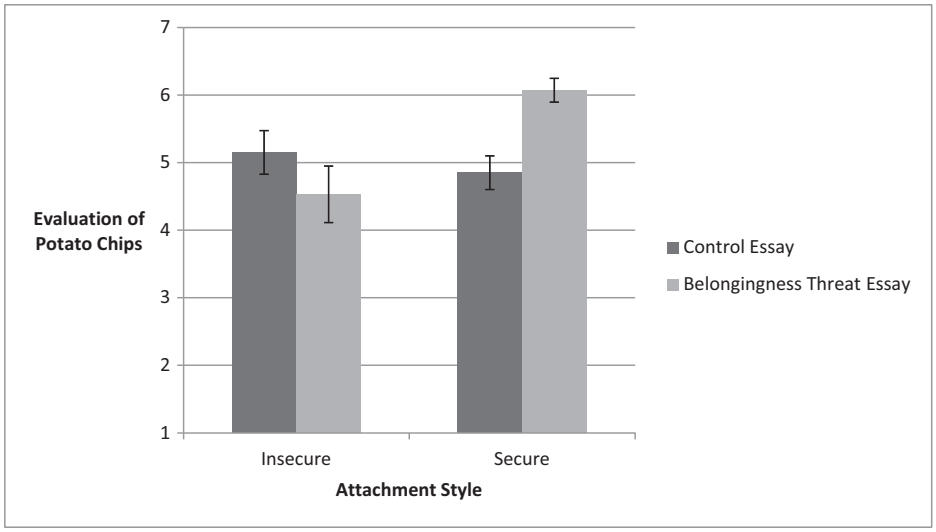

Fig. 1. Evaluation of a comfort food (potato chips) as a function of belongingness threat condition and attachment style (error bars represent standard errors) in Study 1.

Study 1

Using an experimental design, Study 1 examined social factors that would influence evaluations of a comfort food. Our primary prediction of interest was that securely attached individuals (but not non-securely attached individuals) should view a comfort food more favorably after being exposed to a belongingness threat.

Method

Participants were 77 undergraduates from the University at Buffalo (45 females; $M_{age} = 18.99$ years, $SD_{age} = 1.60$). Forty-three percent of participants were White, 41% were Asian or Asian American, 9% were African American, and the remaining 7% were of other races. The experiment utilized a 2 (Belongingness threat: threat essay or control essay) × 2 (attachment style: secure or non-secure) between-subjects design. The dependent variable was the participants' evaluation of a comfort food.

Upon arriving at the lab, participants were seated at private cubicles and were then told they would complete several separate, unrelated tasks pertaining to cognition and the self. First, using Bartholomew and Horowitz's (1991) 4-item Attachment Scale, they selected which of the four paragraphs most accurately described their attachment style (i.e., secure, dismissive, preoccupied, fearful). Next, participants were randomly assigned to either a belongingness threat condition ($n = 34$) or a control condition ($n = 43$). In the belongingness threat condition, which has been used often in previous research to create a threatened sense of belonging (e.g., Gabriel, Kawakami, Bartak, Kang, & Mann, 2010; Troisi & Gabriel, 2011), participants were asked to "Please think of a time when you had a fight with someone close to you. Imagine yourself in the situation, and try to relive it. Describe what happened in as much detail as possible, and describe how you felt at the time." In the control condition participants were asked to list items in their residence for five minutes.

Participants were then informed that the next task entailed tasting and evaluating a particular brand of potato chips for subsequent studies at their university. We selected potato chips for numerous reasons. First, potato chips are established comfort food (Wansink et al., 2003; Wansink & Sangerman, 2000). Second, they are snack food, and thus, their consumption is less likely to be associated with homeostatic processes, such as typical meal consumption. As a consequence, we may expect current emotions to affect their consumption more. And third, potato chips are a food used in research on social connection after belongingness threats among participants from the geographical region of the study participants (see Salvy et al., 2012). After the experimental writing condition, participants were given a small plate of chips. Then participants tasted the potato chips and completed a three-item evaluation of them based on how much they (1) enjoyed the potato chips, and (2) how delicious and (3) good they found them to be on a scale from 1 (*not much at all*) to 7 (*very much*) ($\alpha = .97$).[1] Finally, participants completed demographic information and were thanked and debriefed.

Results and discussion

Using a categorization system often used in existing research (e.g., Gabriel et al., 2010; Konrath et al., 2014; Troisi & Gabriel, 2011), we first categorized participants as secure ($n = 37$, 19 in the belongingness threat condition, 18 in the control condition) or non-secure (all not secure attachment styles: dismissive, preoccupied, and fearful; $n = 40$, 15 in the belongingness threat condition, 25 in the control condition) based on their responses to the Attachment Scale (Bartholomew & Horowitz, 1991) completed prior to the experimental manipulation. Then we conducted a 2 × 2 analysis of variance (ANOVA) to test the interaction between belongingness threat and attachment style on the evaluation of the potato chips. There was no main effect of belongingness threat on evaluations of the chips, $F(1,73) = 0.97$, $p = .33$, $\eta_p^2 = .01$. That is, participants who wrote a belongingness threat essay evaluated the potato chips similarly to participants in the control condition. There was a main effect of attachment style on evaluation of the potato chips, $F(1,73) = 4.08$, $p < .05$, $\eta_p^2 = .05$, such that those who were securely attached enjoyed the potato chips more than those who were non-securely attached. This main effect was qualified by a significant Belongingness Threat Essay × Attachment Style interaction, $F(2,72) = 8.86$, $p < .01$, $\eta_p^2 = .11$ (see Fig. 1). First we evaluated the simple effects of

[1] In Study 1 and Study 2, we measure mood as well as our primary dependent variables. Because it is possible that feelings of social threat and food consumption may affect food evaluations through changes in mood, we conducted additional analyses in which we statistically controlled for the effects of mood. Statistically controlling for mood effects did not influence the primary dependent variables in either Study 1 or 2.

condition for securely and non-securely attached participants. Securely attached participants evaluated the potato chips significantly more positively in the belongingness threat condition than in the control condition, $t(32) = -3.66$, $p = .001$, $d = -1.29$. Non-securely attached participants' evaluations did not differ by condition, $t(41) = -0.68$, $p = .50$, $d = -0.21$. Next, we evaluated the simple effects of attachment for participants in the belongingness threat and control conditions. In the belongingness threat condition, securely attached participants evaluated the potato chips significantly more positively than non-securely attached participants, $t(35) = -4.03$, $p < .001$, $d = -1.32$. Participants in the control condition did not differ by attachment style, $t(38) = 1.16$, $p = .25$, $d = 0.38$.

Thus, Study 1 supported our hypothesis. Individuals with more positive relationship associations (i.e., those who were securely attached) evaluated the comfort food more favorably. Furthermore, this finding was accentuated in the belongingness threat condition. That is, when social needs were threatened, enjoyment of the comfort food increased, but only for those for whom the food had significant, positive social value (i.e., securely attached participants).

Study 2

Study 1 provides preliminary support for our hypotheses; however, some questions are still worth addressing. First, Study 1 only examined one type of food. Although the effects on the evaluation of the food were based on variables unrelated to food type (i.e., attachment style and an experimentally manipulated belongingness threat), additional foods should be examined. Second, perhaps the most important issue related to people's food preferences has to do with how much preferences influence their actual consumption behavior. Thus, to address these issues, Study 2 was designed to replicate and extend the findings from Study 1 using a daily diary design examining real-life comfort food consumption practices. Specifically, we examined how chronic attachment styles and daily feelings of isolation interact to predict the tendency to eat comfort food on a daily basis. Given the social utility of comfort food, we hypothesized that securely attached people should be more likely to consume comfort food particularly in response to feelings of isolation.

Method

Participants were 86 undergraduates from the same university as Study 1 (44 females; $M_{age} = 18.73$ years, $SD_{age} = 0.96$). Seventy-six percent of participants were White, 8% were Asian or Asian American, 6% were African American, and the remaining 10% were of other races. First, participants attended an orientation session in which they also reported demographic information as well as their predominant attachment style following the same method as Study 1. Then, for the following 14 days, they completed the daily diary every evening before they fell asleep (see Derrick, 2013 for additional details). Each evening, participants reported their agreement with four statements associated with isolation (e.g., "I feel isolated from others"; $\alpha = .86$). To measure consumption of comfort food, participants also responded to the statement "Today, I ate food that I consider 'comfort food'" (*yes*/*no*). Additionally, in order to determine if they were merely consuming any food available to them in order to cope with feelings of loneliness, participants also responded to the statement "Today, I ate whatever food I could get my hands on" (*yes*/*no*).

Results and discussion

One participant did not complete the measure of attachment and was omitted from all analyses. The remaining 85 participants completed 1033 (86.8%) out of a total possible 1190 reports. They reported consuming "comfort food" on 537 days, an average of 6.32 days per person (range = 0–14, $SD = 4.09$), and "whatever food" on 481 days, an average of 5.66 days per person (range = 0–14, $SD = 5.07$). Their average isolation rating was 2.73 (range = 1–7, $SD = 1.33$). As in Study 1, we categorized participants as secure ($n = 39$) or non-secure (dismissing, preoccupied, and fearful; $n = 46$).

To examine the degree to which threatened belongingness (i.e., isolation) and attachment style influenced comfort food consumption, we used the program HLM 7.0 to estimate two-level hierarchical generalized linear models with a Bernoulli sampling distribution and a logit link. We entered the lagged dependent variable as a fixed effect in all analyses to control for autocorrelation. The intercepts and the isolation slopes were treated as random effects in all models. Comfort food and whatever food were dichotomous outcome variables (0 = no consumption, 1 = consumption). Isolation, the Level 1 predictor, was person mean centered (i.e., centered at each person's mean over time). Thus, positive and negative deviations reflect relatively higher and lower feelings of isolation than typical for that person. We used the time-lagged effect of isolation, rather than the contemporaneous effect, to demonstrate temporal precedence. Attachment style, the Level 2 predictor, was entered as an uncentered dummy-coded variable (0 = non-secure, 1 = secure). Results of analyses using robust standard errors (odds ratios [*OR*] and 95% confidence intervals [*95% CI*]) are presented in Table 1.

As shown in the first column of Table 1, at average levels of isolation, those who were securely attached were more likely to consume comfort food than those who were non-securely attached. This main effect was qualified by a significant interaction (see Fig. 2). First, we decomposed this interaction to examine the simple effects of isolation for securely and non-securely attached participants (Aiken & West, 1991). Securely attached participants were more likely to eat comfort food on days after they experienced greater than usual isolation, $OR = 2.09$, *95% CI* = [1.30, 3.37], $p = .002$. This effect was not significant for those who were non-securely attached, $OR = 0.93$, *95% CI* = [0.69, 1.27], $p = .662$. Next, we decomposed the interaction to examine the simple effects of attachment for participants who experienced relatively more or less isolation than usual (one standard deviation above or below participants' own mean on isolation over the diary period; Aiken & West, 1991). After experiencing more than usual isolation, securely attached participants were more likely than non-securely attached participants to consume comfort food, $OR = 3.29$, *95% CI* = [1.55, 6.97], $p = .002$. After experiencing less isolation than usual, this difference was not apparent, $OR = 0.95$, *95% CI* = [0.70, 2.78], $p = .344$. As can be seen in the second column of Table 1, none of these effects were significant when predicting consumption of whatever food participants could get their hands on. In other words, securely attached individuals were more likely to consume comfort food (but not

Table 1
Results of the hierarchical generalized linear modeling analyses in Study 2.

	Comfort food		Whatever food	
	OR	95% CI	OR	95% CI
Intercept	0.49**	[0.28, 0.83]	0.43*	[0.22, 0.84]
Autocorrelation	2.12***	[1.41, 3.19]	1.92**	[1.24, 2.96]
Isolation	0.93	[0.69, 1.27]	1.03	[0.72, 1.48]
Attachment	2.42**	[1.25, 4.68]	1.64	[0.61, 4.44]
Isolation × attachment	2.24**	[1.28, 3.93]	1.28	[0.77, 2.14]

Note: The intercepts and isolation slopes were treated as random effects. The autocorrelation and isolation were both time-lagged one day. Isolation was person mean centered. Attachment was coded 0 = non-secure, 1 = secure and left uncentered. OR = odds ratio; 95% CI = 95% confidence interval.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

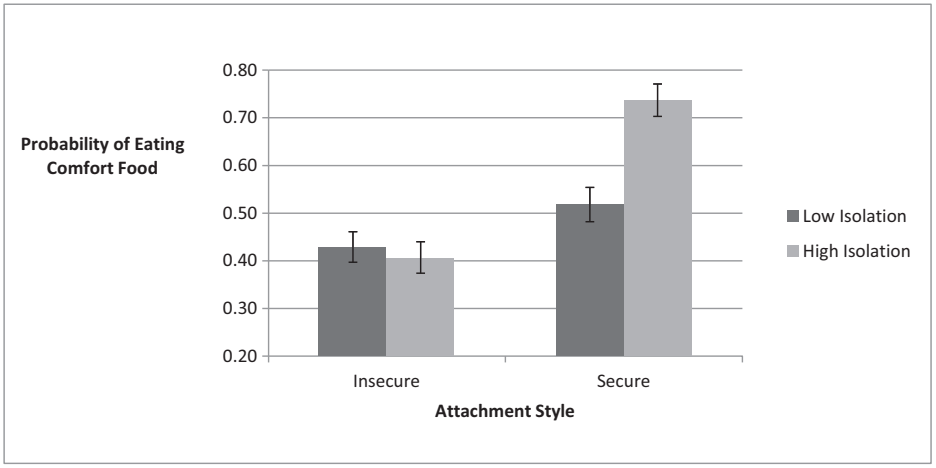

Fig. 2. Probability of consuming comfort food as a function of the previous day's feelings of isolation and attachment style (error bars represent standard errors) in Study 2.

whatever food they could get their hands on) on days after they have experienced elevated levels of loneliness.

Thus, Study 2 supported our hypothesis. Individuals who were securely attached were more likely to consume comfort food, and this was especially true on days after they had experienced higher than normal levels of isolation. That is, experiencing a threatened sense of belonging increased the likelihood of comfort food consumption, but only for those for whom the food presumably had favorable social utility (i.e., securely attached participants). Furthermore, it is not the case that these individuals were more likely to consume any food; they were only more likely to consume comfort food.

General discussion

We all have to eat to stay alive, but as anyone who has ever splurged on a meal at a fine restaurant or read a cookbook for entertainment knows, our interest in food is shaped by much more than just survival. The current research argues that our attraction to at least one kind of food can be explained by its social meaning. Across two studies, we found support for the hypothesis that the enjoyment of comfort food is strongly linked to its social utility. Study 1 experimentally demonstrated that the social utility of a comfort food affected its taste evaluation, and Study 2 extended these results with daily diary data reports of real-life comfort food consumption in response to feelings of isolation. Thus, across two studies, we found that those who would benefit from consuming comfort food showed higher preferences for comfort food in response to social threat.

This research expands and contributes to previous work that demonstrates that social needs are important and integral for understanding seemingly non-social behavior. The findings are consistent with other research demonstrating that people are able to achieve a sense of belonging from social surrogates, or non-human social targets, particularly among those who would benefit from connecting with others (see Derrick et al., 2009; Gabriel & Young, 2011; Troisi & Gabriel, 2011) and further solidifies comfort food as one such social surrogate. Furthermore, it highlights the importance of humans' fundamental need to belong (Baumeister & Leary, 1995; Ryan & Deci, 2000). Indeed, the evidence we report in the current research suggests that the desire to experience social connection is quite far-reaching and can even shape the preference people have for food they associate with close others (i.e., comfort food) among the securely attached.

Alternative explanations

A skeptical reader might be curious if people prefer comfort food simply because it might be delicious food (cf. Wansink & Sangerman, 2000). Indeed, previous research has often characterized comfort food as highly caloric and palatable (cf. Evers, Stok, & de Ridder, 2010). Similarly, some might assume that any food tastes better when one feels lonely or isolated, potentially because the taxing experience of isolation may produce self-regulation failure. However, we provide multiple lines of evidence suggesting that these are unlikely alternatives and that preferences for comfort food are shaped by its social utility. First, with regard to the taste of food items, in Study 1, all participants tasted the same potato chips, and only securely attached participants who had experienced the belongingness threat evaluated them more positively. Second, with regard to loneliness potentially increasing the desire for food (a perspective in line with existing research on emotional eating), past research has found that loneliness alone does not increase interest in, or likelihood to eat, non-comfort foods (Troisi & Gabriel, 2011). Furthermore, in Study 2, feelings of isolation did not increase the desire to eat "whatever food [participants] could get their hands on." Thus, theorizing from past research and data from the current research support the contention that preferences for comfort food are not merely based on taste of the particular food item, or the experience of loneliness on self-regulatory failure, but rather, based on comfort food's special association with close relationships.

Implications for eating behavior

The current research has implications for understanding eating behavior, particularly with regard to how social factors may shape such behavior. Research on eating behavior has demonstrated that people attempt to cope with negative emotions, ostracism, and overall feelings of low social connection by eating (e.g., Andrews et al., 2011; Arnow et al., 1995; Oliver et al., 2001; Raspopow et al., 2013; Salvy et al., 2012). The current research expands what is known about eating due to negative emotions by specifically targeting comfort food and demonstrating that people's attachment with others and feelings of loneliness or isolation in particular are related to its enjoyment. This is not to say, however, that further research on comfort food will not find it to be efficacious as reducing other negative emotions. In the current work, we specifically targeted comfort food consumption as a potential response to negative

social emotions (i.e., loneliness and isolation). Subsequent research may find that thoughts of comfort food or comfort food consumption buffer against other negative emotions as well. We would encourage further investigation of these topics.

Furthermore, previous research has established the link between feelings of insecurity, broadly defined, and increased desire to eat and increased food consumption (e.g., Herman & Polivy, 1975; Lee, Greening, & Stoppelbein, 2007). However, perhaps as a surprise to some, the results of the current work suggest that when it comes to comfort food, it is individuals with secure attachment who have a greater preference for it, particularly when they feel lonely. Although consumption of such food may provide a sense of relief from feelings of loneliness for some (cf. Troisi & Gabriel, 2011), it has the potential to put such individuals at risk for overconsumption. It is worth noting that some research has somewhat broadly classified comfort food as highly caloric and unhealthy (e.g., Evers et al., 2010), whereas others have found comfort foods to have similar health properties to other foods (Troisi & Gabriel, 2011). Reconciling these differences in perspectives, the healthfulness of comfort food is not predetermined by its characterization as "comfort food": it is apparent that people's selection of particular comfort foods is somewhat idiosyncratic and that one person's comfort food is typically not the same as the next person's (LeBel et al., 2008; Troisi & Gabriel, 2011; Wansink et al., 2003). Thus, it seems that the most significant health-related risk would be realized among those securely attached individuals who happen to experience loneliness frequently, prefer unhealthy comfort foods, and are able to consume those foods. The dynamic among these variables creates a double-edged sword, motivating securely attached individuals toward food that reminds them of others when isolation occurs. The process through which these foods alleviate loneliness may in fact create unhealthy eating patterns. We strongly encourage future research of this phenomenon with the examination of a variety of comfort foods.

Limitations

We view the findings of the current research as among the first of many potentially interesting investigations of the psychology of comfort food and its role in feelings of social connection. To this end, there are limitations to the current research that deserve mention. We will discuss two primarily. First, in Study 1 we specifically examined potato chips, and in Study 2 we examined other comfort foods, but participants did not specifically report which kind. Future research on this topic should expand the comfort food types to which participants are exposed. Second, for a topic so emotionally-laden as comfort food, we would encourage qualitative methods for future examinations. Indeed, varied approaches to this topic would help the researchers zero-in on the specific function of comfort food in people's psychological experiences.

Conclusion: the social utility of comfort food

Undoubtedly, we eat for many reasons, but some of these reasons are more social and emotional than physiological. Past research has suggested that social needs can be fulfilled through the consumption of comfort food. The current research expands this work by demonstrating that preferences for comfort food (i.e., taste evaluations and likelihood of consuming) are shaped by its social utility. People, and particularly people who would benefit from its social significance, enjoy comfort food more when they feel isolated. In other words, the lure of comfort food is so powerful not only because it can fill the stomach, but also because it can fill the heart.

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