

**Post-Race Food Cravings and
Food Consumption of Endurance Runners**

by

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Introduction

What drives the food cravings and the post-race food and beverage choices of some endurance runners? By endurance runners, I mean runners who compete in organized races that last for an hour or more such as the half-marathon (13.1 miles), marathon (26.2) distances and further. After racing for the past twenty years as an amateur middle-of-the pack runner the pre-race rituals and behavior seemed obvious to me at first: culture. After all, according to anthropologist Robert R Sands, “Sport is, indeed, not only universal but perhaps one of the best indicators or expressions of culture (Sands 1999:3).”

However, confident I was on explaining the lifestyle and pre-race behavior of endurance runners, what I didn't get was the post-race behavior of some of them. In particular, was the post-race Bacchanalian transformation of normally reserved and semi-vegetarian or sports nutrition practicing runners who, post-race, turned into extroverted junk food junkies, carnivores and, sometimes, even drunks at a post-race celebratory meal. I felt that they were going against the edicts of their own health and self-improvement focused running subculture. Why the post-race binging?

My first guess was that they were practicing a sort of sport sub-cultural ritual (Maughan 2002:66). Then, after learning about the connection between stress and eating high-carbohydrate foods in the book *Why Zebras Don't Get Ulcers* by Robert M. Sapolsky, I thought that some runners were binging at post-race celebratory meals in order to celebrate and de-stress (Sapolsky 2004: 75). I found four theories that explain the post-race communal food fest phenomenon. These theories explain it from either a

physiological perspective or from a cultural perspective. Following them are my own research findings from interviewing and surveying runners. Some endurance runners seem to go carnival after they finish a race for both cultural and physiological reasons.

Literature Review

Food cravings and consumption are due to physiological stress-responses to racing

The connection between mood and food is a well-documented one (Miller 2009:127). The mood enhancing affects of a food can come from its symbolic meaning (think of eating a baked turkey with mashed potatoes on Thanksgiving, a birthday cake or an after-work beer with colleagues). In fact, eating can be a source of pleasure in itself. According to a survey of over 2,200 undergraduate students at six geographically dispersed universities in the United States by Paul Rozin of the University of Pennsylvania, 60 percent of the respondents claimed, “enjoying food was one of the greatest pleasures in their lives (Rozin 2003).”

Food can affect one’s mood by it’s chemical properties such as the stimulating effects of caffeine in a latte, the calming effects of having a glass of wine or beer and anti-depression effects of omega-3 fats found in fresh fish (Miller 2008:139). Food can affect one’s moods due to its sensory effect, too. For example, scientists have found that “sweet tastes and narcotics activate the same pain receptors in our brain,” according to Daphne Miller, a medical doctor who wrote a book about the interaction between indigenous diets and health called *The Jungle Effect* (Miller 2008:132).

A stressful situation can make a person lose their appetite completely or can drive a person to crave high-carbohydrate “comfort foods” (Sapolsky 2004:74). Pre-race

anxiety is often accompanied by physiological symptoms called “stress-responses” such as lack of appetite, stomach upset and insomnia (Sapolsky 2004:7).

According to Elissa Epel of UCSF, people who have high glucocorticoid levels in response to stress become hyperphagic (eat more) after the stress has passed. And, they crave sweets only after being stressed. (Sapolsky 2004:75) The craving of sweets and “comfort foods” seems to be stress-specific. The cravings may also be due to psychological factors such as one’s attitude towards eating and foods. Sapolsky calls people who binge on carbohydrates to relieve stress “stress-eaters” (Sapolsky 2004:75).

Food cravings and consumption are in response to energy and nutrient depletion

Runners get hungry after a race. It’s not a big mystery why most people are famished an hour or so after they finish a marathon. For extreme endurance races lasting more than an hour and a half, energy and nutrient stores become severely depleted (Ryan 2007:127). An extreme endurance activity such as a running 24-hour ultra can require an energy expenditure of about 20,000 calories according to *Handbook of Sports Medicine and Science: Sports Nutrition* published by the IOC (International Olympic Center) Medical Commission (Maughan 2002:7). What is interesting is that some foods (such as ice cream and beer) do not seem to be consumed for nutritional reasons, to replenish nutrients, but are consumed for other reasons. It is well known among athletes and sports nutrition experts to boost endurance before an extreme endurance activity such as a marathon is to consume foods rich in carbohydrates (Chen 2008; Fitzgerald 2006:53; Maughan 2002:23). From this sports nutrition basic comes the popular practice of “carbo-loading” and pre-race pasta dinners by runners before a long race.

“Carbo-loading” *after* a race or tough workout also improves recovery and endurance according to sports nutritionists (Ryan 2007:139). Replacing depleted muscle glycogen by ingesting carbohydrates within 30 minutes of completing intense exercise is known to improve recovery from several scientific studies (Ryan 2007:139). In addition to carbohydrates, a small amount of protein consumed soon after an endurance activity is believed to expedite recovery. As long as the percentage of protein to carbohydrates doesn't exceed 25 percent, muscle glycogen synthesis will not be compromised (Ryan 2007:140).

It is widely known by most endurance runners that the best foods for them according to sports nutrition experts are high-carbohydrate foods with a high nutritional value and some protein: Cereal with dairy or soy milk and fruit, bagel with peanut butter and jam, fruit smoothies, yogurt and granola, energy bars and fruit, baked potato with yogurt topping, pasta salad with low-fat cottage cheese and turkey sandwich with pretzels (Applegate 2006; Applegate 2008; Burke 2007; Coordt 2008; Ryan 2008:144).

Unhealthy foods such as ice cream, cheeseburgers, French fries, pizza and beer is not a on their recommended food lists for optimal running endurance.

Runners feel thirsty after a race and often crave salty foods. Hydration is also a top priority during and after an endurance activity to replace fluids lost (Ryan 2007:141). When dehydrated it is preferable to consume plain water rather than energy drinks. However, too much water may cause potentially fatal hyponetremia (Aschwanden 2008). “This form of hyponatremia, or low sodium, is caused when over hydration while exercising dilutes the sodium level in your body. (Burfoot 2004).” Sport nutrition experts recommend consuming electrolyte replacement drinks or salty foods to replace lost salts.

Alcohol should not be consumed until after fluid balance is restored, if at all (Ryan 2007: 142). The *Handbook of Sports Medicine and Science: Sports Nutrition* recommends not consuming *any* alcohol after training or competition (Maughan 2002:66). Most athletes are dehydrated and have eaten little on the day of competition so the effects of alcohol consumption may not only be magnified but also prohibit recovery. Significant amounts of alcohol will interfere with rehydration. For example, study subjects who consumed beverages with 4% alcohol content were still dehydrated six hours after competition despite having consumed 1 ½ times the volume of their fluid deficit (Maughan 2002:67).

Food cravings and consumption derive from cultural rituals of communitas

Celebrating a sports victory by sharing food and drink is a common ritual across many cultures according to Sociologist Richard Guilianotti of the University of Aberdeen. “Significant victories are celebrated through feasting, heavy drinking and other forms of carnival behavior that promote *communitas*,” Guilanotti says (Guilianotti 2005:5). The *Handbook of Sports Medicine and Science: Sports Nutrition* addresses the issue of post-race bingeing as a social ritual: “Alcohol intake and binge drinking seem particularly linked with post-competition activities, and perhaps even the social rituals following training or practice sessions in some sports. (Maughan 2002:66).”

Food cravings and consumption are an expression of one’s culture: Tarahumara and Kalenjin cultures

“Food and cooking are inextricably linked with culture. It is not only a physiological truism that we are what we eat; what we eat and how we eat it also defines

us as social beings,” declares anthropologist Mary J. Weismantel (Weismantel 1988:7) Food choices are deeply cultural but they are not arbitrary as anthropologist Marvin Harris insists. They can also “be explained by nutritional, ecological, or dollars-and-cents choices, “ Harris says (Harris 1985:17).

The sport of running, diet and communal rituals of the Tarahumara, an indigenous people who live in the remote Sierra Madre mountain range in northwestern state of Chihuahua, Mexico, are inextricably tied to their culture and their identity as well as their ecology and economy (Nabokov 1981:163). The Tarahumaras’ name for themselves, *Raramuri*, derives from their favorite running game where races may last twenty to 100 miles or more. Associated with these footraces are pre-race dietary restrictions and rituals such as avoiding food from strangers and foods with fat, potatoes and eggs. (Nabokov 1981:171) After a race is over the runners join a communal all-night beer drinking party called a *Tesquinada*. It is named from their homemade corn beer *tesquino* that is made a day or so before the race by a family and then communally shared afterwards as both a celebration and as an exchange of wealth (Kennedy 1963; McDougal 2009:41). After the runners finish the race they join the communal *tesquinada* and often eat and drink all evening until they pass out (Kennedy 1963). The traditional diet of the Tarahumara is a high-carbohydrate diet of mostly fresh vegetables, fruit, *pinole* (a tortilla of stone ground heritage corn and water), and *tequino* (Kennedy 1963; McDougal 2008). The Tarahumara’s running prowess got international acclaim when a Tarahumara named Juan won the Leadville Trail 100-Mile Run against an international field of long distance running champions with a record time of 17 hours and 30 minutes (McDougal 2009:104).

The Kalenjin tribe in Kenya is known for producing more sub- 2:20 marathon performances (more than 500 by the year 2006) and more long distance running world records than any other group of people (Tanser 2008:x). They attribute their success to a culture of running excellence called “More Fire” by author Toby Tanser in his book about the Kalenjin running champions of the same name (Tanser 2008:xi). Tanser interviewed several world-class marathon champions about their diet. Each of them claimed that in addition to their high performance running culture, their traditional high-carbohydrate and low-fat Kenyan diet of fresh vegetables, legumes and fruits with copious amounts of their main staple: *ugali*, stiff porridge made from ground corn flour and water, and *chai*, tea leaves boiled in milk and sugar, gave them an endurance advantage (Tanser 2008:127). Former world recorder holder in the half-marathon (first man to run in it in less than one hour) Moses Kiptanui advises, “You have to eat. You should be eating double what a normal person does when you are training. If you do not, then the body just will break down... You should also be drinking three liters of water per day. (Tanser 2008:126).

Interestingly, when comparing the macronutrient intake of elite runners cross-culturally, the Kalejin runners from Kenya and Tarahumara runners from Mexico had the higher proportions of carbohydrates to fats and proteins (about 3 to 1) than elite runners in South Africa, Australia, Holland and the United States (Pitsiladis 2007:109). It seems that for both the Tarahumara and the Kalenjin their traditional culture, economy and locally available foods have given them a diet that is optimized for endurance running.

Methodology

It was my personal experiences as an endurance runner that first drove my interest in the running sport subculture and physiology. It has also given me the criteria for inclusion in our local amateur running community. This has aided my efforts in gathering ethnographic data and seeing things from a long distance runner's perspective (the emic viewpoint). Being able to think and speak like a runner has also fostered rapport with many of my respondents.

My primary research included semi-structured interviews of local marathon and ultra runners and an online survey hosted on surveyMonkey.com that was emailed to the membership of a local running club as well to the runner followers of my Twitter profile (twitter.com/multisportmama) and my endurance sports blog (multisportmama.com). My participant-observation included my entry into the Santa Clarita Half-Marathon and Marathon on November 2, 2008 of which I completed in the shorter event. I documented the material culture of the half-marathon and marathon race event with a written description and photographs of the pre-race packet pick up and runner expo the day before the race, the pre-race activities the morning of the event, the race itself and the post-race festivities at the race finish. I also joined the local running club and participated in their Saturday morning weekly training runs.

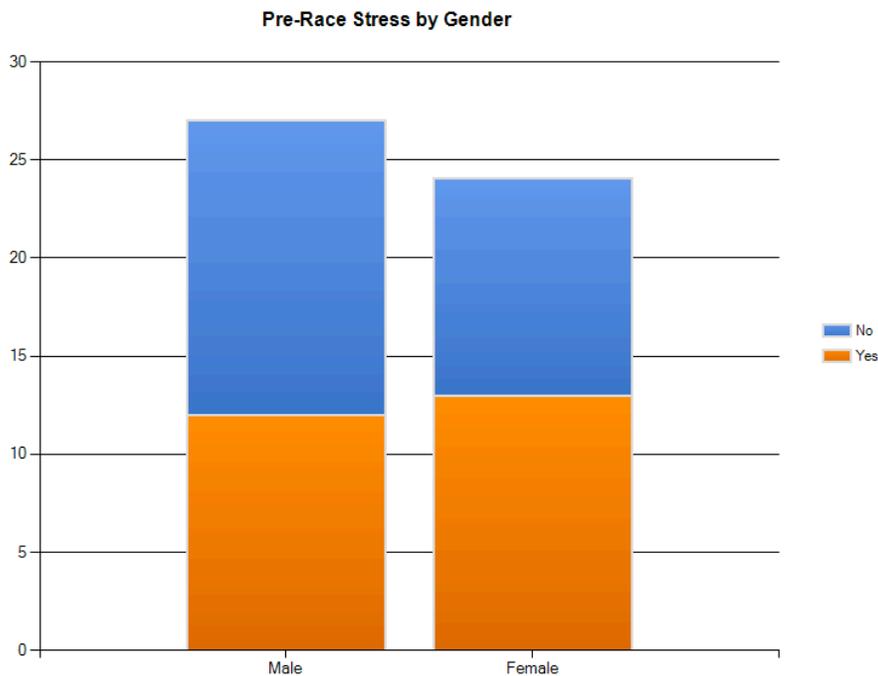
I received 69 responses from my online survey posted on surveyMonkey.com. I found the data from my surveys informative but, because they include only responses voluntarily given, they may not be entirely representative of the sport subculture. Please see Appendix A (pages xx- xx) for my survey questions and summaries of responses from the surveyed marathon and ultra runners.

My secondary research included online sources such as endurance runner tweets and blog postings, books, food manufacturers' sports nutrition articles in newsletters. I also reviewed cultural and sports nutrition articles in both peer-reviewed research journals and two popular running magazines: *Runner's World* and *Marathon and Beyond*.

Research Results

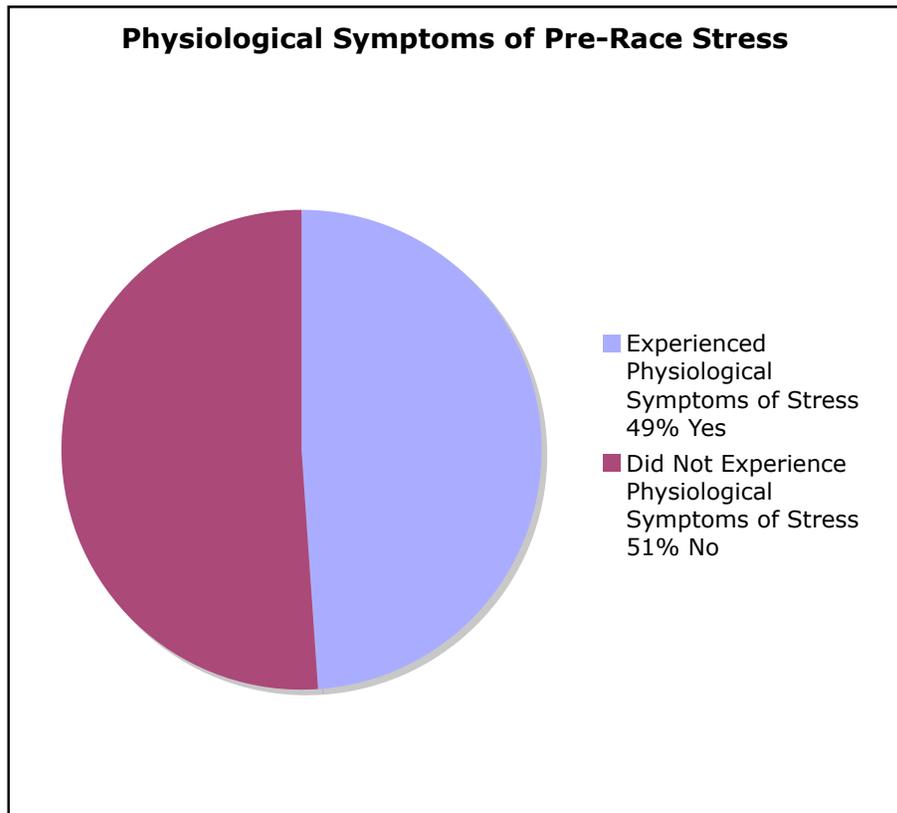
Craving and eating carbohydrates in response to pre-race anxiety

The most common macronutrient craved by runners after a race is carbohydrate rich foods with sweets in particular. Of the 51 runners who responded, 49 percent of them complained of feeling stressed and experiencing physiological symptoms of stress-response (Appendix A: Question 15) with slightly more women than men.



The most common stress responses were feelings of excitement, impatience or anxiety (73%), more than usual trips to the bathroom (57.6%), elevated heart rate (38.4%), and

difficulty sleeping or insomnia the night before (11.5%), (Appendix A: Question 16).



I correlated the responses (“Yes” or “No”) of having *pre-race* physiological symptoms of stress with self-reported *post-race* food cravings for carbohydrates of the endurance runners. There seems to be a correlation between pre-race stress and post-race carbohydrate cravings (Appendix A: Questions 15, 20).

		Pre-Race Physiological Symptoms of Stress		Total
		YES	NO	
Post-Race Cravings for Carbohydrates	YES	76.0% (19)	24.0% (6)	49.0% (25)
	NO	23.1% (6)	76.9% (20)	51.0% (26)
Total		100% (25)	100% (26)	100% (51)

Eating to replace depleted energy and nutrients

Of the runners who responded to the survey question about post-race food cravings, 76.9 percent experienced food and beverage cravings (Appendix A: Question 20). Runners craved mostly high-carbohydrate starchy or sweet foods (59%) that are the most efficient in replacing depleted glucose energy. They also craved water, electrolyte replacement drinks such as Gatorade that replaces fluids and salts lost during perspiration. And, many of them craved salty foods (38%) to replace electrolytes and fluids lost during perspiration. Protein was craved by almost half of the respondents (45%) (Appendix A: Question 20). However this hypothesis didn't explain why a significant percentage of runners I surveyed reported that during a post-race celebration they consumed nutritionally "bad" foods and beverages such as fast food, pizza, fries, chips, beer, wine and mixed drinks (Appendix A: Question 21).

Eating as a cultural expression

"Sports nutrition is a practice as much as a science," according to *Sports Nutrition: Handbook of Sports Medicine and Science* (Maughan 2002:140). The food beliefs of 94.3 percent of the endurance runners who responded to the survey are in agreement with the dominant sports nutrition-based diet beliefs of the running sport sub-culture. These runners said "Yes" to the survey question, "I can improve my physical performance on a diet based on science-based sports nutrition (Appendix A: Question 12). Most of the surveyed runners practiced healthy eating based on sports nutrition principles while training for a race (Appendix A: Question 11). The foods they most commonly consumed are sports drinks, energy bars, whole grains, fruit, vegetables, lean meat, water, pasta, bread. What the endurance runners ate while training and racing

reflected the foods available and acceptable to them. That being said, beer in America is a beverage long associated with organized sports and drinking it to celebrate a competition is a common cultural ritual (Messner 2005: 85). Of the surveyed endurance runners, 55.1 percent were male; the median age was 44 years old with 68% of the respondents between 31 and 58 years old. They worked out an average of 11.2 hours per week, live in an industrialized economy are experienced in race participants with a median of 9 years of racing experience and median of 40 race finishes (Appendix A: Questions 1, 2, 3, 4, 9). Of pre-race rituals, these respondents self-reported that:

- 67% of them practiced food rituals
- 18% of them practiced non-food rituals
- 15% of them did not practice any rituals (Appendix A: Question 13)

Eating as rite of reversal ritual and communitas

From my running in many road races over the years, and my participant observation at the Santa Clarita Half-Marathon and Marathon in November 2008, the entire race experience is a heavily ritualized event of *communitas* for its participants. During a typical road race such as a 10K or marathon, the entire field, pros and amateurs, are temporarily united in a state of communality by their common activity. Almost like religious pilgrims some travel far to the race site and adorn themselves with special clothing that marks them as race participants: running clothes, running shoes and race numbers. Also, like religious pilgrims most share similar beliefs and pre-race training and diet rituals that prepared them for the race. For the duration of the race they are outside of the boundaries of normal society in *communitas*. While racing, the runners are in public but they don't have to abide by public laws as they gallop through red lights, parking lots,

and private property and cross-traffic is blocked from them by off-duty police officers and volunteers lining the race course. Even normally private bodily functions such as spitting and urinating are tolerated along the racecourse as well as blatantly littering by tossing to the ground plastic cups used for drinking at aid stations. For all race participants they are in public but they are outside the norms of public behavior. For first time marathon runners they are no longer just runners but they are not yet marathoners. They are, to use anthropologist Victor Turner's terminology, "betwixt and between" both of these social categories and outside of society. (Turner 1964:91) Social boundaries and hierarchy are temporarily suspended amongst the runners in a period of egalitarian *communitas* during the race itself as spectators cheer them on and volunteers along the racecourse cater to their needs. Volunteers offer special foods and refreshments to the race participants much as bystanders offer refreshments such as *gorditas* and water to pilgrims on their way to the Shrine of Virgin of Guadalupe in Mexico (Pilcher 1998:74). Sport rituals unite a sport's participants just as religious rituals play a part in the unification of a faith's participants.

After the race, the solidarity of the runners is again ritualized with special foods and refreshments as well as, sometimes, with a gift of a special finisher t-shirt or medal. The halved bananas and quartered oranges and free product samples in the finish line area are as much part of a typical road marathon finish line experience as are "peanuts and hotdogs are as much as a part of baseball as is home plate" (Prebish 1993:182).

The last ritual of the race is a celebratory meal and, for some runners, the food rules and practices are ritually reversed in the spirit of "if you know the rules, you can break them." By temporarily and knowingly breaking the sports nutrition dietary rules of

their sport subculture they are symbolically declaring their membership in it and the legitimacy of its rules. Nearly all (94.3%) of the long distance runners I surveyed believed in these rules and that they could improve their athletic performance “on a diet based on science-based sports nutrition” (Appendix A, Survey Question 12). However, 58 percent of them ignored their belief in a science-based sports nutrition diet and consumed unhealthy quantities of “bad” foods and/or alcoholic beverages after their last longest race in the past five years (Appendix A: Question 22).

		Agreement with following “a diet based on science- based sports nutrition”		Total
		AGREE	DISAGREE	
Post-race consumption of "bad" foods	YES	58.3% (28)	100% (3)	60.7% (31)
	NO	41.7% (20)	0% (0)	39.3% (20)
Total		100% (48)	100% (3)	100% (51)

Most common foods consumed during their post race food feasts:

- Carbohydrates at 72.5% (37), then protein 54.9% (28) came in second out of 51 responses (Appendix A: Question 21)
- Pizza (7) was the post popular food eaten at post-race celebrations; hamburger came in a close second (6) out of 51 responses (Appendix A: Question 21)
- 33 percent (17) said they ate meat (hamburger, tri-tip, fried chicken, fresh grilled fish, steak, and sausages) out of 51 responses (Appendix A: Question 21)

- 38.5 percent of the survey question respondents said that they consumed alcoholic beverages to celebrate their race finish (Appendix A: Question 22); 80 percent (12) of them preferred beer (Appendix A, Question 23)

Representative “bad” according to my endurance runner respondents:

“Beef, fat, sugar, soft drinks, cheese, fried foods”

“Sugary foods including beverages, alcohol in more than moderate amounts, greasy/fatty foods including fried foods”

“Cheese Burgers, Chili, pizza”

“Alcohol, [nutritionally] empty foods like candy, ice cream, chips”

“Meat (except fish), beer, doughnuts, pastry”

“Alcohol, Meat (Beef), too much pasta, sugar (Pastries)”

Representative post-race celebratory foods my endurance runner respondents enjoyed with gusto:

“tri-tip and beer”

“Hamburger, fries with salt, beer”

“Had pizza but forgot my favorite drink and piece of carrot cake.”

“Ice cream, chocolate milk”

“Beer, or treat myself to my favorite foods such as burger and fries”

“pizza, beer, champagne”

“Triple burger with cheese, bacon and avocado, fries and a few beers!”

Do you see the similarities in these lists of foods? It seems that a post-race binge may be a rite of reversal of an endurance runner’s normally structured and rule bound sports nutrition-based training and racing diet. By knowingly breaking their own sport

sub-culture's rules and eating "bad" but delicious and symbolically meaningful foods such as hamburgers, ice cream, pizza, and beer, they are demonstrating their membership as equals in their sport subculture during this rite of reversal.

Conclusion

The food and beverages that most runners consume after a long race are due to both physiological needs and cultural factors. Physiologically, 49 percent of surveyed endurance runners experienced physiological symptoms of stress before the longest race they've finished in the past five years (Appendix A: 15). Of them, 76 percent over-indulged in comfort foods after racing (Appendix A: 15). Of all my endurance runner respondents, 72.5 percent consumed mostly high-carbohydrate foods after finishing their race. Culturally, my endurance runner respondents were pretty homogeneous in their beliefs about eating a sports nutrition-based diet. For example, 94.3 percent of the endurance runners I surveyed believed in "a diet based on science-based sports nutrition" (Appendix A, Survey Question 12). However, about 58 percent (28) of them ignored their sports nutrition-based dietary beliefs and consumed junk food and unhealthy quantities of beer after an important race (Appendix A, Survey Question 22). Of those who enjoyed a celebratory adult beverage after the race and told me what they drank (15), 80% (12) of them preferred beer (Appendix A, Question 23). From my research it seems that long distance runners in America who believe in following a healthy and sports nutrition-based diet are more likely to over-indulge in "bad" foods after a race, if before the race, they were stressed out.

Appendix A: Endurance Runners Survey (*n*=69)

1. Gender?

Male 55.1% (38)

Female 44.9% (31)

2. How old are you? (68)

Average age 44.9

Median age 44

Standard Deviation (SD) 13.8

Youngest runner 23

Oldest runner 81

68.26% of the respondents were between 31.1 and 58.7 years old (1 SD)

3. How many years have you been racing (approximately) (67)

Average 12.7

Median 9

4. How many organized races have you finished since you remember? (For example: If you don't know the exact number but feel that it's between 50 and 80, please split the difference and enter "65".) (66)

Average 77.8

Median 40

Number of races finished by runners with pre-race stress symptoms:

Average 57.6

Median 25

Number of races finished by runners who consumed a post-race celebratory alcoholic beverage:

Average number of races 50.3

Median number of races 25

5. What is the longest race you have completed in the last five years? (Choose the closest distance.) (67)

85% of the respondents have completed a marathon race or longer

6. Was this race the first time that you had raced this distance before? (66)

Yes 45.5% (30)

No 54.5% (36)

7. How did you do? (67)

Very disappointed with my performance 45.5% (1)

Disappointed with my performance 9.0% (6)

Neither content nor disappointed 11.9% (8)

Content with my performance 41.8% (28)

Very content with my performance (Yeah!) 35.8% (24)

8. How many times do you work out a day (when actively training for a race)? (53)

Average number of workouts per day: 1.5

Median number of workouts per day: 1

9. How many hours per week do you workout (when actively training for a race)? (52)

Average number of hours of working out per week: 11.2

10. How many times do you eat or drink (consume calories) when actively training for a race? (47)

Average number of times a day eat/drink: 4.9

11. What types of foods and beverages do you typically consume when actively training for a race? (52)

Representative types of foods:

“sports drink, Gu (w/Roctane), Cliff bars”

“daily: whole grains, fruit, dairy, nuts and nut butter, vegetables, water, weekly: wine and red meat”

“low fat, lean protein, low carb except just before race”

“pasta, bagels, bananas, meat, Gatorade, orange juice, coke, bread, trail mix, rice, cereal”

“Hammer Heed, PowerFuel, Gatoraid, water, pasta, rice, potatoes, fruit smoothies, lot's of coffee”

“water, granola bars, pizza, not much commercial products”

“chicken, fruits & vege's, rice, oatmeal, electrolyte drink +Clifshot”

“Water, Gatorade, fruits, healthier foods with less fat”

“grains, vegetables, fruit, chicken, fish”

“GU, Hammer Recoverite, Cliff Shot Bloks”

“plenty of whole grains, fruits and veggies, lots of good protein from beans and tofu”

“fruits, water, protein shake”

“natural, raw, mostly carbs, fruits, veggies, fish and animal meat”

“Beverage: water & diet pepsi, Food: nuts, pasta, bread, beef, fish, eggs, and cheese.

Some lettuce.

“everything but stay away from candy and soda”

“protein shakes, electrolyte replacement drinks, fruits, vegetables, carbs, protein”

12. I can improve my physical performance on a diet based on science-based sports nutrition. (53)

True 94.3% (50)

False 5.7% (3)

13. What are your PRE-race rituals or routines that you have to ensure a good race?

(Examples of routines I've heard before are, "wearing my lucky hat," "cleaning my bike", "doing some yoga stretches just before the race start", "eating one half of a sesame bagel with cream cheese an hour before race start.") (53)

- Food rituals: 67% (35)
- Non-food rituals: 18% (10)
- No rituals: 15% (8)

Representative Pre-Race Rituals:

“1/2 a pizza the night before, oatmeal and banana the morning of.”

“I usually eat an energy bar about an hour before the race. Then maybe a piece of banana just before the start. Light stretching.”

“Blueberry muffin, banana, and FRS”

“good sleep, lay out race clothes, etc. the night before, get fluids ready if necessary.”

“Get my race clothes out the night before with race numbers on them, ready to go. Get bottles of water or gels ready. Go to bed early if possible. Take a

shower.”

“I wear my 2 black labs' dog tags on my shoes. They passed away 2 years ago.

I always eat a big junk food meal for lunch the day before. Example: 1/4lb, fries and shake. I take succeed pre-race pack as well.”

“Spaghetti breakfast. Yes, I usually race in my lucky shirt depending on weather”

“Review the race course and instructions, read some articles on prepping before a race to mentally prepare myself for what's ahead”

“I always eat oatmeal and raisins about 2 hours before it gives me energy and keeps me full”

“Drinking water/Gatorade up to an hour before race starts then stopping until the race, 1 cup of coffee, bagel with cream cheese, Muscle Milk shake for breakfast”

“Marathon - 4 hours pre oatmeal or toast, juice water, 2 hours pre, bagel, 1 hour pre banana, lots of water.”

“Eat a bagel and banana.”

“eat two slices of toast w/P&J, cup of coffee, bowel movement (a must!); GU at starting line.”

“first get a good night sleep then eat carbs and protein, drink a cup of coffee before race.”

“sleeping at least 8 hours the night before, bagel/cream cheese/coffee for breakfast”

Insomnia 11.5% (3)

Representative responses:

“cant sleep night before, raised anxiety level”

“more than usual trips to the potty, excitement, high heart rate, stomach cramping”

“trips to potty, loss of appetite, loss of concentration (feel the need to focus on getting parking space, finding everything, etc.), not social.”

“excitement, decreased appetite”

“anxious, having to pee a lot, decreased appetite, quiet”

“high heart rate, nervous shakiness”

“many potty trips & impatience”

“readiness to race, high heart rate, usual trips to potty, butterflies”

“agitation, sleeplessness, increased trips to the potty, eagerness to start running”

17. What was your POST-race stress (or relief-from-stress) level about thirty minutes or more after finishing the race? (52)

Very Relaxed 48.1% (25)

Relaxed 30.8% (16)

Neutral 15.4% (8)

Stressed 5.8% (3)

Very Stressed 0.0% (0)

18. Did you experience any POST-race symptoms of stress (or relief-from-stress) responses? (Examples of stress-responses include: elation, more than usual trips to the potty, diarrhea, stomach cramping, desire to be social, desire to be left alone, butterflies, fatigue, shivers, dread, euphoria, calmness, relief, increased mental focus,

increased aggressiveness or competitiveness, increased sensitivity to touch, noise, or smells, excitement, increased appetite, decreased appetite, etc.) (52)

Yes 46.2% (24)

No 53.8% (28)

19. Please list your POST-race stress (or relief-from-stress) symptoms. (23)

Representative examples:

“desire to be social, fatigue, relief, excitement (I don't think those are really stressful per se, but that's what you listed as example which matched what I felt)”

“nausea”

“Decreased hunger, excessively talkative, sleeplessness”

“Decreased appetite, dehydration, social bonding with other runners”

“Relief. Desire to be social. Fatigue.”

“Diarrhea”

“exhaustion, elation, euphoria”

“Happy and [I] want to tell everyone about my accomplishment”

“Elated, talkative”

“Extreme relief, elation, very social, very energetic, talkative, happy”

- POST-race craving: What foods and/or beverages did you crave immediately after the race? (If none, then please say "None".) (52)

Post-race cravings: 76.9%

No Post-race food cravings: 23.1%

Representative food craving responses:

“salty food”

“Beer, Hamburger & fries” “chocolate milk, coke”

“Pizza”

“bananas, bagels, bread, Gatorade, water, soda”

“Water and big veggie burrito and Diet Coke”

“Usually want fruits or chocolate.”

“Steak”

“sushi, eggs, pasta, avocados”

“pizza, burgers, pretty much any food i can get my hands on”

“Double cheeseburger and fries!”

“Bananas”

“Breakfast types of foods, pancakes, waffles etc”

“pizza and ice cream”

“pizza and beer”

“hot dogs, pizza, coke, chips”

“bananas, beer, Gatorade (sweet, salty).”

“Hamburger, fries and a beer”

“meat!”

20. POST-race celebration: What foods and/or beverages did you consume, later that day after the race? (51)

I divided the foods into five categories: first four categories are based on the predominant taste/nutrient component and the fifth category is alcoholic beverages.

- Carbohydrates: foods and beverages that are sweet or high in starchy carbohydrates such as pasta, pancakes, potatoes, rice, etc.

- Fats: foods high in fat such as fried foods, ice cream, pizza
- Salts: Foods and beverages that replenish electrolytes and salty foods
- Proteins: Foods rich in plant or animal protein
- Alcoholic Beverages 80% (12) of the drinkers (15) had beer

Carbohydrates: most common category of foods consumed

Pizza: the most popular food.

33% (17) said they ate meat when celebrating their race (hamburger, tri-tip, fried chicken, fresh grilled fish, steak, and sausages).

29.4% (15) mentioned an alcoholic beverage when celebrating a race.

21. POST-race celebration: Did you consume any alcoholic beverages to celebrate the race finish? (52)

Yes 38.5% (20)

No 61.5% (32)

22. POST-race celebration: What alcoholic beverages did you drink and how many? (20)

80% (15) of the drinkers indicated that they drank beer.

23. PRE-race day: Do you consume a certain food or beverage, or food category or supplement the day before an important race? If so, please explain. (49)

“the day before, usually 1/2 a pizza or a bunch of pasta or some rice dish”

“No special things. But I try to avoid heavy, fatty, high fiber foods. Generally higher carb, low fat, and a moderate amount of protein.”

“yes more carbs in diet”

“Pasta or potatoes: lot's of complex carbs”

“Carbs for lunch and small serving for dinner”

“Take a multivitamin, and usually consume pasta and bread”

“typically water, sports drink, high carb foods”

“carb load with pasta or rice, have a protein (chicken or fish) as well. Pretty normal food”

“Day before I eat nothing out of ordinary. Nothing that will cause gastric issues in the next morning. My carb-loading comes 2 days prior.”

“pasta and bread the afternoon/evening prior to a race”

24. PRE-race (morning or just before): What do you normally consume just before an important race. How long before the race? (49)

“oatmeal and banana”

“About an hour before race, I eat an energy bar or a bagel. Then I like to have something sweet like a small piece of banana 15-30 minutes before the start.”

“Muffin or bagel or cream of wheat 3hrs before, banana and FRS 1/2 hr before”

“oatmeal and honey, maybe a cliff bar or toast and peanut butter if really hungry”

“banana or bagel or vitamuffin (anywhere from a 5k to a full marathon)”

“Bread, yogurt, banana, veggie sausages, coffee”

“Cereal, milk, banana or juice 2-3 hours prior or if no time to eat then a banana or gel immediately prior.”

“Cereal, milk, banana or juice 2-3 hours prior or if no time to eat then a banana or gel immediately prior.”

25. During a race: What do you normally consume while racing? (50)

“Gu mostly, sometimes sport drink depending on the race distance (usually get electrolyte from Nuun and Gu)”

“Depends a LOT on the length of the race. For a marathon or 50K, I eat mostly sweet things. Banana, honey packets, and a few starchy sweets like cookies or brownies. For a 100-miler or longer, I try to make it as much like "real" food as I can. I like plain turkey sandwiches, potatoes, pretzels, bananas. During the night of a 100-miler, I usually want something a little sweet, like brownies or cookies. In the very last miles, I often want sugary things like candy.”

“Gels, Accelerade sport drink and Carbo Pro depending on distance”

“Gels, chews, cookies. Typ 100 cal but occasion 200 cal for longer runs. Every 1 hr”

“Water, Clif Electrolyte, Clif Shot gel.”

“hammer gels, sports beans, heed or gatorade endurance”

“Clif Gel Shots, water, GU2O (energy drink) or whatever the race provides.”

“electrolyte replacement drinks, gels, blocks, pb sandwich, pretzels”

26. Please name some "bad foods". For example what foods and/or beverages are bad for you and may hinder you achieving your athletic, health or philosophical goals if consumed too often? (47)

“fast food (e.g. McDonalds), During a race, fatty foods shut me down (e.g. peanuts), alcoholic beverages”

“Soda pop, fast food, overly processed foods (lots of preservatives or additives)”

“Fast food, white flour, refined sugar, too much salt. Junk/snack foods.”

“Beef, fat, sugar, soft drinks, cheese, fried foods”

“greasy fat foods and more than moderate alcohol, soda”

“Sugary foods including beverages, alcohol in more than moderate amounts, greasy/fatty foods including fried foods”

“Fatty, deep fried foods and red meat such as hamburgers and French fries, ice cream”

“anything high in animal fat.”

“Coke, Pizza, BBQ Ribs, Candy, Potato chips = my main food downfalls.”

“fried food, red meat, stuff with sugar”

“alcohol, empty foods like candy, ice cream, chips”

“garlic (GI distress), too much alcohol, refined carbs”

“Meat (except fish), beer, doughnuts, pastry”

“too much fat, salsa, beans,”

“Alcohol, Meat(Beef), too much pasta, sugar (Pastries)”

“sweet stuff (desserts), too salty food”

27. Please name some "good foods". For example what foods and/or beverages are good for you and may help you achieve your athletic, health and philosophical goals? (47)

“fruit, vegetables, whole grains, milk, water”

“Sweet potatoes, kale, spinach, apples, oranges, melons, almonds, peanut butter, red wine, coffee”

“Green vegetables, Fruits, Lean proteins such as fish, eggs, lowfat cheeses, nuts, Water”

“fresh fruit, fruit smoothies, Mexican food (not fried), vegetarian dishes, sushi, coffee”

“Complexcarbs, protein, electrolytes”

“I generally eat a vegetarian diet with some fish (ocean caught).”

“Whole wheat bread, oatmeal, all vegetables, any fresh fruit, lean meat and fish”

“Fruits, salads, lots of water”

“complex carbs, natural foods, green veggies, fruit”

“Fruits & vegetables, whole grains, fish and lean meats”

“salmon, fish, vegetables, fruit, rice, potatoes, pasta, yogurt”

“carbs, protein”

“Honey. Energy gels. Water. Fruits and veggies. Rice. Beans. Nuts.”

28. Optional: Please describe an interesting example of a PRE-race situation that you experienced. (Example: I'll never forget the dumb mistakes I made just before the San Diego Rock'n'Roll Marathon one year. I slept in and arrived too late to catch the airport shuttle and ended up parking near the race start. I didn't eat breakfast and didn't have a chance to use the restroom before the race started either. Needless to say, I had a slow race and had to stop and use a porta-potty, too.) (25)

Representational responses (with my edits for readability are in brackets):

“[I] warmed up for hours before a race in Mazatlan because I could not figure out when the race would start. [I] started the La Jolla 1/2 Marathon from an outhouse to get near the start line.”

“At the Fresno Two Cities Marathon last year, I got nervous about having to go to the bathroom, so I rushed ahead of my pace group to use a porta-potty. Once I was inside, I didn't have to go. It was the nervousness more than me actually having to go.”

“I ate too much before the Stinson Beach 25k, [and] dealt with stomach discomfort for the first half hour.”

“I got lost on the way to the start of the Surf City half marathon because I don't pay attention.”

“Some years back I overslept the morning of a 100-mile race but felt the need to eat as I drove to the start. I ate too much too fast, and my stomach bothered me for the first 20+ miles and I did not want to eat. I did finish, however.”

“Split a plate of "Oysters from Around The World" with my father at McCormics & Schmidts in LA the night before the LA Marathon. Not just oysters, but lots of different types of oysters. OMG. I was ready to puke at mile 13.”

“2006 New LV Marathon. The day before, I was informed that I had \$250 in comp food to use. That evening, I had a 2.5 lb lobster for dinner with wine. I was not able to finish the marathon (for the first time in 30 marathons) the next day. I dropped out after 14 miles.”

29. Optional: Please describe an interesting example of a POST-race situation that you experienced. (Example: After finishing the Big Sur Trail Marathon one year, I went back to our campsite and took a long nap. I was too tired to play with our kids or drink a celebratory beer as I had planned.) (25)

Representational responses (my edits for readability are in brackets):

“Before my last 100 miler I planned to eat pizza as the post race meal and looked forward to that treat for weeks. After [I finished] the race I completely forgot that was my plan and had something else. I remembered several days later and was disappointed I didn't get my favorite treat.”

“At the Chesebro 1/2 Marathon, we had a birthday pool party afterwards. It's the reason why we did the race (7 girls), one of them was turning 40 just days away. As soon as I arrived at the party (fresh from the race--still had my number on even), the kids pulled me into the Jolly Jump, then we alternated from Jolly Jump to pool.

When I got home 12 hours later, I felt I had my own sort of triathlon race.”

“After the LA Marathon recently, I didn't really gain back my appetite until 3 hours after the race.”

“Basically I always just eat a lot and feel on a major runners high”

“Ran Disney marathon and after the race and [after] an hour o[f] rest we went to the parks, [and] I hobbled around all night!”

“Usually it [a typical post-race situation] is talking about the next one I am signing up for.”

30. Please leave me your name and email address if you would like a copy of my research results. To see a copy of my triathlete and marathon runner foodways research paper from Fall 2008, go to: <http://www.multisportmama.com/2009/06/foodways-of-runners-triathletes-fall08.html> (35)

My respondents that their identity and contact information will not be released.

(End of Survey)

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