THESIS

NAVIGATING NUTRITIONAL NORMS: A DEEP DIVE INTO THE SOCIAL COGNITIVE FACTORS AND COMMUNICATION PATTERNS SHAPING FOOD BEHAVIORS AMONG CIS-GENDERED COLLEGIATE MALE RUNNERS

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ABSTRACT

NAVIGATING NUTRITIONAL NORMS: A DEEP DIVE INTO THE SOCIAL COGNITIVE FACTORS AND COMMUNICATION PATTERNS SHAPING FOOD BEHAVIORS AMONG CIS-GENDERED COLLEGIATE MALE RUNNERS

Throughout history, food has shaped human relationships, impacting not only physical health but also emotional well-being and social behaviors. This thesis explored the interplay between personal cognition, social factors, and environmental cues influencing food-related behaviors among cis-gendered male collegiate distance runners.

Focusing on athletes competing in highly demanding endurance sports, this study examined how interpersonal communication within teams shapes nutritional choices and behaviors. Using a qualitative approach, interviews were conducted with current and former collegiate athletes, and data were analyzed through thematic analysis guided by Social Cognitive Theory and Social Norms Theory.

Findings reveal complex social dynamics influencing food behaviors, including the normalization of specific eating patterns, peer modeling, and the role of observational learning within team environments. This study contributes to the growing body of literature on athlete nutrition and communication, offering insight into how team culture and interpersonal influence affect food decision-making among male distance runners.

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CHAPTER 1. INTRODUCTION

In 2017, Baxter Holmes of ESPN's National Basketball Association wrote an intriguing, article that describes a 'secret addiction' within the 30-team, 400+ player league of elite basketball players; an 'addiction' that seems almost ironic given an average NBA player's social and financial status. That 'addiction' was an acute affixation with the peanut butter and jelly sandwich (Holmes, 2017)—yes, the peak of human athleticism, these multi-millionaire, skyscrapers of men, were scarfing down record numbers of peanut butter and jelly sandwiches. "There was no putting the jelly back in the jar," Holmes described, after Kevin Garnett and the 2008 Celtics ricocheted their way through a 66-win season and a fabled NBA Title, with the help of their delicious new pre-game fuel source. "Nothing would ever be the same." This peculiar phenomenon highlights the intricacies of athletes' relationships with food, which extend far beyond simple nutritional considerations.

1.1 The Complexity of Food Trends and Choices Among Athletes

Athletes often develop unique relationships with food that extend beyond mere taste preferences. The presence of factors such as social norms and observational learning creates a situation where athletes may make dietary choices that they would not make in isolation. A prime example is the popularity of peanut butter and jelly sandwiches among NBA players, despite the availability of more nutrient-dense options. This phenomenon serves as a foundation for the central question of this thesis: how does communication within a team, whether verbal or non-verbal, influence food-related decisions?

The aim of this research is to investigate the nature of food-related communication among teammates to examine how these interactions shape their cognition, behavior, and

decision-making processes surrounding food. By exploring the complex interplay between social factors and individual choices, this study seeks to shed light on the unique food trends and preferences that emerge within athletic communities.

In a world where food is rampantly abundant for some and scarce for most, the most recent research from the University of Michigan indicates that over 14% of adults and 12% of children in the United States struggle with compulsive eating and food addictions (University of Michigan, 2023). Food is simple, and, simultaneously, food is extremely complicated. This is the case especially so for athletes—where food goes beyond a fundamental source of nourishment and becomes fuel for performance, incorporating the 'magic pills' of superfoods, antioxidants, and performance benefits for some, even. In a world constantly scrutinized and influenced by social media "health gurus" and influencers (Lynn, et al., 2020), this food-to-athlete relationship can become a slippery slope.

Undeniably, disordered eating, the marketing of specific foods as 'superfoods', and social media influencers have effects on the relationships that athletes develop with food (Borowiec et al., 2023; Tanous et al., 2022; David et al., 2018)—but those aspects have been researched already and would over-saturate the scope intended by this thesis. The purpose of this study is to gain a deep understanding of the influence of social cognitive factors and communication patterns on food behavior among cis-gendered male distance runners.

1.2 Overview and Rationale

It has long been known that collegiate athletics—especially those consisting of the 'endurance' genre of collegiate athletics, such as running, cycling, swimming, and more—often pose unique challenges in the realm of nutrition (Blair et al., 2017). The combination of rigorous academic coursework schedules, daily workouts, and the newfound presence of social media

platforms amidst all of this requires extensive mental and physical fortitude from these athletes—and has been shown to lead to negative health benefits for these collegiate athletes. Countless stories exist in collegiate sports that link the daily stressors college athletes face to mental distress, decreased performance, and an over-arching diminished quality of life (Power et al., 2020). Many of these negative health benefits appear in the form of mental health disorders, such as eating disorders, depression, or anxiety—and greatly impact an athlete's respective ability to perform and thrive in life *and* sport. Understanding how these athletes are communicating on an internal, team-centric basis might help us identify how specific team environments help or hinder the development of positive health behaviors. This study seeks to study this niche relationship by narrowing the scope of a general field of collegiate athletes to that of *cis-gendered, male collegiate runners* (that is, of the distance variety—cross-country & track & field athletes), and studying this relationship with a methodological framework forged around social cognitive theory and social norms theory, utilizing a qualitative in-depth interview process, with runners at Colorado State University, to explore how communication is leading these runners to change behavior and make decisions.

The rationale for studying cis-gendered, male athletes for this study is found in the unique sociocultural dynamics and pressures that men experience – which are distinct from those of the expectations compared to female athletes. Exploring the communication patterns and social norms surrounding food within this specific demographic can shed light on how a traditional gender role and their respective dietary behaviors are influenced by societal norms and observational learning. Collegiate running comes with, at times, devastating societal pressures for women, resulting in a higher prevalence than men for disordered tendencies with cognition and food (Krebs et al., 2019). The study found results that were consistent with prior

research—a higher rate of eating disorder risk in females compared to males, with roughly 46% of women in this study, compared to 14% of men, screening positive (via questionnaire) for eating disorder risk. There's a glaring statistic of women being researched as being **three times** more likely to develop eating disorder risks across studies, similar to a ratio that studied this phenomenon in the general population, where 5.9% of females showed eating disorder psychopathology compared to 1.5% of men (Hilbert et al., 2012). Additionally, a study with elite adolescent athletes showed that 14% of females compared to 3% of males had eating disorders (Sundgot-Borgen and Torstveit, 2004), while another comparable study by the same authors found subclinical or clinical eating disorders in 24% of female and 9% of male endurance athletes, respectively (Sundgot-Borgen and Torstveit, 2004). Almost all studies examined to understand this paradigm of the female versus male discrepancy for eating disorder risk offered the notion that screening for disordered eating tendencies was altogether higher in collegiate distance running populations (Krebs et al., 2018), that male disordered eating tendencies were underreported and underexamined (Strother et al., 2012) and the need for more studies to study the nuances behind the mental and physical stressors that play to each gender's risks in isolation, not combined in an aggregate study of distance running.

Furthermore, there is budding evidence in the field that men are underrepresented in the context of nutrition and the prevalence of exercise/nutrition risks in collegiate sports. These risks include (but are not limited to) phenomena such as eating disorders, exercise disorders, and even a collective misunderstanding of nutrition and how certain foods can help/hinder their performance (Coopey & Johnson, 2022). By focusing this thesis on cis-gendered male athletes, we aim to address the significant gap in the literature and contribute valuable insights into the complex interplay of social, cognitive, and communicative factors that shape these athletes' food-

related behaviors and decisions. Focusing on cis-gendered men in this study offers an opportunity to address the underrepresented demographic in the existing literature and allows for comparative insights and analyses with other more thoroughly researched groups. This opportunity for comparative analysis has the chance to enhance the generalizability of the findings of this research—contributing to a more comprehensive understanding of the intersection between gender, communication, and food behaviors in the context of distance running.

1.3 Goal and Research Questions

Within the dynamic and multifaceted domain of sports nutrition, this research project is poised to explore the relationship amongst the triad of communication, runner, and nutrition, and potentially reveal communication avenues for college communicators, athlete counselors, and other organizations to confirm and research further at other institutions. The following question and goals guide this inquiry:

> ***Main Research Question*** How is internal communication amongst teammates affecting cis-gendered male distance runners' behavior and decision-making around food?
>
> ***Research Goal 1*** Examine their lived experiences to uncover how aspects explained in social cognitive theory, particularly observational learning and social influence, shape their thoughts, actions, and interactions.
>
> ***Research Goal 2*** Explore the link between communication patterns and the establishment and perpetuation of social norms related to food and running.

CHAPTER 2. LITERATURE REVIEW

This literature review explores the theoretical foundations and relevant applications of Social Cognitive Theory (SCT) and Social Norms Theory (SNT) in the context of food decision-making among cis-gendered male distance runners. SCT, developed by Bandura (1960), emphasizes the reciprocal interaction between personal factors, environmental influences, and behavior, highlighting the role of observational learning and self-efficacy in shaping individuals' actions. SNT, proposed by Perkins and Berkowitz (1986), focuses on how perceived norms within a social group influence behavior, particularly in relation to health-related decisions.

To provide a comprehensive understanding of how these theories apply, this review also incorporates additional research that illuminates the learning and social determinants of food decision-making among athletes. These studies explore the impact of social influence, peer modeling, and normative expectations on dietary habits within athletic communities. By examining the interplay between personal cognition, social factors, and environmental cues, this literature review aims to establish a theoretical framework for understanding the formation and maintenance of food-related norms among cis-gendered male distance runners. The insights gained from this review will inform the study's approach to investigating the influence of social cognitive factors and communication patterns on the food choices and behaviors of this specific population.

2.1 Social Theories – Social Interaction Theory

The process of social analysis and social theories have been used in a host of similar studies—some using social interaction theory (Yang et al., 2022) to explore patterns amongst communities of runners and study their respective behavior patterns. Social interactions theory is

a *form of* social cognitive theory—the umbrella theoretical approach posited by Albert Bandura in the mid-20th century. Social interactions theory asserts that people are more likely to behave in a certain way when specific people or another person is in the vicinity or involved in the situation—in short: it studies and seeks to describe how people interact in social settings (Scheinkman, 2008). Social interactions theory was developed largely by a Soviet psychologist and sociocultural theorist, Lev Vygotsky (Turner, 1989) but wouldn't have ever prospered without the social cognitive theory foundations laid by Alfred Bandura (Tougas et al., 2015), George Herbert Mead (Becker, 1974), and other sociocultural psychologists of the mid 20th century.

2.2 Social Cognitive Theory

Now, over 60 years since the revolution that sent the fields of psychology, sociology, and greater behavior-change studies to new frontiers (Becker, 1974), studying how people learn, and how we learn in social contexts has become a pinnacle component of social cognitive theory. This thesis will explore the communication that goes on amongst cis-gendered male distance runners—communication that can lead to imitation, motivation, and learning (Tougas et al., 2015)—all of which are fundamental aspects of Bandura's Social Cognitive Theory (SCT). Social interactions theory would make sense if researchers were curious about the results of interactions—it's a theory that predicts our actions or how we give meaning to different things in life, based on firsthand experiences (Yang et al., 2022). For instance, in a study on interaction amongst running groups, researchers concluded that interaction stems from self-interaction, interpersonal interaction, and intergroup interaction (Yang et al., 2022). In other words, this study showed that a runner's feeling of belonging and identity were strengthened by the support and positive interactions they have with other runners and running groups. Social interactions

theory is missing an integral part here that will be necessary for this thesis: observation. This study will also examine the observational learning elements at play in a communication context amidst these cis-gendered male runners; thus, the decision to conduct this literature review and compare different forms of sociocultural theories of the past two hundred years landed on social cognitive theory (SCT) as being the one most instrumental theory to guide the methodological approach and research for this thesis.

SCT, developed by Albert Bandura and the input of tertiary authors throughout the 20th century, provides a valuable framework for understanding the complex interplay between social influences, cognition, and behavior. Taking heed of widely researched topics of behaviorism and animal learning, Bandura followed theories established by Edwin B. Holt, Harold Chapman, Neal E. Miller, and John Dollard—all of whom were instrumental in developing social learning and imitation theory (Holt, 1931), and that of learned behaviors and actions being correlated with positive and negative reinforcements (Miller & Dollard, 1941). "…all animal action is based on fulfilling the psychological needs of 'feeling, emotion, and desire' …a person cannot learn how to imitate until they are imitated" (Miller & Dollard, 1942).

However, Bandura found discrepancies in the prior research on Social Learning Theory and similar mechanisms to explain observational learning and behavior adaptations. In a 1977 article, Bandura claimed the existence of a direct correlation between a person's perceived self-efficacy and behavioral change—thus, birthing the pillar of self-efficacy for SCT, a fundamental aspect of this frame of theory. Bandura described self-efficacy as coming from four sources: "performance accomplishments, vicarious experience, verbal persuasion, and physiological states" (Bandura, 2009).

2.2.1 SCT Core Concepts

In the late 20th century, SCT began to emerge as a learning theory based on two assumptions: the environment we grow up in contributes to the behaviors we exhibit and learn, and the specificity of the individuals is equally as important—basically, that our cognition has just as much of an effect on our behavior as our environment (Stajkovic & Luthans, 2003). We are not *just* products of our environment, but able to produce our own environment. These core concepts begin to make more sense after modern audiences understand the schematization of triadic reciprocal causation (Figure 1). This three-pronged interplay between behavior, personal abilities, and the environments we find ourselves in is crucial to understanding Bandura's SCT. This schema shows how "the production of an observed behavior is influenced by getting a learner to believe in his or her personal abilities to correctly complete a behavior" (Severin et al., 2001). In the realm of nutrition, this theoretical perspective proves insightful in unraveling the mechanisms that govern individuals' dietary choices, emphasizing the dynamic interaction between personal factors, environmental factors, and behavioral outcomes.

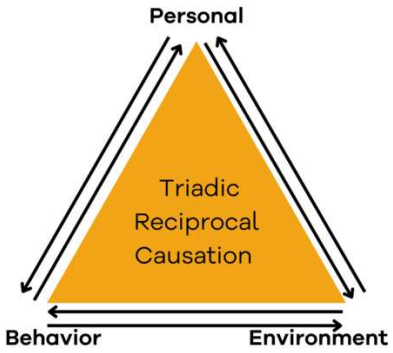

Figure 1. Triadic Reciprocal Causation Model of Social Cognitive Theory

Note. Adapted from Social Foundations of Thought and Action: A Social Cognitive Theory by A. Bandura, 1986, Prentice-Hall. Copyright 1986 by Prentice-Hall.

2.2.2 Nutrition & SCT

At its core, SCT posits that observational learning, also known as modeling or imitation, plays a pivotal role in shaping behavior. Individuals acquire new behaviors by observing the actions and outcomes of others and incorporating these observations into their cognitive processes. Applied to the domain of nutrition, this theory suggests that people may adopt dietary patterns based on the behaviors they witness in their social environment. For instance, an athlete may be influenced by the dietary choices of their peers, coaches, or prominent figures in their field.

Moreover, SCT introduces the concept of self-efficacy, which refers to an individual's belief in their capability to execute a specific behavior successfully. In the context of nutrition, self-efficacy becomes a critical determinant of dietary choices. Athletes who possess high self-efficacy in maintaining a healthy diet are more likely to make positive nutritional decisions, as they believe in their ability to adhere to such choices even in challenging situations. On the contrary, low self-efficacy may lead to dietary choices influenced by perceived barriers or a lack of confidence in making healthier selections (Oyibo et al., 2018). Furthermore, recent research investigated the effects of parent/guardian communication on student-athlete self-efficacy with findings showing a significant negative relationship between conformity-oriented communication and student-athlete self-efficacy (Erdner &Wright, 2017). The study suggested practical implications for parents/guardians, emphasizing the importance of encouraging positive talk, exuding confidence, and helping athletes visualize optimal sport performance.

The theory also highlights reciprocal determinism (Bandura, 1978), emphasizing the bidirectional relationship between individuals, their behavior, and their environment. Athletes are not passive recipients of nutritional information; instead, they actively engage with their

surroundings, interpret social cues, and make decisions based on these interactions. Thus, SCT offers a nuanced understanding of the factors influencing nutrition-related behaviors, underscoring the need to consider both individual cognitions and the social context in promoting healthier dietary choices among athletes—and therefore, informing communication strategies catered to these health-based approaches for coaches and athletic marketing.

2.3 Limitations of SCT for the Study Context

When analyzing cis-gendered male runners' triad of the 'personal', the 'behavior', and the 'environment', researchers are limited to the word of those being researched. A common criticism of SCT has been the theoretical framework's tendency to minimize the role the environment plays on most situations—meaning that SCT creates an assumption that changes in the environment will *automatically* lead to behavior change and/or changes in a person's emotions, attitudes, and so forth. What's missing is a more complementary perspective to SCT that focuses on the ways in which values, expectations, and, more specifically, social norms appear in an environment, and how those factors influence individual behavior. While SCT brings a heavy focus on cognition and learning, minimization of biological, environmental, and hormonal predispositions that can influence behavior (LaMorte, 2022)—this research yearns for a theory that acknowledges the powerful roles of external influences, like cultural norms or peer pressure, and how they shape behavior. Thus, Social Norms Theory is useful to provide a comprehensive framework that offers insights into understanding how social factors influence behavior. The addition of this theory in the following section highlights the importance of examining not only individuals' personal attributes and cognitions (SCT), but also a broader social context—ala, environment—in which they are situated.

2.4 Social Norms Theory

To account for somewhat of a 'missing link' in this literature review, thus far, in searching for a way to connect the observational learning and reciprocal determinism at play within these runners' minds, social norms theory has been chosen as the secondary theoretical framework. Social Norms Theory, or simply 'social norms' has emerged as a focal research point in addressing contemporary societal challenges—from everything to climate change mitigation, vaccine hesitancy, to eating and exercise behavior (Andrighetto & Vriens, 2022). Social norms operate as informal, often non-spoken, non-codified regulations guiding the way people do things—and have changed behavior in large-scale populations, such as the reduction of smoking in public places (Nyborg & Rege, 2003), an increase in eco-friendly behavior (Sparkman & Walton, 2017), and changes in food choice and behavior that surrounds eating (Lapinski et al., 2017; Higgs et al., 2019). The combination of social norms and social cognitive theory provides a comprehensive theoretical framework for studying observation within a social context. This dual-faceted approach allows for an in-depth examination of current norms, the discrepancies between perceived and actual norms, and the factors influencing these norms. However, to effectively apply this framework, it is essential to conduct thorough formative research to establish a solid understanding of the existing norms and the gaps between them (Bicchiieri, 2006).

Within the fabric of collegiate running teams– implicit rules, customs, and expectations (i.e., social norms) govern behavior and shape group dynamics (Berkowitz, 2004). SNT offers a powerful lens through which to examine the intricate interplay between communication and social influence within these teams. SNT posits that an individual's behavior is heavily influenced by their perceptions of what is considered normative or socially acceptable within a

given context. This concept becomes particularly interesting when applied to a team of highly impressionable collegiate runners, as their behavior may be shaped by their perceptions of team norms. Furthermore, the connection between SNT and the previously mentioned SCT can be explored in this context, as SCT suggests that individuals learn by observing and imitating others within their social environment.

Social norms can be defined as informal and shared behavioral rules (Bicchieri, 2006) that prescribe what one "ought or ought not to do." People comply with these norms due to social expectations and the potential for social sanctions. According to this account, compliance with social norms is conditional on two factors: 'empirical expectations' and 'normative expectations.' Empirical expectations refer to the belief that enough people in one's community conform to the rule. Normative expectations, on the other hand, involve the belief that a sufficiently substantial number of people in one's community think that one ought to conform to the rule and may be willing to sanction transgressions. While empirical expectations about the prevalence of behavior are crucial for norm-following, they are not always sufficient (Biel & Thøgersen, 2007).

In situations where individual and social interests align, but a coordination problem needs to be solved, empirical expectations may suffice. A good example is driving on the right side of the road; when everyone benefits from following the same rule, it's usually enough for people to expect others to comply. However, when following a rule doesn't provide personal benefits, such as in situations where individual contributions are required for a common goal, empirical expectations alone may not be sufficient to ensure compliance. Examples of such situations include getting vaccinated or following a healthy eating plan. In these cases, individuals might choose not to follow the rule because it serves their personal interests better. This phenomenon is often observed within the collegiate running paradigm, where athletes may

adopt the mindset of "I know what is best for my body, so I will choose to do X in this way so that it can perform better" (Martin et al., 2017).

In these cases, SNT posits that we also need to expect that people will follow the rule because it's the right thing to do, even if it doesn't directly benefit them—which is a tough assumption to make in specific situations, and perhaps a limitation of SNT. Knowing that others expect us to follow the rules helps motivate us, especially when we know there could be consequences if we don't. Similarly, if people see that breaking the rule doesn't have any consequences, they might be less likely to follow it themselves. So, both expecting others to follow the rule and knowing that there are consequences for not following it is important for making sure people stick to social norms—best articulated by Bicchieri and Xiao (2009) when they wrote, “Do the right thing, but only if others do so.”

2.4.1 Nutritional Cultural Nuances and Social Norms

Professional and elite endurance athletes push their bodies to the limits, requiring optimal nutrition to support their demanding training and competition schedules. Through a comprehensive review of relevant studies and expert insights, this section aims to provide valuable evidence relevant to this study’s context to the theoretical framework behind this study.

In discussing norms and cognition, it’s worthwhile to note that, particularly within the context of SNT, there will always be cultural nuances at play when talking about food (Higgs et al., 2019). This can be viewed as just as the continent of Asia with athletes liking rice-based carbohydrates, and South America prefers more legume-based carbohydrates.

Research consistently shows that how and what we eat can be influenced by the people around us. For instance, studies have demonstrated that obesity can spread through social networks (Christakis & Fowler, 2007), and simply being in the presence of others can affect how

much food we consume (Herman et al., 2003). A big part of this social influence comes from the norms within our social groups—what's considered "normal" or expected behavior.

Studies have investigated these social norms and found that knowing what others are doing or expecting can sway our own thoughts and actions (Stok et al., 2012; Mollen et al., 2013; Robinson et al., 2014). This includes what's known as *descriptive* norms (what others are doing) and *injunctive* norms (what others think we should do) (Goldstein et al., 2008). Social norms play a significant role in shaping our eating habits, and many interventions aimed at promoting healthier eating focus on changing these norms (Burchell et al., 2013). However, the results of these interventions vary widely—some are successful, some have no effect, and some even worsen situations for participants (Clapp et al., 2003). This inconsistency suggests that we still have a lot to learn about how and when these approaches work, as well as what factors influence their effectiveness, especially in the context of eating behavior.

2.5 Literature Summary and Study Purpose

While Mingay (2021), Macht (2008), and Eck and Byrd-Bredbenner (2021) have conducted studies that relate to the influence of food on athletes' emotions, behavior, and decisions, as well as the provision of tailored communication strategies, there remains a gap in the literature. Specifically, the field lacks research that explores the influence of social cognitive factors and communication patterns on the formation and maintenance of social norms related to food among distance runners. This literature review provides a comprehensive understanding of the context surrounding distance running by examining the theoretical perspectives of Bandura's Social Cognitive Theory (SCT) (1960), Perkins and Berkowitz's Social Norms Theory (SNT) (1986) and analyzing the impacts of norms and cognition on nutrition. The review sets the stage for the current study. The logic of this study is to use SCT as a guide for exploring how distance

runners learn and make choices about food, whereas SNT will function more as a rationale for why certain athletes might be choosing to follow stricter diets, sleeping routines, etc. The concepts of Social Norms and Social Cognitive Theory have largely been studied in the context of *improving* health and promoting overweight individuals to exercise more (Christakis and Fowler, 2007)—so the usage of norms in this context is far less of promoting *more* exercise, but that of studying how these male distance runners are viewing the decisions and examples set by their teammates and incorporating them into their own routines. The primary focus is on the team atmosphere and the communication existing therein, using observational learning and SCT to establish how these athletes are learning via communication with one another, while SNT takes a broader approach and explores the external factors that may be contributing to these decisions.

Research Purpose The purpose of this study is to gain a deep understanding of the influence of social cognitive factors and communication patterns on the formation and maintenance of social norms related to food among cis-gendered male distance runners. Two specific goals will help achieve this purpose:

> ***Research Goal 1*** Examine their lived experiences to uncover how aspects explained in social cognitive theory, particularly observational learning and social influence, shape their thoughts, actions, and interactions.
>
> ***Research Goal 2*** Explore the link between communication patterns and the establishment and perpetuation of social norms related to food and running.

By exploring the effects of observational learning and reciprocal determinism on food-related behavior, we can contrast these influences with the 'normal' social norms typically associated with runners and their eating habits. Additionally, this study provides valuable insights into the individualized perceptions of social norms surrounding food within the sample

of runners interviewed. These perceptions may include what foods are considered 'normal' and which ones are deemed healthy or unhealthy. By examining these individualized views, we gain a more nuanced understanding of how runners navigate and interpret the social norms related to food within their specific context. Furthermore, the insights gained from this research can contribute to the development of effective communication strategies that address the unique challenges faced by distance runners in navigating food-related norms and behaviors.

CHAPTER 3. METHODS

This research explored the intricate relationship between food and a population of cis-gendered male collegiate distance runners, probing into how food impacted them behaviorally, emotionally, and socially. The methodological path for analyzing these components utilized an in-depth qualitative interview technique, taking heed of the theoretical frameworks illustrated in Chapter 2—Social Cognitive Theory and Social Norms Theory. This research investigated and elucidated the nature of communication within the team atmosphere, focusing on the influence of social learning and adherence to social norms. The study's secondary objectives included gaining a deeper understanding of this intricate relationship and providing insights that could inform the development of constructive communication strategies and approaches. These insights contributed to the foundation of knowledge needed to promote positive eating behaviors among collegiate running teams, ultimately fostering a healthier and more supportive team environment.

I developed a comprehensive interview guide for face-to-face qualitative interviews, informed by social cognitive theory and social norms theory, to explore how these athletes communicated and experienced communication within their team environment. Research along the paradigm of athlete cognition and nutrition had been cited in multiple similar studies using in-depth qualitative processes like focus groups and surveys (e.g., Mingay et al., 2021; Macht et al., 2008), as well as utilizing questionnaires with Division I athletes (e.g., Eck and Byrd-Bredbenner, 2021; Devrim-Lanpir et al., 2021). However, none of the previous research utilized in-depth interviews with sociologically based models on this unique athlete demographic—much of the research along this paradigm of social norms and social learning had been cited for use in improving general population health tropes.

Leading researchers in the field of social norms studies posited that social contacts of individuals directly or indirectly influence obesity-related behaviors, and that social network structure therefore shapes who becomes obese (Christakis and Fowler, 2007). While social norms were utilized in a similar function in this study to observe how these cis-gendered male collegiate distance runners were (or were not) adhering to social norms and social observation, this was far from an issue of promoting 'more exercise' or 'healthier eating'—these were 18–24-year-old male athletes who, largely, were in peak physical shape. Thus, this mixed framework of social norms and social cognitive theory used in this study provided niche insights into the everyday communication environment of a male distance running team.

The study's nature was qualitative and explorative, which justified the decision to conduct face-to-face interviews for the data collection aspect. In-depth interviews offered a distinctive advantage by providing a qualitative lens through which the complexity of the food-athlete relationship could be explored (Smith, 2003). While previous studies exploring athletes and their respective nutritional perspectives utilized surveys and focus groups, intimate interviews offered and facilitated a deeper understanding of the nuances and subtleties that quantitative surveys tended to overlook. Unstructured or semi-structured interviews allowed athletes to express their experiences in their own words and pace (Jamshed, 2014), leaving room for athletes to share unique experiences, opinions, or social interactions around food and food-related situations that might otherwise have been left out of quantitative methods or generic surveys. This method invited athletes to share their thoughts, emotions, and narratives regarding how their teammates communicated about food and how they processed that communication. Both in-depth interviews and content analysis had been employed successfully in studies examining the psychological and social aspects of athletes. For example, in a qualitative

explorative study on endurance athletes and their correlation with increased risks of disordered eating, the study used semi-structured in-depth interviews and a dual thematic and content analysis approach (Stoyel et al., 2021). The study itself was quite similar to the focus of my study (save for missing themes of an athlete's psychological analysis (emotional, behavioral, communal themes) and of food and its respective effect on the athlete) and was helpful as a theoretical and foundational guide to my research.

Furthermore, content analysis has been extensively used to examine the content of athletes' narratives in areas such as motivation and self-regulation (Stebbings et al., 2015). These methods proved their utility in unraveling the intricate web of factors that influence athletes' experiences.

3.1 Instrumentation

In this qualitative research study, my data collection instruments were primarily in-depth interviews aimed at exploring the impact of food on high-level collegiate endurance athletes, investigating the role of observational learning and social support from social cognitive theory, and investigating how social norms theory appeared in their team atmosphere via communication received and communication perceived. These data collection instruments—or, to put it more blatantly, the following Interview Guide—allowed this research to delve deeply into the experiences, perceptions, and narratives of athletes within the context of their dietary choices.

3.1.2 Interview Guide

In-depth interviews were the cornerstone of my data collection, enabling me to engage with athletes in a one-on-one setting. The interviews were semi-structured, allowing for open-ended questions while ensuring that key topics were covered. I developed an interview guide informed by the principles of social cognitive theory and social norms theory—find the guide

that was used for 12–15 qualitative interviews with cis-gendered, male, collegiate distance runners below. These questions were designed to delve into the athletes' experiences, perceptions, and narratives regarding their dietary choices and the various themes outlined in the research. They provided valuable insights into how food impacted their lives and how factors like self-regulation, self-efficacy, observational learning, and social support played a role in their food-related decisions. I organized these questions by conceptual and theoretical themes that helped fulfill the study objectives, along with a basic introduction and outro. The interview guide can be found in the appendices at the end of this document.

3.2 Data Collection Procedures

This section outlines the step-by-step processes for collecting data for this study on the communication patterns about food amongst a team of cis-gendered male collegiate distance runners. This qualitative study consisted of in-depth interviews with athletes, with contact and recruitment procedures outlined below, in addition to the actual interview process, data storage, and ethical considerations.

3.2.1 Sample and Recruitment

The participant sample for this study consisted of cis-gendered male collegiate runners from Colorado State University (CSU). The sample selection criteria for this study included the following conditions: Participants had to be currently competing as walk-ons, scholarship athletes, or otherwise rostered (athletes who were physically and digitally listed on the CSU Athletics cross-country and track & field roster). Athletes had to be involved in cross-country or track & field, as these sports represented the primary focus of this study. Participants had to be willing to engage in interviews about their communication experiences related to food and nutrition.

The sample size included 10 high-level collegiate endurance athletes. This sample size was considered appropriate for qualitative research, allowing for a comprehensive exploration of participants' experiences and insights while also ensuring data saturation. By allowing an hour for each interview, substantial amounts of data were quickly obtained—thus, a sample of 10 athletes sufficed for this study without over-saturating the data. Participants were recruited through the following methods:

- Contacting the Colorado State University Athletics Department to gain permission and support for the study.
- Distributing recruitment messages and inquiries through team group chats and Colorado State University's Teamworks application that offers mass communication to all athletic groups and teams at the university.
- Utilizing social media platforms (my social media, CSU Cross-Country/Track & Field, CSU Athletics, to name a few) to reach potential participants.

3.2.3 Data Collection Procedures

The data collection process for this study involved conducting in-depth interviews with cis-gendered male collegiate runners. The interviews were guided by a semi-structured interview protocol developed based on the key themes identified in the literature and the objectives of the study. The following is a step-by-step explanation of the data collection process:

Scheduling Interviews: Participants who expressed their willingness to take part in the study were contacted to schedule interview sessions at a mutually convenient time and location. Athletes had the option to choose in-person interviews conducted at CSU's campus buildings, Mugs @ CSU, or other various coffee shops around the Fort Collins area.

Informed Consent: Before the interview, participants were provided with informed consent forms. During the initial meeting, I clarified the study's purpose, the voluntary nature of participation, and data use. Participants were asked to sign the informed consent form to indicate their agreement to take part in the study.

Conducting Interviews: I conducted semi-structured interviews with participants using an interview guide like that stated above in my data collection section. Otter.ai was used for transcription and note-taking during my interviews. Each interview was audio-recorded with the participant's consent, via Otter.ai directly if conducted virtually, or Apple's Voice Memos if conducted in person, then transcribed afterward via Otter.ai. Each interview lasted 30–45 minutes and covered topics related to athletes' experiences with food, including their behaviors, social interactions, and decision-making processes.

Transcription: Following the interviews, the audio recordings were transcribed verbatim via Otter.ai and then cleaned up by me in Otter and transferred to Taguette.

Data Storage and Management: All collected data, including audio recordings and transcripts, were securely stored on password-protected devices and encrypted cloud storage on my computer (a 2024 MacBook). These measures protected the confidentiality and privacy of participants. Data were identified using unique participant codes rather than personal information to maintain anonymity.

Data Analysis: The transcribed data were subjected to qualitative content analysis using Taguette, a software dedicated to qualitative research. I employed Taguette to identify recurring themes, patterns, and concepts about athletes' experiences with food and nutrition. Codes and categories were created and organized within the software, facilitating a systematic and efficient analysis of the data.

3.2.4 Pilot Study

To ensure the effectiveness and appropriateness of the data collection instruments and interview questions that I developed earlier in the semester, I conducted a small pilot study. The pilot study involved recruiting a small sample of high-level collegiate endurance athletes, two in total, from the same population as the main study. I gave thought to staying away from my target purposive sample to preserve the unique aspects and integrity of my study until I embarked on my true data collection procedures—and instead selecting 5–10 individuals who fit this paradigm from a vast array of relationships I had built through my social media network. However, I decidedly chose to stay with the athletes at Colorado State University who were used for my actual purposive sample, as utilizing a few of these athletes in my pilot provided the best feedback and critiques for my eventual study. These participants were selected based on convenience and willingness to provide feedback.

The purpose of the pilot study was to:

1. Evaluate the clarity and comprehensibility of the interview questions and survey items.
2. Test the flow of the interview process and the time required for each interview (I was wondering if sixty minutes might seem to be a bit too long or awkward but did not truly know until I conducted this pilot study).
3. Assess the participants' comfort level and willingness to share their experiences.
4. Identify any issues or challenges that arose during data collection.
5. Receive feedback from participants on their overall experience and any concerns they had.

The data collected during the pilot study was included in the main study. The pilot study was used to make necessary adjustments to the interview questions and research instruments. I

closely examined the feedback provided by the participants to refine and improve the data collection procedures, ensuring that the main study was conducted smoothly and effectively. The pilot study took place after obtaining IRB approval, and the results were used to enhance the research instruments before implementing them in the main study.

3.3 Data Analysis

The combination of SCT and social norms theory, partnered with my methodological interview-based approach, allowed for this research to better understand how interpersonal communication among a team of cis-gendered male runners could change behavior and decisions around food. By utilizing this approach, I gained valuable insights into the specific needs, preferences, and challenges of these athletes regarding their nutrition through intimate, hour-long in-depth qualitative interviews. The art of any study is created through its research design and carried on through the methodological approach and experimentation—thus was the case for these interviews. According to recent research on qualitative research design, enhancing the credibility of findings is paired with interviewing participants who are knowledgeable on the topic of focus and provide balanced perspectives (Rubin & Rubin, 2004).

This analysis started long before the culmination of my findings—I consistently researched this topic of the athlete-to-nutrition cognitive connection throughout my graduate career and checked my findings and literature review for contradictions and inconsistencies (Rubin & Rubin, 2004). As mentioned previously, I used qualitative content analysis—a bit more niche form of content analysis in comparison to quantitative content analysis (Baxter, 2020). A brief collection of previous methodological research along the scope of qualitative content analysis revealed many questions about the "appropriateness" (Baxter, 2020) of using the term content analysis for qualitative research— "textual analysis" has been suggested as a more

proper term to describe the critical analysis that qualitative content analysis entails for an in-depth interview-based study such as this thesis.

Much of past literature written by quantitative content analysis scholars described qualitative content analysis in a rather disapproving fashion—citing the overemphasis on creators and audiences of messages (texts, in methodological terms) rather than the inherent messages described—which would be a premiere goal of any qualitative researcher. Just as this study focused on the deep, latent meaning of the communication that existed amongst a team of runners, qualitative researchers viewed the audience emphasis of messaging as a major strength of qualitative content analysis (Mayring, 2023). I believe that this difference of beliefs regarding the practicality of using qualitative content analysis versus focusing on surface (or manifest) meaning for quantitative analysts is nothing but two different disciplines advocating for different approaches to the research of social sciences. One of the most cited qualitative content analysis authors, Jamie Baxter, included a noteworthy comparison chart of the differences between qualitative content analysis and quantitative content analysis—where validity, adaptability, specific problem relevance, human connection, and the ever-so-qualitative ability to understand and answer "why" questions were advantages for qualitative content analysis. Read more in Table 1 below.

Table 1. Relative strengths of quantitative and qualitative content analysis

Table 1. Relative strengths of quantitative and qualitative content analysis.

Strengths	Quantitative	Qualitative
Reliable	More[a]	Less
Transparent	More	Less
Generalizable	More	Less
Nonreactive/unobtrusive	More	Less
Inexpensive	More	Less
Wide spatial and temporal coverage	More	Less
Valid	Less	More
Methodologically flexible/adaptable to research situation	Less	More
Findings relevant to resolving a specific problem	Less	More
Connection to/engagement with those studied	Less	More
Conditions of document creation are clarified	Less	More
Useful for answering "why" questions	Less	More
Takes advantage of researcher-as-instrument	Less	More

[a] Each strength is considered to be a continuum whereby "more" and "less" concern the characteristics of each content analysis methodology in relation to the other.

Note. Adapted from Content Analysis by L. A. Baxter, 2020, in P. J. Lavrakas (Ed.), Encyclopedia of Survey Research Methods (Sage Publications). Copyright 2020 by Sage Publications.

With an understanding of how research can apply content analysis through a qualitative lens, I utilized Taguette, an open-source Computer-Assisted Qualitative Data Analysis Software (CAQDAS), to conduct the data analysis for this study. My decision to use Taguette, rather than manual coding or other CAQDAS options such as NVivo, stemmed from its user-friendly interface, open accessibility, and compatibility with the needs of my project. Taguette provided a reliable platform to organize, code, and interpret "large amounts of textual data in the form of transcripts, audio recordings, and field notes" (Taguette, n.d.), making it

particularly well-suited for managing the 10 in-depth interviews I conducted with cis-gendered male collegiate distance runners, each lasting approximately 30–45 minutes.

The analysis process was informed by best practices described in Rubin and Rubin's *Qualitative Interviewing: The Art of Hearing Data* (2005). I created a new project within Taguette titled "Navigating Nutritional Norms," which housed all the transcribed interview data. Audio files from the interviews were transcribed using Otter.ai, and the cleaned transcripts were imported into Taguette for systematic coding and analysis. This approach allowed for the organization of rich, narrative data in a way that facilitated both inductive theme development and targeted theoretical analysis.

Rather than the "node" system used in NVivo, Taguette employed a "highlight and tag" structure, allowing me to create custom tags that could be applied across transcripts. I developed a set of codes rooted in the theoretical frameworks guiding this study—Social Cognitive Theory (SCT) and Social Norms Theory (SNT). Tags such as *Observational Learning*, *Self-Efficacy*, *Adherence to Social Norms*, and *Peer Influence* were iteratively generated as salient patterns emerged from the interviews, aligning with qualitative content analysis best practices (Baxter, 2020).

This coding process allowed me to identify recurring themes and communication dynamics that influenced athletes' food behaviors. In line with Bandura's (1986) emphasis on observational learning and Perkins and Berkowitz's (1986) work on perceived social norms, the Taguette-assisted analysis revealed how team communication reflected and reinforced normative food behaviors. Utilizing this method enabled a close, iterative reading of the data, ultimately shedding light on the social learning and normative pressures that shape food decision-making within a collegiate male running environment.

3.4 Rigor of the Proposed Study

In the desire and pursuit of conducting a qualitative study that truly encapsulated the nature of a qualitative study—examining lived experiences and social interactions—credibility stood as a cornerstone. It was not just about gathering data; it was about ensuring that this data was reflective of reality, devoid of biases or errors. For me, this study was more than just a fleeting research endeavor; it was a beacon of insight, one that future researchers could replicate and that nutrition communication channels could embrace to evoke change.

As with most research publications, credibility was a crucial aspect of this study, and with an immensely qualitative nature exhibited in this SCT and SNT-guided communication study, the research findings had to represent the truth of the interviewed cis-gendered male collegiate runners' experiences and views without bias or systematic error. It was a major goal of mine to have this study not be a one-off research project, but an ideally replicable study across different universities to test for similarities and run comparative analyses with different genders and sports teams. To achieve this or achieve any state of validity and credibility for an in-depth qualitative analysis, there needed to be a deep understanding between the researcher and the researched. Luckily, a key piece of credibility here was my relationship with the team—with the men's cross-country and track & field team, I regularly spent 10+ hours solely during running practice and athletic-related events, allowing a unique ability as the researcher to have a large volume of time and understanding of my sample. This extended engagement reduced the risk of superficial or biased insights—I knew these individuals at a deep level.

Likewise, the interview questions and data collection processes were designed to focus on relevant and context-specific aspects of athletes' experiences with food—such as aspects that related specifically to running and nutrition, like asking if athletes utilized beets or

caffeine for boosted performance, for instance. By asking pertinent questions like these, the study aimed to avoid unnecessary biases or misperceptions, and identify worthwhile, meaningful nodes that could be transcribed during data analysis. The overarching credibility of this section was verified after my pilot study was conducted. As stated by recent publications (Malawai et al., 2015; Baxter, 2020), incorporating triangulation and member checks was an addition I added to further aid the credibility and validity of my study. Multiple data sources, including observations, interviews, and artifacts of participants/interviews, were used to cross-verify findings, encompassing a triangulation approach that helped ensure results were consistent and aligned across my data collection, analysis, and conclusions. Finally, after the initial data analysis, participants were invited to review and confirm the conclusions derived from their interviews, confirming they said what they said, and that the links formed between their communication and perception of communication and SCT/SNT were acceptable. This step allowed participants to validate the interpretations and ensured alignment with their understandings.

3.5 Transferability

In striving for transferability, while acknowledging that qualitative research doesn't pursue generalizability in the same vein as quantitative studies, the study aimed to offer insights relevant to analogous settings. The research focus—high-level collegiate endurance runners—was carefully selected to glean insights specific to this demographic's experiences and create transferability to replicate easily at similar teams across the NCAA. Purposive sampling was employed to select participants based on criteria specific to the study's objectives—of course, that purposive sampling looked for cis-gendered male runners on CSU's cross-country and track & field teams—further enriching the transferability of results within the target population.

Transferability was further enriched by the interview procedures, which were structured to explore a myriad of topics related to athletes' lived experiences, experience communicating with teammates about food, and how they perceived these conversations, overall fostering a comprehensive understanding of the subject matter.

To make sure that this thesis' research findings are consistent, stable, and repeatable, measures were taken to ensure the stability of findings across participants and events, such as maintaining consistency with a standardized interview guide (see the Interview Guide in the Appendix) across all interactions, thereby minimizing variability in data collection. Transparent documentation throughout the research process, from data collection to analysis, served to elucidate the qualitative content analysis methodology employed on these in-depth interviews and further bolstered the reliability of findings.

The research process, including content analysis using Taguette and audio transcription using Otter.ai, was meticulously documented to facilitate scrutiny by other researchers, thus reinforcing the validity of interpretations. Altogether, by adhering to these principles of credibility, transferability, dependability, and confirmability, this qualitative study endeavored to not only illuminate the experiences of cis-gendered male collegiate runners but also set a precedent for rigorous, scholarly inquiry in the realm of our understanding of communication about collegiate running, social norms, and social observation.

3.6 Reflexivity

As the researcher conducting this study, I acknowledged my positionality and its potential influence on the research process and findings. My interest in this topic stemmed from personal experiences as a collegiate athlete involved in both triathlon and Division I Running environments. Over my time involved in these sports, I became a keen observer of the intricate

dynamics surrounding nutrition and communication within athletic environments—and had seen both the best and worst sides of these sports. It felt noteworthy to mention that I came from a background of a disordered relationship with exercise and nutrition, and that my survival through that relationship was a fundamental component of my passion for this research. Recognizing this background, I strove to maintain reflexivity throughout all stages of the research process, critically examining my assumptions, biases, and preconceptions that could have impacted data collection, analysis, and interpretation.

Being a cis-gendered male myself, I was mindful of how my own identity and perspectives might intersect with those of the participants, particularly in relation to gender dynamics and social norms surrounding food. While my background may have provided valuable insights and empathy into the experiences of male distance runners, it also necessitated a conscious effort to remain open-minded and receptive to diverse viewpoints—which I did not expect myself to struggle with but remained mindful of once the interview process began.

Furthermore, I acknowledged the potential power dynamics inherent in the researcher-participant relationship, particularly given my role as a graduate student-athlete and the participants' status as collegiate athletes with whom I had shared countless miles, hours, and conversations. To mitigate any perceived influence or coercion, I committed to establishing trust, transparency, and mutual respect with participants, emphasizing voluntary participation and confidentiality.

Throughout the research process, I continuously reflected on my positionality, biases, and ethical considerations, seeking to minimize their impact on the validity and reliability of the study. By embracing reflexivity, I aimed to enhance the rigor and integrity of this research endeavor, ultimately contributing to a more nuanced understanding of the complex interplay

between social cognitive factors, communication patterns, and food behaviors among cis-gendered male distance runners.

3.7 Limitations

It was essential to acknowledge that in-depth interviews had their limitations—the very qualitative nature of this approach, meaning that this study was exploratory and not seeking to 'prove' anything beyond the scope of the participants and their experiences at CSU, limited the generalizability of findings. In turn, this created a study that might be tough for others to replicate. This study interviewing collegiate runners, who were cisgender and male, called for an abundance of time and resources, not unlike other qualitative theses might require, both of which I had as a final semester graduate student and distance runner athlete who had access to the sample mentioned at Colorado State University. The labor-intensive and time-consuming nature of these methods posed challenges in analyzing a large volume of data. To mitigate these limitations, this study looked for themes amidst a smaller saturation size (around 8-12 participants, eventually landing on 10 final participants), and meticulous data analysis procedures were employed.

It was noteworthy to mention the nature of these interviews, which were with teammates and, at some levels, friends of the researcher, and that might have posed a conflict of interest and an issue of positionality for this study.

In conclusion, in-depth interviews presented the ideal methodological approach to achieve the research objectives of understanding this unique communication amongst cis-gendered male distance runners. These methods were well-suited for capturing the complex interplay between food and social influences that defined the experiences of high-level collegiate

endurance athletes. While they came with certain limitations, these methods had the potential to yield profound insights into how athletes discussed nutrition with one another.

3.8 Concluding Summary

In conclusion, this methods chapter outlined the comprehensive approach to data collection and analysis for the qualitative study of the communication patterns that shaped food behaviors among cis-gendered collegiate male runners. By employing a variety of strategies, such as in-depth interviews, content analysis, and trustworthiness measures, this research sought to provide valuable insights into the experiences and perceptions of athletes regarding their relationship with food. The pilot study and data collection procedures were designed to enhance the quality, credibility, and transferability of the findings, ensuring that the research process was both rigorous and reflective of the participants' perspectives.

CHAPTER 4. RESULTS

Chapter 4 presents the findings of the research explained in the previous chapters, where in-depth interviews were conducted with a total of 10 cis-gendered, male collegiate distance runners at Colorado State University (for approximately thirty to forty-five minutes per interview). The chosen sample of participants was selected from a total sample of 17 cis-gendered male distance participants. This in-depth qualitative interview process was conducted on a 'first-come, first-serve' basis, giving priority to the athletes who responded to email participation requests first. Interview participants included athletes of varying years in college, running events, and experiences with team culture, all of whom competed at the Division I level with Colorado State University (and several for other Division I programs before their time with Colorado State University). Before delving into the themes derived from participant interviews, it is essential to clarify three foundational concepts that appeared consistently across all conversations: **culture**, **fueling strategies,** and **food talk**. Though not presented as stand-alone themes, these ideas provide the interpretive scaffolding for the data analysis that follows. They shape the context in which communication occurred in the context of a team of cis-gendered male collegiate runners, the content of those interactions, and the behavioral shifts described by participants. Each is defined below to support a more nuanced understanding of how these participants experience, talk about, and act on food-related decisions within their collegiate running environment.

4.1 Defining Culture

Before discussing the emergent themes derived from thematic analysis later in this chapter, it is important to clarify a foundational concept that arose repeatedly in interviews:

culture. While not presented as a stand-alone theme, culture was consistently referenced and described by participants in ways that contextualize the dynamics explored in this chapter. Throughout this chapter, the term *culture* is used often to capture these shared meanings and behaviors.

In this study, culture refers to the shared, evolving set of behaviors, expectations, norms, and values that shape how team members interact, particularly around food and performance (Lundy & Reilly, 2024). This includes both explicit practices (e.g., supplement routines, pre-race meals) and implicit cues (e.g., copying what others eat, joking about habits, or sensing pressure, or the lack thereof, to follow certain norms).

Culture is understood here as relational and contextual, emerging through everyday interactions, jokes, silences, rituals, and shared spaces. It is not static or universally agreed upon but instead constantly negotiated among teammates across time, age groups, and subgroups within the team (e.g., housemates vs. non-housemates, freshmen vs. seniors). In short, team culture is something athletes both participate in and shape, especially in relation to food. Clarifying this understanding of culture is necessary to contextualize the findings that follow, as it weaves throughout each emergent theme and underpins much of what participants shared about their food behaviors and team experiences.

4.2 Defining Fueling Strategies

Fueling strategies refer to the individualized yet socially shaped approaches that runners take to support their training, performance, recovery, and overall health. These strategies encompass not only the types of foods consumed but also the timing, quantity, supplementation choices, and even mindset around eating. For some participants, fueling routines evolved through trial and error, refining pre-race meals, experimenting with products like gels or electrolyte mixes, or

adjusting intake based on training intensity and seasonal demands; whereas, for others, fueling strategies are much simpler and require less energy and thought to figure out. This was entirely dependent upon the experiences of the participant and their relationship with nutrition and running. Food, notably, is an incredibly individualized topic in the world of endurance athletics (Tanous et al., 2022). Notably, these strategies were rarely taught through formal instruction; instead, they were constructed through lived experience and peer modeling. Athletes often observed what appeared to "work" for more successful or respected teammates and made subtle adjustments to their habits in response. Fueling was also described as situational; moreover, what one ate before a hard interval session differed from what one consumed before a recovery run or long travel day. While some participants approached nutrition with scientific precision, others embraced a more intuitive or socially informed model. In all cases, fueling was more than a physiological task; it was a reflective process embedded in social context, shaped by both autonomy and influence within the team environment.

4.3 Defining Food Talk

An additional concept that is central throughout this chapter is the notion of *food talk*. In this study, food talk refers to any informal, interpersonal communication between teammates that involves food, fueling strategies, supplements, or eating behaviors. This includes direct conversations (e.g., asking what someone ate before a workout), side comments, jokes, casual observations, and shared reflections about nutrition. Food talk is often embedded in social contexts—such as shared meals, long runs, or house kitchens—and tends to be spontaneous rather than structured. While it is not always explicit or frequent, food talk plays a critical role in how participants learn from each other, reinforce norms, and develop or adapt their own routines.

The goal of this study was to explore this food talk through a communication lens—essentially, how communication among teammates influences behavior and decision-making around food. Grounded in the frameworks of Social Cognitive Theory and Social Norms Theory (Perkins and Berkowitz, 1986), this study aimed to understand how observation, modeling, and interpersonal communication (Bandura, 1977) all contribute to food-related beliefs and actions among male participants. The results are presented in alignment with the research question and two guiding goals of the study:

Main Research Question: How is internal communication amongst teammates affecting cis-gendered male distance participants' behavior and decision-making around food?

Research Goal 1: Examine their lived experiences to uncover how aspects explained in social cognitive theory, particularly observational learning and social influence, shape their thoughts, actions, and interactions.

Research Goal 2: Explore the link between communication patterns and the establishment and perpetuation of social norms related to food and running.

4.4 Participants

Ten participants were recruited through purposive sampling based on their membership in the men's cross-country and distance track team at Colorado State University. Participants varied in age, years on the team, event specialization, and dietary experiences, amongst other niche differences that will be discussed throughout this chapter. Table 1 summarizes these athletes' experience, educational levels, event specialties, and key takeaways from their respective in-depth qualitative interviews (abbreviated as IQI in the table).

Table 2. Summary of Participants' Backgrounds and Food-Related Themes

Athlete Name	**Academic Year**	**Primary Event**	**Years in College**	**IQI Takeaways***
Greg	Graduate	800m/1500m/Mile	6	No pressure culture; very autonomous approach to food
Joshua	Sophomore	1500m/Mile/3k	2	Strong observational learning; highly influenced by team culture
Frank	Sophomore	1500m/5k/10k	2	Practical outlook, planning-heavy approaching to fueling
Martin	Redshirt Sophomore	1500m/Mile/3k/5k	3	House culture shaped food norms; supplement usage
Austin	Graduate	800m/1500m	5	Tried vegetarianism via teammate influence; discussion of indirect peer pressures
Joe	Sophomore	800m/1500m/3k/5k	2	Somewhat of an influencer amongst peers, described generational differences amongst team
Anthony	Freshman	800m/1500m/Mile	1	Shared meals with teammates often; routine oriented
Patrick	Sophomore	1500m/Mile/3k/5k	2	Highly individualized approach to fueling; interest in supplements

Danny	Junior	3k/5k/3k Steeple	3	Self-reflective fueling; influenced by and influences teammates
Jackson	Graduate	3k/5k/3k Steeple	5+	Mentioned lack of team food talk; focused on fueling for performance

Note. IQI = In-Depth Qualitative Interviews

To provide further context behind the participant selection and their insights expressed in column 5 of the table (IQI Takeaways), a brief description of each participant is elaborated below.

Greg, a sixth-year graduate student and veteran middle-distance runner, is widely seen as a steady presence on the team. He emphasized autonomy and consistency in his approach to food- Greg experimented with different nutritional regimes throughout his many years of running, landing on a more "bodybuilder-esque" regime, in his words, where he focused on simple pinnacles of nutrition like simple carbohydrates, vegetables, and easily digestible proteins. Greg rarely participated in food talk, instead focusing on what worked for him through personal trial and error. He expressed appreciation for the team's non-judgmental culture around food.

Joshua, a sophomore specializing in the 1500m (1600 outdoor) and 3k thus far in his young college career, is highly attuned to what others around him are doing. Living with teammates in a house where food routines are visible, Joshua frequently adopted strategies from others and described a "watch and learn" approach. He brought attention to generational shifts in fueling, such as younger athletes using gels more frequently, something he picked up on from both social media and older athlete influences on the team.

Frank, a sophomore with a fascinating event range from 1500m to 10k, is disciplined and data-driven in his fueling. He discussed meal prepping, adjusting intake based on training demands, and prioritizing recovery nutrition. Frank's strategies stemmed from a blend of personal research and peer modeling to runners he knew or runners he looked up to. He noted that while food talk isn't constant, key conversations tend to happen around hard training periods.

Martin, a redshirt sophomore and versatile athlete across mid- and long-distance events, discussed how living with teammates shaped his nutritional habits. His interview revealed a thoughtful progression in his approach, including supplement experimentation and strategic planning – tools Martin had to adapt to learn given an unfortunate streak of season-ending injuries. Martin also influenced others, particularly around breakfast routines and iron supplementation – most notably his roommate, and fellow study participant, Danny.

Austin, a graduate student and multiple-time Mountain West Conference Champion, with a standout career in the 800m (holding the Colorado State University school record in the 800m of 1:48.54) and 1500m, reflected on culture changes over his years on the team. He described experimenting with vegetarianism after observing teammates, and he emphasized how jokes and offhand comments sometimes subtly reinforced norms about weight or masculinity in his early years on the team. Austin brought a critical lens to peer influence and team history that few other interviewees were able to articulate.

Joe, a sophomore with strength in both mid-distance and 5k races, brought forward the concept of cultural evolution within the team. He described informal mentoring and how seemingly small acts, like what someone eats pre-run, gets picked up and is emulated by others.

Joe also noted the lack of pressure and how autonomy was upheld alongside strong mutual influence on the team.

Anthony, a freshman middle-distance runner, gave insight into what it's like to enter the team and learn food culture from scratch – a seemingly daunting task, according to Anthony, for any college freshman. He described regularly eating meals in the dining hall with teammates, which created an environment for open, non-judgmental sharing of food habits. This environment was non-judgmental due to the fact that food was out in the open, hundreds of students were making decisions on their food intake every minute, and the team seemed to embody an approach of "just eat enough" around food that encouraged this healthy outlook. Anthony viewed fueling as part of training rhythm and performance routine, but was quick to admit that he's still learning how to properly fuel his body as a high-performing runner.

Patrick, a young breakout star sophomore with experience from the mile to the 5k, offered one of the most individualized approaches to fueling. He regularly uses sports supplements approved by Colorado State University's nutritionist and rarely relies on peer input, instead drawing from podcasts, online research, and self-trials – such as his experimentation with Maurten and sodium-bicarbonate before races to induce performance-enhancing benefits (Grgic et al., 2021). Patrick sees nutrition as an evolving science and is skeptical of fads or oversimplified solutions.

Danny, a junior and steeplechaser, reflected deeply on his personal fueling journey. His story included both learning from older athletes and mentoring younger ones. Danny values reflection, performance feedback, and balance, and sees fueling as a collaborative process—both giving and receiving ideas, as he and his roommate Martin do with each other throughout seasons in sport.

Jackson, a graduate student and 3k/5k specialist, shared a more independent perspective. Being removed from some of the core social circles on the team, Jackson noticed a lack of cohesive food culture, but didn't cite this as an issue with the team; rather, more so that there was just a lack of focus on food and food talk on the team itself. He developed his own structured routines centered around performance and recovery, mostly outside the influence of teammate communication. Jackson's interview expressed one of the most interesting viewpoints of all ten, as his long, multi-college (Washington State University in addition to Colorado State University), successful collegiate career was perhaps the least influenced by nutrition or nutrition communication.

4.5 Emergent Themes

Five major themes were identified through inductive thematic analysis (Hecker and Kalpokas, 2025), all of which shed light on how internal communication within the team influences food-related behaviors, as set out by the goals of this thesis. These themes reflect data patterns across interviews and are presented here with direct quotes to remain grounded in the voices of participants. These themes are presented using the exact headings that follow and reflect participants' voices and experiences:

1. **"Fueling by Observation"** – how participants adopt fueling practices by watching teammates.
2. **"Quiet Influence, Loud Effects"** – subtle behaviors, comments, and cues that shape choices.
3. **"A Culture of Autonomy"** – the widespread norm that food decisions are personal and pressure-free.

4. **"Changing Fuel Norms"** – generational and performance-driven shifts in attitudes about fueling.
5. **"Food Talk is Situational"** – how context, space, and relationships shape when and how food is discussed.

Together, these themes reflect key ideas from Bandura's Social Cognitive Theory—especially observational learning, self-regulation, and modeling—as well as Social Norms Theory (Perkins and Berkowitz). These frameworks offer insight into how social environments and peer expectations silently structure behavior, even in highly autonomous team settings.

4.5.1 Fueling via Observation — Behavioral Mimicry Without Explicit Dialogue

Across the interviews, runners commonly described adjusting their nutrition practices after observing teammates — particularly those who were older, more experienced, or higher performing. These changes rarely came through direct coaching or explicit conversations. Instead, they emerged from everyday exposure: watching someone consistently perform well, noticing what a teammate ate before a workout, or observing habits in shared living spaces. At face value, this reflects Bandura's concept of observational learning, where individuals model behaviors they perceive to be successful or appropriate.

However, the data also revealed deeper social layers beneath these choices. Participants often referenced the status, race results, or leadership roles of the athletes they mirrored — citing performances like running a 14:00 5k or placing high at conference meets. In this way, mimicking food routines was not only a performance strategy, but also a subtle attempt to align with social capital, to feel part of an inner circle, or to earn affiliation through behavioral similarity. This mimetic behavior often operated below the surface, yet it was meaningful —

shaping runners' perceptions of what was "normal," what was worth trying, and who they wanted to be associated with. Danny addresses this deeper tone of social meaning well:

> "When I was a freshman, I definitely paid attention to what older guys on the team were eating—not because anyone said anything, but really just because they were good. A lot of those guys were traveling to Stanford, the Husky Invite, Bryan Clay [high-caliber track & field meets occurring close to championship season in the late spring], and were running really well. Like, you're not going to ignore what someone is eating if they're consistently placing at big meets."

These insights point to a nuanced blend of performance aspiration and social affiliation, where food behaviors become a quiet language of alignment — with fast runners, respected upperclassmen, or tight-knit peer groups. Throughout the qualitative interview process, nearly all the participants described altering their fueling strategies – the intentional or habitual approaches participants take to support their training, performance, recovery, and overall well-being—after observing teammates or roommates perform well, often without explicit conversations about food. These observations typically occurred in informal, everyday settings such as the kitchen, dining hall, or during group training runs. Joshua's interview described this quiet, constant presence of learning through watching others quite well:

> "Even in my own house, with my roommate Matt who is on the team—we never had an explicit conversation about it, but I always made espresso in the mornings and would drink some before practice. We come back from winter break, and what does Matt bring back from home? An espresso machine," Joshua said. "That's how it always goes — like, someone on the team does something, and then four other people start doing it. No one

really says anything, it just spreads. Taking gels before workouts or during long runs is another good example of this."

He went on to describe how the author of this thesis introduced him via social media influencer posting to The Feed, an all-encompassing nutrition hub for athletes to explore and purchase sports nutrition and supplements, and how that non-interaction-based observation resulted in a chain reaction that resulted in many more members starting to embrace more fueling methods.

Martin also noted how changes in his breakfast routine emerged through observation and silent imitation with his roommate, Danny.

> "Danny and I both kind of do the same thing in the mornings for food… we both started with minute oats when we had first moved in together, then one day I switched to rolled oats, then he switched to rolled oats, then we both moved to steel cut oats. No one really said anything, but we definitely copied each other."

Danny corroborated this back-and-forth evolution, reflecting that, "we don't even realize it's happening until you're like, 'Wait, we're all eating the exact same pre-run snack now.' And no one planned it."

Anthony, as a freshman, described watching older teammates for cues, particularly in the dining hall. He mentioned that when he first got to CSU, those first couple weeks consisted of him largely mimicking and copying what the upperclassmen were eating in the dining halls. He described not thinking too complexly about what they were eating and what that nutrition meant, or did, for his body—especially so on workout days. Anthony noticed that many of them consistently added a large serving of vegetables ("Big bowels of green stuff", in his words) to their plates alongside protein and carbs—so he started doing the same. There was no formal

conversation or advice exchanged; the behavior simply emerged through observation and quiet imitation.

Within that same vein of non-verbal observation, Joe recalled how, in the dining hall after long runs, he often saw older teammates stacking multiple plates or grabbing chocolate milk. At the time, he took this as an unspoken cue—something that seemed "normal" or expected within the team culture. Only later did he realize that these behaviors pointed to a deeper, often overlooked priority: the importance of eating enough rather than focusing narrowly on what to eat. Even Jackson, who was more removed socially from the main group, just due to his status as a graduate student and limited access to dining halls (as well as his tenure on the team only being a year and a half after he completed four years at Washington State University), acknowledged how much visual cues matter: "I didn't talk about food much with the others, but I definitely noticed what people brought to meets or what they ate after practice. That stuff sticks."

4.5.2 Quiet Influence, Loud Effects — Peer Behaviors Shape Habits Subtly

While food talk was not always overt or directive, participants frequently described being shaped by subtle social cues — offhand comments, casual observations, inside jokes, or even silent routines shared in communal spaces. These micro-interactions functioned as unspoken social signals, gradually nudging behaviors over time. Influence wasn't always intentional; in fact, many described how they "picked things up" without even realizing it at first. These findings reflect the quiet, yet powerful nature of social reinforcement — a core component of Social Cognitive Theory — and illustrate how peer behaviors help shape and regulate unspoken norms. The influence often operated beneath awareness, but its effects were widespread and enduring.

This idea is perhaps best illustrated by Austin's interview when asked about peer influence on the team:

> "There were definitely jokes about weight when I was a younger runner on the team, about four years ago – mainly on the guy's team. Like, dudes might call each other "fat" just to get in each other heads before workouts or races, and they all knew it was just a joke…but it was a bit much sometimes."

Martin described how living in a tight-knit team environment made food choices feel communal, even if unspoken. He described how Jessica, a female distance runner on the team, started a tradition of meal swap evenings on the team, where everyone would bring something they were meal-prepping that week, and share it with the group. Most of the team ended up joining in on this, and while no one was pressuring athletes to participate, most of the team ended up doing it anyway, building food knowledge and healthy habits around communal meals. Joe added an example that demonstrated this kind of subtle, informal social reinforcement that happens when a teammate's behavior becomes a point of group attention—sometimes jokingly, sometimes seriously—and starts to influence the broader group's actions or awareness.

> "Tony wrote 'eat better' on his notecard and shared that at a team practice [The men's team has a weekly team meeting one day after practice where all members share their goals and current stressors and successes on notecards]. We all laughed, because there's somewhat of a joke on the team that Tony eats quite awfully, but then weirdly we all held him a bit more accountable to it…which in turn, made us hold ourselves to a bit of a higher standard."

This sort of indirect influence that happens without explicit conversations, advice, or intentional teaching, where behaviors shift simply through shared routines, observation, and proximity, can

work both ways. Danny described this indirect influence with his household, a communal sort of learning environment with Martin. He'd come back from the grocery store with different foods than he'd previously bought, leading Martin to inquire about specific items ("Oh, that yogurt looks good, where'd you get that?'), leading to Martin buying that same product and the entire house eating similar, if not the same, foods.

Joshua explained how new routines spread without discussion—this element of 'unplanned, but it just happens' seemed to be a recurring theme with younger members of the team.

> "Freshmen," Joshua sighed. "They'll see someone tear open a gel mid-run, and then they do it too. They might not even have a clue what that does for them. I don't even think anyone explains it, it's just like... that's the move. Take a gel on a long run - 'do it if you're cool'," Joshua laughed.

Even Greg, who emphasized autonomy in his choices, acknowledged the way norms quietly shaped expectations:

> "I don't think I ever felt directly pressured, but there are definitely unspoken things. Like, no one really questions a big bowl of oats or coffee before practice, but if you're eating something weird, you'll hear about it."

This quote from Greg is even more emphasized by the fact that, in several other interviews, participants asked me if I had interviewed Greg and heard about his bodybuilder-like diet of chicken, rice, and vegetables. This goes to show just how loud quiet dietary changes can be, and equally just how observant runners (particularly young, impressionable runners) are to these changes.

4.5.3 A Culture of Autonomy — Freedom of Choice as a Norm Itself

One of the most frequently recurring ideas across all interviews was a strong sense of autonomy around food—an element that could potentially differ exponentially from team to team, dependent upon team culture. Participants overwhelmingly described an environment where individual choice around food was accepted and encouraged. There were no formal team rules about eating, and most runners expressed that they never felt pressure to conform to a specific diet. Ironically, this widespread autonomy functioned as its own kind of norm — a shared understanding that everyone was free to figure out what worked best for them. The consistent use of phrases like "you do you," "no one cares," or "it's personal" reflect a deeply embedded group ethos. According to Social Norms Theory, descriptive norms emerge not only from what is said but from what is *perceived*, and this culture of non-judgmental individualism was clearly perceived as the standard across the team. Rather than being told what or how to eat, participants described an environment that celebrated individuality. This "you do you" (this sentiment was repeated in **every interview,** notably) mentality served as both a source of comfort and a shared norm, reinforcing the idea that fueling is a personal journey — and that respecting that individuality is part of team culture that holistically can lead to success. Of all the participants, Greg repeatedly articulated this theme with the greatest clarity:

> "It's kind of a 'you do you' thing, right? No one's really going to say anything unless you're doing something totally off the wall and you're racking up bad results."

4.5.3.1 A Culture of Autonomy – Is Freedom Perceived?

This coexistence of perceived autonomy ("you do you") and widespread imitation raises an important analytical insight: the perception of individual freedom may itself be a socially constructed norm. Within the team, individuality is celebrated rhetorically — through repeated phrases like "it's personal" or "no one cares" — yet participants simultaneously acknowledged

high levels of behavioral mirroring, particularly in pre-run rituals, supplement use, and race-week routines. This paradox aligns with Social Norms Theory, which posits that descriptive norms (what most people do) and injunctive norms (what most people approve of) can operate beneath the surface of overt communication. In other words, while the spoken rule may be "do whatever works for you," the *unspoken* rule is often "do what's been seen to work for others." Moreover, this dynamic resonates with Social Cognitive Theory's concept of observational learning — behaviors are learned by watching others, especially when those others are successful or respected. In this case, individuality is modeled as a virtue: even if everyone ends up doing something similar (e.g., using gels or drinking electrolytes before workouts), the way that behavior is *framed* matters. Imitating someone is not seen as conforming, but as personally choosing what works — a subtle distinction that preserves the group's identity as flexible and non-prescriptive, while still reinforcing shared routines.

Greg had the longest overall running journey of all participants, having started running in grade school. Reflecting on his years of experimentation—Greg went on to describe how, during specific parts of his running journey, he had tried to restrict intake to lose weight but quickly saw diminishing results in terms of performance benefits. He seemed to have landed on a healthy, individualized approach to food and food communication, saying the following: "Food is so individual. That's one thing I've learned in the last couple of years. What works for one person could totally tank someone else."

Joshua shared a similar view around freedom of choice, despite being significantly younger and inexperienced compared to Greg.

> "I see guys taking iron or B12 or whatever, but I kind of just stick to what works for me," Joshua said. "I don't think anyone's ever made me feel like I had to do more or less in terms of vitamin supplementation or food intake, and I'm good with that."

Not all participants relied heavily on social influence to shape their nutrition habits. Some, like Frank, took a more independent, utilitarian approach to fueling strategies—rooted less in peer modeling and more in personal logic and lifestyle fit. A sophomore with a busy academic and training schedule, Frank emphasized efficiency and routine over experimentation or social cues. His strategy reflected a sense of discipline and planning that aligned with his personality, rather than the influence of teammates or shared environments. Frank went on to describe how his routine emerged from a place of practicality:

> "I started meal prepping, not because anyone told me to, but because it just made sense with my schedule. I don't think anyone else does it exactly like me, and that's fine. It works for me."

While many athletes described learning through social environments, others embraced a more self-directed path. Jackson, for instance, described himself as more removed from team food conversations and found a sense of freedom in that independence, noting that he's always approached running with a performance-first mindset:

"I've always had a pretty performance-focused routine, and I've just stuck with it. I've never felt judged or questioned for doing my own thing—some seasons that meant I experimented with Maurten gels before races, or caffeine before workouts, and other seasons I wouldn't mess with that. I just do my own thing, and I've ran at a high level for over five years in college now…", Jackson said.

After that quote, Jackson trailed off, grinning and shrugging, perhaps pointing out the correlation between individuality with nutrition and a long-lasting endurance career.

Joe noted that even though people observed one another (as discussed in Themes 1 and 2), the culture left room for everyone to make their own decisions. “No one’s ever come up to me and said, ‘Why are you eating that?’ Like, you could try a weird breakfast and people might joke, but it’s not a real thing — there’s no pressure.”

4.5.4 Changing Fueling and Eating Norms — Shifting Attitudes Toward Gels, Supplements, and Planning

Over time, runners reported a visible shift in attitudes and practices surrounding performance nutrition. Gels, iron supplements, and intentional meals (like eating protein the night before a long run, or red meat at the end of a hard training week to bolster ferritin levels) became more common among newer athletes. Participants frequently noted these changes across cohorts, identifying a generational trend toward more structured and scientific fueling. This theme highlights the role of evolving social norms and how behaviors become embedded not through policy or instruction, but through modeling and group adaptation. These shifts often started with a few individuals and then spread organically, demonstrating how new “norms” around performance fueling can form through everyday exposure.

Across interviews, participants discussed a noticeable evolution in the overall eating culture on the team—members like Austin and Greg, who saw 5 to 6 different iterations of the Colorado State University Men’s Cross-Country and Track & Field teams might have seen versions of the ‘highest performing runner’ who fueled in drastically different ways over that period. Whether it was the increased use of gels, experimentation with supplements, or simply being more thoughtful about timing and nutrition, change occurred. Many of the younger

participants' interviews indicated shifts in behavior and attitudes — often aligned with generational changes. There seems to be a new-age versus old-age thinking paradigm in the context of food talk, where younger runners are prone to more easily adopt new fueling techniques like the usage of gels and supplements, whereas older runners seem to neglect fueling during exercise and use more traditional methods— "just eat *enough,*" as Jackson said.

Joshua points out this contrast between older and younger teammates:

> "There's the new age of people who fuel, and then there are still the people who don't fuel during exercise—that's something that I've really picked up on this year. The younger kids are using gels...while the older guys just go raw-dog [raw-dog is synonymous with partaking in an activity without nutrition or eating a routine and sufficient amount of carbohydrates to fuel the body beforehand] an 18-mile-long run."

Joshua described this trend as growing, especially among newer runners.

> "When I got here, I started seeing people use those little gel packs on long runs or races. At first, I thought it was kind of extra and too much, but now I totally do it. It's like, why wouldn't I?"

One key area where shifting norms became particularly visible was in the rising use of supplements. These behaviors often started with athletes who were either looking for performance gains or out of necessity due to nutrient deficiency, then gradually spreading across the team, reflecting a subtle but growing focus on optimizing health and recovery. Participants described how certain supplements became normalized—not through formal recommendations but through exposure and repetition in everyday team life.

Martin recalled a time when Hema-Plex, an iron-rich supplement, became particularly popular among his teammates.

“Hema-Plex was everywhere last year — people said it had everything you need to stay healthy and get faster. It definitely became a thing on the team — a very hot topic. Like, if you weren’t on it, you were probably thinking about it, and if you weren’t thinking about it, you were probably being talked about behind closed doors.”

This social buzz didn’t just stay contained within one class or friend group—it spread across athlete generations. Danny, for example, described how this supplement culture influenced him during his sophomore year:

“A few of the older guys were really into iron levels and stuff, and it rubbed off on me. Now I take an iron supplement regularly and I’ve shared it with younger guys too. It kind of snowballs down generations, which I believe is a good thing.”

Here, Danny’s description illustrates how new norms take shape—not through formal education or coaching, but through imitation and social diffusion over time – transcending from graduate and senior athletes to the younger, more impressionable freshmen and sophomores.

Beyond supplementation, some athletes described broader dietary shifts prompted by teammates’ experiences. Austin shared that he once experimented with going vegetarian after a teammate mentioned feeling significantly better on that diet, saying that the diet didn’t work for him long term, but did give him deeper insight and thought in reference to what he was putting in his body. This kind of trial-and-response narrative, even if the new approach didn’t stick, represents a shift from older, more traditional views of fueling. Just a decade ago, adopting a vegetarian diet for performance—and openly discussing it—might have felt out of step with mainstream endurance culture. Now, it’s simply part of the conversation.

These examples collectively show how food norms on the team are not fixed; they evolve through interpersonal influence, experimentation, and changing attitudes across successive

athlete cohorts. What begins as a personal trial often becomes a shared behavior, reinforced not just by results, but by everyday visibility and curiosity.

Several participants, like Greg and Patrick, cited the importance of timing and types of food regarding their workout schedules—sometimes even making choices before runs on what to eat based on the rigor of the required run (i.e., more quickly digested, carbohydrate-rich foods for sharper, more intense efforts, and more slow-digesting carbs and fats for long runs and midweek easy runs).

This emerging attention to the type and timing of food reflects a transition in team culture from intuitive or ad-hoc fueling practices to a more intentional, performance-oriented mindset. Several participants noted that while conversations about food were once rare or even stigmatized, recent years have seen a subtle yet noticeable shift. Athletes are increasingly aware of how specific foods — and when they are consumed — impact energy levels, training quality, and recovery. This is evident in the growing use of pre-workout gels, electrolyte mixes, and post-run meals designed to optimize macronutrient intake. These shifts, however, are not imposed from the top down; they are socially absorbed and culturally reinforced, primarily through observation and informal dialogue among teammates.

Notably, this cultural evolution has occurred without abandoning the team's broader ethos of individual autonomy. Instead, food-related practices have become one of the domains where athletes feel empowered to experiment, learn from others, and adapt strategies to suit their needs — often within a shared language of performance optimization. The shift is thus not just nutritional but communicative. As runners began to talk more about what "worked" for them, a new norm emerged: that being intentional about food was not only acceptable but desirable.

This change also reflects broader shifts in endurance sport, where nutrition is increasingly viewed as a key lever of competitive advantage. For collegiate runners navigating the dual pressures of performance and well-being, this transition toward timing- and type-specific fueling reflects a team environment that is becoming more open to talking about food in constructive, non-judgmental ways. It also reveals the influence of generational turnover on team norms, as younger athletes often arrive with a higher baseline literacy about sports nutrition — sometimes shaped by high school coaches, club teams, or social media influencers. The result is a more intentional food culture, one that still respects individual choice but is increasingly shaped by shared insights, evolving best practices, and ongoing peer-to-peer influence.

While food autonomy remained strong, more athletes were embracing planned, purposeful fueling — a departure from past norms of under-eating or improvisation.

4.5.5 Food Talk is Situational — Conversations Depend on Environment and Social Context

Whether or not food was discussed — and how openly — depended heavily on the social context. Shared housing, long travel days, and close friendships created more opportunities for candid conversations about nutrition. In contrast, some participants noted that food wasn't often discussed at practice or in more formal team settings. This variability shows how *where* and *with whom* runners interact affects how freely they share food-related insights. The data suggest that food talk is not equally distributed across the team, but rather clustered within specific relationships or living environments. This situational nature of communication aligns with Social Norms Theory's emphasis on environmental cues and localized peer influence.

While communication clearly influenced food behaviors in a myriad of instances as described throughout this chapter, many participants made claims or expressed ideas that further

emphasized that food talk was a highly situationally dependent subject. Some participants regularly discussed nutrition — usually with housemates or close training partners (like Danny and Martin, for example) — while others said it rarely came up outside specific contexts like post-workout meals, travel, or long-run planning. This variability points to the importance of environment and social context in shaping when and how communication around food happens. Danny described how conversations emerged naturally in shared spaces:

> "Me and Martin got a lot more into our meals when we were living together. We'd cook and eat together a lot, and it kind of became this ongoing conversation — like, 'Oh, you added that spice to that dish? I'm going to try it next time.'"

Anthony, also a great example of an athlete who was influenced by a social environment like a dining hall, echoed a similar sentiment to Danny.

> "Any time we [the men's team] were eating food, we would kind of talk about food a lot of the time. Especially if someone was trying something new or was eating something that smelled good — it just kind of started the conversation."

On the other hand, Frank shared a more intimate experience with food conversations, sharing that these conversations were not very common in an everyday sense, but more so were centered around more important activities like races or longer runs.

> "Yeah, I wouldn't say that food conversations were super common for me or at least what I've experienced, but sometimes we talk about go-to pre-race meals, or what someone ate before a long run. It's usually not that deep — just like, 'Yeah that worked well,' or 'I'm trying something different next week' if things, you know, didn't work well."

For Patrick, food talk wasn't part of his routine at all— "I don't really talk to the team about what I'm eating—I've never felt a need to," Patrick said. "I feel like that's just my thing

and it doesn't provide much value to anyone besides myself. I'll listen if someone brings the topic of food up via conversation, but I kind of stay in my own lane."

Similarly, Jackson, who tended to operate more independently, described limited engagement in food discussion as Patrick described, saying there was never an abundance of food talk unless the team was traveling for a competition or at a team dinner on a travel trip. And even in those instances, Jackson noted the conversations were simple and casual—not grilling one another about their fueling strategies leading into their next race, but more light-hearted around what they might order for dinner.

Greg acknowledged that food conversations happened occasionally — but mostly with younger teammates who were still figuring things out, like Anthony, or other freshmen who described themselves as wide-eyed rookies in comparison with their older teammates when it comes to nutrition. "I don't know that I've ever brought it up, but I've had a few one-on-one convos," Greg said. "Usually, the younger guys ask more questions. They're just curious. But it's not a main topic of conversation on the team."

Joe made a similar point, emphasizing that food talk depends on who you're around.

> "With some guys, it comes up more. Like if you're in a house that eats together a lot, or your roommates, it just happens. But if you live alone, you don't really talk about it. It's definitely context based."

CHAPTER 5. CONCLUSIONS

Chapter 5 discusses the key findings, conclusions, implications, and recommendations drawn from ten in-depth interviews with cis-gendered male collegiate distance runners at Colorado State University. The purpose of this research was to explore how internal communication among teammates affects behavior and decision-making around food within a Division I distance running program. This study focused on how informal interpersonal interactions—collectively referred to as "food talk" throughout the prior chapter—emerge, function, and influence nutritional behaviors in a high-performance athletic environment.

This study employed Bandura's Social Cognitive Theory (1977) as the primary theoretical framework, with Social Norms Theory (Perkins & Berkowitz, 1986) serving as a complementary lens. These frameworks allow for a detailed exploration of how observational learning, social modeling, and group-based norms influence athletes' food choices and beliefs. A thematic analysis approach was used to analyze the data and uncover shared patterns (Hecker & Kalpokas, 2025) across participants' lived experiences.

The following research question and goals guided the study:

Main Research Question

How is internal communication amongst teammates affecting cis-gendered male distance runners' behavior and decision-making around food?

Research Goal 1

Examine their lived experiences to uncover how aspects explained in Social Cognitive Theory, particularly observational learning and social influence, shape their thoughts, actions, and interactions.

Research Goal 2

Explore the link between communication patterns and the establishment and perpetuation of social norms related to food and running.

This chapter synthesizes the emergent themes in relation to the above research question and goals, while drawing connections to the theoretical frameworks of SCT and SNT to broader implications for collegiate athletics, team culture, and sports nutrition. Conclusions and recommendations are provided to inform future research and practice, with attention to how peer-driven communication structures may be leveraged or supported to encourage performance-oriented and inclusive fueling behaviors. Data from ten in-depth interviews with current distance runners revealed five emergent themes: *Fueling by Observation, Quiet Influence with Loud Effects, A Culture of Autonomy, Changing Fuel Norms,* and *Food Talk is Situational*. These themes illustrate the complexity of food-related communication on a team that, while outwardly autonomous, harbored subtle and powerful norms regarding eating behaviors. The findings not only confirmed that communication plays a central role in shaping athlete nutrition behaviors but also revealed the nuanced, often unspoken nature of this influence.

These findings reflect a well-documented paradox in social influence research: people often **underestimate the extent to which others shape their behavior**. Despite consistent references to individual autonomy (e.g., "you do you") and the perception that each athlete was independently making nutrition decisions, participants simultaneously described behaviors—such as mimicking pre-race routines, adopting supplement regimens, or replicating what successful teammates ate—that suggest substantial social modeling. This aligns with a body of research highlighting that normative social influence is frequently underdetected. For example, Nolan et al. (2008) found that participants reported being most influenced by environmental

concern but were actually most influenced by social norms, a mismatch between perceived and actual influence. Similarly, Cialdini and Goldstein (2004) emphasize that people are often unaware of how deeply embedded social influence is in their everyday decisions, particularly in group contexts where norms are subtle and reinforced through observation. Within the context of this team, athletes may feel autonomous precisely because the norm is to respect autonomy — a phenomenon that reflects a socially constructed, yet internalized, standard of behavior.

Importantly, this study highlights that communication about food among male distance runners is rarely overt, directive, or institutional; based on the information collected from the ten participants, this communication is much simpler and passive. This communication often occurs through social modeling, passive observation, or subtle feedback mechanisms such as jokes (athletes poking one another about "really fueling up for a big run" if they had a large plate of food at the dining hall, for example), mimicry (younger athletes adopting taking gels on long runs by watching older athletes), or silence (implied approval for success in workouts related to "eating right", for instance). Despite the informality of these interactions, their impact is significant. Athletes frequently made fueling choices based on what they perceived others, especially respected, high-performing teammates, were doing. This behavior was most evident in shared living spaces and communal routines, where informal practices often became normalized and adopted by others.

The study also uncovered an evolving landscape of food norms within the team, shaped by generational shifts and increasing awareness of performance nutrition. Younger runners were more likely to experiment with structured strategies such as gels, iron supplements, and pre-run routines, while older athletes reflected on a time when such practices were less prevalent or even stigmatized. While the team culture strongly emphasized individual choice, this autonomy

functioned as a norm itself, one that both protected and limited more direct conversations about food.

These findings point to the value of studying food talk and this over-arching concept of male athlete communication as not simply a behavioral output but as a mode of social meaning-making. When food becomes a tool through which athletes understand, emulate, or distance themselves from peers, its communicative power is intensified. While overt pressure to conform to specific dietary practices appeared minimal, the implicit influence was ever-present, quietly shaping what was seen as appropriate, effective, or elite.

5.1 Conclusions and Implications

Key Findings

This study contributes to a growing body of literature exploring the social and psychological dimensions of athlete nutrition (Amawi et al., 2024). The five emergent themes reflect dynamic, overlapping processes that together shape the food-related behaviors of male collegiate distance runners—all detailed below.

5.2 Fueling by Observation

A core finding of this study was the extent to which athletes adopted nutrition behaviors by passively observing their teammates, particularly those perceived as successful or experienced. This pattern aligns with Bandura's (1977) concept of modeling within Social Cognitive Theory, in which individuals learn behaviors by observing others and internalizing those behaviors through repetition in similar contexts. For the athletes interviewed, this observational learning took place most frequently in communal spaces—team kitchens, shared apartments, dining halls, and travel environments—where routines such as pre-run meals, supplement usage, or post-workout snacks became normalized without explicit instruction.

This form of modeling mirrors what Yang et al. (2022) describe as self-interaction and interpersonal interaction within athletic communities, explained in Yang's research as where and when a runner's identity is reinforced by observing and adapting behaviors modeled by peers. In this study on cis-gendered male distance runners at CSU, modeling was especially evident among first-year athletes, who often described feeling uncertain about fueling but found confidence by replicating what more senior runners were doing. This process exemplifies the early-phase learning mechanism that Bandura (2009) associated with performance accomplishment and vicarious experience—two key sources of self-efficacy.

What distinguishes these findings from prior work is the subtlety of the transmission of communication; moreover, this thesis found many more insights from passive and non-verbal exposure. While earlier research on nutrition education often emphasizes formalized learning environments (Oyibo et al., 2018; Erdner & Wright, 2017), the behaviors observed here were acquired through unspoken norms and passive exposure. In this way, the findings contribute a nuanced understanding of athlete learning, suggesting that effective nutritional behaviors can be internalized even in the absence of institutional messaging, provided that team structures support consistent and visible modeling.

5.3 Quiet Influence, Loud Effects

While overt discussions about food were uncommon, influence among teammates traveled through subtle yet powerful social cues—teasing, routines, offhand remarks, and patterns of mimicry. These informal interactions functioned as feedback loops that reinforced certain nutritional behaviors while discouraging others. For example, some athletes described being indirectly influenced to start taking iron supplements or avoid large meals before workouts

simply by repeatedly witnessing such behaviors or receiving casual comments in communal spaces.

This quiet yet persistent form of influence closely aligns with Social Norms Theory and its emphasis on descriptive norms—the perception of what others are doing, which informs individuals' assumptions about what is normal, appropriate, or effective (Bicchieri, 2006; Berkowitz, 2004). Unlike prescriptive norms, which rely on overt guidance or institutional messaging, descriptive norms often take hold through passive observation and subtle reinforcement. The behavior becomes normalized not because it is explicitly promoted, but because it is widely and consistently observed.

In athletic environments, such norms are further amplified by social dynamics and the high value placed on performance. As Higgs et al. (2019) argue, eating behaviors in group settings often become markers of identity and competence. In this study, the replication of certain fueling strategies—such as oatmeal before runs or iron supplement routines—emerged not from centralized instruction but from the quiet consensus that these behaviors were associated with success. This aligns with Robinson et al. (2014) and Stok et al. (2012), who found that individuals adjust their eating habits based on what they perceive others are doing, particularly in tightly bonded social groups.

Moreover, this feedback loop can foster what Bicchieri and Xiao (2009) describe as pluralistic ignorance: individuals privately question a behavior but publicly conform to it, assuming others believe in its value. In this context, athletes often reported that no one explicitly told them what to do, but they still felt compelled to align their behaviors with the team norm, whether it was using certain supplements or avoiding "excessive" meals. Over time, these small

actions accrued social meaning, subtly guiding behavior and shaping the team's nutritional culture.

5.4 A Culture of Autonomy

Participants repeatedly emphasized the importance of autonomy in their nutritional choices, describing the team environment as one that encouraged a "do what works for you" ethos. On the surface, this culture of individual freedom created space for self-experimentation and reduced overt pressure. However, closer analysis reveals a more complex and paradoxical norm: autonomy itself became a shared expectation, subtly guiding behavior and discouraging direct critique or open dialogue about fueling strategies.

This phenomenon aligns with Social Norms Theory's focus on normative expectations—what individuals believe others think they should do (Bicchieri, 2006). In this context, the expectation was not tied to specific food choices, but rather to the value of self-direction. Athletes were hesitant to give or receive unsolicited advice, even when they noticed behaviors that seemed questionable or ineffective. As a result, autonomy functioned less as true independence and more as an unwritten rule, silently regulating how food talk could or could not occur.

This dynamic mirrors findings by Erdner and Wright (2017), who noted that conformity-oriented communication styles—often shaped by implicit social expectations—can suppress critical conversations in athletic settings. In the current study, while participants valued the absence of overt pressure, this same absence often prevented clarification, correction, or knowledge-sharing. Athletes described learning through indirect means—trial and error, observation, or inference—rather than through open conversation or shared resources. This tendency echoes Bandura's (1977) theory of self-regulation within SCT, where individuals shape

their behavior based on environmental cues and perceived efficacy, but without external feedback loops, misinformed practices can persist, like a participant who started taking a supplement without necessarily *needing* to, according to their dietary constraints.

5.4.1 "You Do You" – A Performance Limiter?

While the "you do you" ethos offers psychological comfort and protects against overt judgment, creating a low-pressure environment that many athletes find empowering, it may come with performance tradeoffs. From a performance optimization standpoint, a lack of shared guidance or collective norms could result in inconsistent or suboptimal fueling strategies, especially for younger athletes still learning what works for their bodies. In the absence of explicit coaching or team-wide discussions about nutrition, some runners may rely on trial and error longer than necessary or adopt habits that aren't well-supported by science.

That said, prescribing rigid norms also risks backfiring. Prior research on eating behaviors in sport cautions against environments where food becomes moralized or overly monitored, as this can contribute to disordered patterns and psychological distress (Devrim-Lanpir et al., 2021; Stoyel et al., 2021). In this context, the "you do you" culture functions as a protective buffer, allowing athletes to experiment without fear of being scrutinized.

Ultimately, the question isn't whether the ethos should be abandoned, but whether it can be balanced with gentle, inclusive frameworks that promote evidence-based fueling while still honoring individual autonomy. Coaches or support staff might consider ways to facilitate informal nutrition education or create shared spaces for peer storytelling about food—essentially scaffolding learning without eroding the freedom that athletes clearly value.

Importantly, the data suggest that autonomy may serve a dual function: it both enables exploration and limits communication**.** While some athletes thrived under this model, others may have lacked the confidence or knowledge to make informed decisions, especially in their earlier years on the team. In this way, autonomy operated as both a cultural value and a covert form of conformity—promoting freedom but also maintaining silence.

5.5 Changing Fuel Norms

The data revealed a clear generational shift in how athletes approached nutrition. Younger runners were more likely to adopt structured fueling strategies, such as timed meals, hydration protocols, or specific products like gels and salt tablets, while older athletes reflected on an earlier team culture where such practices were viewed as excessive or unnecessary. These shifts suggest a gradual redefinition of what "normal" fueling looks like, shaped less by top-down education and more by the steady accumulation of peer behavior.

This evolution reflects reciprocal determinism, a core principle of Social Cognitive Theory (Bandura, 1986), in which environmental cues, individual behaviors, and personal cognition continuously influence one another. In this case, an athlete experimenting with a new product or routine could become a model for others, reinforcing or even reshaping team norms through repeated exposure. Bandura emphasized that individuals do not passively absorb behaviors—they also contribute to the environment that others learn from. As younger athletes became more performance-oriented and nutrition-literate, their routines created new observational learning opportunities that gradually altered team culture.

From a Social Norms Theory lens, this change can also be seen as an example of descriptive norm adaptation—where what people observe others doing becomes the accepted standard (Bicchieri, 2006; Stok et al., 2012). Even without formal endorsement, practices like

using gels or hydration tablets became normalized through frequency and familiarity. The fact that no one needed to explicitly encourage these changes speaks to the strength of implicit norms and the power of peer-led behavioral diffusion in high-performance settings.

Notably, these changes did not originate from institutional intervention but from within the athlete network itself. Similar to findings by Robinson et al. (2014), nutrition behaviors shifted through localized social exposure, not centralized messaging. A new practice began with one or two athletes and spread through passive observation until it became part of the team's broader routine. This diffusion underscores the importance of peer ecosystems in shaping performance behaviors, particularly in sports environments where trust and credibility are earned through lived experience rather than formal authority.

5.6 Food Talk is Situational

The final theme highlighted the contextual nature of food-related communication among teammates. Athletes who lived together, trained closely, or regularly shared meals described more frequent and open discussions about nutrition. In contrast, those who lived off-campus, with non-teammates, or apart from the central social hub of the team often experienced food talk as sporadic or absent. This variability suggests that internal communication around nutrition was not evenly distributed across the team, but was shaped by relational proximity and shared environments.

This finding reinforces Social Norms Theory's assertion that normative influence is strongest when individuals operate within close-knit, observable social groups (Berkowitz, 2004; Bicchieri, 2006). Within shared living spaces and routines, informal conversations about food occurred organically—while cooking dinner, prepping for a workout, or reflecting on race day strategies. These micro-settings acted as incubators for localized norms, where behaviors could

be casually observed, mimicked, or discussed without the structure or pressure of formal instruction.

These findings align with prior literature suggesting that both empirical expectations (what others are seen doing) and normative expectations (what others believe one *should* do) are more likely to take hold in relationally close and environmentally shared settings (Goldstein et al., 2008; Robinson et al., 2014). For the runners in this study, apartment kitchens and pre-race hotel breakfasts were more influential settings than meetings or team-wide announcements, largely because the communication that occurred there was grounded in trust and familiarity. This theme also adds nuance to existing understandings of team dynamics by highlighting how environment shapes the accessibility of information. While the broader team culture appeared consistent in promoting autonomy, the degree to which athletes could access informal education, through observation or conversation, depended heavily on their social positioning within the team. Those embedded in daily, shared experiences absorbed more norms through osmosis; others, more isolated, had fewer opportunities to engage with or even witness these conversations.

Ultimately, food talk in this context was situational, relational, and uneven, reinforcing the idea that normative influence in athletic teams is not uniformly distributed, but contextually dependent. These findings suggest that efforts to influence team nutrition culture must account not only for messaging, but for where and how communication occurs—and who has access to it.

5.7 SCT and SNT as Analytic Lenses in Collegiate Distance Running

Social Cognitive Theory (SCT) provided a robust foundation for understanding how athletes acquired and adapted food behaviors within the team environment. Bandura's concept of observational learning, or modeling, was evident throughout the data, as participants consistently

mirrored the habits of more experienced or higher-performing teammates. These behaviors were not typically the result of direct advice or structured education, but rather emerged through repeated exposure to informal routines—aligning closely with Bandura's (1977) assertion that learning often occurs vicariously through observation and imitation.

The study also affirmed SCT's concept of triadic reciprocal causation (Bandura, 1986), in which behavior, cognitive factors, and environment continuously interact. Athletes shaped and were shaped by their physical and social environments. For instance, those who lived with teammates reported higher exposure to food-related modeling and dialogue, demonstrating how environmental proximity reinforced behavior. Meanwhile, the autonomy-centered culture of the team prompted athletes to self-regulate their practices based on internal assessments of efficacy—further aligning with Bandura's (2009) emphasis on self-efficacy as a driver of behavior. As Stajkovic & Luthans (2003) noted, individuals are not just products of their environment—they help produce it. This dynamic was especially clear in how younger athletes learned through immersion in shared spaces, gradually building confidence in their own routines.

The present findings also extend SCT literature by highlighting how communication patterns serve as a medium for modeling, not just the behavior itself, but the perceived intent or outcome behind it. As Oyibo et al. (2018) observed in their work on student-athlete self-efficacy, verbal and nonverbal cues within close peer groups can significantly shape athletes' confidence and commitment to behavioral practices. In the current study, teasing, routines, and mimicry acted as subtle communication mechanisms that reinforced perceived norms around "fueling correctly," further strengthening the link between observed behavior and internalized practice.

While SCT effectively explains the process of behavior acquisition, Social Norms Theory provides an essential complement by addressing why certain behaviors gain traction within a

group. Through the lens of descriptive norms, the study revealed that athletes often made nutritional decisions based not on formal guidance, but on what appeared to be accepted or prevalent within the team. These norms were rarely articulated, but emerged from repeated exposure and subtle social reinforcements, echoing findings by Bicchieri (2006) and Berkowitz (2004) regarding the role of group expectations in regulating behavior.

Additionally, the presence of pluralistic ignorance—where athletes perceived themselves as acting independently, despite conforming to unspoken team norms—supports SNT's emphasis on normative misperceptions (Bicchieri & Xiao, 2009). Pluralistic ignorance is a psychological phenomenon in which individuals mistakenly believe their own thoughts or behaviors are different from those of the group, even when they are actually aligned (Miller & McFarland, 1987). In this context, athletes may have perceived themselves as making independent decisions about food, while in reality, conforming to unspoken team norms modeled by their peers. This misperception reinforces the illusion of autonomy, even as social influence subtly shapes behavior. This tension between perceived autonomy and actual conformity suggests that athletes may not be fully aware of the social pressures shaping their choices, even in environments that appear individualistic on the surface.

Together, SCT and SNT provide a powerful dual framework that captures both the mechanisms (how athletes learn from each other) and the contextual forces (why certain behaviors are adopted and sustained) that drive food-related decision-making in high-performance teams. This study contributes to existing literature by illustrating how these theories interact in practice—revealing that even in settings that value autonomy, collective behavior is still deeply influenced by informal peer modeling and perceived norms.

5.8 Pillars of Relationship-Building in Team Food Culture

The study also draws attention to the role of interpersonal relationships in shaping food behaviors. Participants who shared meals, lived together, or had close friendships with teammates reported greater exposure to diverse nutrition practices. These relationships provided a foundation for informal mentorship, experimentation, and reflection.

Conversely, athletes who lived alone or had limited social integration within the team described fewer conversations about food and reported more independent routines, such as Jackson, for instance, who had a long, multi-college career in running. This contrast suggests that relational proximity is a key factor in the dissemination and adoption of food norms.

The data also underscored the importance of mutual respect and non-judgment in creating a supportive food culture. Athletes frequently emphasized that while they observed and learned from others, they never felt forced to conform. This balance of influence and freedom appears central to fostering both experimentation and long-term sustainability in nutrition practices.

5.9 Recommendations

The findings of this study offer several actionable insights for coaches, athletic staff, nutrition professionals, and future researchers. Central to these recommendations is the understanding that informal peer dynamics—not formal education—often drive nutrition-related behaviors among collegiate athletes. Strategies that leverage observational learning, self-efficacy, and perceived norms may be more effective than top-down interventions alone.

First, coaches and staff should consider identifying and empowering athletes who already serve as informal role models within the team. These individuals, often older or higher-performing teammates, play a critical role in shaping the team's food culture through their routines and habits. Providing these peer leaders with access to foundational nutrition resources can increase the accuracy and effectiveness of the behaviors they model for others. In

environments where formal nutrition education is limited or inconsistent, peer modeling often becomes the primary conduit of information. As this study revealed, athletes frequently emulate the routines, supplement choices, and meal timing of more experienced or respected teammates. However, without evidence-based guidance, even well-intentioned behaviors may be based on misinformation, anecdotal experiences, or trendy performance myths.

By equipping influential teammates — often upperclassmen or high performers — with credible, science-backed nutrition knowledge through workshops, team sessions, or one-on-one consultations with sports dietitians, programs can amplify the positive impact of social modeling. This approach leverages the natural peer-to-peer learning dynamic already in place, but strengthens it with accurate, health-promoting content. Rather than forcing top-down messaging, this strategy empowers peer leaders to act as trusted bridges between formal guidance and informal team culture. Over time, this can help cultivate a more nutritionally literate team environment, while preserving the authenticity of athlete-to-athlete influence.

In doing so, staff can leverage the natural mechanisms of observational learning described by Bandura (1977), allowing evidence-based practices to spread organically within the athlete network.

Second, while the team environment was largely characterized by a culture of autonomy, the absence of structured opportunities for conversation may limit athletes' ability to engage meaningfully with nutritional knowledge. Creating low-pressure, informal spaces for food-related dialogue—such as team dinners, travel meals, or open Q&A sessions—could help surface questions, reduce misinformation, and build shared understanding. These touchpoints support vicarious learning by allowing athletes to observe, discuss, and reflect on each other's practices in real-time.

Third, reframing fueling as a central element of performance, not a peripheral concern, may encourage deeper engagement among athletes. When nutrition is embedded into the team's everyday discourse around training, recovery, and competition, it becomes more visible and valued. Coaches and athletic staff can reinforce this mindset by integrating brief nutrition cues into post-run debriefs, workout planning, or strength sessions, positioning food as an essential part of athletic development.

The situational nature of food talk observed in this study also underscores the importance of tailoring communication strategies to athletes' social contexts. Athletes who lived with teammates were more immersed in informal conversations about nutrition, while those in more isolated living situations reported fewer opportunities to engage. Recognizing these environmental differences can help inform targeted messaging strategies, ensuring that communication about nutrition is relevant and accessible regardless of where or with whom athletes live.

Finally, this study draws attention to the value of informal educators: teammates who influence others not through authority (not *primarily* through authority, as this study has already defined that higher-achieving or "faster" athletes do have more influence on their teammates), but through consistent, visible behavior. These individuals may not be aware of their impact, but they help shape team norms through subtle modeling and reinforcement. Offering these peer influencers even brief guidance can strengthen the culture of nutrition within the team and reduce the spread of misinformation. By working with, rather than around, existing social structures, athletic programs can build environments that support performance, autonomy, and long-term athlete well-being.

5.10 Positionality in Reference to Fueling

As a member of the Colorado State University distance running team during the time of this research, I occupied a unique position of both insider and influencer. In addition to being a graduate student and researcher, I was also a sponsored athlete actively engaged in brand partnerships with companies such as The Feed and First Endurance. Through my personal social media channels, I regularly shared content related to fueling strategies, product endorsements, and personal race-day routines. This public-facing role contributed to my visibility within the team and, as several participants noted, may have influenced younger athletes' adoption of certain products, such as energy gels or hydration mixes.

I recognize that my presence on the team and my identity as both a peer and a performance-focused brand ambassador could have shaped how teammates approached their own fueling decisions. It may also have affected how some participants perceived or articulated their experiences during interviews. I remained mindful of this dual role throughout the research process, striving to ensure that the voices of others were authentically represented and not conflated with my own perspectives or practices.

5.11 Limitations and Future Research

Like most qualitative studies, this research was bounded by its scope and context. The study focused on one Division I men's cross country and track team, and all participants identified as cisgender males. While the data offer valuable insights into the lived experiences of these athletes, the findings may not reflect the communication dynamics present in other sports, institutional settings, or among athletes of other gender identities.

Additionally, the sample size, while appropriate for a qualitative inquiry, limits the generalizability of the results. The strength of the study lies in its depth, not its breadth.

Nevertheless, the insights generated may serve as a foundation for future research that aims to expand and contextualize these findings across broader populations.

Several directions for future research emerge from this work. Comparative studies across different sports, team structures, or gender identities could reveal variations in how food talk functions across diverse environments – even starting centralized to the region in which this study took place (Midwest/Mountain West United States) to keep athlete dynamics consistent. Longitudinal research would be especially valuable in understanding how nutrition-related communication and behaviors evolve over the course of an athlete's collegiate career—from the initial adjustment period as a first-year student to the leadership role of a senior or graduate student– as demonstrated in the wide range of participants interviewed in this study.

Methodologically, future studies could benefit from mixed methods approaches, combining in-depth interviews with surveys or observational data. This could help quantify the prevalence of certain communication behaviors and provide a broader understanding of normative influence within teams. Additionally, the role of digital communication spaces, such as team group chats or social media platforms, remains an important avenue of exploration in understanding how norms are shared and reinforced beyond in-person interactions, and was a notable omission, content-wise, from this thesis. This was due in large part to the time and funding available for the purposes of this study, and a desire from the researchers to keep this study focused on internal spoken and non-verbal communication within the team, removed of social media and group chats, of cisgender male collegiate distance runners.

Finally, further inquiry into the influence of formal authority figures, such as coaches, registered dietitians, and sports psychologists from their respective departments at CSU (and other colleges, if the study was mimicked via comparative studies across different team sports

structures, or gender identities), could shed light on how institutional messaging interacts with peer-driven norms. Understanding when and how top-down and peer-to-peer communications complement or contradict each other will be key to developing holistic strategies that support athlete well-being.

In sum, this study provides a foundation for exploratory research into the social, communicative, and psychological dimensions of athlete-fueling practices. By centering the voices of athletes and the informal dynamics that shape their choices, it offers both practical guidance and theoretical insight for those working to improve nutritional outcomes in sport.

5.12 Conclusion

This study examined how internal communication among cis-gendered male collegiate distance runners influences food-related behaviors, revealing that nutrition norms are largely shaped through peer observation, subtle social cues, and situational dialogue. Guided by Social Cognitive Theory and Social Norms Theory, the findings highlight how perceived autonomy often masks quiet conformity, and how informal environments serve as powerful spaces for learning and norm reinforcement. By centering the voices of athletes, this research offers a more nuanced understanding of how team culture shapes nutritional choices in ways that formal education often overlooks. These insights inform more context-aware strategies to support athlete well-being and performance.

CHAPTER 6. APPENDIX

6.1 Email Recruitment Script

I hope this message finds you well! My name is Benjamin Randall, and I am a graduate researcher for Colorado State University's Graduate Journalism Department—specifically within the Master of Science program. I am conducting a study on the relationship high-level collegiate endurance runners—specifically cis-gendered, male collegiate runners—have with food, and how communication patterns can impact their behavior and decision-making around food.

With your status as a current athlete for Colorado State University's Track & Field and Cross-Country teams, your expertise and experience in this niche could greatly contribute to my research and altogether understanding of this topic. With great enthusiasm, I'm personally inviting you to participate in my study.

What to Expect

The study will involve a theoretical framework-guided in-depth interview process—specifically, Social Cognitive Theory—**click here** to learn more about this approach if you have any questions or concerns about this theoretical lens. The in-depth interview process will include an interview guide but will largely ebb and flow with the qualitative nature of the interview itself. You can expect the interview process to last 30-45 minutes (I have allotted one-hour time blocks to account for extenuating circumstances. Your participation will be entirely voluntary, and all information provided will be kept confidential.

If you are interested in participating or would like more information about the study, please don't hesitate to contact me at bennyr@colostate.edu or 402-619-1823. Your involvement in this research would pave way for a healthier, happier future for nutrition and sport.

Thank you for considering this invitation, and I look forward to hearing from you soon.

6.2 At Practice Recruitment Script

Hey everyone!

At this point, most of you should have a decent idea of who I am, but in case you've forgotten: my name is Ben Randall, and I am an MS student in the Department of Journalism and Media Communication. I'm currently working on a study for my thesis that explores how nutrition communication influences collegiate male athletes' behavior and decision-making. For the data collection component of my study, I'm looking for 8-12 collegiate endurance athletes to participate in 30–45-minute in-depth interviews on their relationship with nutrition and communication. The interview is voluntary *and* confidential, as your name will not be associated with your response when the data is analyzed. Your participation not only helps your favorite, *crazy-triathlete* teammate—it provides the world of nutrition communication with findings that can influence food organizations and agencies to adopt an athlete-centric, positive framework for their media channels.

If you're interested in participating, I will be sending out emails to all of you with more information on how to register. If you have any questions or concerns, please email me at bennyr@colostate.edu, or message me at 402-619-1823.

6.3 Interview Guide

Interview Guide with Cis-Gendered Male Collegiate Runners at Colorado State University

Introduction

Hello! My name is Benjamin Randall, and I am a graduate student researcher with Colorado State University's Journalism & Communications Department. I am in the process of developing a thesis that interviews cis-gendered male collegiate distance runners about their communication experiences with fellow male distance runners. The goal is to learn more about how you think about food and make food choices in reference to this communication. In this interview, to keep it more conversational, I may share some of my own experiences. However, it's important for this study to document how yours may differ from mine, so please do tell me how it differs! Your answers and time will prove extremely valuable to my study, and even the greater field of research on distance running and athletics—so, thank you for your time!

Background Questions

1. **How long have you been a distance runner?**
2. **Is Colorado State University the only college you have competed collegiately at? If not, where else?**
3. **How would you say you influence and are influenced by your teammate's decisions and behavior around food?**

SNT, SCT, Observational Learning

4. **I tend to often think about what I eat, or what I should eat, before I go on a run, for a variety of reasons. Do you think about this, and why?**

Prompt (offer if participant does not have much to offer with preceding question):

"Before I go for a run, I think about what I should eat for that given day – I think about how long I'm running, how much carbs I'll need to run for that duration and feel good. Sometimes I might even think about what I ate the day before, or what I'm planning on eating later in the day, and that can influence what I eat before I run." **Does this sound at all like you? Remember,**

it's valuable for this study to document experiences different from my own, so please feel encouraged to share how you think about eating differently from my example.

5. **Have you and your teammates ever discussed what to eat while training in season?**
    a) If so, how does it make you feel to know what your teammates are consuming before training runs, workouts, or races?
    b) If not, why do you think this conversation has never come up?
6. **How do you feel when these conversations about nutrition strategies and specific diets come up?**
    a) Have these conversations ever made you question your own choices or has it reaffirmed them?
7. **Do you use any strategies to control your food intake or make healthier choices?**

Prompt (offer if the participant does not have much to offer with the preceding question): *"I'm someone who has trained at a high training load for almost 5 years now. I've seen my weight fluctuate quite a bit from training to racing and have gone through many diet schemes and dark alleyways to try and be at "my best" for a race – like cutting carbs, eating only whole foods, or fasting."* **Have you ever found yourself using strategies like these?**

- **Are there instances where you felt pressured by others to make specific food choices, whether positive or negative? Can you walk me through a situation in which that happened?**
- **Can you reflect on how watching your teammates' food choices, or seeing food decisions and/or advertising on social media, influenced you—and, therefore, influenced your performance?**

- ***It seems like you've been involved in competitive running for long enough to reflect on the culture of the sport from your experience.*** **What are some unspoken rules you've picked up on about eating and nutrition within the context of college running?**
    a) Are there any foods or activities around foods that seem…taboo?
    b) Or, vice-versa, are there foods or food supplements that are highly regarded and respected in your eyes?
- **Going off of the previous question, have you ever ate anything, or said anything regarding food to "fit in" with your teammates? Why?**
- *This study is largely studying the communication internally amongst yourself and your teammates, but I'd be remised to not mention the impact social networking sites can have on our behaviors and experiences.* **How does social media influence your perceptions of food and nutrition?**
    - Can you remember a time in which social media made you act in a different way or feel something different that changed your behavior around food?

Time-permitting: *I'm going to provide you a brief summary of some key takeaways from our interview today: [summarize].*

- Is there anything you think I've mischaracterized?
- Is there anything you shared that you think is particularly important to emphasize?
- Include always: **And finally, is there anything I did not ask you about that you think is important to share to include in this research study?**

6.4 Informed Consent for IRB

Thank you for your interest in this qualitative study on the relationship between cis-gendered male collegiate runners, communication, and food! You must be a student at Colorado State University, a member (or former member) of the Colorado State University Cross-Country and/or Track & Field Team, a cis-gendered male, and at least 16 years of age to participate in this study. There are no known risks to participating in this study. Through this discussion, we hope to gain more knowledge of athlete communication about food, and, therefore decision-making and behavior, to ideally one day foster the adoption and creation of communication frameworks that promote healthier eating behaviors. This one-on-one interview is voluntary, confidential, and should take between 30-45 minutes of your time. If you decide to participate in the interview, you may withdraw your consent, stop the discussion, and exit at any time without penalty. To indicate your consent to participate in this research, please click the consent button located below and proceed to schedule a time to meet for the interview if not completed already. If you do not consent to the interview, please exit now. If you have any questions about the research, please contact Benjamin Randall at bennyr@colostate.edu.

If you have any questions about your rights as a volunteer in this research, contact the Colorado State University Institutional Review Board at: RICRO_IRB@mail.colostate.edu; 970-491-1553.

◙ Yes, I have read the above procedures and information and consent to participate in the interview.

CHAPTER 7. REFERENCES

Academy, U. S. S. (2008, March 14). Nutrition Knowledge and Attitudes of College Athletes. The Sport Journal. https://thesportjournal.org/article/nutrition-knowledge-and-attitudes-of-college-athletes/

Amorim, A., Laurindo, J. B., & Sobral, P. J. do A. (2022). On how people deal with industrialized and non-industrialized food: A theoretical analysis. Frontiers in Nutrition, 9, 948262. https://doi.org/10.3389/fnut.2022.948262

Anshel, M. H., & Wells, B. (2000). Sources of acute stress and coping styles in competitive sport. Anxiety, Stress, & Coping, 13(1), 1–26. https://doi.org/10.1080/10615800008248331

Andrighetto, G., Vriens, E. (2022). A research agenda for the study of social norm change. *The Royal Society Publishing.* https://doi.org/10.1098/rsta.2020.0411

Association between athletic participation and the risk of eating disorder and body dissatisfaction in college students - PMC. (n.d.). Retrieved May 6, 2024, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5654186/

Athletic identity, descriptive norms, and drinking among athletes transitioning to college - PMC. (n.d.). Retrieved March 21, 2024, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2886991/

Bavel JJV *et al.* 2020 Using social and behavioral science to support COVID-19 pandemic response. *Nat. Hum. Behav.* **4**, 460-471. (**doi:10.1038/s41562-020-0884-z**) **Crossref**, **PubMed**, **ISI**, **Google Scholar**

Beauchamp, M. R., Crawford, K. L., & Jackson, B. (2019). Social cognitive theory and physical activity: Mechanisms of behavior change, critique, and legacy. Psychology of Sport and Exercise, 42, 110–117. https://doi.org/10.1016/j.psychsport.2018.11.009

Beck, K. L., Thomson, J. S., Swift, R. J., & von Hurst, P. R. (2015). Role of nutrition in performance enhancement and postexercise recovery. Open Access Journal of Sports Medicine, 6, 259–267. https://doi.org/10.2147/OAJSM.S33605

Becker, G. S. (1974). A Theory of Social Interactions. Journal of Political Economy, 82(6), 1063–1093. https://www.jstor.org/stable/1830662

Beis, L. Y., Willkomm, L., Ross, R., Bekele, Z., Wolde, B., Fudge, B., & Pitsiladis, Y. P. (2011). Food and macronutrient intake of elite Ethiopian distance runners. Journal of the International Society of Sports Nutrition, 8(1), 7. https://doi.org/10.1186/1550-2783-8-7

Berkowitz, A. (2004). The Social Norms Approach: Theory, Research, and Annotated Bibliography. *Independent Consultant.* www.alanberkowitz.com

Bicchieri C. 2006 *The grammar of society: the nature and dynamics of social norms*. Cambridge, UK: Cambridge University Press. **Google Scholar**

Bicchieri C, Chavez A. 2010 Behaving as expected: public information and fairness norms. *J. Behav. Decis. Mak.* **23**, 161-178. (**doi:10.1002/bdm.648**) **Crossref**, **ISI**, **Google Scholar**

Biel A, Thøgersen J. 2007 Activation of social norms in social dilemmas: a review of the evidence and reflections on the implications for environmental behaviour. *J. Econ. Psychol.* **28**, 93-112. (**doi:10.1016/j.joep.2006.03.003**) **Crossref**, **ISI**, **Google Scholar**

Blackwell, G. W. (1942). Social Learning and Imitation. By Neal E. Miller and John Dollard. New Haven: Yale University Press, 1941. 341pp. $3.50. Social Forces, 21(2), 256. https://doi.org/10.2307/2570586

Blair, L., Aloia, C. R., Valliant, M. W., Knight, K. B., Garner, J. C., & Nahar, V. K. (2017). Association between athletic participation and the risk of eating disorder and body dissatisfaction

in college students. International Journal of Health Sciences, 11(4), 8–12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5654186/

Bongers, P., & Jansen, A. (2016). Emotional Eating Is Not What You Think It Is and Emotional Eating Scales Do Not Measure What You Think They Measure. Frontiers in Psychology, 7. https://www.frontiersin.org/articles/10.3389/fpsyg.2016.01932

Borowiec, J., Banio-Krajnik, A., Malchrowicz-Mośko, E., & Kantanista, A. (2023). Eating disorder risk in adolescent and adult female athletes: the role of body satisfaction, sport type, BMI, level of competition, and training background. BMC Sports Science, Medicine and Rehabilitation, 15, 91. https://doi.org/10.1186/s13102-023-00683-7

Caplan-Bricker, N. (2017, June 23). The Inextricable Tie Between Eating Disorders and Endurance Sports. Outside Online. https://www.outsideonline.com/health/nutrition/eating-disorders-are-more-common-you-think/

Comparing Athletic Performances: The Best Elite Women to Boys and Men | Duke University School of Law. (n.d.). Retrieved February 7, 2024, from https://law.duke.edu/sports/sex-sport/comparative-athletic-performance

Cryan, J. F., O'Riordan, K. J., Cowan, C. S. M., Sandhu, K. V., Bastiaanssen, T. F. S., Boehme, M., Codagnone, M. G., Cussotto, S., Fulling, C., Golubeva, A. V., Guzzetta, K. E., Jaggar, M., Long-Smith, C. M., Lyte, J. M., Martin, J. A., Molinero-Perez, A., Moloney, G., Morelli, E., Morillas, E., … Dinan, T. G. (2019). The Microbiota-Gut-Brain Axis. Physiological Reviews, 99(4), 1877–2013. https://doi.org/10.1152/physrev.00018.2018

Determinants of Food Choice in Athletes: A Systematic Scoping Review - PMC. (n.d.). Retrieved October 18, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9188630/

Diekman, C., Ryan, C. D., & Oliver, T. L. (2023). Misinformation and Disinformation in Food Science and Nutrition: Impact on Practice. The Journal of Nutrition, 153(1), 3–9. https://doi.org/10.1016/j.tjnut.2022.10.001

DiNicolantonio, J. J., & O'Keefe, J. H. (2020). The Importance of Marine Omega-3s for Brain Development and the Prevention and Treatment of Behavior, Mood, and Other Brain Disorders. Nutrients, 12(8), 2333. https://doi.org/10.3390/nu12082333

Disordered Eating and Compulsive Exercise in Collegiate Athletes: Applications for Sport and Research – The Sport Journal. (n.d.-a). Retrieved May 2, 2024, from https://thesportjournal.org/article/disordered-eating-and-compulsive-exercise-in-collegiate-athletes-applications-for-sport-and-research/

Disordered Eating and Compulsive Exercise in Collegiate Athletes: Applications for Sport and Research – The Sport Journal. (n.d.-b). Retrieved November 29, 2023, from https://thesportjournal.org/article/disordered-eating-and-compulsive-exercise-in-collegiate-athletes-applications-for-sport-and-research/

Eating disorder risk in adolescent and adult female athletes: the role of body satisfaction, sport type, BMI, level of competition, and training background - PMC. (n.d.). Retrieved May 2, 2024, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10369723/

Eck, K. M., & Byrd-Bredbenner, C. (2021). Food Choice Decisions of Collegiate Division I Athletes: A Qualitative Exploratory Study. Nutrients, 13(7), 2322. https://doi.org/10.3390/nu13072322

Emotional influences on food choice: sensory, physiological and psychological pathways - PubMed. (n.d.). Retrieved September 5, 2023, from https://pubmed.ncbi.nlm.nih.gov/16545403/

Emotions and Food Consumption: Emotional Eating Behavior in a European Population - PMC. (n.d.). Retrieved December 11, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9957014/

Evers, C., Marijn Stok, F., & De Ridder, D. T. D. (2010). Feeding Your Feelings: Emotion Regulation Strategies and Emotional Eating. Personality and Social Psychology Bulletin, 36(6), 792–804. https://doi.org/10.1177/0146167210371383

Evidence for sugar addiction: Behavioral and neurochemical effects of intermittent, excessive sugar intake - PMC. (n.d.). Retrieved November 30, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2235907/

Exploring Emotional-Eating Patterns in Different Cultures: Toward a Conceptual Framework Model: Journal of International Consumer Marketing: Vol 21, No 3. (n.d.). Retrieved October 25, 2023, from https://www.tandfonline.com/doi/abs/10.1080/08961530802202818

Fischler, C. (1988). Food, self and identity. Social Science Information, 27(2), 275–292. https://doi.org/10.1177/053901888027002005

Food Addiction Statistics - Compulsive Eating Behavior Data (2023). (2023, August 23). Addiction Help. https://www.addictionhelp.com/food-addiction/statistics/

Food and water: symbol and reality - PubMed. (n.d.). Retrieved April 4, 2024, from https://pubmed.ncbi.nlm.nih.gov/10315753/

Food, self and identity - Claude Fischler, 1988. (n.d.). Retrieved February 7, 2024, from https://journals.sagepub.com/doi/10.1177/053901888027002005

Franken, R., Bekhuis, H., & Tolsma, J. (2023). Kudos make you run! How runners influence each other on the online social network Strava. Social Networks, 72, 151–164. https://doi.org/10.1016/j.socnet.2022.10.001

From the archives: The NBA's secret addiction. (n.d.). ESPN.Com. Retrieved September 5, 2023, from https://www.espn.com/espn/feature/story/_/page/presents18931717/the-nba-secret-addiction

Gardner, M. P., Wansink, B., Kim, J., & Park, S. (2014). Better moods for better eating?: How mood influences food choice. Journal of Consumer Psychology, 24(3), 320–335. https://doi.org/10.1016/j.jcps.2014.01.002

Gender Differences in Eating Disorder Risk among NCAA Division I Cross Country and Track Student-Athletes - PMC. (n.d.). Retrieved May 6, 2024, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6377974/

Gerlach, K. E., Burton, H. W., Dorn, J. M., Leddy, J. J., & Horvath, P. J. (2008). Fat intake and injury in female runners. Journal of the International Society of Sports Nutrition, 5, 1. https://doi.org/10.1186/1550-2783-5-1

Ghazzawi, H. A., Hussain, M. A., Raziq, K. M., Alsendi, K. K., Alaamer, R. O., Jaradat, M., Alobaidi, S., Al Aqili, R., Trabelsi, K., & Jahrami, H. (2023). Exploring the Relationship between Micronutrients and Athletic Performance: A Comprehensive Scientific Systematic Review of the Literature in Sports Medicine. Sports, 11(6), 109. https://doi.org/10.3390/sports11060109

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research, 35*(3), 472–482. https://doi.org/10.1086/586910

Grossbard, J. R., Geisner, I. M., Mastroleo, N. R., Kilmer, J. R., Turrisi, R., & Larimer, M. E. (2009a). Athletic identity, descriptive norms, and drinking among athletes transitioning to college. Addictive Behaviors, 34(4), 352–359. https://doi.org/10.1016/j.addbeh.2008.11.011

Grossbard, J. R., Geisner, I. M., Mastroleo, N. R., Kilmer, J. R., Turrisi, R., & Larimer, M. E. (2009b). Athletic identity, descriptive norms, and drinking among athletes transitioning to college. Addictive Behaviors, 34(4), 352–359. https://doi.org/10.1016/j.addbeh.2008.11.011

Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Social Science & Medicine, 292, 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Higgs, S. (2015). Social norms and their influence on eating behaviours. Appetite, 86, 38–44. https://doi.org/10.1016/j.appet.2014.10.021

Higgs S, Liu J, Collins EIM, Thomas JM. 2019 Using social norms to encourage healthier eating. *Nutr. Bull.* **44**, 43-52. (**doi:10.1111/nbu.12371**) **Crossref**, **Google Scholar**

How emotions affect eating: A five-way model - ScienceDirect. (n.d.). Retrieved September 5, 2023, from https://www.sciencedirect.com/science/article/pii/S0195666307003236?via%3Dihub

Islam, K. F., Awal, A., Mazumder, H., Munni, U. R., Majumder, K., Afroz, K., Tabassum, M. N., & Hossain, M. M. (2023). Social cognitive theory-based health promotion in primary care practice: A scoping review. Heliyon, 9(4), e14889. https://doi.org/10.1016/j.heliyon.2023.e14889

J.Rubin, H., & S.Rubin, I. (2005). Qualitative Interviewing (2nd ed.): The Art of Hearing Data. SAGE Publications, Inc. https://doi.org/10.4135/9781452226651

Jachimowicz JM, Hauser OP, O'Brien JD, Sherman E, Galinsky AD. 2018 The critical role of second-order normative beliefs in predicting energy conservation. *Nat. Hum. Behav.* **2**, 757-764. (**doi:10.1038/s41562-018-0434-0**) **Crossref**, **PubMed**, **ISI**, **Google Scholar**

Karpinski, C. A., & Milliner, K. (2016). Assessing Intentions to Eat a Healthful Diet Among National Collegiate Athletic Association Division II Collegiate Athletes. Journal of Athletic Training, 51(1), 89–96. https://doi.org/10.4085/1062-6050-51.2.06

KARPYN, A. E., RISER, D., TRACY, T., WANG, R., & SHEN, Y. (2019). The changing landscape of food deserts. UNSCN Nutrition, 44, 46–53. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7299236/

Kim, S.-H., & Hong, J.-H. (2020). The effects of contexts on consumer emotions and acceptance of a domestic food and an unfamiliar ethnic food: a cross-cultural comparison between Chinese and Korean consumers. Food Science and Biotechnology, 29(12), 1705–1718. https://doi.org/10.1007/s10068-020-00827-2

Kim, Y., & Park, I. (2020). "Coach Really Knew What I Needed and Understood Me Well as a Person": Effective Communication Acts in Coach–Athlete Interactions among Korean Olympic Archers. International Journal of Environmental Research and Public Health, 17(9), 3101. https://doi.org/10.3390/ijerph17093101

Krebs, P. A., Dennison, C. R., Kellar, L., & Lucas, J. (2019). Gender Differences in Eating Disorder Risk among NCAA Division I Cross Country and Track Student-Athletes. Journal of Sports Medicine, 2019. https://doi.org/10.1155/2019/5035871

LaMorte, W. 2022. The Social Cognitive Theory. *Behavioral Change Models, Boston University School of Public Health.* https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories5.html

Lichtenstein, M. B., Johansen, K. K., Runge, E., Hansen, M. B., Holmberg, T. T., & Tarp, K. (2022). Behind the athletic body: a clinical interview study of identification of eating disorder symptoms and diagnoses in elite athletes. BMJ Open Sport — Exercise Medicine, 8(2), e001265. https://doi.org/10.1136/bmjsem-2021-001265

Ljubičić, M., Matek Sarić, M., Klarin, I., Rumbak, I., Colić Barić, I., Ranilović, J., Dželalija, B., Sarić, A., Nakić, D., Djekic, I., Korzeniowska, M., Bartkiene, E., Papageorgiou, M., Tarcea, M., Černelič-Bizjak, M., Klava, D., Szűcs, V., Vittadini, E., Bolhuis, D., & Guiné, R. P. F. (2023). Emotions and Food Consumption: Emotional Eating Behavior in a European Population. Foods, 12(4), 872. https://doi.org/10.3390/foods12040872

Locher, J. L., Yoels, W. C., Maurer, D., & Van Ells, J. (2005). Comfort Foods: An Exploratory Journey Into The Social and Emotional Significance of Food. Food and Foodways, 13(4), 273–297. https://doi.org/10.1080/07409710500334509

Luomala, H. T., Sirieix, L., & Tahir, R. (2009). Exploring Emotional-Eating Patterns in Different Cultures: Toward a Conceptual Framework Model. Journal of International Consumer Marketing, 21(3), 231–245. https://doi.org/10.1080/08961530802202818

Lynn, T., Rosati, P., Leoni Santos, G., & Endo, P. T. (2020). Sorting the Healthy Diet Signal from the Social Media Expert Noise: Preliminary Evidence from the Healthy Diet Discourse on Twitter. International Journal of Environmental Research and Public Health, 17(22), 8557. https://doi.org/10.3390/ijerph17228557

Macht, M. (2008). How emotions affect eating: A five-way model. Appetite, 50(1), 1–11. https://doi.org/10.1016/j.appet.2007.07.002

Magnusen, M. J., & Rhea, D. J. (2009). Division I athletes' attitudes toward and preferences for male and female strength and conditioning coaches. Journal of Strength and Conditioning Research, 23(4), 1084–1090. https://doi.org/10.1519/JSC.0b013e318199d8c4

Martin, L. E., Sisante, J. V., Wilson, D. R., Moody, A. A., Savage, C. R., & Billinger, S. A. (2017). Pilot Study of Endurance Runners and Brain Responses Associated with Delay Discounting. *International journal of exercise science*, *10*(5), 690–701. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5609673/

May, J., Andrade, J., Kavanagh, D. J., & Hetherington, M. (2012). Elaborated Intrusion Theory: A Cognitive-Emotional Theory of Food Craving. Current Obesity Reports, 1(2), 114–121. https://doi.org/10.1007/s13679-012-0010-2

Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology, 53*(2), 298–305. https://doi.org/10.1037/0022-3514.53.2.298

Mingay, E., Hart, M., Yoong, S., & Hure, A. (2021). Why We Eat the Way We Do: A Call to Consider Food Culture in Public Health Initiatives. International Journal of Environmental Research and Public Health, 18(22), 11967. https://doi.org/10.3390/ijerph182211967

Noble, D. (2023, May 18). Fact-checking nutrition influencers: 8 red flags to help you spot nutrition misinformation. Mayo Clinic Press. https://mcpress.mayoclinic.org/nutrition-fitness/fact-checking-nutrition-influencers-8-red-flags-to-help-you-spot-nutrition-misinformation/

Nyborg K *et al.* 2016 Social norms as solutions. *Science* **354**, 42-43. (**doi:10.1126/science.aaf8317**) **Crossref**, **PubMed**, **ISI**, **Google Scholar**

Nyborg K, Rege M. 2003 On social norms: the evolution of considerate smoking behavior. *J. Econ. Behav. Organ.* **52**, 323-340. (**doi:10.1016/S0167-2681(03)00031-3**) **Crossref**, **ISI**, **Google Scholar**

Oliver, G., Wardle, J., & Gibson, E. L. (2000). Stress and Food Choice: A Laboratory Study: Psychosomatic Medicine, 62(6), 853–865. https://doi.org/10.1097/00006842-200011000-00016

Parletta, N., Milte, C. M., & Meyer, B. J. (2013a). Nutritional modulation of cognitive function and mental health. The Journal of Nutritional Biochemistry, 24(5), 725–743. https://doi.org/10.1016/j.jnutbio.2013.01.002

Parletta, N., Milte, C. M., & Meyer, B. J. (2013b). Nutritional modulation of cognitive function and mental health. The Journal of Nutritional Biochemistry, 24(5), 725–743. https://doi.org/10.1016/j.jnutbio.2013.01.002

Pelly, F. E., Thurecht, R. L., & Slater, G. (2022a). Determinants of Food Choice in Athletes: A Systematic Scoping Review. Sports Medicine - Open, 8, 77. https://doi.org/10.1186/s40798-022-00461-8

Pelly, F. E., Thurecht, R. L., & Slater, G. (2022b). Determinants of Food Choice in Athletes: A Systematic Scoping Review. Sports Medicine - Open, 8(1), 77. https://doi.org/10.1186/s40798-022-00461-8

Perkins, H. W., & Berkowitz, A. D. (1986). Perceiving the community norms of alcohol use among students: Some research implications for campus alcohol education programming. *International Journal of the Addictions, 21*(9-10), 961-976.

Poole, A. (n.d.). Research and Evaluation Resources. Welcome to the National Social Norms Center. Retrieved March 21, 2024, from https://socialnorms.org/research-and-evaluation-resources/

Purcell, R., Pilkington, V., Carberry, S., Reid, D., Gwyther, K., Hall, K., Deacon, A., Manon, R., Walton, C. C., & Rice, S. (2022). An Evidence-Informed Framework to Promote Mental Wellbeing in Elite Sport. Frontiers in Psychology, 13, 780359. https://doi.org/10.3389/fpsyg.2022.780359

Reichelt, A. C., Westbrook, R. F., & Morris, M. J. (2017). Editorial: Impact of Diet on Learning, Memory and Cognition. Frontiers in Behavioral Neuroscience, 11, 96. https://doi.org/10.3389/fnbeh.2017.00096

Sahril, N., Adnan, M. A. A., Khalil, M. K. N., Chan, Y. M., Yoga Ratnam, K. K., Lai, W. K., & Ahmad, N. A. (2023). Association of dietary behaviour and depression among adolescents in Malaysia: a cross-sectional study. Journal of Health, Population, and Nutrition, 42(1), 133. https://doi.org/10.1186/s41043-023-00480-5

Scheinkman, J. (2008a). Social Interactions (Theory) (pp. 1–7). https://doi.org/10.1057/978-1-349-95121-5_2422-1

Scheinkman, J. (2008b). Social Interactions (Theory) (pp. 1–7). https://doi.org/10.1057/978-1-349-95121-5_2422-1

Shoham, D. A., Hammond, R., Rahmandad, H., Wang, Y., & Hovmand, P. (2015). Modeling social norms and social influence in obesity. Current Epidemiology Reports, 2(1), 71–79. https://doi.org/10.1007/s40471-014-0032-2

ŠKOF, B., & ROTOVNIK KOZJEK, N. (2015). A Comparison of Dietary Habits between Recreational Runners and a Randomly Selected Adult Population in Slovenia. Slovenian Journal of Public Health, 54(3), 212–221. https://doi.org/10.1515/sjph-2015-0030

Social Cognitive Theory - an overview | ScienceDirect Topics. (n.d.). Retrieved February 15, 2024, from https://www.sciencedirect.com/topics/social-sciences/social-cognitive-theory

Social Cognitive Theory of Social Referencing | SpringerLink. (n.d.). Retrieved January 29, 2024, from https://link.springer.com/chapter/10.1007/978-1-4899-2462-9_8

Sparkman G, Walton GM. 2017 Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychol. Sci.* **28**, 1663-1674. (**doi:10.1177/0956797617719950**) **Crossref**, **PubMed**, **ISI**, **Google Scholar**

Spence, C. (2017). Comfort food: A review. International Journal of Gastronomy and Food Science, 9, 105–109. https://doi.org/10.1016/j.ijgfs.2017.07.001

Stok, F. M., Mollen, S., Verkooijen, K. T., & Renner, B. (2018). Editorial: Unravelling Social Norm Effects: How and When Social Norms Affect Eating Behavior. *Frontiers in Psychology*, *9*, 738. https://doi.org/10.3389/fpsyg.2018.00738

Stoyel, H., Delderfield, R., Shanmuganathan-Felton, V., Stoyel, A., & Serpell, L. (2021a). A Qualitative Exploration of Sport and Social Pressures on Elite Athletes in Relation to Disordered Eating. Frontiers in Psychology, 12, 633490. https://doi.org/10.3389/fpsyg.2021.633490

Stoyel, H., Delderfield, R., Shanmuganathan-Felton, V., Stoyel, A., & Serpell, L. (2021b). A Qualitative Exploration of Sport and Social Pressures on Elite Athletes in Relation to Disordered Eating. Frontiers in Psychology, 12. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.633490

Tanous, D., Wagner, K.-H., Leitzmann, C., Motevalli, M., Wirnitzer, G., Rosemann, T., Knechtle, B., & Wirnitzer, K. (2022b). Dietary Intake of Recreational Endurance Runners Associated with Race Distance—Results from the NURMI Study (Step 2). Nutrients, 14(18), 3698. https://doi.org/10.3390/nu14183698

"The male elephant in the room": a qualitative evidence synthesis exploring male experiences of eating disorders | Journal of Eating Disorders | Full Text. (n.d.). Retrieved May 6, 2024, from https://jeatdisord.biomedcentral.com/articles/10.1186/s40337-022-00614-w

The Social Cognitive Theory. (n.d.-a). Retrieved April 18, 2024, from https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories5.html

The Social Cognitive Theory. (n.d.-b). Retrieved April 18, 2024, from https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories5.html

The Social Cognitive Theory. (n.d.-c). Retrieved April 18, 2024, from https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories5.html

Tooley, K. L. (2020). Effects of the Human Gut Microbiota on Cognitive Performance, Brain Structure and Function: A Narrative Review. Nutrients, 12(10), 3009. https://doi.org/10.3390/nu12103009

Tougas, M. E., Hayden, J. A., McGrath, P. J., Huguet, A., & Rozario, S. (2015). A Systematic Review Exploring the Social Cognitive Theory of Self-Regulation as a Framework for Chronic Health Condition Interventions. *PloS one*, *10*(8), e0134977. https://doi.org/10.1371/journal.pone.0134977

Troisi, J. D., & Gabriel, S. (2011). Chicken Soup Really Is Good for the Soul: "Comfort Food" Fulfills the Need to Belong. Psychological Science, 22(6), 747–753. https://doi.org/10.1177/0956797611407931

Uhlmann, K., Schaller, F., & Lehmann, U. (2022). Current Practice of Assessing and Monitoring Muscle Strength, Muscle Mass and Muscle Function during Nutritional Care by Dietitians in Switzerland—An Online Survey. Nutrients, 14(9), 1741. https://doi.org/10.3390/nu14091741

Validity of Dietary Assessment in Athletes: A Systematic Review - PubMed. (n.d.). Retrieved November 8, 2023, from https://pubmed.ncbi.nlm.nih.gov/29207495/

Wagner, H. S., Ahlstrom, B., Redden, J. P., Vickers, Z., & Mann, T. (2014). The myth of comfort food. Health Psychology, 33(12), 1552–1557. https://doi.org/10.1037/hea0000068

Yang, J., Ju, F.-Y., & Tian, Z.-G. (2022). Sports and Social Interaction: Sports Experiences and Attitudes of the Urban Running Community. International Journal of Environmental Research and Public Health, 19(21), 14412. https://doi.org/10.3390/ijerph192114412