

Food as grounds for peacebuilding: Conceptualizing a food peace framework for the field of nutrition and dietetics

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

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NOMENCLATURE

BIPOC	Black, Indigenous, and People of Color
CDC	US Centers for Disease Control and Prevention
CFS	UN Committee on World Food Security
FAO	Food and Agriculture Organization of the UN
FNS	Food and Nutrition Security
GST	General Systems Theory
OEF	One Earth Future
RDNs	Registered Dietitian Nutritionists
SDH	Social Determinants of Health
ToC	Theory of Change

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ABSTRACT

The prevalence of food insecurity with the COVID-19 pandemic has highlighted disparities and fragilities within the United States and global food systems. The U.S., though not wrought with violent outbreaks of conflict, has faced political tensions and social grievances that limit food security and peace within the food system. The relationship between food and peace is largely defined as the lack of violent conflict in association with food security. The food peacebuilding approach represents a paradigm shift that integrates food and peace to foster right and just relationships with self, others, and the Earth for sustainable, resilient, and equitable food systems. This grounded theory, qualitative study conducted as virtual, pre-interview surveys and semi-structured individual interviews, elicited the perceptions and understandings from a purposive sample of registered dietitians working within the U.S. food system. It also sought to build and validate a food peace framework to evaluate the role of food in the context of peace.

Participants included registered dietitians working within the food system from twelve states and one district of the United States (Arizona, Iowa, Kansas, Maryland, Minnesota, Montana, Nebraska, New York, North Carolina, Virginia, Washington, and Washington D.C.). Participants (n=22) completed an online pre-survey managed through Qualtrics™, then participated in a semi-structured interview via Cisco Webex. Grounded theory iterative coding was performed in three phases for theoretical integration and analysis: initial coding, focused coding, and theoretical coding. Thematic coding analysis with NVivo (ver12.0) was used to organize and interpret data. Findings revealed important patterns pertaining to perceptions of peace, food and peacebuilding, and implications of a food peacebuilding framework.

Perceptions of peace identified registered dietitians' overall perceptions of peace and specific recognition of peace within the context of the U.S. food system. Five primary categories

of perceptions of peace emerged including (1) access to resources; (2) characteristics of peace; (3) conflict and control; (4) levels of peace; (5) values of peace. Four primary categories recognizing peace in the context of the U.S. food system emerged including (1) barriers to peace; (2) conflict in the U.S. food system; (3) values in systems; (4) new understandings of peacebuilding in the U.S. food system. Food and peacebuilding identified registered dietitians' views on specific words that characterized peacebuilding in the context of food and specific examples of peacebuilding in the U.S. food system. Food peacebuilding characteristics were represented as word frequencies largely represented as relationships, access, and respect. Two categories of peacebuilding pathways emerged including (1) applications; (2) groups. Implications of a food peacebuilding framework identified registered dietitians' responses on the use of a food peacebuilding framework in practice. Four categories of implications of a food peacebuilding framework emerged including: (1) education and research communities; (2) health and nutrition approaches; (3) local organizations and programming; (4) policy.

These results can inform the field of nutrition and dietetics on the current perceptions of peace and understandings of food and peacebuilding of registered dietitians, along with the implications of a food peacebuilding framework. The new understandings from registered dietitian nutritionists around food peace incentivize a call for greater awareness, education, and research on peacebuilding for the field of nutrition and dietetics. These results necessitate a paradigm shift that integrates food and peace as it pertains to nutrition, health, and the broader U.S. food system in conjunction with food justice and food sovereignty movements. In addition, results can be utilized to further conceptualize a food peacebuilding framework and apply concrete food peacebuilding pathways for change.

CHAPTER 1. GENERAL INTRODUCTION

Fostering peace in societies requires a multidisciplinary approach towards nurturing and sustainably adapting to community needs. Peacebuilding, as compared to peacekeeping, expands Johan Galtung's idea of positive peace for a sustainable infrastructure considering the strengths and values of a community.¹ Food peace is grounded by social, economic, and environmental system drivers with opportunities to build community food security and peace-minded food citizens. Interdisciplinary structures of food and peace at the local, regional, national, and global levels of food systems allow the potential for a peacebuilding approach. The prevalence of food and nutrition insecurity and the associated health outcomes were exacerbated by the COVID-19 pandemic. This highlighted the disparities and fragilities of food systems around the world. A peacebuilding approach through food offers an alternative grounding framework to these prevailing issues, championing right and just relationships with self, others, and the Earth.

Defining peace includes understanding both personal and structural conceptualizations in societies. Johan Galtung coined the term positive peace in 1969 as the absence of social structural violence that can be referred to as a positive condition of social justice.¹ Positive peace, also termed as peacebuilding, is a proactive approach that recognizes and promotes the attitudes, institutions, and structures that create and sustain peaceful societies.² Comparatively, negative peace can be defined as the absence of violence, including the threat or fear of violence.² This is a responsive method of mediation to maintain the absence of direct violence known as peacekeeping.³ Interestingly, when applying definitions of peace to food and the food system, peacekeeping categorizes food as a basic means of physical sustenance to avoid hunger, often exemplified as food aid. On the other hand, peacebuilding allows themes of social justice

to appear and describe food as a human an autonomous right, a means of cultural awareness, and a societal responsibility for the health of people and the Earth.³⁻⁵

The relationship between food and peace appears throughout history yet has largely been defined as the presence or lack of violent conflict. Food insecurity and conflict co-exist through the lack of access, availability, utilization, and stability of food resources leading to a decrease in functionality or collapse of the food system.⁶ Further, marginalization, exclusion, and control through power leveraging exacerbate the violation of food as a human right and the ongoing oppression that results from food injustice.⁷⁻⁸ The 2021 Sharing Power, Building Community Report for strategizing improvements to nutrition education states, “people are not hungry or poor because of lack of access to food or economic opportunities. People are poor or hungry because of the disparities around power.”⁹

Highlighting the disparities and fragilities within food systems, the COVID-19 pandemic demonstrates how crises force people into food and nutrition insecurity due to supply chain disruptions and income volatility.⁶ The U.S., though not wrought with violent outbreaks of conflict in the recent past has faced political tensions and social grievances that affect food security alongside social and health disparities. Due to the COVID-19 pandemic, 38.3 million Americans, or 1 in every 8 households, were affected by food insecurity in 2020.¹⁰ National and economic conditions from the pandemic have increased unemployment, poverty, and food prices leading to increasing food insecurity.¹¹ Further, research has emphasized the association between food insecurity, household-level income, and social conditions of limited or lack of access to adequate food and nutrition-related health outcomes including obesity, hypertension, and diabetes.¹²⁻¹³ While peacekeeping and peacebuilding efforts related to food have largely been

targeted in low-income countries,¹⁴ the COVID-19 pandemic proved the necessity for sustainable and resilient food structures worldwide.

Theoretical frameworks provide a foundational approach for examining trends and posing critical thought for strategic direction of action. The proliferation of peacebuilding frameworks has emerged including reference to fostering inclusive and autonomous communities, recognizing community rights and claims, and honoring human rights to promote relationships.¹⁵ For example, environmental peacebuilding has evolved as a way to encourage cooperation and sustainable peace across political borders, human and ecological health sectors, and scales of leadership and governance.¹⁶ However, a framework for exploring food in the context of peace, more specifically peacebuilding does not exist. This lack of literature on food peace perpetuates a food and conflict narrative with reactive approaches to food insecurity and health disparities, rather than the proactive development of sustainable and resilient peace the U.S. and global food system.

Purpose of Research

The purpose of this research was twofold: to draft a model of a food peace framework for the field of nutrition and dietetics, and to investigate perceptions of peace, the relationship between food and peacebuilding, and ways to utilize a food peacebuilding framework in practice for the field of nutrition and dietetics.

Research Questions

The following research questions were addressed:

1. How do registered dietitians perceive the relationship between food and peace in the United States food system?
2. How can food be used as grounds for peacebuilding in current food systems for the field of nutrition and dietetics?

These central research questions guided the purpose of the study to conceptualize a food and peacebuilding framework by fleshing out the political, economic, social, and economic drivers of peace along with the interdisciplinary determinants of peace in the current United States food system.

Thesis Organization

This thesis contains five chapters including a general introduction, a review of current literature, the methodology, a research study manuscript, and a general conclusion. As a novel area of study for nutrition and dietetics, methodology is included as an additional section to detail complete draft framework development, corresponding research questions, and in-depth grounded theory coding procedures. The research study manuscript titled “Food as Grounds for Peacebuilding” was prepared for submission to the *Journal of the Academy of Nutrition and Dietetics*. References throughout this thesis are at the end of each chapter and are formatted using the American Medical Association (AMA) citation format. Figures are embedded within the text and the appendices contain the documents utilized for recruitment and questionnaires for data collection. The Institutional Review Board at Iowa State University approved all study documents used with participants.

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CHAPTER 2. THE RELATIONSHIP BETWEEN FOOD AND PEACE: A REVIEW OF LITERATURE

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Defining Peace

Peace studies largely define peace as the absence of violence. The focus on violence and its intended or unintended consequences, commonly political violence, remains the central theme of peace studies.¹ The primarily quantifiable data of violence or non-violence, such as the amount of armed conflict, militarization, and number of deaths from violent uprisings is well documented.¹ The abundance of violent conflict is easily observable, often large scale (e.g., wars, genocide, and revolutions), and obvious.¹ However, many researchers acknowledge the causes, elements, and consequences of peace reach beyond non-violence.²⁻⁵ Identifying peace in its truest form requires a definition that encompasses the full range of factors that determine and measure peace.

The One Earth Future (OEF) theory of peace identifies that “no violent conflict comes from one cause.”⁶ This interdisciplinary and multi-faceted view of conflict and peace considers the actors engaged in situations of conflict and the pressures that lead to conflict. Additionally, the OEF theory of peace states that peacebuilding offers a means of coordination across society

ⁱ This chapter is currently a work in progress. It may differ in significant ways from the published version.

as a whole. This collaboration seeks to fully address the drivers of conflict and limits to peacekeeping to support sustainable peace. According to the OEF theory of peace, elements that promote peace include structural interdependence, economic development, democracy, and women's inclusion.

Definitions of peace have evolved throughout history to such an extent that a single definition does not exist. Often, the definitions of peace become so broad and convoluted that exploring peace research beyond non-violence and conflict mediation proves difficult.¹ Still, peace studies both identify methods of responding to or avoiding violent conflict, while also creating situations where violent conflict is unthinkable. The constructive approaches to managing violence through peace mediation are twofold: peacekeeping and peacebuilding.

Defining Peacekeeping

Peacekeeping is essential for both conflict mediation and establishing security. R.J. Fisher distinguishes peacekeeping in terms of horizontal and vertical conflict. Horizontal peacekeeping refers to responding to conflict as a third-party intervention between two groups who are considered relatively weak equals.⁷ In comparison, vertical conflict cannot be mediated through peacekeeping due to unequal distribution of power and resistance to de-escalation. Ultimately, peacekeeping is a responsive method of mediation to maintain the absence of direct violence.⁸

According to the United Nations (UN) Department of Peacekeeping Operations, peacekeeping is used as a tool of assistance based on three principles: consent of the parties, impartiality, and avoidance of the use of force, except in self-defense and defense of the mandate.⁹ The goal is to maintain peace in terms of non-violence and security. The 13 current peacekeeping operations primarily taking place in Africa and the Middle East also state goals to “facilitate the political process, protect civilians, assist in the disarmament, demobilization, and

reintegration of former combatants; support the organization of elections, protect and promote human rights and assist in restoring the rule of law.”⁹ These peacekeeping operations have not always been wildly successful due to extreme physically and politically difficult environments. Further, there is also the potential lack of acceptance at the local and community level.

Defining Peacebuilding

The roots of peacebuilding originated from Johan Galtung’s foundational work in peace studies. Galtung’s work pioneered how peace was defined in terms of personal violence (direct) or structural violence (indirect), also referred to as social injustice.² Using these constructs of violent conflict, peace can be identified as either negative—the absence of violence or fear of violence or positive—the attitudes, institutions, and structures that create and sustain peaceful societies.¹⁰⁻¹¹ Further, peace is identified as a condition of stable order that minimizes the reliance on organized violence, alongside the presence of harmony for human fulfillment.^{4,12-13}

In the post-Cold War era, the UN Security Council requested recommendations to strengthen peacemaking and peacekeeping strategies, which resulted in the 1992 Agenda for Peace.¹⁴ Peacebuilding, recognized as going a step beyond peacekeeping, was reported in the 1992 Agenda For Peace as the actionable item that strengthened and solidified peace through supportive societal structures. Further, Moshe defines peacebuilding as, “those conditions that will enhance the transition from a state of conflict to coexistence and thus contribute to sustainable peace.”¹⁵ The UN Peacekeeping Operations frames peacebuilding as a complex approach that reduces the risk, occurrence, or relapse into conflict by addressing the root issues that affect societal functionality and lays the foundation of sustainable peace and development.¹⁶ Collectively, these definitions of peacekeeping and peacebuilding can also be considered as negative and positive peace, respectively.

Current peacebuilding strategies have been met with criticism as an agenda of liberal internationalism. This criticism suggests imposed international intervention is misguided and lacking ethical basis, while excluding traditional conceptualizations.^{1,7} However, when applied with community acceptance and cultural sensitivity, desirable factors of peacebuilding strategies include democracy, protection of human rights, and provision of public goods.¹ Moshe built a conceptual peacebuilding framework centered around participatory human rights law and community-building social work.¹⁵ This framework moves beyond addressing conflict in the form of discriminatory policies and opposition between groups, and focuses on human welfare through governing and coexistence. The values of the framework include self-determination, autonomy, communal interdependence, equality, and justice. Peacebuilding, as compared to peacekeeping, expands Johan Galtung's idea of positive peace for a sustainable infrastructure considering the strengths and values of a community. Peacebuilding offers conceptual and practical applications in promoting human well-being, growth and development, and flourishing.

Sustaining Peace

Maintaining peace involves establishing structural peace for security and safety. Still, additional peacebuilding steps are needed to ensure the resilience and betterment of societies.⁸ Peacekeeping acts as a means of conflict mediation. However, the starting point for sustaining peaceful societies is not necessarily conflict, but rather defining the infrastructure that sustains peace.¹⁷ Formal peace processes, such as political policies and peace accords, prioritize security agendas for peacemaking, while social aspects for peace, such as welfare, are secondary.¹⁸⁻¹⁹ Human security through the lens of peacebuilding recognizes human rights and fundamental freedoms, a well-functioning government, sustainable development and innovations, and social equity.^{8,11,17} The Earth Charter, a guide to sustainable development developed after the 1987 World Commission on Environment and Development, focuses on a holistic vision of peace.

This definition states that peace is “created by right relationships with oneself, other persons, other cultures, other life, Earth, and the larger whole of which all are apart.”²⁰

Peace within systems relies on a commitment within communities.⁸ Group cohesion plays an important role in establishing functional peace processes that are accepted, implemented, and sustained.²¹ The UN concept of “sustaining peace,” emphasizes the political and social capacities that sustain peace at the local level.²² Sustainable peace is recognized as collaborative and internally motivated partnerships. The link between the grassroots movements and governmental policy builds upon a broader common vision of sustainable peace for society.^{17,22} There must be a willingness within societies to nurture peacefulness. Collaboration spanning different sectors and levels of social organization can be stimulated by conflict or a collective reason for support.^{17,23} The ultimate purpose of these collaborations and peacebuilding approaches is to foster solidarity and everyday peace, or everyday diplomacy through infrastructure.²⁴⁻²⁵

Determinants of Peace

The effects of violent conflict are often the primary concern for both international interveners and governments.²⁶⁻²⁸ Although addressing these immediate needs is necessary, the responses cannot be limited to the outcome of violence, but also the causes.²⁶ Recent studies have emphasized the prevalence of social, political, economic, and environmental factors for preventing conflict and promoting peace, whether or not societies are beset with violent conflict.^{11,17,23,26,29} To adequately build a sustainable infrastructure for peace, the underlying conditions of conflict and the determinants of peace must be identified.

Characteristics of peace cannot be confined to non-violence. Davenport et al. report in *The Peace Continuum* that understanding peace characteristics, identified as the elements of peace, is essential to measuring peace.^{1(p.46)} The multi-faceted elements of peace, such as justice and law, conflict resolution and institutionalization, and order, influence actual or perceived

deprivations in societies often surrounding economic, political, social, and ethnic factors.^{1,30}

Though the elements of peace are linked to establishing the core absence of violence, they also highlight human rights by including equality and nondiscrimination, political freedom and civil rights, and socioeconomic opportunity. Ultimately, elements of peace interplay across economic, political, social, and environmental drivers that shape broader societal systems to promote either negative or positive peace.

Economic Determinants of Peace

World trade, more specifically globalization, has presented a significant influence on the peacefulness of economies by providing free flow of information, technology, goods, services, and labor.^{29,31} However, economic relations through trading relationships can be advantageous for one economy while another receives unequal net benefits through disproportionate costs.³² Striking a balance requires navigating trade between people and countries through intercultural dialogue, positive political relations, diplomatic ties, along with social and cultural interrelationships both domestically and internationally.^{29,33} Although positive economic relationships have the potential to foster peace through economic development, equitable growth and distribution can be sectionalized.²⁹

Economic growth and stability are not a direct link to peace because conflict can exist at multiple levels and intensities.³⁴ Conflict may be perpetrated at the level of global trade, but also within local and microeconomies including intrastate, trans-state, and non-state actors.³⁴⁻³⁵ Conflict is also organized on a spectrum between low or high intensity. Low-intensity conflict includes small-scale localized tension and minor short-lived violent outbursts, and high-intensity conflict includes major armed conflict or war.³⁶⁻³⁷ By analyzing the level and intensity of conflict within economies, peacekeeping or peacebuilding strategies that already exist can be adapted or developed.

The vast economic factors that cause or are affected by tension, conflict, and war are determined through the structure of governments, the infrastructure of trade, and strategies of economic growth distribution.²⁹ Poverty is the most robust source of conflict; however, the wealth of a country does not independently determine conflict.^{36,38-39} Rather, the inequities within societies that yield economic volatility increase the risk of conflict, regardless of the overall wealth of a country.³⁶ Conflict, civil strife, and war have an increased incidence in areas of poverty and poor economic development. Additionally, there are associations with inadequate availability and distribution of natural resources or income, lack of employment opportunities, and corrupt or incompetent political systems.⁴⁰⁻⁴²

The absence of violent conflict, apparent civil strife, and war in poverty-stricken countries or wealthy countries do not ensure peacefulness. Economies that yield negative peace invest in reducing violent conflict, crime, tension, and war by responding to or mediating these events.¹⁰ There may not be a direct conflict, yet there is no sustainable peace. Economies that yield positive peace invest in equal distribution of resources, availability of employment opportunities to all, and income equality and investment.^{10,42} This moves beyond income inequality and growth as indicators for violent phenomenon and establishes a political-economic environment that builds sustainable infrastructure for peace.

Political Determinants of Peace

Peacefulness in the political setting is determined by incentives, opportunities, and limitations that face political actors through the cost-benefit relationships.⁴³ These incentives, opportunities, and limitations regulate political structures and governmental function resulting in either negative or positive peace outcomes. The interaction of political actors determines governmental function and includes the quality and capacity of military power, political institutions, their bureaucratic power, and leadership.⁴⁴

Often, the militarization domain is associated with a reduced risk of conflict. A strong military power may lower the likelihood of an onset of violence, reduce the duration of violence, or terminate the violent event altogether. However, militarization has the potential to use force or coercion monopolization of the situation and blunt direct conflict.⁴⁵ This may increase grievances and damage the general state of peace. This poses military expenditures as an example of negative peace, while potentially changing the source of the conflict.

A properly constituted and well-functioning democratic system of government are important requirements for achieving peacefulness within political systems. The quality and cooperation of political institutions and leadership are analyzed by levels of electoral participation, the degree of power for executive authority, and the presence of checks and balances on authorities.⁴⁴ Institutions and bureaucratic actors increase stability and decrease conflict by increasing communication, cooperation and coordination, and transparency of expectations, incentives, and regulations.⁴³ The Global Peace Index 2020 measured political stability in countries using five questions with themes including the risk of social unrest, processes for transfer of power, group oppositional threat, level of executive authority power, and international relationship tension.¹⁰ These themes expand to the political actors that engage in government control, but also extend to economic and social stability determined political systems connected policies.

Political instability has been shown to negatively affect economic stability and growth, which can lead back to the cycle of poverty and conflict.⁴² Further, socio-political instability is a result of horizontal inequalities, or socioeconomic and identity-related factors.^{42,46} These horizontal inequalities, defined as inequalities among culturally defined groups in political, economic, and social dimensions, may raise the risk of conflict if rooted in political institutions

and structure.⁴⁶⁻⁴⁸ Ultimately, political structures that foster negative peace are often rooted in peace treaties that conduct communication and military control between state or non-state actors to ensure civility and non-violence. Contrarily, political structures that foster positive peace are transparent, democratic, foster political freedom and civil rights, and have well-functioning and collaborative governments.

Social Determinants of Peace

Economic and political determinants of peace closely align with social integration and relationships to promote conditions that either advance or dissuade human welfare. Huang and Throsby hypothesized that greater peacefulness would be associated with higher societal education levels, higher health status, decreased population growth, and greater tolerance of diverse ethnic groups.²⁹ However, reducing peacefulness to one of these socio-demographic factors limits the full picture of how socio-demographic factors are created and interact with each other.

Emanuel Adler emphasizes that the conditions of peace are socially constructed. The interpretations of peace are attached to shared meanings from historical, cultural, and political contexts.⁴⁹ The ideology behind the realities that peacefulness described identified a construct that that would be indispensable to the future well-being of society and necessary in both geographic and constitutional forms. The linkage between moral purpose, identity, and peace establishes meaning behind social relationships to promote collective understanding. The UN peacekeeping activities demonstrate this social connectivity by contending states in communicative and exchange processes that augment the future possibility of peace through affinities and common interests.¹⁶ Although these peacekeeping efforts do not necessarily guarantee a state of peace, establishing common identities provide the groundwork for keeping regional conflicts at bay and curb the spread of unstable practices.

Taydas and Peksen demonstrate that maintaining peace depends on the importance and application of social welfare within state capacity.⁵⁰ Strong state capacity has been suggested to reduce the risk and occurrence of conflict and increase political stability through welfare spending and redistribution of resources to citizens.^{44,50-51} Prioritization of social welfare promotes understanding between government and citizens, established trust in state systems, and reduces grievances. Extending beyond the reduction of violent conflict, this focuses on healthy living standards and promotes well-being.^{50,52} Social conditions and peace can then be expanded to include access to health services, housing, education, employment, social and community support, cultural awareness, and food.⁵³ These social welfare conditions that are constructed by societies, establish the institutions, structures, and systems that promote positive peace beyond the limited threat of violent conflict.

Environmental Determinants of Peace

Impacted by environmental, political, and social constructs, environmental determinants of peace are affected by human and ecological cooperation and collaboration. Barnett defines environmental insecurity as “the vulnerability of individuals and groups to critical adverse effects caused directly or indirectly by environmental change,” while environmental security is the ability of individuals and groups to adapt to these changes.⁵⁴ Warfare has drawn attention to both the unintended ecological consequences of violent conflict and the intentional environmentally detrimental acts of control over land and people, for example, the “scorched earth” operations.⁵⁵ Scorched earth tactics are an environmentally degrading military strategy that involves the destruction of lands and has included burning, salting, and use of toxic chemicals agents.⁵⁶

The relationship between environmental change and violent conflict has been globally observed at varying levels. This risk is especially prevalent in countries that struggle with social

stability due to weak governing systems (state capacity), high levels of inequity, and social-ecological instability through renewable resource fluctuation.^{54,57} The current trends of renewable resource exhaustion predict fewer areas of productive agricultural land, depletion of aquifers, rivers, and bodies of water, and further stratospheric ozone loss.⁵⁷ This scarcity of renewable resources further exacerbates high levels of poverty, weakens administrative capacity and government authority, and hinders economic activity generating conflict.⁵⁸⁻⁵⁹ Additionally, emerging evidence agrees that the contribution of climate change to resource availability and distribution plays an indirect role in conflict situations.⁶⁰⁻⁶¹ However, a robust understanding and explicit association between climate variables and higher levels of conflict unknown.⁶²

Moving beyond reactive approaches to environmental insecurity and degradation, environmental peacebuilding offers cooperation and collaboration potential for resource-driven conflicts.⁶³ This approach emphasizes mutually beneficial cooperation through reconciliation and political trust.⁶⁴⁻⁶⁵ Environmental challenges are unconstrained by political boundaries, yet offer potential ecological, economic, and political advantages by strengthening dialogue between communities, state, and non-state actors.⁶⁵

Determinants of Peace in the Context of Food

The relationship between food and peace appears throughout history yet has largely been defined in the context of, or lack of violent conflict. Examples reveal that conflict and food insecurity co-exist through the lack of access, availability, utilization, and stability of food resources leading to a decrease in functionality or collapse of the food system.⁶⁶ The prevailing drivers of marginalization, exclusion, and control through power leveraging, further exacerbate the violation of food as a human right and ongoing oppression that results from food injustice.⁶⁷⁻
⁶⁸ Food peace, however, intertwines with the social, economic, and environmental issues with opportunities to build community food security and peace-minded food citizens. Within the

context of the food system at the local, regional, national, and international levels, there are opportunities within the interdisciplinary structures of food and peace to apply either a peacekeeping or peacebuilding approach.

The multidisciplinary review of the economic, political, social, and environmental determinants of peace, point to a connection between food and peace. Food plays a role in economies all over the world, drives political incentives, defines social constructs, and impacts the environments that shape our food systems. Global drivers such as armed conflict, climate change, urbanization, and globalization of unhealthy diets, particularly in under-resourced and low-income countries, show that there is a need to assess challenges related to food and nutrition insecurity, health, and well-being. The 2021 Sharing Power, Building Community Report for strategizing improvements to nutrition education states, “people are not hungry or poor because of lack of access to food or economic opportunities. People are poor or hungry because of the disparities around power.”⁶⁹ Addressing these global drivers and their effects requires addressing social and health disparities to food insecurity.

Global leaders and individual community members must be aware that there is a difference between viewing safe, healthy, and nutritious food as an essential human right versus a controlled commodity. Food as a human right moves beyond availability, access, utilization, and stability of food and addresses food affordability, quality, accountability, sources, and supply chains.⁶⁸ The UN General Assembly adopted the International Covenant on Economic, Social and Cultural Rights multilateral treaty in 1966 formalizing the human right to food and health in Article 11. This states, “the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing, and housing, and to the continuous improvement of living conditions...recognizing the fundamental right of everyone to be free from hunger”

including specific obligations “to ensure an equitable distribution of world food supplies in relation to need.”⁷⁰ This acknowledges food and health as a human right foundational for peace.

The definitions and characteristics of peacekeeping and peacebuilding can then be linked to the food system based on the determinants of peace. Peacebuilding frameworks and approaches within the food system have not been well researched nor documented. Although general peacebuilding approaches are developing, there remains a gap within the characterization of food peace and analysis of peacebuilding outcomes within the context of food. Further, a specific food peace definition does not exist. By adapting the Earth Charter recognition of peace and applying it to the food system, food peace can be defined as the attitudes, institutions, and structures central to food that foster right and just relationships with self, others, and the Earth.²⁰

Food and Health

In order to understand the relationship between food and peace more concretely, food and nutrition security and the associated health outcomes must be acknowledged. Food insecurity is a significant public health concern given the high prevalence and negative consequences for nutrition, health, and well-being. Despite the relatively simple introductory definition of food security and ongoing efforts to establish a healthy and stable state of being for all people, there are widespread disparities surrounding food and health. These disparities are influenced by political, economic, and environmental determinants that can be connected to defining peace.

Food Security

Food security, as defined by the UN Committee on World Food Security (CFS), means that “all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.”⁷¹ The concept of food security has evolved since the 1950s to 1970s supply-side availability of sufficient food to the widely accepted four pillars of food security: 1) availability;

2) access; 3) utilization; and 4) stability.⁷¹⁻⁷² The four pillars of food security focus on ensuring adequate food supplies, enabling physical and economic access, biological utilization of nutrient content, and stability of resources, incomes, and systems.⁷³

During the 1973-1974 food crisis, food security-focused mainly on availability due to the decline in food supplies within countries, and the resulting impact of hunger and unstable food prices.⁷³ During this era, the 1974 World Food Conference decided the overarching solution to hunger was to expand food production.⁷⁴ Understandings of food security evolved to recognize the importance of access and stability of food resources for consumption due to market fluctuations and the global flow of supplies.⁷⁵ Further, it was acknowledged that even when food was widely available in global markets, famine situations arose due to country-wide political instability and individual socioeconomic conditions leaving large numbers of people unable to access food.⁷⁶⁻⁷⁸ Finally, utilization emerged to include the wider context of nutrition security ensuring adequate nutrients in the food supply, enabling the capacity to utilize nutrient content, and having access to water and sanitation for preparing food and maintaining proper hygiene.⁷⁹

Food insecurity can be experienced at various levels of severity. The FAO measures food insecurity using the Food Insecurity Experience Scale ranking levels from mild, to moderate to severe.⁸⁰ The State of Food Security and Nutrition in the World 2021 reported that moderate or severe food insecurity has been climbing slowly since 2014, and as of 2020 affects more than 30 percent of the global population, with more than 700 million affected by hunger living in Asia and Africa.⁸¹ Due to the COVID-19 pandemic, it is projected that about 30 million more people may face hunger by 2030 than were originally estimated.⁸¹

The FAO argues that the increase of food insecurity and hunger, along with the impacts of climate change and economic, can be linked to violent conflicts and social inequalities.⁸²

There is an inextricable linkage of food insecurity acting as a cause or consequence of conflict.⁸³⁻
⁸⁴ Low-income countries, in particular, that are affected by conflict and climate change face an uphill battle with the largest increase in food insecurity exacerbated by underlying systemic inequalities.^{81,85} The US, though not wrought with violent outbreaks of conflict, has faced political tensions and social grievances that affect food security. The vulnerability of the food supply chains that existed before the COVID-19 pandemic was threatened further when access to food plummeted mainly due to the loss of income and assets to purchase food.^{74,86} The COVID-19 pandemic highlighted the impact of the crisis on the access, availability, utilization, and stability of food, presenting a potential for long-term health implications along with persistent low-intensity conflict-related health disparities.⁸⁶⁻⁸⁷

Food security and peace

The UN 2030 Agenda for Sustainable Development has identified the eradication of poverty and hunger as a precondition to establishing peaceful societies and reducing the threat of conflict, insecurity, and weak institutions.⁸⁴ However, peacebuilding in situations of food insecurity requires more than just food assistance. Despite progress in understanding food security and aiding policy formulation, hunger is on the rise and there are widening inequalities of who are least advantaged in society.⁸⁸⁻⁸⁹ The FAO's goal of ensuring food security for all and the UN Sustainable Development goal two, Zero Hunger by 2030, have fallen short of contributing significant progress.^{81,90} Because of these shortcomings, there has been a growing awareness of the interconnection between food systems and other global systems, including political, economic, social, and ecological systems, to encourage a growing literature that approaches food security from a different angle.⁹¹

In line with this work, the High Level Panel of Experts on Food Security and Nutrition (HLPE) argues that the best way to establish sustainable and resilient food security is through a sustainable food system framework recognizing the challenges and strengths of particular countries, states, and communities.⁹² This includes giving formal recognition to agency and sustainability as dimensions of food security alongside the four established pillars. The HLPE argues that food policies require these additional dimensions to ensure applicable policy statements for national and international implementation. The HLPE suggested extension of dimensions to the definition of food security aligns with the UN 2030 Agenda for Sustainable Development. At the core of the UN 2030 Agenda lies a clear understanding that human rights, peace and security, and development are deeply interlinked and mutually reinforcing. This has been represented in Sustainable Development Goal 16, to “promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.”⁹³

Nutrition Security

The definition of food security has often been referenced as including both “Food and Nutrition Security” (FNS). However, nutrition security may be a more comprehensive definition that moves beyond treating hunger with caloric access, to promoting nutritious food that sustains healthy livelihoods and lifestyles.⁹⁴ Nutrition security was defined in 1997 meaning there exists “a nutritionally adequate diet and the food consumed is biologically utilized such that adequate performance is maintained in growth, resisting or recovering from disease, pregnancy, lactation, and physical work.”^{95(p.1)} In 2012, the CFS developed another definition that extends the definition of food security to the policy level, “nutrition security exists when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient

content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care.”⁹⁶

Food supply plays a significant role in determining what type of diet and lifestyle is available, and therefore affects the susceptibility of nutrient deficiencies. The food-based dietary guidelines encouraged by the FAO and the World Health Organization act as professional recommendations to promote healthy lifestyles. However, these guidelines have shown misalignments between food supply and dietary guidelines.⁹⁷ There is a sociocultural discrepancy between what food is encouraged to be consumed for a healthy diet and what food is available and acceptable to the public. Nutritionally adequate and optimal diets are not always affordable, available, or sustainable and are compounded by social factors such as employment, wage, income, child-care, housing, and transportation.⁹⁸ This highlights the structural inconsistencies within food systems in determining population health policies along with environmental health and sustainability.⁹⁷⁻⁹⁹ A quality diet that promotes healthy lives and livelihoods has also been presented as a sustainable diet that focuses on health, the environment, and social and economic factors.⁹⁸ Yet, encouraging people to eat a certain way or live an active lifestyle without providing the tools nor fully addressing structural and societal disparities is ineffective.

Nutrition security and peace

Food systems are being pushed to address a spectrum of issues of nutrition security that range from undernutrition to malnutrition including diet-related diseases such as diabetes, heart disease, and cancers.¹⁰⁰ FNS shows that being food secure does not necessarily mean that a person is nutritionally secure. Peacekeeping mitigation includes responding to food security and hunger, diet-related chronic disease, communicable disease, cognitive dysfunction, and

psychological and mental disorders. Nutrition security, however, moves beyond response and establishes food environments conducive to both food security and healthy diets for disease prevention and health promotion. This opens the doors to establish peacebuilding mitigation that focuses on the well-being of the whole person.

Crisis, conflict, and ongoing poverty add extra layers of complexity into establishing nutritional security and using food as a means of peacebuilding. In 2019, three billion worldwide could not afford a healthy diet.⁸¹ Further, the COVID-19 pandemic has made clear that the financial ability to access safe, nutritious, and high-quality food is at risk⁷⁴. Additionally, defining and measuring quality and healthy diets remains challenging because of the range of dietary customs, differing cultural contexts, the availability of local foods, and individual dietary needs.¹⁰¹ Still, maintaining a balanced and diversified healthy diet over a period of time can be generally described as consuming healthy foods and nutrients (macronutrients and essential micronutrients) specific to age, gender, physical activity level, and psychological state, while limiting consumption of unhealthy foods and nutrients (saturated fat, sodium, and sugar) for adequate nutritional status.^{81,102}

Food insecurity and poor nutrition are closely linked: individuals who report being most food insecure also have higher risks of developing obesity, diabetes, hypertension, coronary disease, stroke, cancer, and associated conditions, even after adjusting for other risks such as age, sex, employment, marital status, race/ethnicity, smoking, insurance status, family size, education, and income.¹⁰³ During the past 30 years in the US, there has been an increase in the prevalence of these conditions which are associated with the majority of morbidity, mortality, and health care spending nationally.¹⁰⁰ While U.S. food policies addressing hunger and food insecurity largely focus on providing sufficient calories or quantities of food, the diet-related challenges of

the U.S. require a broader conceptualization of nutrition security. Considering this, nutrition security demonstrates the potential to move beyond a peacekeeping approach of disease prevention to a peacebuilding approach of health promotion.

Health Disparities and the Social Determinants of Health

Health People 2020 defines health disparities as “a particular type of health difference that is intricately linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”¹⁰⁴ Health disparities acknowledge the gaps that exist in establishing health status for individuals and whole populations. These gaps in health status are determined by the consequences of accumulated risks, critical periods, and pathway processes that impact healthy development and behaviors at all stages of life.¹⁰⁴ These mechanisms in which exposures or lack of care impact health or disease development are influenced by the environments and circumstances into which people are born, grow, work, play, and age.

Health disparities are inextricably linked to FNS and the structured ideology of disease prevention versus health promotion. Currently, the world faces a dual health crisis of the rising prevalence of obesity and diet-related illness alongside hunger and malnutrition. This double burden considers both diet and lifestyle showing health conditions are relevant both by choice motivation and through structural inequalities.¹⁰⁵⁻¹⁰⁶ These conditions include diet-related disease (including micronutrient and vitamin deficiencies and nutrition-related chronic disease), diet-associated communicable diseases, developmental origins of disease, diet-associated cognitive dysfunction, and psychological and mental health disorders.^{89,107}

Research has especially emphasized the association between food insecurity, household-level income, and social conditions of limited or lack of access to adequate food and nutrition-related health outcomes including obesity, hypertension, and diabetes.¹⁰⁸⁻¹⁰⁹ Although the United States Centers for Disease Control and Prevention (CDC) identifies risk factors such as lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption as contributing to chronic disease, disability, and premature death, these risks do not acknowledge the underlying issues that encourage or force people to succumb to poor nutritional health and well-being.¹¹⁰ Although individual behavior plays a large role in determining health status, these behaviors are often indicative of what foods, nutrition education, and types of employment are accessible, available, affordable, and health-promoting. Additionally, literature has emphasized the social-level factors yield barriers to nutritional interventions and healthcare availability.¹¹¹

A study conducted by characterizing the typical food-insecure person using the Food Insecurity Experience Scale measurements revealed that across economic developmental rankings, low levels of education, weak social networks, and less social capital contribute to food insecurity.¹¹² The CDC reports that political and social disparities poor access to employment, exposure to environmental toxins, unhealthy environmental conditions in communities of Black, Indigenous, or people of color (urging), including housing and workplaces lead to health disparities and inequities.¹¹³ Further, in 2013 the CDC reported on several severe health disparities in the U.S. on cardiovascular disease, adult diabetes, and infant mortality. Black Americans are 50% more likely to prematurely die of heart disease or stroke than their non-Hispanic white counterparts.¹¹³ The prevalence of adult diabetes is higher among Hispanics, Blacks, and mixed races than their non-Hispanic white counterparts. Additionally, Americans have more than double the rate of infant mortality than their non-Hispanic white counterparts.¹¹³

Further, while pregnancy and childbirth complications are still prevalent in the US, African American maternal mortality is three times higher than white women, with pregnancy-related deaths being largely due to cardiovascular conditions.¹¹⁴ BIPOC people are more likely to experience food insecurity, diet-related disease, and food production environmental exposures, showing the connection of health disparities based on race with social and economic injustices.¹¹⁵⁻¹¹⁸

Beyond these health outcome statistics that occur among vulnerable minority groups, there has also been documentation that BIPOC receive a lower quality of care in the healthcare setting due to implicit bias beyond insurance status, socioeconomic status, and level of medical necessity.¹¹⁸⁻¹¹⁹ This contributes to other negative health outcomes, such as mental health outcomes, for the BIPOC community associated with the drivers of political and social disparities. These health disparities highlight social and structural drivers that are influenced by both structural and cultural violence.

Because some of the most common chronic conditions including cancer, cardiovascular disease, and type 2 diabetes have been directly linked to poor diets, there is an obvious connection between health disparities and food access, availability, affordability, stability, and quality.¹²⁰⁻¹²² This discrepancy between food and health has presented itself in the example of food deserts. Geographic areas, especially low-income communities and often communities of color, where people lack sufficient access to food or are located far from access to affordable, healthy, and nutritious foods have been coined the term “food deserts.”¹²³ Living in a food desert has shown a higher risk of adverse cardiovascular events, including cardiovascular disease.¹²⁴

However, criticism of the term “food desert” has included the implication that a food desert is somehow naturally occurring while obscuring the social, economic, and often racially

discriminatory policies and systemic disinvestment in communities. Rather, the term “food apartheid” has been presented as a better term to fully represent how policies and systemic structures throughout history and how today these ongoing structures affect have limited access to healthy affordable food.¹²⁵ Combatting food apartheid argues that all people, regardless of race, ethnicity, sex, age, or socioeconomic status, should have access to safe, nutritious, and affordable food that ensures the health of the whole individual and have the security that the food system will not jeopardize these rights.

Social determinants of health

The Social Determinants of Health (SDH) contribute to either quality health, function, and well-being or influence inequalities, disparities, and grievances. These determinants are grouped under five categories: economic stability, education access and quality, health care access and quality, neighborhoods and built environments, and the social and community context (Figure 2-1).¹²⁶ The SDH construct play a fundamental role in determining health crisis responses and the development of health interventions. For example, healthy communities not only respond to incidents of communicable diseases but also take steps to prevent these occurrences in the first place by establishing strong infrastructure that is backed up financially and politically.

Many researchers agree that political determinants of health characterize the underlying stimuli of the SDH.¹²⁷⁻¹²⁹ The Henry J Kaiser Family Foundation’s Social Determinants of Health expands the original Healthy People 2030 Social Determinants of Health to include food security and access to healthy options within the framework of health.¹³⁰ This emphasizes the centrality of food within the infrastructure of the healthcare system including nutrition education,

but also to build sustainable communities that are focused on the well-being, rights, and justice for all people.

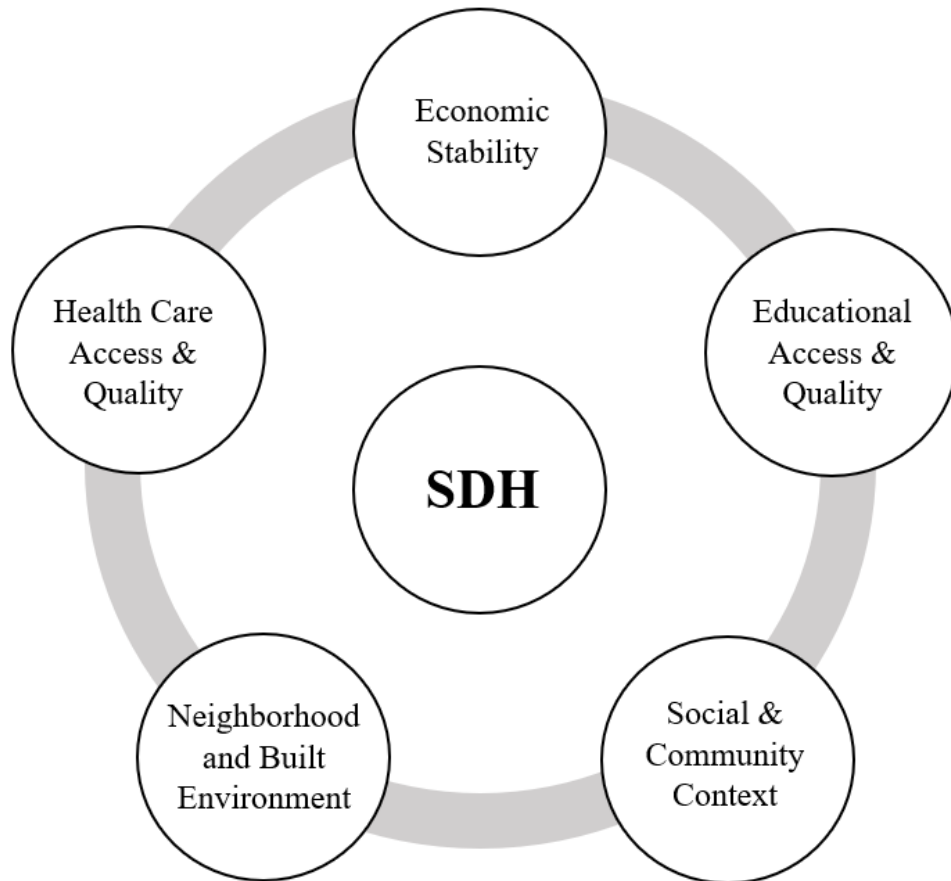


Figure 2-1. Social Determinants of Health (SDH)

Food Sovereignty

The definition of food sovereignty sparked by La Vía Campesina in 1996 vocalized the foundational aspects of food rights and food agency that existed long before a concrete definition was built. This included the seven principles of food sovereignty, 1) Food: a basic human right, 2) Agrarian reform, 3) Protecting natural resources, 4) Reorganizing food trade, 5) Ending the globalization of hunger, 6) Social peace, and 7) Democratic control.¹³¹ The refined definition presented in Sélingué, Mali at the Forum for Food Sovereignty expanded on the rights of peoples to obtain and produce their food as local producers, distributors, and consumers. Further, it

defended the interests and rights of proceeding generations, the promotion of transparent and just trade for the equality of all peoples.¹³²

Historically, food sovereignty emerged as an antithesis to the claims of “food security” emphasized by the World Trade Organization through the corporate food regime in the 1990s¹³³ There was growing global awareness that food failed to reach millions around the globe every year despite the era of globalization.¹³⁴ The global reconstruction of the agrarian food system threatened local food systems and small-scale producers through land grabs, evictions, large-scale monocropping. This privileged of transnational corporations and agribusiness through World Trade Organization trade rules.^{133,135} While corporate food regimes developed, food sovereignty emerged initiating self-determination and democracy against the neoliberal idea of food security.

The food sovereignty movement combatted the original and prevailing definition of food security by the FAO. According to the FAO, food security is stated as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” including social access as an addition to the original 1996 definition.¹³⁶ However, this definition failed to acknowledge how and where food was sourced. This gap in the definition of food security has been suggested to be intentional by remaining neutral in reference to political control or power,¹³⁷ however, another explanation includes the difficulty of representing an all-encompassing definition for action at a global scale.

The food sovereignty movement took center stage in recognizing food and food production as political and requiring direct democratic participation.¹³⁷ Food sovereignty ensures the right of peoples, considering the context of historical geographies of oppression and

resistance, to be engaged in these policies, processes, and politics. Dilley et al. argue that the rights-based framework of food sovereignty acknowledged discrimination upon rights of food, and social, political, and natural resources as a violation of humanitarian law and necessitated state support and protection of autonomy.¹³⁸ Further, food sovereignty redefined rights in terms of the local capacity of populations, structural oppression, and direct control.⁷⁰ Scholars argue that this rights-based approach encourages social and ecological resilience, especially in protections for the poor, marginalized, vulnerable, and silenced populations.¹³⁸⁻¹³⁹

Food Justice

While the world currently faces a dual health crisis of the rising prevalence of obesity and diet-related illness alongside hunger and malnutrition, structural inequalities are brought to the forefront of food justice movements alongside a demand for food sovereignty. Food justice discourse, similar to that of food sovereignty, acknowledges the importance of community self-reliance for food acknowledging the structural inequalities that underly contemporary food systems and food movements impacting health outcomes.¹⁴⁰ Food justice recognizes the interaction between how food can be used as a weapon of oppression, or how it can be used as a method of peace.

Although not explicitly associated in their definitions, food sovereignty and food peace share a common thread as food justice. Food justice, as emphasized by scholars Nik Heynen, Hilda E. Kurtz, and Amy Trauger, must link community food security and food sovereignty for the actualization of social, political, and economic change.¹⁴¹ Although focusing on urban foodscapes, the authors pointed out that food crises cannot be confined to traditional food conflicts that lead to large-scale migration, political upheaval, and human mortalities. Rather, food violence comes in other forms such as political oppression and inequities, racism, and patriarchal logic that are ingrained into the expectations of functioning societies, particularly in

“advanced capitalist nations.”¹⁴¹ This scholarship connected the necessity of connecting food security and food sovereignty for the goal of right and just relationships across food systems by restructuring pathways which may be named peacebuilding.

Caroline Delgado, Vongai Murugani, and Kristina Tschunkert acknowledged that limited food security interventions consider the larger food system dynamics and feedback loops during planning and implementation processes.¹⁴² However, better understanding these large-scale and local dynamics identifies entry points for a holistic approach to building peaceful food systems. Further, understanding the links between food, conflict, and peace in the local context highlights the experiences of individuals while identifying root causes established through existing government capacity and structures. Similar to localized food sovereignty movements, authors emphasize the importance of “establishing inclusive structures, building on local knowledge and capacity through the meaningful participation of populations most affected by conflict and food insecurity, including women, minority ethnic and social groups, and small-scale farmers.”¹⁴² Particular peacebuilding efforts increase the awareness of the interrelations of food, conflict, and peace local, national, and regional levels with the relevance to particular groups or populations.

Sustainable Food Systems

As complex socio-ecological systems involving interaction between human and natural components, food systems are functioning in terms of environmental, economic, political, and social drivers. While it is widely acknowledged that food system sustainability must entail long-term FNS through the dimensions of availability, access, utilization, and stability, food systems and food security are often defined as separate paradigms.¹⁴³ The agricultural drivers and industrial mechanisms of food processing, production, and waste dictate the inputs, processes, marketing, and outcomes of food systems and the potential for sustainable development. A sustainable food system can be defined as one that, “provides healthy food to meet current food

needs while maintaining healthy ecosystems that can also provide food for generations to come, with minimal negative impact to the environment; encourages local production and distribution infrastructures; makes nutritious food available, accessible, and affordable to all; is humane and just, protecting farmers and other workers, consumers, and communities.”¹⁴⁴

In order to ensure the essential outcomes of food systems are maintained or enhanced over time, identifying and modeling intrinsic properties for sustainable food systems are key.¹⁴⁵ A socio-ecological approach acknowledges interdependencies between drivers, system activities and properties, outcomes, and feedback loops in food systems. These interdependencies enable the enhancement of policies pertaining to exposure, sensitivity, resilience, and health perspectives.^{83,145-146} Historically, food sustainability concepts follow a path similar to that of food security. Sustainable food systems have been increasingly seen as a precondition for FNS.¹⁴³ Both food systems and food security are impacted by geography, demography, urbanization, and globalization; socioeconomic status and income, marketing, and consumer attitude; and religion and culture at the household, local, regional, and national level.^{143,147} FNS is especially influenced by food production, processing, transportation, distribution/retail, and consumption in a broader framework.¹⁴³ Although the strategies to foster sustainability transitions in food systems are still debated, a larger health and policy perspective exists, ensuring efficiency and resilience for food systems and sustainable diets.

Food security and nutrition policy has been suggested to be best approached within a sustainable food system framework. The sustainable food systems framework put forward by the HLPE acknowledges that food systems encompass the various elements and activities that relate to the production, processing, distribution, preparation and consumption of food, as well as the output of these activities, including socioeconomic and environmental outcomes (Figure 2-2).⁸⁶

Additionally, this framework captures the complexity of the interrelationships of drivers that range from biophysical resources and the environment to political and institutional drivers to influence diets, nutrition, and health outcomes, underpinned by the right to food. The Nutrition-Focused Framework for Action cultivating sustainable, resilient, and healthy water systems offers another framework emphasizing sustainable systems for the transformative power of food and nutrition.¹⁴⁸ This framework identifies four cross-cutting areas, education and training, research, practice, and policy in which the framework can be utilized to advance professional contributions to the field of nutrition and dietetics.

Frameworks for Action

Theoretical frameworks are defined as providing a general representation of relationships within a given phenomenon, while conceptual frameworks centralize the specific direction of research. While both frameworks are important for adequate research and courses of action, establishing a theoretical framework is quintessential for understanding the intimate workings and connections between relevant theories and concepts. Further, theoretical approaches used in implementation aim to describe and/or guide the process of translating research into practice processes, to understand and/or explain the influences of implementation outcomes, and to evaluate implementation.¹⁴⁹ Conceptual frameworks then organize thinking as a guide for action and interpretation to systematically translate knowledge for increased evidence uptake and practical adaptations.¹⁵⁰⁻¹⁵¹ While theoretical frameworks provide a foundational approach for examining trends and posing critical thought for the strategic direction of action, the gap in the relational representation between food and peace necessitates a theoretical understanding to specifically design future action pathway conceptualization.

SUSTAINABLE FOOD SYSTEM FRAMEWORK

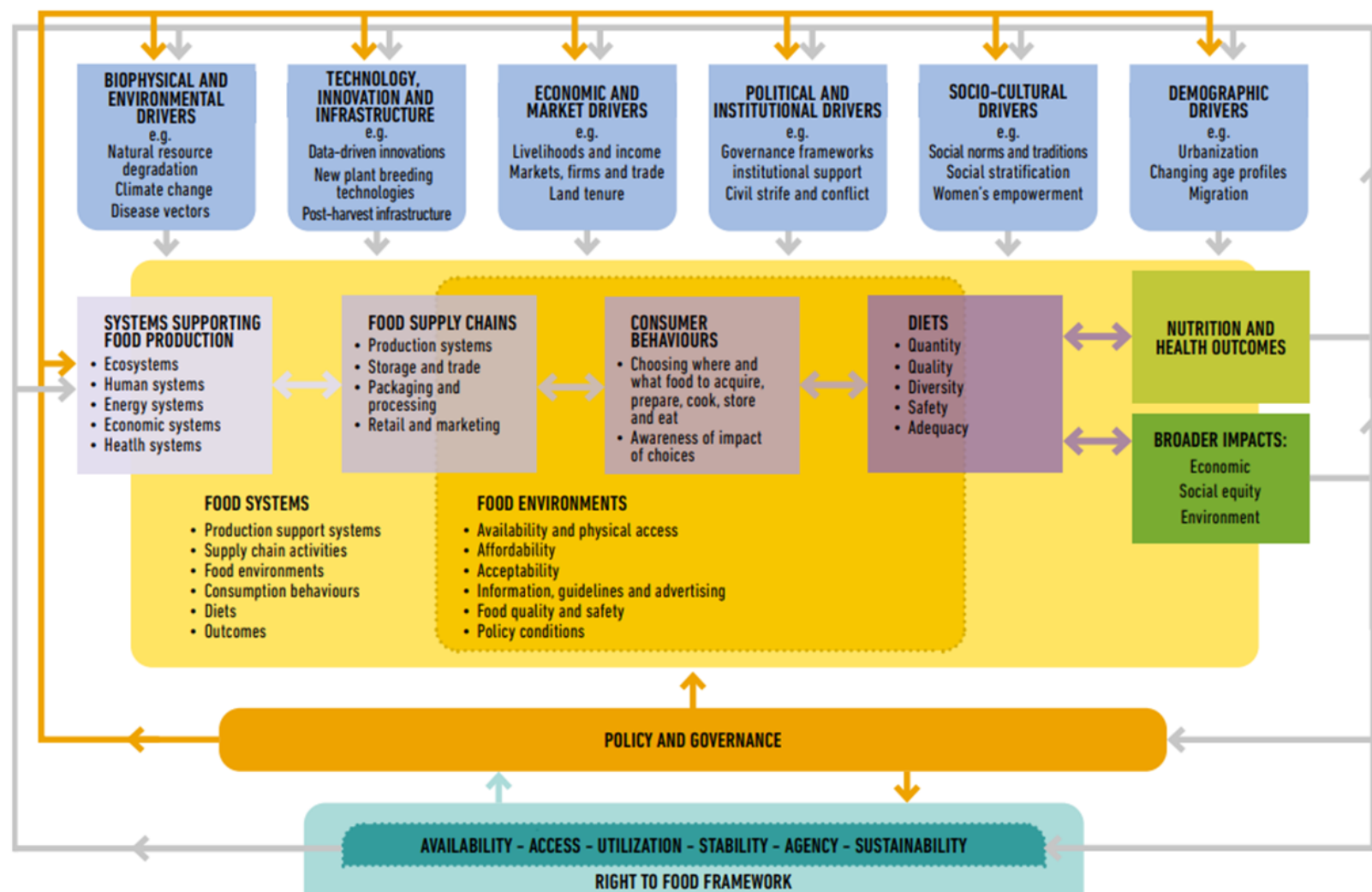


Figure 2-2. Sustainable Food System Framework. Source: HLPE. 2020. Food security and nutrition: Building a global narrative towards 2030, Rome. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>. Reproduced with permission.

Peacebuilding Frameworks

Due to the relative novelty of peacebuilding as a field of study and practice,¹⁵² models conceptualizing peacebuilding have only recently begun to emerge. Moshe states that identifying the root causes of economic despair, social injustice, and political oppression is essential for the transpiration of the transition from conflict to coexistence.¹⁵³ Beyond this recognition and relative deprivation, perception of discrepancy between value expectations and environmental actualities, Moshe expands on the necessary conditions for peacebuilding: 1) ensuring the establishment of inclusive, autonomous communities for wellbeing, growth, and development, 2) the recognition of the rights, claims, and participation of communities, and 3) the recognition of human rights and empowerment as the necessary structure to govern and protect through policy. These conditions may be expanded further to be conceptualized into conditions, mechanisms, and outcomes. Overall, “the application of human rights law and community building strategies for the foundation of peacebuilding.”^{153(p.16)}

The work of Barry Hart (2008: ix) created a heuristic Peacebuilding Wheel of Values, establishing entry points into the creation of a more stable society. Overarching values are brought forward in terms of psycho-social trauma and wellbeing, education, identity/dignity and worldview, justice, conflict transformation, religion/spirituality, leadership, space, humanitarian assistance and development, and security as driving forces for peacebuilding.¹⁵⁴ Further, the Kroc Institute Strategic Peacebuilding Paths determined areas of practical application for peacebuilding through a triad of efforts focused on violence prevention, conflict response and transformation, justice and healing, and structural and institutional change (Figure 2-3).¹⁵⁵ Strategic peacebuilding focuses on the goal of resolving conflict and “build societies, institutions, policies, and relationships that are better able to sustain peace and justice.”¹⁵⁵

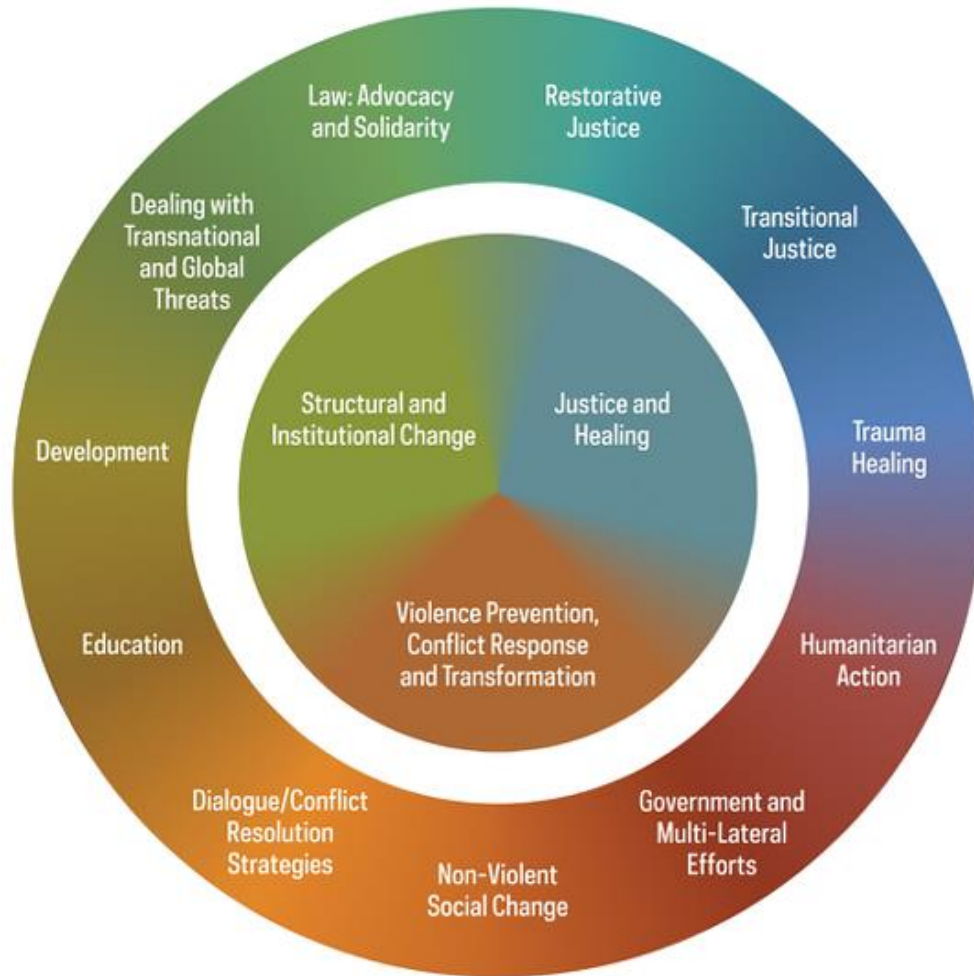


Figure 2-3. Strategic Peacebuilding Pathways. Source: John Paul Lederach and Katie Mansfield. "Strategic Peacebuilding Pathways." Kroc Institute for International Peace Studies, University of Notre Dame.

Additionally, a growing body of literature has focused on the paradigm shift towards environmental peacebuilding while developing concrete theoretical frameworks.^{5,63, 156-157} When considering the building blocks of environmental peace, the connection between human welfare and environmental protection are essential. This can be recognized by environmental change acting as a factor in violent conflicts and deepening structural violence, as well as direct violence and structural violence causing environmental insecurity.⁵⁴ These levels of insecurity and violence are rooted in Galtung's definitions of direct and indirect conflict and show the interplay between security and peace.

Theory of Change

A theory of change (ToC) is a decision support tool that uses backward mapping to achieve a desired outcome or impact by identifying and articulating causal preconditions, sequences of events, and their associated assumptions. Theories of change are used to illustrate a “missing middle” between how activities and interventions function and how these lead to particular outcomes and goals with varying levels of impact.¹⁵⁸ Theories of change provide useful frameworks for action in planning activities and interventions within initiatives, programs, and policies, specifically complex social programs.¹⁵⁹ The ToC approach was primarily started through the work of the Aspen Institute Roundtable Initiative and states three strengths in approaching social program development and evaluation.¹⁶⁰ These strengths “sharpen programme planning, can facilitate decisions concerning the prioritization of evaluation questions and methods and can reduce the problems associated with causal attribution that commonly plague the evaluations of complex interventions.”¹⁵⁹

Although having similar goals to other evaluation processes, ToC can be both comprehensive and specific to a particular intervention. The four main steps of ToC outlined by backward mapping and linking outcomes are, 1) completing an outcomes framework, 2) developing indicators, 3) identifying interventions, and 4) identifying long-term goals.¹⁶¹ The ToC model is useful for integrating the conceptual food systems framework for diets and nutrition and the food systems wheel framework with goals embedded in the broader performance of the food system referring to the dimensions of sustainability.¹⁶¹⁻¹⁶²

Theoretical Framework for Research

This research builds on a multidisciplinary review of the evolution of the food and peace nexus into an emerging food peace framework largely requiring a system-thinking and transformative approach for change, namely the socio-ecological model and the OEF theory of

peace. The overarching theory that defines subsequent theories and frameworks is named general systems theory (GST), more specifically social systems theory. Social systems theory emerged from GST originating in the 1940s from the work of the biologist Ludwig von Bertalanffy. Initially, this theory sought to find a new approach to the study of life or living systems for the psychological and natural sciences and promoted a pluralistic argument in the relationship and interactions in the organization of life.¹⁶³ GST evolved to include social scientists' research addressing the understanding of individual and social problems including the groups, organizations, societies, and families.

In 1979, Bronfenbrenner's socio-ecological model of development emerged from social systems thinking describing how societies exist and develop. This model was illustrated as a nesting model including the individual at the core and subsequent rings represented as microsystems closest to the individual, mesosystems beyond immediate interaction, exosystems including community and social networks, macrosystems of societal, religious, and cultural values and influences, and chronosystem as elements of time and historical content (Figure 2-4).¹⁶⁴ The socio-ecological model acknowledges the interaction between the characteristics of the individual, the community, and the environment including that includes physical, social, and political components for health and well-being.

The CDC has officially endorsed a socio-ecological model of violence prevention as a specific social systems theory framework.¹⁶⁵⁻¹⁶⁶ The framework was endorsed for the design of community, interpersonal, and family violence prevention programs specified as four interplaying levels within the model: individual, relationship, community, and societal. Although focused on prevention, this model promotes the identification and further understanding of the range of factors that may enable risk of violence, or protect the experience of violence, including

perpetrating violence. As an active example of social systems theory in practice, the CDC socio-ecological model of violence prevention demonstrates the complexity within system levels and the necessity to act across system levels for population-level impact.

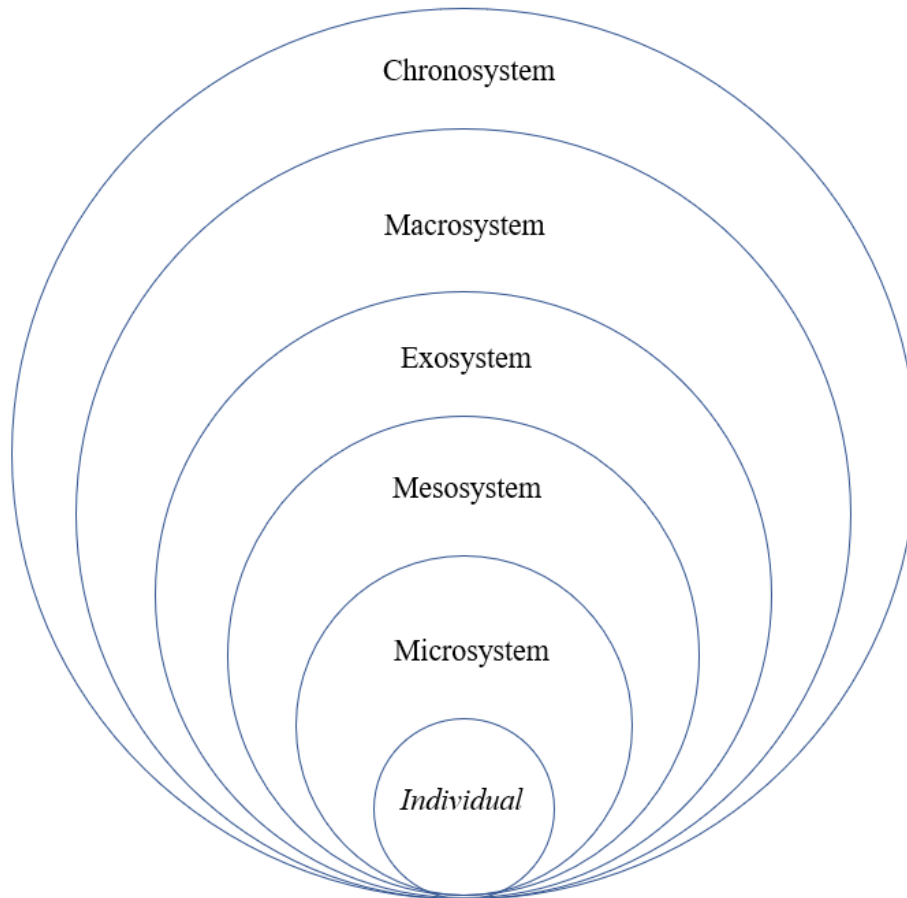


Figure 2-4. The Socio-Ecological Model

The OEF theory of peace within the theoretical framework of this research is established as a foundational theory, acknowledging that “no violent conflict comes from one cause.”⁶ This interdisciplinary and multi-faceted view of conflict and peace considers the actors engaged in situations of conflict and the pressures that lead to conflict. The OEF theory of peace states that peacebuilding offers a means of coordination across society as a whole.⁶ This collaboration seeks to fully address the drivers of conflict and limits to peacekeeping in order to support sustainable

peace. Establishing elements that promote peace, according to the OEF theory of peace include structural interdependence, economic development, democracy, and women's inclusion.⁶ The OEF Theory of Peace adds to Johan Galtung's foundational peace studies work in defining peace, specifically identifying peace as a condition of stable order, minimizing reliance on organized violence, and sustaining the presence of harmony for human fulfillment.²

Integrating Theory and Food System Frameworks

The principles of the SEM, address the social influences and environmental interactions as factors across multiple system levels. Food systems, as dynamic systems, depend on the trade-offs from both internal and global changes between ecosystem services, economic performances, and environmental impacts.¹⁴⁵ More recently, authors describe the key concepts of vulnerability and resilience with Socio-Ecological Systems frameworks to highlight key system processes and characteristics for global change.¹⁶⁹⁻¹⁷⁰ By identifying the pathways leading to vulnerability and the characteristics and opportunities for resilience in the food system at scale, crucial progress can be made towards sustainable development, health, and well-being.^{145,164} One of the vulnerabilities to food systems, along with vulnerability to climate change, vulnerability to price volatility, and vulnerability to demographic transformations, is the vulnerability with the presence of conflict, and so further the lack of peace.¹⁶⁹ As described by the OEF theory of peace, because of the interdisciplinary and multifaceted view of conflict along with the requirement of coordination across society for peacebuilding, the connection to the vulnerabilities and resilience with a food system perspective is evident. Further, when the socio-ecological model is acted through a ToC perspective, the opportunity for the intervention of complex social programs within systems becomes strategic and concrete.

Conclusion

While the relationship between food and peace has been seen throughout history, peace studies perpetuate a conflict narrative in response to food insecurity and health disparities. The economic, political, social, and environmental drivers within broader systems determine negative or positive peace outcomes either through peacekeeping or peacebuilding approaches, respectively. These overarching drivers of peace lay the foundation for the interdisciplinary and multi-faceted determinants of food peace in food systems. These determinants of food peace impact human nutrition, health, and wellbeing, along with the health of the Earth.

Peacebuilding has evolved way to address the trends and direction of action for conflict situations and further to address the root causes of economic despair, social injustices, and political oppression by including autonomous communities and recognizing community rights and claims.¹⁵ Additionally, peacebuilding frameworks have recently emerged as a way to encourage cooperation and sustainable peace across political borders, human and ecological health sectors and differing scales of leadership and governance.⁶³ While sustainable food system frameworks have become more prevalent over the last decade, the literature surrounding food peace is limited and a framework for exploring food in the context of peacebuilding does not exist.

It is the goal of this current study, *Food as grounds for peacebuilding: conceptualizing a food peace framework for the field of nutrition and dietetics*, to combine what is known to build a food peacebuilding framework that addresses the relationships between food and peace in broader food systems. This study explores an alternative paradigm shift towards a peacebuilding approach for nutrition and dietetic education, research, and practice.

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CHAPTER 3. PROPOSED METHODOLOGY FOR THE DEVELOPMENT OF A FOOD PEACE FRAMEWORK

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Research Design

On September 21, 2019, the Iowa State University Sustainable Peace Faculty Learning Community held an event on central campus recognizing the United Nations International Day of Peace. Members of the Iowa State University community including students, faculty, staff, and community members were invited to write an open-ended anonymous response to the question “what does peace mean to you?” Responses (n=193) were analyzed, and results yielded five general themes organized by the first author: absence of conflict, unity and community, equity and equality, acceptance and respect, and individual contentment and autonomy. These themes fueled the creation of a preliminary hierarchy of peace by the researchers of this study. This hierarchy of peace expanded on how peace could be separated into levels or rankings and how peace is being used and could be used in the food system. Based on the definitions of conflict, negative peace, and positive peace it was determined that a peace continuum was better suited to describing the different types of peace, or lack of peace. The peace continuum became a starting point for assigning characteristics and determinants of peace on a set scale, which

ⁱ This chapter is currently a work in progress. It may differ in significant ways from the published version.

emerged into the development of a draft framework for food and peacebuilding. A qualitative grounded theory approach was selected to develop a food peacebuilding framework based on the perspectives and expertise of registered dietitians through semi-structured interviews.

The grounded theory approach is a qualitative methodology of developing inductive theory grounded in systematically gathered and analyzed data. Data collection, analysis, and interpretation generate a general explanation (a theory) of a process, action, or interaction shaped by simultaneous and iterative data gleaning and analysis.¹⁻² Continuous interaction with the data and emerging conceptual theory through the method of constant comparison yields eventual theoretical saturation in which no new concepts are developed along with conditions, characteristics, and consequences of existing categories. The grounded theory research process includes identification of the research problem, framing the research question for data collection, theoretical sampling, data collection, coding and analysis, and emergent theory building.²⁻³

Starting in October 2021, interview requests (see Appendix B) were emailed to participants from a purposive sample frame. In total, 22 semi-structured interviews were conducted from October 2021 through January 2022. Interviews were conducted via Webex and involved written and verbal responses which were video recorded and transcribed by Webex. Prior to interviews, participants were emailed a link to a Qualtrics™ online informed consent form and pre-interview survey (see Appendix C and D). Before participating in either the pre-interview survey or the semi-structured interview, participants were requested to electronically sign the Qualtrics™ informed consent form. Participants also verbally consented before the interview was conducted in order to affirm or deny consent to identifiability. After transcription, interviews were analyzed in NVivo software version 12 for coding and analysis. The study and

procedures were approved by Iowa State University Institutional Review Board (see Appendix A), and all participants provided both written and verbal consent.

Positionality

Qualitative research includes acknowledging the positionality of the researcher within a given research study. Positionality captures the researcher's worldview concerning ontological, epistemological, axiological assumptions personally, socially, and politically in relation to the study context.^{2,4} Positionality requires a reflexive approach that identifies how research is designed and conducted and the influence on outcomes and results.⁴ The explicit statement of positionality acknowledges the researcher as part of the social world and notes previous interpretations of the world by social actors through social-historical-political location.⁴

Positionality statement

Over the past seven years, I have had the opportunity to study and work within the fields of nutrition, agriculture, environmental conservation, and community development, both in the United States and internationally, in rural, suburban, and urban settings. In 2019, I earned my B.S. in Biology and minor in Chemistry from the University of Northern Iowa. However, it was largely through my international experiences that I became drawn to the connection between my undergraduate degree and the social sciences, and further how this connection relates to peace.

In 2018, I had the opportunity to work as a food security and nutrition intern in Limpopo, South Africa. A little over a year later, in 2019, I began my experience as a United States community agriculture Peace Corps Volunteer in Cordillera, Paraguay. The experiences of working intimately within rural community settings shaped my perspectives on community building, cultural sensitivity, and the barriers and inequities within the food system. At the time of research, I was a nutritional sciences and sustainable agriculture graduate student, and an active part-time staff member within the charitable food system network at a local food pantry.

My international work especially piqued my interest in understanding the historical contexts of food systems in the countries where I briefly lived, and how their food systems at points in time had been affected by conflict or a lack of peacebuilding. Returning to the United States, I became more aware of other types of health disparities that seemed to be made invisible or disregarded within the local, regional, and national food system. My professional and academic experiences past and present have provided invaluable learning, allowing me to reflect on my privilege, and on my responsibility to address injustices that exist at the intersection of food, nutrition, and peace within our food systems and the larger political, economic, and social systems.

As a white, heterosexual, and legal citizen of the United States who has not struggled directly with food insecurity, I acknowledge my privilege while observing the inequities surrounding race, sexual organization, and immigrant, refugee, or non-US citizenship status. Further, I consider myself to be an advocate for the rights and dignity of all people, including the right to be food-secure, healthy, and happy in this generation and for generations to come. Choosing to take part in internships and career opportunities surrounding food security and nutrition have exemplified these values and motivated me to analyze the issues central to these aspects. This has brought me to move away from the laboratory-based research that was my introduction to scientific experimentation, and use approaches based on relationship, engagement, and theories of change. I find myself identifying with the transformative and postmodern interpretive frameworks to both change the way of thinking as a prerequisite for action and also to implement an action agenda based on these changes of thought. For me, action agendas that “reflect power and social relationship within society” need changes of thought to ensure reformation in actual practice through systems thinking.^{2(p.61)}

Participant Selection and Recruitment

A sample size of at least 20 participants was estimated to reach data saturation based on another qualitative research study that also utilized semi-structured interviews (n=20) to investigate perceptions of dietitians in a healthcare setting.⁵ From a grounded theory standpoint, saturation includes theoretical, thematic, and data saturation in which no data ceases to yield new information or theoretical insights.⁶⁻⁷ Inclusion criteria included: 1) Registered Dietitian status; and 2) professional working in and with the food system, in a category including academia/education, industry/business, authors/journalists, policymakers, organizational leaders, non-profit founders/professionals, farmers, and physicians. Registered dietitians were selected as the participants to validate the food peace framework as professional food and nutrition experts representing a common educational goal of delivering updated and encompassing information regarding food and nutrition to the public.

Participant sampling was employed as a non-probability sampling method including both purposive and snowball techniques. Purposive sampling allows for intentional choice in diversity of characteristics among the participants ensuring the presence of diversity and avoidance of homogeneity, while also selecting participants who can offer valuable insight into the topic of research.⁸⁻⁹ The participants were intentionally selected based on experience within the food system, while purposefully mirroring the Commission on Dietetic Registration demographics and statistics for the United States for sex, age, race, and ethnicity.¹⁰ At the completion of each interview, participants suggested other registered dietitians to be interviewed, enabling a snowball sampling technique.

The researchers and an additional registered dietitian brainstormed and identified a working list of registered dietitians working in the food system who met the inclusion criteria and invited them to participate in a structured interview. Researchers used their professional

network to create a working list based on diversity of experience and years of experience working within the food system for a purposive sample. Contact information for these individuals was found on their organizations' publicly available web pages. Recruitment email invitations were sent out to participants to invite them to participate in the interview process (see Appendix B). If a response was not received, a follow-up email was sent the following week. Interview dates and times were confirmed and a Webex invitation was sent to the participant along with the electronic informed consent form and pre-interview survey (see Appendix C and D).

Researcher and participant introductions included overt portrayal of the researcher's role as interactive moderator and full explanation of the study purpose. Introductions were crucial to invitation and essential in the recruitment process and pre-interview. Background information was collected in a pre-interview survey; however, further brief introductions and conversations were encouraged before the semi-structured interview to promote comfort and explain the interactive role that participants will play in the study.

Pre-Interview Survey and Semi-Structured Interview Development

Pre-Interview Survey

Before either the pre-interview survey or semi-structured interview took place, respondents were informed of study details and given assurance of ethical principles, the non-sensitivity of research questions, and the option to give consent for participation to be observed as identifiable or non-identifiable. Attributing responses from structured interviews to specific experts in the food system field adds credibility to the research study results; including the reputation of professionals as experts in their workplace and their involvement within the food system. There was no anticipated sensitive information to be collected.

The pre-interview survey was developed to obtain background demographic information from the participants of the study (see Appendix D). This 10-question survey focused primarily on sociodemographic information, identifying individual representation within the food system, and ranking areas/disciplines categorized as the determinants of food peace of the draft Food Peace Framework (Figure 3-2) developed by the researchers to be presented in the semi-structured interview.

Semi-Structured Interview Development

Considering that grounded theory is a commonly used qualitative method in health research and observing that registered dietitians largely take an encompassing health perspective to their work, grounded theory and semi-structured interviews enable both consistent data collection and in-depth responses.¹¹⁻¹² Semi-structured interviews with preprepared interview guides help focus the data and expand on key components of the experience under study through intensive interviewing.³ Intensive interviewing allows reflection on experiences that may not directly occur in everyday life through open-ended, non-judgmental questions which encourage unanticipated statements and stories to occur.³ Additionally, as noted by Foley and Timonen 2014, “As for most other domains, participants of qualitative health care research tend to be key stakeholders who have first-hand experiences of and insights into the particular phenomenon under study; it is important to treat them as the *only* experts on their own experience.”¹³

The original 20 question semi-structured interview was developed as an interview guide containing opening, central, and closing questions. These semi-structured interview questions were developed surrounding the central research questions and pilot tested. The questions were pilot tested with 2 registered dietitians to allow for refinement and to establish timing. After the final pilot interview, the original semi-structured interview was deemed too long and edited to 10 questions: 1) perceptions of peace (5 questions); 2) food and peacebuilding (2 questions); and 3)

implications of a food peacebuilding framework (3 questions) (see Appendix E). Additionally, preliminary interviews emphasized the necessity to intentionally sample participants to ensure the presence of diversity along with insight into the broad topic of research within the food system.

The interview started with three written response questions during the Peace Activity to ensure participants were given enough time to both think and respond to the answers in depth. These questions solicited perceptions of peace. For the remaining questions of the semi-structured interview, answers were verbal with the motivation to promote honest and direct responses based on participant experience within the food system. These questions were asked after presentation of The Peace Continuum within The Peace Continuum PowerPoint (Figure 3-2, see Appendix F) and the Food Peace Framework (Figure 3-2) to solicit perceptions of food and peacebuilding and implications of a food peacebuilding framework. Additionally, follow-up questions were included for clarification and encouragement of in-depth responses.

The Peace Continuum Development

The Food Peace Continuum (Figure 3-1) was developed by the researchers of this study considering the foundational work of Johan Galtung in defining peace in terms of personal violence (direct) or structural violence (indirect), also referred to as social injustice.¹⁴ Using these constructs of violent conflict, peace can be identified as either negative – the absence of violence or fear of violence or positive – the attitudes, institutions, and structures that create and sustain peaceful societies.¹⁵⁻¹⁶ The definitions of negative and positive peace were further described in reference to the Global Peace Index and the Earth Charter definition of peace.¹⁶⁻¹⁷ These definitions were finally placed onto a continuum that aligned with the overall research questions of this study to determine how food relates to peace at varying levels of the continuum. While food insecurity was attributed to conflict, peacekeeping categorized food as a basic means

of physical sustenance to avoid of alleviate hunger. Further, peacebuilding categorized food as a human right, as a means of cultural awareness, and a societal responsibility for the health of people land the health of the Earth.

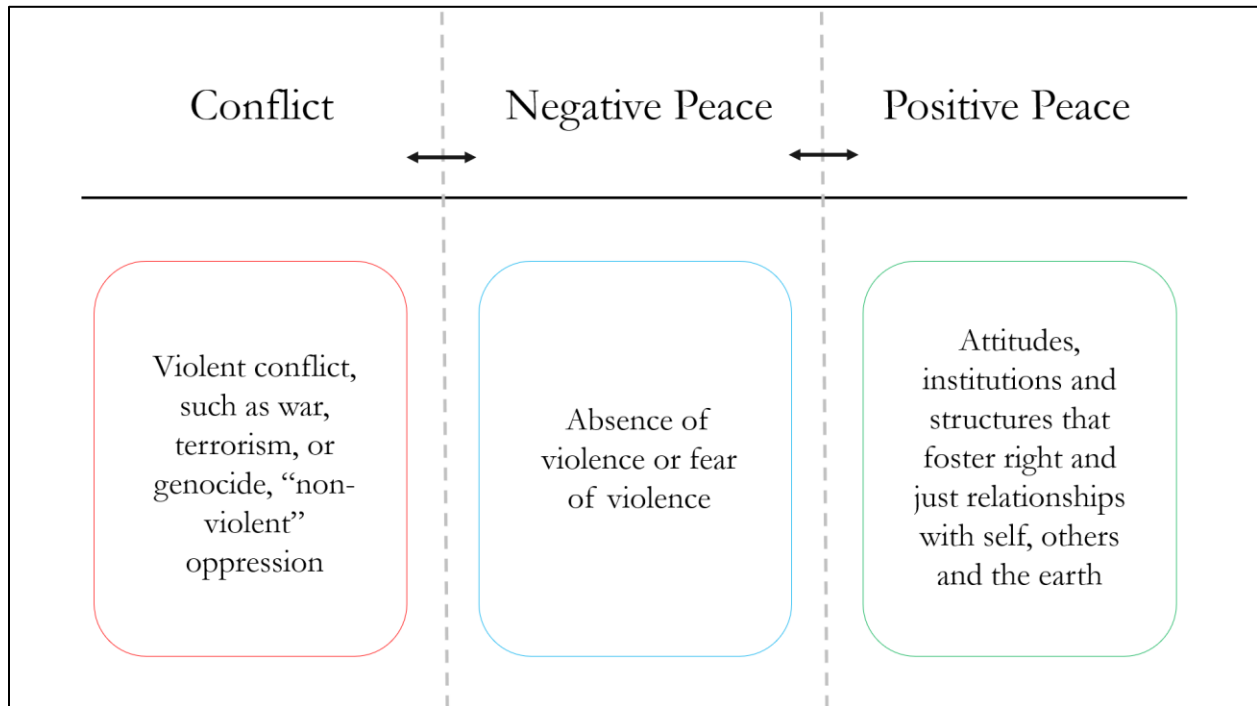


Figure 3-1. The Peace Continuum

Food Peace Framework Development

The Food Peace Framework (Figure 3-2) was developed by the researchers of this study founded upon compiled literature of the economic, political, social, and environmental drivers of peace in broader systems along with the interdisciplinary determinants of peace in the food system. The framework was created as a potential theory of change (ToC) tool for the field of nutrition and dietetics. The framework was not adjusted throughout data collection but rather used as an open-ended draft skeleton framework to be expanded and validated by professionals and experts working within the food system. The Food Peace Framework was introduced and shared with participants only within the allotted time for the semi-structured interview and

similarly explained as the rings representing determinants of peace, determinants of food peace, characteristics of peace, and pathways of change for potential peacebuilding avenues in the food system.

Determinants of Peace
 Determinants of Food*Peace
 Characteristics of Food*Peace
 Pathways for Change

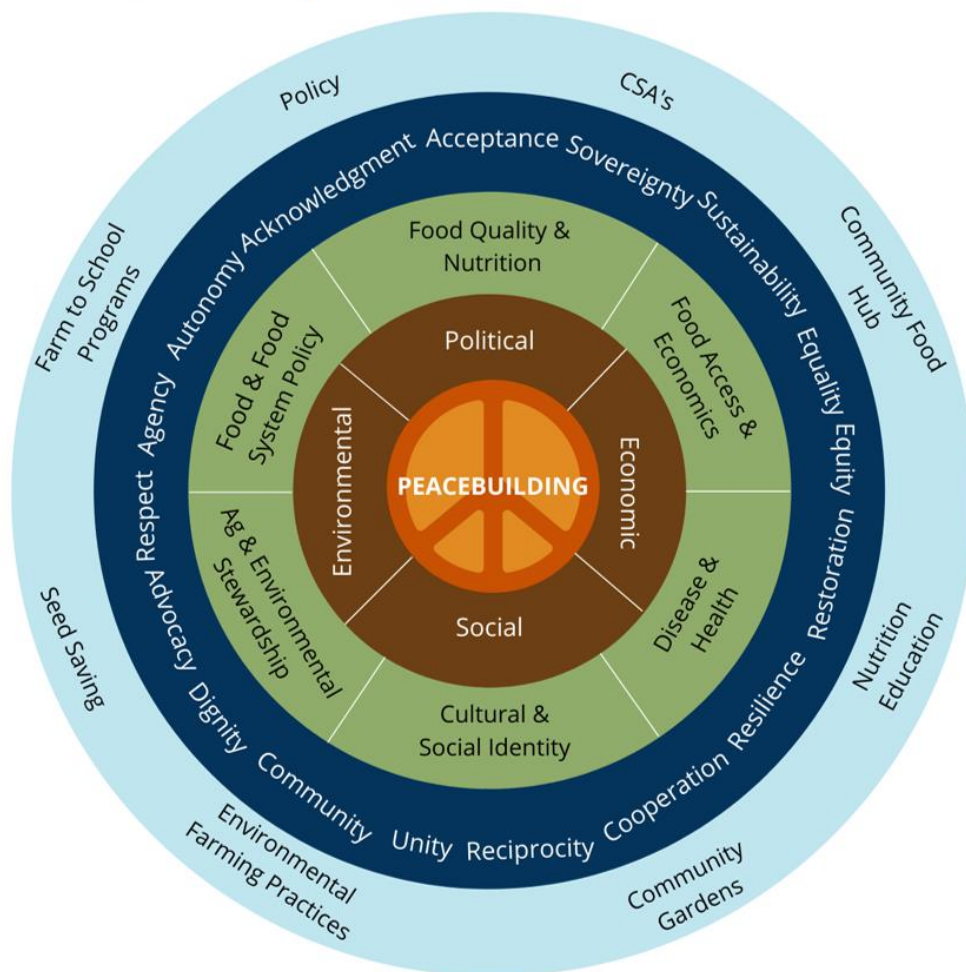


Figure 3-2. The Food Peace Framework. Draft food peacebuilding framework visualizing determinants of peace, determinants of food*peace, characteristics of food*peace (peacebuilding characteristics) and pathways for change (peacebuilding pathways).

Data Collection

All participants completed the electronic informed consent form and pre-interview survey prior to the Webex Food as Grounds for Peacebuilding interview. Pre-Interview survey responses were stored on Qualtrics™ in order to allow for complete background data analysis after all interviews were completed. Semi-Structured interviews took place on Webex, generally lasted about an hour, and were video recorded and transcribed through the cloud feature on Webex. Following the transcription of the interview, the video recordings were deleted, and interview transcripts were stored on Iowa State University CyBox. Interviewees were informed after the semi-structured interview that some of the information shared during the in-depth interviews would be included in study results as direct quotes. If quotes were identifiable, the participant was given the option to have the quote directly attributed or to remain anonymous. Once data was analyzed from the interview with selected quotes, the selected quotes would be sent in a Word document by email to allow for confirmation, review, and editing of quotes prior to publicly sharing in any way, written, verbal, or other means. However, it was decided during data analysis that identifiability did not contribute to the significance of the study, therefore all participant responses were de-identified regardless of identifiability selection during consent.

Developing a Coding Scheme and Coding

Following well-established coding procedures in grounded theory, three phases were implemented in order to shape an analytic frame for theoretical integration and analysis: initial coding, focused coding, and theoretical coding (Figure 3-3).³ Coding based on ground theory is a highly iterative process that follows the emerging data throughout the research process and creates themes based upon data representation. Further, coding materializes from the “languages, meanings, and perspectives through which we learn about the empirical world, including those of our participants as well as our own.”^{3(p.47)} Because of the nature of coding, hidden assumptions in

language of the researcher and participant must be examined and made apparent. Interactive observation, analysis, and refinement take place throughout the research process in order to continuously return to the data, address assumptions, and create codes that are close to the data and representative of larger themes rather than preconceived categories.³ Coding takes place throughout the research process as data arrives, not at the completion of all data collection.

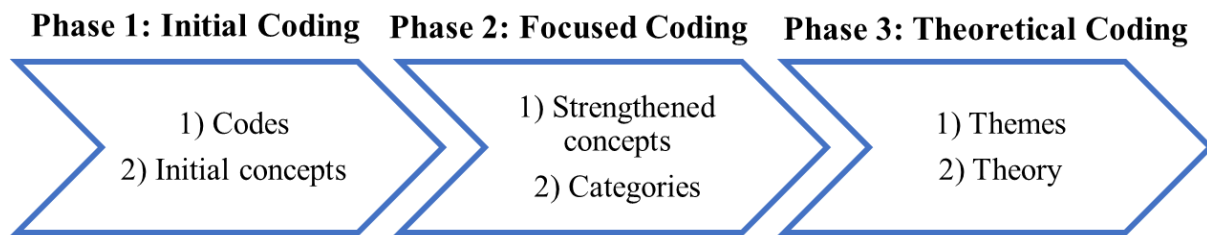


Figure 3-3. Grounded Theory Coding Scheme

Phase 1: Initial Coding

The first step of developing the coding scheme is defined by the initial coding process, established in the current research by line-by-line coding in order to compare data looking for beginning data pattern similarities and differences.^{3,18} During initial coding, the researcher critically identifies important words or groups of words to generate as many codes as possible from the early data.¹⁸ Initial codes start to highlight potential groupings, while acknowledging that short excerpts may fall into several categories.³ Initial coding allows the researcher to move quickly through large amounts of data to begin defining the entire narrative into concise and targeted portions.

Line-by-line initial coding was implemented on each semi-structured interview transcript immediately after, or as close to immediately after the interview took place. This ensured that the shared words and broader concepts of the participant were at the forefront of the researcher's mind and accurately recalled. Additionally, the researcher maintained a field notebook to note emphasized portions of the interview, conveyance of information by the interviewee, and general

observations. Initial coding enabled the identification of implicit concerns and statements while helping to refocus later interviews by identifying the direction for future interviews. Further, initial coding of the interview transcripts prompted the discovery of data gaps, unanticipated responses, and observed repetitive words, statements, or excerpts. All initial line-by-line coding was directly marked as comments on the interviewee transcript and stored in ISU CyBox.

Initial coding for this study also included running a word frequency query through NVivo to determine word counts, word weighted percentages, and references (transcripts) identifying specific words.¹⁹ Running a word frequency query identified which words were most common throughout all transcripts and provided the basis for a second round of focused coding. While word frequency queries offered a baseline for qualitative analysis, it was essential to identify which words had unique significance for further coding. For example, although the word “food” and “system” have a high frequency in query runs, these words are expected to have high frequency because of the nature of the interview questions. Rather, selecting high frequency words across references that extended beyond interview question phrasing allowed for deeper qualitative data analysis.

Phase 2: Focused Coding

As the second major phase in coding, focused coding creates the foundation for establishing a concrete codebook for strong analytic direction and theme development. Focused coding, as a form of intermediate coding, concentrated themes become apparent by comparing data to data and interview to interview, and further refining focused codes with additional data collection.^{3,18} More generally, focused coding, “requires decisions about which initial codes make the most analytic sense to categorize your data incisively and completely.”^{3(p.57)} Focused coding enables the refining and strengthening of data codes, data concepts, and data categories, while still allowing ideas to emerge.²⁰ Therefore, as more data is gathered, focused codes are

refined allowing categories to be accurately named and described. Specific words, quotes, and larger excerpts linked to initial coding are able to be grouped according to the focused code adding depth to analysis of the specifically created category and potential subcategories.

In order to develop the preliminary coding scheme, the researchers referenced back to the research questions and the related topics of the larger questions. In the case of this research, the preliminary coding scheme developed into the research question categories of characteristics of peace, characteristics of food peace, perceptions of peace in the food system and determinants of food peace, and implications of a food peace perspective. A codebook, a list of codes with their definitions or descriptions for operation,²¹ was developed simultaneously for the focused codes under the preliminary research question categories by reference of the initial codes from phase one, including a quoted example. Interview transcript files were uploaded to NVivo qualitative software for focused coding. Using known initial codes and referencing through direct participant words and excerpts, focused codes were categorized and visualized into developing codebooks.

Phase 3: Theoretical Coding

Theoretical coding, as the last step of coding, still acts as an interactive process with the data and emerging theory following focused coding. Glaser conceptualizes, “how the substantive codes may relate to each other as hypotheses to be integrated into a theory.”^{22(p.72)} Theoretical codes add precision and clarity within the documented data by giving form to the focused codes in order to form grounded theory.¹ Through the process of creating and refining theoretical links, theoretical coding families are used as analytic categories in order to establish relationships between themes.^{1,3} Theoretical coding is essential for weaving together the independent focused codes into a broader hypothesis of major claims within theory as the sharpened analysis of the

researcher. Overall, the final step of theoretical coding forges a bridge between described data and emerging analysis.

Maintaining an interpretative analytical approach was essential for combatting the potential of imposing a preexisting frame on the data. After focused coding was concluded for all interviews, theoretical coding ensued by the broader analysis of linking categories into larger themes described as categories. These theoretical codes formed the foundation of analysis for the relationship between food and peace and interpret the functionality of food grounds for peacebuilding in current food systems, including a food peace framework. Using the constant comparison method, theoretical coding was conducted until the major themes were further explored and saturation was reached in the theoretical coding stage revealing complete similarities and differences among codes.

Ethical Considerations

Throughout the research and writing process, the core principles promoted by the IRB were intentionally applied, including taking necessary steps and precautions to ensure the privacy and confidentiality of participants in regard to recordings and transcriptions of interviews. While interview information and responses were not considered to be sensitive, they were treated as such. All researchers completed the Collaborative Institutional Training Initiative training for ethical research with human subjects. All data files were safely stored in CyBox to maintain the privacy and confidentiality of participants. Only the researchers and designated colleagues of research were given access to these files for review. Further, all coding through NVivo was only conducted on the primary researcher's computer, with files shared securely through CyBox.

Validity and Trustworthiness

To establish a rigorous and trustworthy research study, mechanisms of trustworthiness and reflexivity were woven in at each stage.² Quality data ensures that reliability, uniformity of techniques and findings in the research and analysis process,²³ and validity are addressed in observance of researcher positionality. To ensure validity and trustworthiness, a continual process of rigorous reasoning was practiced through methods, theories, and findings. This included a documented inventory of steps implemented throughout the research process and their associated purpose and implications as a coherent and explicit chain of reasoning, as described by Rossman and Rallis.²⁴ Establishing quality and rigor in this study was viable through quality design suitability, within-design consistency and distinctiveness, and analytic adequacy through accountability checks. Additionally, generalizability concerns were addressed during interviews by uniformly proposing questions, iterative coding, and describing salient themes from a self-reflexive perspective and observation of researcher positionality. During data collection, analysis, and interpretation, the researchers monitored for potential bias by keeping a research journal and engaging in peer de-briefing for study verification.

The study was explained verbally to participants, and they also received a written explanation. Throughout the entire process, the researchers worked together to debrief with each other, analyze the data to identify and define emergent themes, and co-construct interpretations and implications. Further, two additional research colleagues participated in debriefing by providing feedback on transcript coding, codebook development, overall research design and data collection, and analysis activities to ensure interpretive consistency and distinctiveness, theoretical consistency and interpretive agreement, and integrative efficacy of design.

Limitations

The value of interview data is rooted in the belief and assumption that “participants are individuals who actively construct their social worlds and can communicate insight about it verbally.”^{8(p.55)} While interviews are an effective method for obtaining qualitative data to understand participant perspectives, additional methods of data collection such as focus group interviews may have allowed for more in-depth triangulation of data. In fact, one participant noted that focus groups may have encouraged more discussion-based responses to semi-structured interview questions by bringing forward varying perspectives at one time. Triangulation among differing data methodology allows for further validation, invalidation, and expansion of findings.⁸ Additionally, analyzing the semi-structured interview data using NVivo could be a limitation in the study because the qualitative data were manually coded by only one researcher. Although peer de-briefing was implemented throughout the study process, reliability may have been increased if additional researchers coded and found similar reoccurring themes.

Strengths of this study include using a sample with a diverse range of perspectives across the US, mirroring the Commission on Dietetic Registration demographics and statistics in the United States. This research has sought to capture the complexity, depth, and richness of registered dietitian experiences working in and with food systems of the United States. As such, these findings are not meant to be generalizable to all registered dietitians across all demographics. The findings here may be seen as an opportunity to generate new knowledge and encourage further work in this line of inquiry.

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Appendix A. Institutional Review Board Approval

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Ethics
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 07/16/2021

To: Rebekah Akers Christina Campbell

From: Office of Research Ethics

Title: Food as Grounds for Peacebuilding

IRB ID: 21-264

Submission Type: Initial Submission **Review Type:** Expedited

Approval Date: 07/16/2021 **Approval Expiration Date:** N/A

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, including the **recruitment materials and informed consent documents that have the IRB approval stamp.**
- **Retain signed informed consent documents** for 3 years after the close of the study, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study or study materials.
- **Promptly inform the IRB of any addition of or change in federal funding for this study.** Approval of the protocol referenced above applies only to funding sources that are specifically identified in the corresponding IRB application.
- **Inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an eligible PI to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.
- IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. **Approval from other entities may also be needed.** For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of

IRB 07/2020

those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **IRB approval in no way implies or guarantees that permission from these other entities will be granted.**

- Your research study may be subject to [post-approval monitoring](#) by Iowa State University's Office of Research Ethics. In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.
- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure to officially close the project. For information on instances when a study may be closed, please refer to the [IRB Study Closure Policy](#).

If your study requires continuing review, indicated by a specific Approval Expiration Date above, you should:

- **Stop all human subjects research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Human subjects research activity can resume once IRB approval is re-established.
- **Submit an application for Continuing Review** at least three to four weeks prior to the **Approval Expiration Date** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

Appendix B. Recruitment Materials

Recruitment Email Invitation

Subject Line: Food as Grounds for Peacebuilding Interview Invitation

Hello NAME,

My name is Rebekah Hanson and I am a Nutritional Sciences graduate student at Iowa State University in the Department of Food Science and Human Nutrition working with Dr. Christina Campbell, PhD, RDNS.

We are currently exploring the intersection of food and peace with the purpose of building a theoretical framework to evaluate the role of food in the context of peace. Our long-term goal is to reframe conversations towards health and sustainability through the lens of food and peace. Further, to observe how food, nutrition, and health interact with social, economic, and environmental issues to build community food security and peace-minded food citizens utilizing a peacebuilding approach.

Based on your expertise as a professional working in the food system, we would like to invite you to take part in the next step of our research in gathering feedback on our current food*peace framework. This research, through a structured-interview process, will allow U.S. to further identify characteristics, determinants, and examples of negative and positive peace in the food system.

The interview will consist of approximately 10 questions lasting about 60 minutes in total. The interview will be conducted over Cisco Webex Meetings, involve written and verbal responses, and be video recorded to allow for transcription (video recordings will be deleted immediately after transcription).

Your input will be used to further refine the food*peace framework by gaining your perspective on the relationship between food and peace.

Interviews can be scheduled at your convenience, ideally in the coming month.

If you are interested in participating in this research project, please reply to this email and we will send an electronic informed consent form, a link to a short pre-interview survey using Qualtrics™, and identify a time for the Webex interview.

Sincerely,

Rebekah Akers, Nutritional Sciences and Sustainable Agriculture Graduate Student,
Department of Food Science and Human Nutrition, Iowa State University

Email: raakers@iastate.edu

Dr. Christina Gayer Campbell, PhD, RD, Associate Professor of Nutrition, Uelner Professor of Food Science and Human Nutrition, Department of Food Science and Human Nutrition, Iowa State University

Email: ccampbel@iastate.edu

Appendix C. Informed Consent

Electronic Informed Consent

Investigators: Rebekah Akers, Nutritional Sciences graduate student, Department of Food Science and Human Nutrition, Iowa State University and Christina Gayer Campbell, PhD, RD, Department of Food Science and Human Nutrition, Iowa State University

Invitation to be Part of a Research Study

You are invited to participate in a research study. This form has information to help you decide whether or not you wish to participate—please review it carefully. Research studies include only people who choose to take part—your participation is completely voluntary, and you can stop at any time. It is hoped that the information we gather will further enhance the development of a theoretical food peace framework. Please ask the project staff any questions you have about the study or about this form before deciding to participate.

Purpose of the Study

The purpose of this study is to build a food peace framework to evaluate the role of food in the context of peace. Our objectives of this research are to reframe conversations towards health and sustainability through the lens of food and peace. Further, to observe how food, nutrition, and health interact with social, economic, and environmental issues to build community food security and peace-minded food citizens through a peacebuilding approach.

You are being invited to participate because of your expertise as a professional working in the food system.

Description of Study Procedures

We would like to meet with you to conduct an interview via videoconference that will last approximately one hour. During the interview, you would be asked questions along the following lines:

- How can food-related practices cultivate a peaceful world?
- Is there peace in our food systems?
- How would shifting to a peacebuilding systems approach impact your area of study/work?

You will receive a pre-interview survey via Qualtrics™ to collect background information before carrying out the structured interview. The survey should take about 5 minutes.

Description of Identifiable or Non-identifiable Consent

Attributing responses from structured interviews to specific experts in the food system field adds credibility to the food peace framework study results. We are asking to include the reputation of professionals as experts in their workplace and their involvement within the food system by identifying participants in study results. We do not anticipate any sensitive information to be collected. *However*, you will have the option to give consent for your participation to be either identifiable or non-identifiable.

Identifiable consent allows U.S. to identify you as a study participant, and attribute information you share to you when we report study results.

Non-identifiable consent means that you agree to participate in the study but want U.S. to keep your identity confidential when we report study results.

Interviews will be conducted via Webex and will be video recorded. Following the transcription of the interview, the video recordings will be deleted. Some of the information you share with U.S. during the in-depth interviews will be included in study results as direct quotes. You may choose to have the quote directly attributed to you or to remain anonymous. Once we have analyzed the data from our interview with you and selected quotes, we will send you the selected quotes in a Word document by email to allow you to confirm review and edit your quotes prior to U.S. sharing them publicly in any way, written, verbal, or other means. Your information will *only* be used for the project described in this document. Again, you have the option to provide identifiable or non-identifiable consent. You may change your preference for “identifiable” or “non-identifiable” until results are published.

Participant’s Rights

Participating in this study is completely voluntary. You may choose to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Ethics, Iowa State University, Ames, Iowa 50011.

Risks, Discomforts, and Benefits

We do not anticipate that participating in our study will entail any risks or discomforts. Even if you choose to remain confidential, there is a small possibility those familiar with your field may infer your identity. We will take steps to prevent this, such as ensuring your workplace or other identifying information is not disclosed.

While you will not directly benefit from participating in this study, our research will help U.S. learn more about the relationship between food and peace.

Confidentiality

Research records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available without your permission. However, it is possible that other people and offices responsible for making sure research is done safely and responsibly will see your information. This includes federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy study records for quality assurance and data analysis. These records may contain private information.

To protect confidentiality of the study records and data, the following measures will be taken:

- i. Any printed data from interview responses will be locked in filing cabinets in the researcher's locked lab room. Only lab personnel have key access to the locked room and file cabinet.
- ii. If the results are published, unless consent is given for identification by name, the identity of participants will be regarded as privileged and remain confidential. Unless consent is given to be identified by name, the privacy will be maintained in any future analysis and/or presentation.
- iii. Interview responses will be video recorded via Webex, and data will be stored using the ISU CyBox system.
- iv. Upon completion of the interview process, email addresses and video recordings obtained from surveys will be discarded/deleted. Unless consent is given, names and transcribed video recordings will be de-identified. Names and transcribed video recordings will be de-identified depending on the level of consent given:
 - a. If a participant has not provided consent to use identifiable data, data will be de-identified. Data analyzed for presentation or publication will not be associated with any specific name. Data that includes specific workplace locations and/or identity will not be included in data presentation/publication.
 - b. If a participant has provided consent to use identifiable data, it will be included for presentation or publication.

Questions about the Research Project

If you have more questions about this research project, please contact Rebekah Akers at raakers@iastate.edu or Christina Gayer Campbell at ccampbel@iastate.edu.

Your Consent

By electronically signing this document, you are agreeing to participate in this study. If you have any questions about the study after you agree to participate, please contact the research team using the information provided above.

Electronic signature (Text entry)

Please select if you would like to give consent as identifiable or non-identifiable. You will be given an opportunity to edit any responses prior to using them in our analysis. You may change your preference for “identifiable” or “non-identifiable” until results are published. Again, there are no anticipated sensitive information to be collected, rather perspectives and opinions on the theoretical food peace framework are being sought. Please select one box.

Identifiable consent – your identity will be shared in reports of study results

Non-identifiable consent – your identity will be kept confidential in reports of study results

Verbal Informed Consent

Before we begin, we would like to obtain verbal informed consent.

Research studies include only people who choose to take part—your participation is completely voluntary, and you can stop at any time. It is hoped that the information we gather will further enhance the development of a theoretical food peace framework.

Participating in this study is completely voluntary. You may choose to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer.

You have the option to give consent for your participation to be either identifiable or non-identifiable.

- Identifiable consent includes data allows U.S. to identify you as a study participant, and attribute information you share to you when we report study results.
- Non-identifiable consent means that you agree to participate in the study, but want U.S. to keep your identity confidential when we report study results.

You will be given an opportunity to edit any responses prior to using them in our analysis. You may change your preference for “identifiable” or “non-identifiable” until results are published. Again, there are no anticipated sensitive information to be collected, rather perspectives and opinions on the theoretical food peace framework are being sought.

You previously indicated that you wish to be <insert their choice of identifiable or non-identifiable>. Are you still comfortable with that choice, or do you wish to change?

We do not anticipate that participating in our study will entail any risks or discomforts. However, even if you choose to remain confidential, there is a small possibility those familiar with your field may infer your identity. We will take steps to prevent this, such as ensuring your workplace or other identifying information is not disclosed. Do you have any questions?

Appendix D. Pre-Interview Background Information Survey

The purpose of this pre-interview survey is to collect background information prior to conducting the structured interview via Webex. We anticipate the survey will take approximately 5 minutes to complete.

Your participation is completely voluntary, and there are no risks in completing this survey. You may skip any questions that you do not feel comfortable answering.

Please do not share this survey link. If you have already completed this survey previously, please do not complete it again.

By agreeing to complete this survey, you give your consent for participating. Please answer each question by selecting the option(s) that best reflect your knowledge or opinion. To start the survey, click the arrow in the lower right-hand corner.

Sincerely,

Rebekah Akers, Nutritional Sciences Graduate Student
Christina Campbell, PhD, RD, Associate Professor of Nutrition
Department of Food Science and Human Nutrition
Iowa State University
Ames, IA

Background information

1. To which gender identity do you most identify?
 - a. Female
 - b. Male
 - c. Gender Variant/Non-Conforming
 - d. Not Listed _____ (Text entry)
 - e. Prefer not to answer

2. What is your age? _____ (years)

3. Are you Spanish, Hispanic or Latino?
 - a. Yes
 - b. No

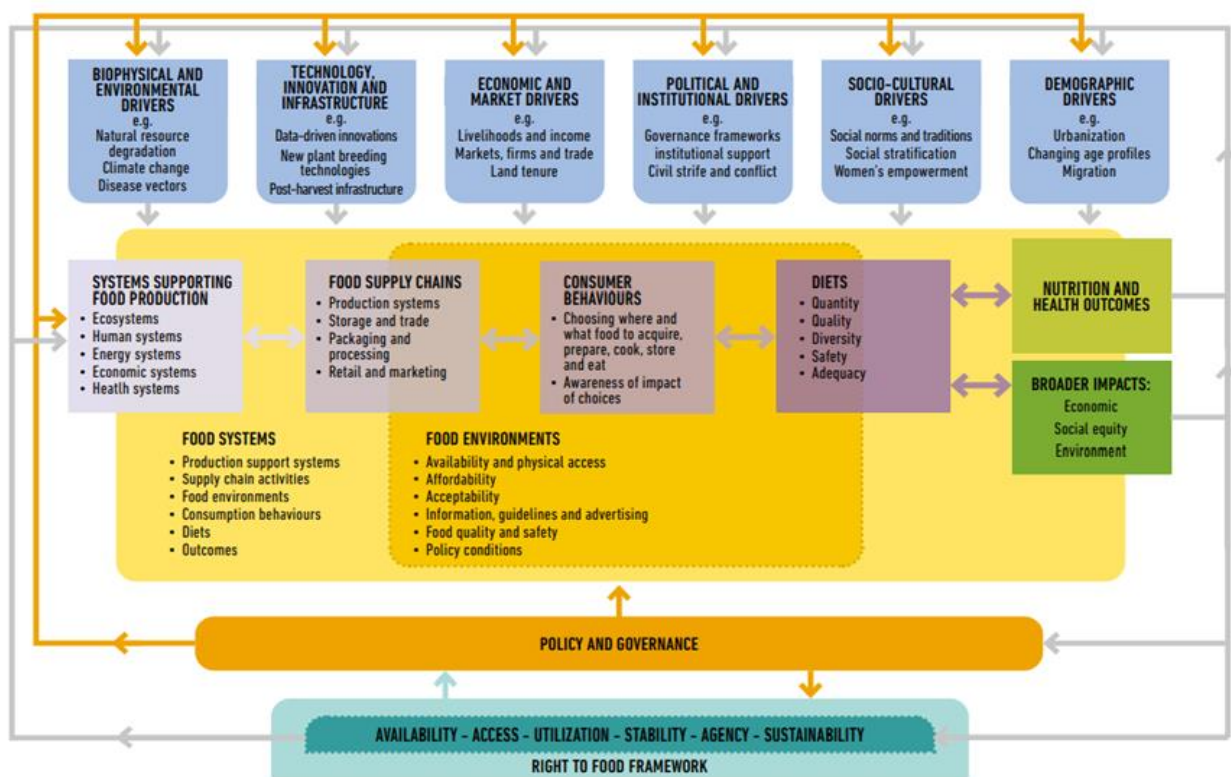
4. What is your race? (Mark all that apply)
 - a. American Indian or Alaskan Native
 - b. Asian
 - c. Black or African-American
 - d. White/Caucasian
 - e. Native Hawaiian/Other Pacific Islander
 - f. Other Race

5. What is the highest level of education you have completed?
 - a. Some high school
 - b. High school diploma or GED
 - c. Some college or technical training
 - d. Associates degree, technical certificate
 - e. Bachelor's degree (4-year)
 - f. Graduate degree

6. What is your place of employment/occupation? (Text entry)

7. What component of the food system do you represent? (Select all that apply)
- Food Production Systems and Input Supply
 - Storage and Distribution
 - Processing and Packaging
 - Retail and Marketing
 - Education and Programming
 - Nutrition and Health Outcomes
 - Other (text entry)

SUSTAINABLE FOOD SYSTEM FRAMEWORK



Source: HLPE. 2020. Food security and nutrition: Building a global narrative towards 2030, Rome. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>. Reproduced with permission.

8. How many professional years of experience do you have working with/in the food system? (0-100 toggle)
9. What professional certifications do you hold (MD/DO, RN, RD, etc.)?
- I hold a professional certification (Text entry)
 - I do not hold a professional certification

10. Part of this interview is focused on collecting information/opinions surrounding your expertise/area of work. Out of the following categories, please rank which areas/disciplines you most identify with (1 being the most and 6 being the least):

- a. Diet and Nutrition ____
- b. Food Access and Economics ____
- c. Disease and Health ____
- d. Agricultural/Environmental Stewardship/Sustainability ____
- e. Cultural or Social Identity ____
- f. Food & Food Systems Policy ____

Thank you for your participation in the pre-interview background information survey.

Reference

High Level Panel of Experts. Food security and nutrition: Building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. Food and Agriculture Organization of the United Nations. Published 2020. Accessed July 31, 2021. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>

Appendix E. Semi-Structured Interview Questionnaire

Food as Grounds for Peacebuilding

Food Peace Semi-Structured Structured Interview (Total time: 40 minutes)

Introduction/Overview (3 minutes)

**Italics indicates a script spoken to the participant.*

Welcome to the Food as Grounds for Peacebuilding structured interview. The goal of this interview is to explore the relationship between food and peace by gathering the opinions and expertise of professionals working in and with food systems to validate a theoretical food peace framework. Thus far, the researchers of this interview, have developed a theoretical food peace framework and now seek expert feedback and perspective on this framework through a structured interview process.

The structured interview will consist of approximately 10 questions and last about 60 minutes in total. The interview will involve written and verbal responses and be video recorded in Webex to allow for transcription. Participants will be given a set amount of time to write a response in the chat feature of Webex. Verbal responses to the discussion questions will be recorded on Webex and downloaded directly using the Webex transcription application for Webex recordings. Participant input will be used to further refine the food peace framework by gaining perspective on the relationship between food and peace.

Read Verbal Informed Consent Script and obtain verbal consent (see Appendix B).

Part 1. Peace Activity (Time: 7 minutes)

The following questions will involve written responses. Please write your responses in the Webex chat box. You will be given approximately 1-3 minutes for each question. You will be told how much time you have for each question and when you have one minute remaining.

Questions will be asked verbally and copied into the Webex chat box for participants.

1. In one word, what does peace mean to you? (Time: 1 minute)
2. What does a peaceful world look like to you? (Time: 3 minutes)
3. How can food-related practices cultivate a peaceful world? (Time: 3 minutes)

Part 2. The Peace Continuum/Framework (Time: 4 minutes)

Food Peace Continuum PowerPoint shown here as a visual (see Appendix E).

This remainder of this interview will focus on how peace and food interact in regard to how the food system currently functions and how the food system has the potential to function.

The relationship between food and peace appears throughout history, including control over food during times of conflict, including famine, war, and terrorism. Food and peace also includes how food intertwines with social, economic, and environmental issues with opportunities to build community food security and peace-minded food citizens.

The goal of this study and this interview is to analyze this relationship between food and peace by developing a framework of food peace, considering the characteristics of conflict, negative peace, and positive peace on a peace continuum.

Before we move into the relationship between food and peace, we need to define the terms conflict, negative and positive peace and how they flow on a continuum of peace.

Conflict, in this context, is identified as violent conflict, such as war, terrorism, and genocide.

Negative Peace, as defined by the 2020 Global Peace Index, is the absence or fear of violence. This is also known as peacekeeping.

Positive Peace, as defined by the 2020 Global Peace Index and the Earth Charter, is the attitudes, institutions, and structures that create and sustain peaceful societies through relationships with self, others, and the Earth. This is also known as peacebuilding.

It is necessary to note here that negative does not refer to negative in the sense that it is bad, but rather that there is an absence of something (in this case violent conflict)

Within each of these parts of conflict, negative and positive peace, there is an opportunity to ask the questions of how food relates to each part of the peace continuum. (3 minutes)

For example, famine can be categorized as a result of conflict, or conflict can result in famine when food is used as a political tool of power leveraging or control.

Emergency relief, such as USAID, the World Food Program, or a local food pantry can be categorized as peacekeeping missions.

Food sovereignty movements can be categorized as peacebuilding to foster autonomous and self-sufficient structures within the food system.

Part 3. Interview Questions (Time: 12 minutes)

The remaining questions will involve verbal responses. You will be given approximately 1-3 minutes for each question.

Questions will be asked verbally and copied into the Webex chat box for participants.

The next few questions ask about peace at three different levels, in our local, regional and domestic food system.

4. Is there peace in our local, regional, and domestic food system? Please explain. (9 minutes)
5. Do we need peace in our food systems? Why? (3 minutes)
6. What are specific words to characterize/describe what peacebuilding looks like in the context of food? (3 minutes)
7. What specific examples (practices/programs/policies/organizations) of peacebuilding come to mind when it comes to food and the food system? (3 minutes)
8. Please share your thoughts/comments on our current draft of the food*peace framework. (3 minutes)

Food Peace Continuum Framework pdf shown here as visual (Figure 3-2).

*Shown here is our current version of the Food*Peace theoretical framework. The rings represent determinants of peace, determinants of food*peace, characteristics of peace, and pathways of change (as specific examples of peacebuilding in the food system).*

Part 4. Expertise-Focused Interview Questions (6 minutes)

Questions will be asked verbally and copied into the Webex chat box for participants.

9. How would shifting to a peacebuilding systems approach impact your area of study/work? (2 minutes)
10. How could this food peace framework be utilized in your workplace? (2 minutes)

References

Institute for Economics & Peace. Global Peace Index 2020: Measuring Peace in a Complex World. Vision of Humanity website. Published June 2020. Accessed June 3, 2021. <http://visionofhumanity.org/reports>

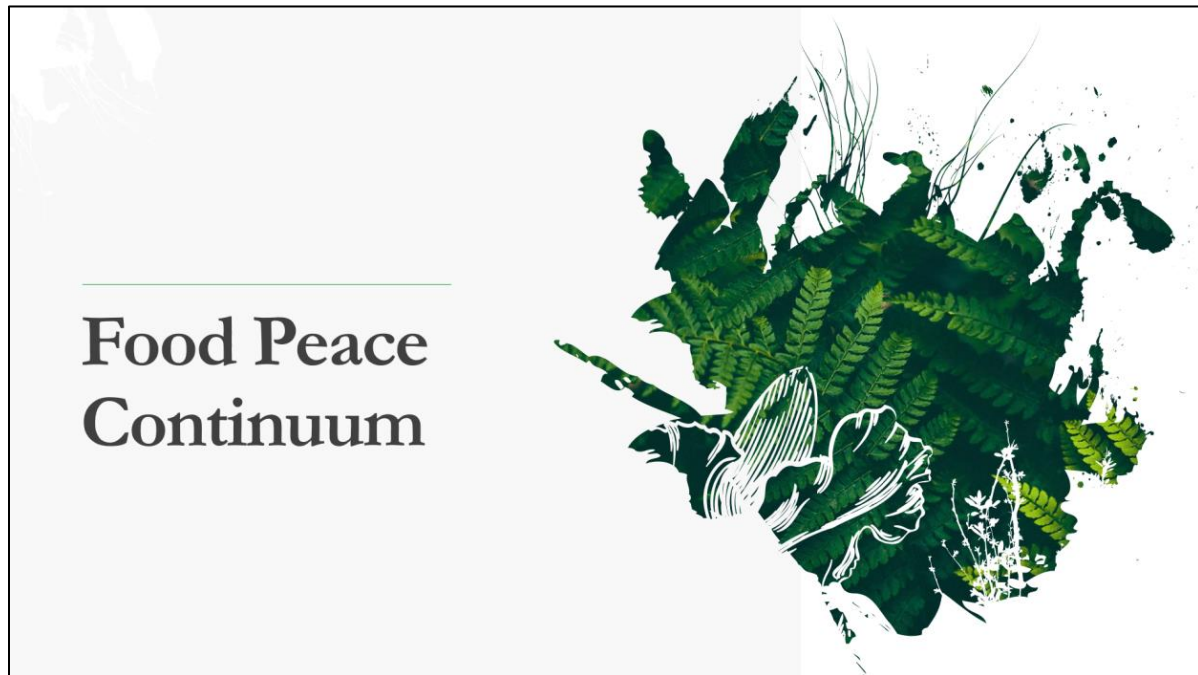
Earth Charter International. Read the Earth Charter. The Earth Charter. Published October 8, 2021. Accessed July 19, 2021. <https://earthcharter.org/read-the-earth-charter>

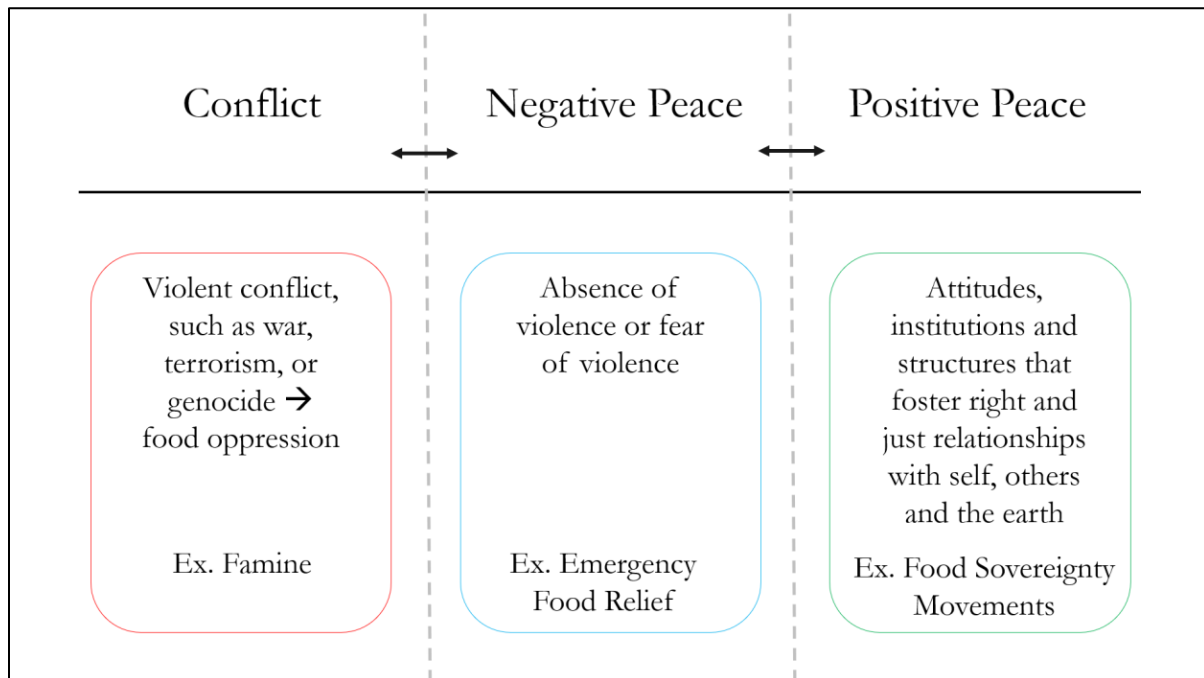
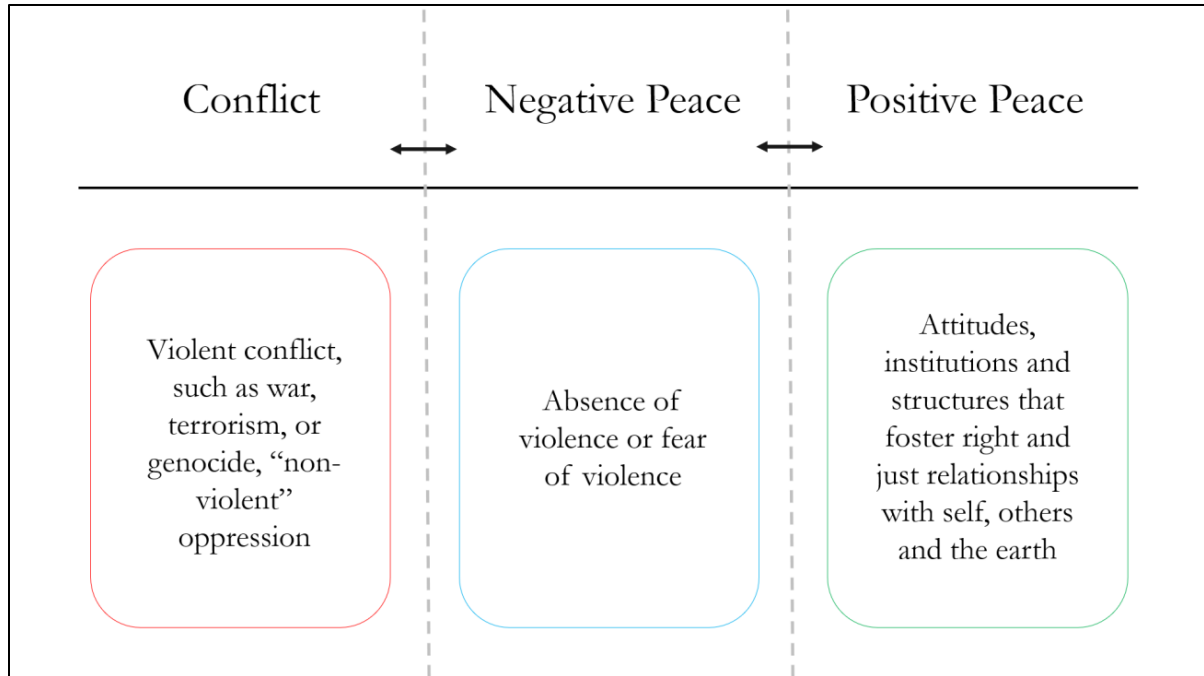
Part V. Post-Interview Question (1 minute)

Questions will be asked verbally and copied into the Webex chat box for participants.

Do you have other suggestions for contacts to interview in the future? (1 minute)

Appendix F. The Peace Continuum PowerPoint





CHAPTER 4. FOOD AS GROUNDS FOR PEACEBUILDING: THE PERCEPTIONS OF REGISTERED DIETITIANS ON PEACE IN THE U.S. FOOD SYSTEM

Rebekah A.A. Hanson^I, J.G. Arbuckle Jr.^{II}, Kurt A. Rosentrater^{III}, Christina G. Campbell^I

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^{II}Iowa State University, Ames, Iowa; Department of Sociology and Criminal Justice

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Modified from a manuscript to be submitted to *Journal of the Academy of Nutrition and*

Dietetics

Abstract

Background The prevalence of food insecurity with the COVID-19 pandemic has highlighted disparities and fragilities within the United States and global food systems. The U.S., though not wrought with violent outbreaks of conflict, has faced political tensions and social grievances that limit food security and peace within the food system. The relationship between food and peace is largely defined as the absence of lack of violent conflict in association with food security. The food peacebuilding approach represents a paradigm shift that integrates food and peace to foster right and just relationships with self, others, and the Earth for sustainable, resilient, and equitable food systems.

Objective To explore registered dietitian nutritionists' (RDNs) perceptions of the relationship between food and peace and conceptualize how food can be used to promote peacebuilding in the context of the U.S. food system.

Design This grounded theory qualitative study utilized pre-interview surveys and semi-structured, virtual-individual interviews to elicit the perceptions and understandings of peace in the U.S. food system. A purposive sample of RDNs working within the U.S. food system were invited to participate.

Participants/setting Twenty-two RDNs of differing races, ethnicities, ages, places of employment, and years of work experience working within the U.S. food system across 12 states and 1 district of the U.S. (Arizona, Iowa, Kansas, Maryland, Minnesota, Montana, Nebraska, New York, North Carolina, Virginia, Washington, and Washington D.C.) were interviewed.

Analysis Grounded theory iterative coding was performed in three phases to shape an analytic frame for theoretical integration and analysis: initial coding, focused coding, and theoretical coding. Thematic coding analysis with NVivo (ver12.0) was used to organize and interpret data.

Results Findings revealed important patterns about perceptions of peace, food and peacebuilding, and implications of a food peacebuilding framework.

Perceptions of peace identified RDNs' specific recognition of peace within the context of the U.S. food system. Five primary categories of perceptions of peace emerged including (1) access to resources; (2) characteristics of peace; (3) conflict and control; (4) levels of peace; and (5) values of peace. Four primary categories recognizing peace in the context of the U.S. food system emerged including (1) barriers to peace; (2) conflict in the U.S. food system; (3) values in systems; and (4) new understandings peacebuilding of in the U.S. food system.

Food and peacebuilding identified RDNs' views on specific words that characterized peacebuilding in the context of food and specific examples of peacebuilding in the U.S. food system. Food peacebuilding characteristics were represented as word frequencies largely described as social relationships, access to food, and mutual respect. Two categories of peacebuilding pathways emerged including (1) applications; and (2) groups.

Implications of a food peacebuilding framework identified RDNs' responses on the use of a food peacebuilding framework in dietetics practice. Four categories of implications of a food

peacebuilding framework emerged including: (1) education and research communities; (2) new health and nutrition approach; (3) local organizations and programming; and (4) policy.

Conclusions Peacebuilding recognizes the food system holistically and establishes the attitudes, institutions, and structures that promote right and just relationships with self, others, and the Earth. A food peacebuilding framework offers a grounding model that moves beyond the context of conflict or reactive approaches to hunger and promotes proactive health and wellness utilizing autonomous peacebuilding pathways in the broader U.S. food system. This study revealed a gap in understanding peacebuilding in the context of food and that future education and research are needed. By introducing a peacebuilding perspective into the field of nutrition and dietetics, this study offers an alternative paradigm to address some of the most pressing issues of food insecurity and health influenced by economic, political, social, and environmental systems.

Introduction

Food and peace intertwine with social, economic, and environmental issues providing opportunities to build community food security and peace-minded food citizens. When applying definitions of peace to food and the food system, *peacekeeping* categorizes food as a basic means of physical sustenance to avoid or alleviate hunger. On the other hand, *peacebuilding* allows themes of social justice to appear and describe food as a human right, a means of cultural awareness, and a societal responsibility for the health of people and the Earth.¹⁻³ The U.S., though not wrought with violent outbreaks of conflict, has faced political tensions and social grievances that affect food security alongside social and health disparities.⁴ While peacekeeping and peacebuilding efforts have largely been targeted in low-income countries across the globe,⁵ the COVID-19 pandemic made clear the necessity for sustainable and resilient food structures both domestically and globally.

Peace studies largely define peace as the absence of violence. The focus on violence and its intended or unintended consequences, commonly political violence, remains the central theme of peace studies.⁶ However, many researchers have discussed that the causes, elements, and consequences of peace reach beyond non-violence.⁷⁻¹⁰ Johan Galtung coined the term positive peace in 1969 as the absence of social structural violence that can be referred to as a positive condition of social justice.⁷ Positive peace, also called peacebuilding, is a proactive approach that promotes the attitudes, institutions, and structures that create and sustain peaceful societies.¹¹ Comparatively, negative peace can be defined as the absence of violence, threat of violence, or fear of violence.¹¹ This responsive method of mediation that maintains the absence of direct violence is known as peacekeeping.¹

The relationship between food and peace has appeared throughout history yet has largely been defined as the absence of violent conflict. Food insecurity and conflict co-exist through the lack of access, availability, utilization, and stability of food resources leading to a decrease in functionality or collapse of the food system.⁴ Further, marginalization, exclusion, and control through power leveraging exacerbate the violation of food as a human right and the ongoing oppression that results from food injustice.¹²⁻¹³ Highlighting the disparities and fragilities within food systems, the COVID-19 pandemic demonstrates how crises force people into food and nutrition insecurity due to supply chain disruptions, income volatility, and poverty.^{4,14} Additionally, research has emphasized the association between food insecurity, household-level income, and social conditions of limited or lack of access to adequate food to nutrition-related health outcomes including obesity, hypertension, and diabetes.¹⁵⁻¹⁶

Conceptual frameworks provide a foundational approach for examining trends and allowing critical thought for the strategic direction of action. The proliferation of peacebuilding

frameworks that have emerged includes reference to inclusive and autonomous communities, recognizing community rights and claims, human rights to promote relationships, and contributions to more effective peacebuilding outcomes.¹⁷ For example, environmental peacebuilding has evolved as a way to encourage cooperation and sustainable peace across political borders, human and ecological health sectors, and scales of leadership and governance.¹⁸ However, a framework for exploring food in the context of peace, more specifically peacebuilding, does not exist. The lack of literature on food peace perpetuates a food conflict narrative which limits empirical research and proactive development of sustainable and resilient peace in the U.S. food system and around the world.

The theoretical foundations for this grounded theory, qualitative study are the socio-ecological model and the One Earth Future theory of peace. The socio-ecological model, developed by Urie Bronfenbrenner in the 1970s, acknowledges the interaction between characteristics of individuals and communities, along with physical, social, and political environments.¹⁹ In the field of nutrition and dietetics, the socio-ecological model further enables a sustainable systems-based approach and highlights the interactions, dynamic processes, and reciprocal feedback mechanisms that take place throughout food systems.²⁰ The One Earth Future theory of peace represents a broad framework identifying that no violent conflict comes from one cause and offers requirements for peacebuilding and sustainable peace.²¹ In this study, the theory provides a foundation for gaining insight on conflict within food systems as well as perceptions of the relationship between food and peace.

The current study moves beyond the understanding of the traditional focus on food and peace in the context of conflict or post-conflict settings as we seek to understand the relationship between food and peace from a peacebuilding perspective. The purpose of this research was

twofold: to investigate perceptions of peace, the relationship between food and peacebuilding, and ways to utilize a food peacebuilding framework in practice for the field of nutrition and dietetics, and to further conceptualize a food peace framework for the field of nutrition and dietetics. Research questions included: 1) How do registered dietitians perceive the relationship between food and peace in the United States food system? 2) How can food be used as grounds for peacebuilding in current food systems for the field of nutrition and dietetics?

Methods

This qualitative research study utilized a grounded theory approach and purposive sampling technique to examine the perspectives of 22 RDNs working within the U.S. food system across twelve states and one district of the U.S. (Arizona, Iowa, Kansas, Maryland, Minnesota, Montana, Nebraska, New York, North Carolina, Virginia, Washington, and Washington D.C.). The study and procedures were approved by Iowa State University Institutional Review Board (see Appendix A), and all participants provided both written and verbal consent (see Appendix C). Grounded theory allowed for developing an inductive theory based upon systematically gathered and analyzed data.²² The grounded theory approach to research implied an iterative data collection and coding process that generated theory, not from preconceived, nor logically deduced hypotheses.²³

Inclusion criteria included (a) over the age of 18, (b) RDNs, and (c) working within the U.S. food system in at least one category including academia/education, industry/business, authors/journalists, policymakers, organizational leaders, non-profit founders/professionals, farmers, and healthcare clinicians. RDNs were selected as target participants as food and nutrition experts who share a common goal of delivering updated and encompassing information regarding food and nutrition to the public. Researchers purposively brainstormed and identified a working list of RDNs as a starting point for interviews using their professional networks.

Participants were intentionally selected based upon experience within the food system, while purposefully mirroring the Commission on Dietetic Registration demographics and statistics in the United States for sex, age, race, and ethnicity.²⁴ This study did not take into consideration if a participant was familiar with aspects of peace or peacebuilding within the U.S. food system, rather it sought to gather perceptions and understandings of RDNs based upon their current knowledge and experience within the U.S. food system. Potential participants were invited to participate via email in a structured interview (see Appendix B). Contact information for these individuals was found on their organizations' publicly available web pages. Further, after each interview, participants suggested other RDNs, enabling a snowball sampling technique. Research and participant introductions included overt portrayal of the researcher's role and full explanation of the study purpose.

Grounded theory is a commonly used qualitative analytical approach in health research. Considering RDNs take an encompassing health perspective to their work, grounded theory and semi-structured interviews enabled both consistent data collection and in-depth responses.²⁵⁻²⁶ A sample size of at least 20 participants was estimated to reach data saturation based on another qualitative research study that utilized semi-structured interviews (n=20) to investigate perceptions of dietitians in a healthcare setting.²⁷ The semi-structured interview format allowed a conversational approach, allowing the primary researcher to foster a partnership with the participant and robust input for perception responses. The original 20 questions were pilot tested with 2 RDNs to confirm ease of the process, allow for question refinement, and establish interview length. After pilot testing, the original semi-structured interview was deemed too long and edited to 10 questions focusing on: 1) perceptions of peace (5 questions); 2) food and

peacebuilding (2 questions); and 3) implications of a food peacebuilding framework (3 questions) (Figure 4-1, see Appendix E).

Interview questions were developed based on the socio-ecological model and One Earth Future theory of peace.^{19,21} Interview questions explored perceptions of peace, the relationship between food and peacebuilding, and implications of a food peace framework in practice for the field of nutrition and dietetics. The Food Peace Framework (Figure 4-2) was developed by the researchers of this interview as a draft to present to participants of the study for critique and evaluation. Based upon previous literature on the economic, political, social, and environmental determinants of peace along with the interdisciplinary and multi-faceted categorizations of determining peace in the food system, a food peace framework was created as a potential theory of change tool including pathways for change as potential peacebuilding avenues in the food system.²⁸

Data Collection

Before the semi-structured interviews, each participant completed a brief pre-interview survey via Qualtrics™ to provide relevant demographic and background data. After completing the pre-interview survey, RDNs participated in a one-on-one semi-structured interview via Webex with the first author. All study interviews were conducted from October 2021 to January 2022. Interviews involved written and verbal responses, were video recorded and transcribed by Webex, and lasted approximately 60 minutes in length.

Data Analysis

Interviews were transcribed verbatim from the video recordings, de-identified, and coded by the first author. Following well-established grounded theory coding procedures, three phases were implemented to shape an analytic framework for theoretical integration and analysis: 1) initial coding critically identifies important words or groups of words to generate as many codes

as possible from the early data; 2) focused coding that refines and strengthens data codes, concepts, and categories as concentrated themes; and 3) theoretical coding that analytically categorizes relationships between themes.²⁹ Interactive observation, analysis, and refinement took place throughout the research process to continuously return to the data, address assumptions, and create codes that were close to the data and representative of larger themes rather than preconceived categories. NVivo (version 12.0), was used to classify, sort, and arrange the information.³⁰ Descriptive statistics were generated using Microsoft Excel 365.³¹

Researcher Positionality and Trustworthiness

Qualitative research requires that investigators position themselves to be conscious of the biases, values, and experiences they bring to a qualitative research study.³² In the present work, both of the primary researchers identified as female whose research focused on sustainable, resilient, and healthy food systems. The first author, as a graduate student in nutritional sciences, held an outsider perspective by not identifying as a registered dietitian, yet held an insider perspective as actively working within the U.S. food system, specifically the charitable food system network. The last author held insider perspectives as a RDN and was actively working in the U.S. food system as a professor in the field of nutrition and dietetics.

To establish a rigorous and trustworthy research study, mechanisms of trustworthiness and reflexivity were woven in at each stage.²² To ensure validity and trustworthiness, a continual process of rigorous reasoning was practiced through methods, theories, and findings. This included a documented inventory of steps implemented throughout the research process and their associated purpose and implications, otherwise known as a coherent and explicit chain of reasoning, described by Rossman and Rallis.³³ Establishing quality and rigor in this study was visible through design suitability, within-design consistency and distinctiveness, and analytic adequacy through accountability checks.

Additionally, generalizability concerns were addressed during interviews by uniformly proposing questions, iterative coding, and describing salient themes from a self-reflexive perspective and observation of researcher positionality. During data collection, analysis, and interpretation, the researchers monitored for potential bias by keeping a research journal and engaging in peer debriefing for study verification. The study was explained verbally to participants, and they also received a written explanation. Throughout the entire process, the primary researchers debriefed, analyzed the data to identify and define emergent themes, and co-constructed interpretations and implications. Further, two additional research colleagues participated in debriefing by providing feedback on transcript coding, codebook development, overall research design and data collection, and analysis.

Results

Twenty-two RDNs participated in semi-structured qualitative interviews. Data saturation was reached at 22 interviews when no new data were forthcoming. Of the total 30 RDNs invited to participate in the study, 8 (27%) did not participate in the study for the following reasons: did not respond to the email (n=3), time constraints (n=4), or referred a colleague with more applicable experience to the topic (n=1). During both the written and verbal response process, participants selected their responses to be acknowledged as identifiable (n=18) or non-identifiable (n=4). No sensitive information was collected.

Participant demographics purposefully closely mirrored the Commission on Dietetic Registration demographics and statistics in the United States (Table 4-1).²⁴ Additionally, most (90.9%) had completed a graduate degree. Participant professional identity was self-reported and represented as the most current primary and secondary place of employment, while professional experience averaged 21.2 years working within the food system (see Appendix F). Participants represented 12 states and 1 district of the U.S. (Arizona, Iowa, Kansas, Maryland, Minnesota,

Montana, Nebraska, New York, North Carolina, Virginia, Washington, and Washington D.C.). During the pre-interview survey, most participants selected representing either Education and Programming (68.2%) and/or Nutrition and Health Outcomes (86.4%) compared to other components of the food system (see Appendix D). Additionally, most participants ranked identifying the most with Diet and Nutrition (77.2%) as their area of expertise (Appendix D). Contrarily, participants identified the least or second to least with Agriculture and Environmental Stewardship/Sustainability (54.5%) and Cultural and Social Identity (54.5%) as their area of expertise (Appendix D). Data analysis identified key themes related to perceptions of peace, food and peacebuilding, and implications of a food peacebuilding framework.

Perceptions of Peace

Peace activity perceptions of peace

RDNs primarily focused on five categories when identifying and defining peace. These categories were represented as (1) access to resources; (2) characteristics of peace; (3) conflict and control; (4) levels of peace; and (5) values of peace. Overall, the categories of access to resources (1) and values of peace (2) were most identified across the participant sample, each with 19 of 22 transcripts represented. Remaining categories, characteristics of peace (2) had 17 of 22 transcripts represented, conflict and control (3) had 16 of 22 transcripts represented, and levels of peace (4) had 14 of 22 transcripts represented. Within each category, focused codes were additionally quantified by total number of transcripts that referenced the code and illustrated by participant quotes to describe the category coding (Table 4-2).

The access to resources category (1) corresponded to focused codes of access, needs, and resources highlighting that “all groups have access to adequate housing, food, and institutional support needed for happiness and a fulfilling life.” The characteristics of peace category (2) corresponded to focused codes of culturally appropriate, healthy, and sustainable, both

acknowledging and “appreciating where our food comes from,” ultimately from the earth. The conflict and control category (3) corresponded to focused codes of conflict, and control and power referring to peace as the absence of violence. The levels of peace category (4) corresponded to focused codes of individual, community, and the larger society, and the associations between the levels as “relationships with one another”. The values of peace category (5) corresponded to focused codes of justice, respect, and stability, in which a peaceful world is one “where people feel seen, heard, understood, valid, and honored.”

Perceptions of peace in the U.S. food system

RDNs primarily focused on four categories when identifying and defining peace in the U.S. food system. These categories were represented as (1) barriers to food peace; (2) conflict in the U.S. food system; (3) values in food systems; and (4) new understandings. Barriers to food peace (1) had 21 of 22 transcripts represented, conflict in the U.S. food system had 20 of 22 transcripts represented, values in food system (3) had 21 of 22 transcripts represented, and new understandings (4) had 12 of 22 transcripts represented. Within each category, focused codes were additionally quantified by total number of transcripts that referenced the code and illustrated by participant quotes to describe the category coding (Table 4-3).

The barriers to food peace category (1) corresponded to focused codes of food disparities, lack of self-reliance/sovereignty, and a peacekeeping versus peacebuilding divide. RDN statements highlighted that despite robust peacekeeping emergency food system, there was not a lot of “positive peace food sovereignty,” especially at the domestic level. The conflict in the U.S. category (2) corresponded to the focused codes of competing ideals, health, lack of stability, and power imbalances. RDNs posed questions such as, “...at what cost do we have this abundant food supply and what is being threatened or lost in the process...?” and “...how do you

determine food system outcomes?” Additional statements that focused on determining and addressing externalities in the food system highlighted tensions between how food is grown and consumed in correlation with significant power constellations and political agendas. The values in systems category (3) corresponded to the focused codes of community support and relationships, food equity, sovereignty in diplomacy, and sustainable and holistic view as “a new foundation of what a food system values.” The new understandings category (4) was represented by explicit statements made by RDNs throughout the interview noted peacebuilding with food systems was a new concept. These responses often accompanied a lack of response or incomplete response to an interview question.

Food and Peacebuilding

Peacebuilding characteristics

The characteristics of peacebuilding were grouped according to word frequency and represented as a word cloud with increased word frequency appearing larger in the visualized figure (Figure 4-3). Visualization was created by a semantic test by NVivo comparing all word response to the item "What are specific words to characterize/describe what peacebuilding looks like in the context of food?" The total number of words were 84 with font sizes proportional to word frequencies. Relationships, access, healthfulness, and respect were the most represented characteristics stated by RDNs.

Peacebuilding pathways

RDNs primarily focused on two categories when identifying peacebuilding pathways. These categories were represented as (1) applications of peacebuilding implementation and (2) groups who could promote implementation. Applications (1) had 19 of 22 transcripts represented and groups (2) had all 22 transcripts represented. Within each category, focused codes were additionally quantified by total number of transcripts that referenced the code and illustrated by

participant quotes to describe the category coding (Table 4-4). The applications category (1) corresponded to focused codes of educational methods, policy and funding, and programming. The groups category (2) corresponded to focused codes of farmers, government, localities and communities, and organizations. RDNs reverted to examples peacekeeping pathways, “emergency food system development, food banks, or food warehouses” or “food and nutrition assistance programs” rather than peacebuilding pathways. Additionally, although regional and national organizations, programs, and policies were noted as potential peacebuilding pathways, participants primarily named local efforts as current peacebuilding pathways.

Implications of a Food Peacebuilding Framework

After viewing the Food Peace Framework presented during the semi-structured interview, registered dietitians primarily focused on four categories when expanding upon the implications of a food peacebuilding framework peace in the U.S. food system. These categories were represented as (1) education and research communities with 17 of 22 transcripts represented; (2) nutrition and healthcare settings with 12 of 22 transcripts represented; (3) local organizations and programming with 12 of 22 transcripts represented; and (4) policy with 13 of 22 transcripts represented. Additionally, codes were illustrated by participant quotes to describe the category coding (Table 4-5). Utilization of a food peacebuilding framework was noted as a novel approach that could potentially, “change the way healthcare professionals or professors teach about food.” At the organization, programming, or policy level, the framework offered a “grounding model” for leaders and educators, practitioners, and policymakers.

Discussion

Data analysis identified key themes corresponding to perceptions of peace, food and peacebuilding, and implications of a food peacebuilding framework. While the themes were segregated to expand on correlated categories and corresponding focused codes, together they

unveil a broader picture of the current understandings and potentials of peacebuilding in the U.S. food system as defined by RDNs. Key themes surrounding RDNs' overall perceptions of peace, perceptions of peace in the U.S. food system, and peacebuilding characteristics and pathways represented a paradigm shift integrating food and peace as it pertained to nutrition, health, and the broader U.S. food system. Further, the results provided a rationale for utilizing a food peace framework for the field of nutrition and dietetics.

RDNs identified peace as accessibility to adequate food, water, and housing resources to fulfill the basic needs of individuals, communities, and larger populations. The definition of food and nutrition security similarly highlights access as the key feature to sufficient, safe, and nutritious food.³⁴ However, RDNs went on to describe and characterize access as culturally appropriate, healthy, and sustainable by accompanying broader values of justice, respect, and stability. These additional characterizations acknowledged the importance of deepening the definition of access. Other research has expanded on the definition of access to include five dimensions, acceptability, accessibility, accommodation, affordability, and availability.³⁵ This previous study emphasized movement beyond the objectification of access to include acceptability, accommodation, and perceptions within food environments and foodways.

RDNs' statements focused on characteristics and values that portrayed positive peace attributes in defining and perceiving peace as a mechanism of social justice.⁶⁻⁷ These characterizations and personal perceptions of peace extended to visualizing peace in the food system. Relational and community support, food equity, sovereignty, and sustainability represented the perceived values for a peacebuilding approach within food systems. Similarly, peacebuilding characteristics have been largely described to include values of self-determination, autonomy, equality, justice, and communal interdependence that promote human rights.³⁶ Other

food movements have adopted these characteristics and values, namely food sovereignty and food justice movements. Food sovereignty movements emphasize a dynamic process of autonomy and self-sufficiency for radical economic, political, and ecological changes in agri-food systems.³⁷ Food justice movements acknowledge the importance of community self-reliance for food. They also combat structural inequalities underlying contemporary food systems and food movements impacting health outcomes.³⁸

RDNs referenced peace as the absence of conflict which was defined by the power structures present in systems and control over resources. They noted the need to address tensions and anxiety regarding food insecurity, instability, and the resulting poor health outcomes, along with perceived power imbalances across the U.S. food system. This acknowledgment aligned with a peacekeeping approach by stressing the importance of non-violence.⁷ There is an inextricable connection between food insecurity acting as a cause or consequence of conflict.³⁹ The FAO argues that increases in food insecurity and hunger, along with the impacts of climate change and economic slowdowns, can be linked to conflicts and social inequalities.⁴⁰ These inequalities have largely impacted minority and underrepresented groups, as exemplified by the COVID-19 pandemic.⁴ A peacekeeping approach reacts to these issues, whereas a peacebuilding approach addresses the root of a problem at the level of individual attitudes, institutions, and broader social structures.¹¹

Although participants noted that there was peace in parts of the U.S. food system, discussions acknowledged conflicts of competing ideals, or divisions between how, why, and what people are being fed. Participant reference to a charity mindset expanded on the Western ideology of “feeding the world.” This mindset often targets underserved individuals and communities. It creates band-aid solutions rather than addressing the deeper systemic issues of

why people are food insecure and maintain poor health outcomes.⁴¹⁻⁴² Rather, a peacebuilding approach targets the underlying social determinants of health that powerfully affect health and well-being.⁴³

Participants noted a divide between peacekeeping approaches versus peacebuilding approaches in the U.S. food system. Peacekeeping approaches were often described at the national level, whereas peacebuilding approaches were suggested to be better represented at the local or regional level. It was noted that national policies and programs in the U.S. food system took a reactionary approach ensuring that people had food, but not necessarily valuing peacebuilding characteristics. Similarly, food sovereignty and food justice movements, though championed for global adoption, largely emerged from grassroots communities for representation in broader policy movements.⁴⁴⁻⁴⁵

One of the most interesting findings was addressed through new understandings of peacebuilding within the food system. Explicit statements made by RDNs often accompanied a lack of response or incomplete response to an interview question due to the novelty of the subject of food and peacebuilding. Participants noted many of the characteristics, values, and ideas of peacebuilding showed overlap across topics of food justice, food equity, and health. However, participants acknowledged throughout the interview that lack of peacebuilding in the food system was a different representation of disparities and equity pertaining to nutrition and health. Notice of these new understandings verbalized as explicit statements throughout the interview validated the need for future education on the food peacebuilding approach in the field of nutrition and dietetics. This finding aligned with research that suggests dietetic education and training must amplify engagement in social justice issues through practice and advocacy.⁴⁶

Perceptions of food and peacebuilding were determined through participant descriptions of peacebuilding characteristics and pathways. Interestingly, the most common word coded from transcript responses on characterizing peacebuilding was *relationships*. As described throughout the interview, RDNs noted relationships were key to values of understanding and respect, furthering collaboration, and sustainable systems. Food sovereignty and food justice movements similarly emphasize the importance of building social relationships in supporting community food networks and the local economy.⁴⁷ Further, the Earth Charter definition of peace highlights relationships with self, others, and the Earth as core to resilient and sustainable peace.⁴⁸

Peacebuilding pathways identified by RDNs expanded upon peacebuilding characteristics. Policies, funding, and programming examples focused on food equity pertaining to food and land access, affordability, and food appropriateness. However, participants also defaulted to peacekeeping examples. For instance, although participants were asked to give examples of peacebuilding in the U.S. food system, responses such as food pantries and food banks, or federal food assistance programs were verbalized. Recall that reactive responses, such as food aid, are aligned with peacekeeping and not peacebuilding. Although it was noted that food aid is needed in many situations due to economic and environmental circumstances, these programs often do not attend to the root cause of hunger and food insecurity.⁴¹ The examples of food pantries and food banks noted the potential for peacebuilding avenues and social welfare services to target broader systemic issues. Yet, it was also noted that many food pantries and food banks would prefer not to be in existence because that would mean people are able to feed themselves and root causes of hunger are resolved.

RDNs acknowledged the implications of a food peacebuilding framework education and research communities, nutrition and healthcare settings, local organizations and programming,

and policy. It was emphasized a better understanding of a peacebuilding approach across disciplines of agriculture, nutrition, and healthcare could offer beneficial contributions to the field of nutrition and dietetics. Reflections on the proposed food peace framework acknowledged the potential of a comprehensive and grounding model for developing and tailoring nutrition and health programming and policy in the U.S. food system. Other frameworks, such as the Nutrition-Focused Framework for Action cultivating Sustainable, Resilient, and Healthy Water Systems emphasize the systems approach for the transformative power of food and nutrition.⁴⁹ The Nutrition-Focused Framework for Action identifies four cross-cutting areas, education and training, research, practice, and policy. The framework can similarly be utilized to advance professional contributions to the field of nutrition and dietetics.

Strengths of this study include using a sample with a diverse range of perspectives across the US, closely mirroring the Commission on Dietetic Registration demographics and statistics in the United States. The results, however, may not be generalizable to all RDNs due to purposive sampling. Furthermore, while interviews are an effective method for obtaining qualitative data to understand participant perspectives, additional methods of data collection such as focus group interviews may have allowed for more in-depth triangulation of data. Additionally, the coding of qualitative transcripts by only one researcher could be viewed as a limitation although peer debriefing was implemented throughout the study process. Due to the novelty of this work, this may have increased the difficulty of participants to respond completely to the questions about peace in the U.S. food system. The findings here may be seen as an opportunity to generate new knowledge and encourage further work in this line of inquiry.

Conclusions

Although there are widespread efforts to address food insecurity and nutrition-related poor health outcomes, there is often a divide on how to proceed and who decides the best approach. A food peacebuilding approach offers a paradigm shift that integrates food and peace as a framework promoting sustainable, resilient, and equitable food systems. This study revealed overlapping characteristics between food peacebuilding, food sovereignty, and food justice approaches. However, the peacebuilding framework offers a comprehensive and inclusive view by targeting values and characteristics specific to nutrition and health education, research, practices, and policy. By introducing peacebuilding perspectives into the field of nutrition and dietetics, this study offers an alternative paradigm to address some of the most pressing issues of food insecurity and health influenced by economic, political, social, and environmental systems. Peacebuilding approaches acknowledge that a food system cannot be confined to one discipline or issue. Rather, it views the food system holistically and establishes the attitudes, institutions, and structures that promote right and just relationships with self, others, and the Earth. A food peacebuilding framework provides a grounding model that helps practitioners move beyond the use of reactive approaches to hunger and promote proactive health and wellness utilizing autonomous peacebuilding pathways in the broader U.S. food system. Finally, this study revealed a gap in current understandings of peacebuilding in the context of food and acknowledges the need for future inquiry on the subject.

Tables and Figures

Table 4-1. Demographic Characteristics of Participants (n=22)

Demographic Characteristic	Study Participants	Commission on Dietetic Registration Demographics 2020²⁵
Sex, %		
Female	86.4	92
Male	13.6	8
Race and ethnicity, %		
American Indian or Alaskan Native	4.4	No Data
Asian	8.7	5
Black or African American	8.7	3
Spanish, Hispanic, or Latino	0	6
White/Caucasian	73.9	80
Other	4.4	2
Age, y		
Mean	48.1	45.1
55 y+, %	27.3	29
<35 y, %	27.3	31

Table 4-2. Perceptions of Peace identified from qualitative semi-structured interviews (n=22). **Perceptions of Peace** categories and corresponding ***focused codes*** present in analysis. Codes represented as the number of transcripts that referenced the code and illustrative examples from transcripts.

<i>Perceptions of Peace</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(1) Access to Resources		19	
	<i>Access</i>	12	Food practices and peace would mean that access to all food, and proper nutrition is not debated or a concern. Access to food is clear and without constraint financially or fundamentally.
	<i>Needs</i>	10	A place where all are fed physically, emotionally, mentally, spiritually, so that everyone's needs are met.
	<i>Resources</i>	8	I think violence and social/economic inequities are often driven by resource stresses, and oftentimes it's not that we lack enough resources, but that we have inequitable distribution of resources. Those resources include food, water, and other materials (for domestic needs and public infrastructure). So, a peaceful world would be one rooted in equitable distribution of resources, especially food and water.
(2) Characteristics of Peace		17	
	<i>Culturally Appropriate</i>	9	Thinking about the other end of the food system -- food behaviors and consumption -- food contributes not only to nutritional status and health but also to our cultural and social norms and values.
	<i>Healthy</i>	11	From the health perspective, ensuring people are fed and receive adequate nourishment can lead to improved health and wellbeing overall of individuals, which could then influence their ability to do other things in life (e.g., go to school, maintain employment).
	<i>Sustainable</i>	9	A peaceful world is one in which there is sustainability, resilience, and stability across social, economic, and environmental dimensions.

Table 4-2 continued			
<i>Perceptions of Peace</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(3) Conflict and Control		16	
	Conflict: as definitive in defining peace, referring to an absence of conflict as indicative of peacefulness	13	If all have access to a nurturing food supply, there would not be as much conflict to try to control lands where food would grow. If all are fed there would not be as much fighting to control spaces and food would not be used as a bargaining chip in conflicts.
	Control and Power: including agency as a means of peacefulness	10	Food-related practices can cultivate a peaceful world by diminishing the ability of one group to exercise violence against another in the form of withholding resources needed to sustain life (e.g., healthy food, clean water) and can erode the corresponding power dynamics and social, economic, and political violence that can stem from the control or manipulation over those resources. If a person or population has control over their food supply, they are much less vulnerable to all of these forces.
(4) Levels of Peace		14	
	Individual: including self-awareness/mindfulness	7	A peaceful world allows for individual growth but not at the expense of the greater good. A world where thinking about the whole is the norm and ultimately benefits the individual.
	Community	7	A peaceful world is one in which there is cohesion and collaborative community engagement.
	Larger Society: viewing larger society as a whole, all of humanity in solidarity	10	A peaceful world would include people from all nations working together collaboratively and collectively to achieve the biggest and smallest of goals.

Table 4-2 continued			
<i>Perceptions of Peace</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(5) Values of Peace		19	
	<i>Justice</i> : including equity	11	Thinking about food production and supply chains, a peaceful world is one in which we have enough nutrient-rich foods, and they are distributed equitably both between and within countries. A peaceful world is also one in which laborers involved in producing, processing, distributing, preparing, and selling foods have safe, humane working conditions and livable wages.
	<i>Respect</i> : largely including respect as understanding	10	A peaceful world is a place where people feel seen, heard, understood, valid and honored. Their voices, ideas, thoughts, culture are respected and valued even when we disagree.
	<i>Stability</i> : including security and safety	6	In this context, I think of domestic security and the opposite of peace being war, disruptions, and instability.

Table 4-3. Perceptions of Peace in the U.S. Food System identified from qualitative semi-structured interviews (n=22). **Perceptions of Peace** categories and corresponding ***focused codes*** present in analysis. Codes represented as the number of transcripts that referenced the code and illustrative examples from transcripts.

<i>Perceptions of Peace in the U.S. Food System</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(1) Barriers to Food Peace		21	
	<i>Food Disparities</i>	14	Despite the existence of a pretty robust emergency food relief system, families still fall between the cracks and are not getting the things that they need. That probably doesn't rise to the level of famine, but I do think that despite all of the incredible efforts we're seeing from the emergency food really system, we are seeing higher rates than ever of food security.... families with kids...racial and ethnic minority families...households headed by women... veterans. Everybody's been negatively affected by the pandemic in terms of food and security, but those are groups that have been disproportionately affected. That kind of conflict and oppression certainly still there.
	<i>Lack of Self-Reliance/Sovereignty</i>	6	The further you get from having any kind of food skills or self-reliance around food, the more dependent you are on this quick fix non-nutritious, instant, processed food. That takes away, so that would be the non-peace.
	<i>Peacekeeping Vs. Peacebuilding Divide:</i> referring to a tension in how peace is portrayed in the food system as either peacekeeping or peacebuilding, mostly focusing on peacekeeping at the larger scale	16	I see more positive peace at the local level and regional level... at the domestic level, I see negative peace, but I don't see a lot of the positive peace when you think about the whole United States...When I think about domestic level, I think of our food policies...particularly within the food and nutrition service, or the FNS program. I see a lot of emergency relief negative peace from this picture, but not a lot of the positive peace.

Table 4-3 continued			
<i>Perceptions of Peace in the U.S. Food System</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(2) Conflict in the U.S. Food System		20	
	<i>Competing Ideals:</i> between groups/organizations/enactments of food system procedures and processes	15	In the United States food could often be used as a weapon for organizations to fight over ideals. My mind goes to the anti-hunger versus health communities, why are we feeding people to feed people? Or are we feeding people to support their overall health and quality of life for what the dietary guidelines says for what health encompasses? Or what should food be doing to keep you healthy? So, I think there is conflict in that. There's conflict in how we define how we feed people in our food system and conflict in the way that we feed people.
	<i>Health</i>	12	We definitely need peace in our food system because if people don't have access to a healthy steady supply of food that's desirable for them and their family, it's just going to keep costing the U.S. in healthcare and it's going to keep costing U.S. on so many other levels.
	<i>Lack of Stability</i>	9	I think that there is increasing perhaps anxiety over the possibility of conflict and perhaps that would disrupt the distribution. COVID definitely has disrupted food distribution and supplies of what people considered to be just standard items that you could anticipate at your grocery store.
	<i>Power Imbalances</i>	11	The context that I'm taking on the conflict piece is the consolidation of the players within our food supply chain and the resulting power constellations that result from that including, the heavy influence of those multinational corporations on food and nutrition policy. I would say that there's definitely conflict. There are definitely power imbalances. There are definitely very strong political influences.

Table 4-3 continued			
<i>Perceptions of Peace in the U.S. Food System</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(3) Values in Food Systems		21	
	<i>Community Support and Relationships</i>	13	Peaceful food systems will function in a positive way that is advantageous for everyone. A cohesive community or a collaborative community is really beneficial for all people and brings people together in a way that can support and uplift each and every person and thing whether that be planet, or a person.
	<i>Food Equity</i>	10	If you look at social determinants of health and food being one of those pillars that determines the individual health outcomes, then we want all individuals to have that access, to have that equity. That's so important for healthy outcomes. And by having a healthy outcome you thrive in other areas, economically, socially, et cetera.
	<i>Sovereignty in Diplomacy</i>	12	It's going to require significant changes to redistribute the power among having more players at the table making those types of decisions.
	<i>Sustainable and Holistic View</i>	16	Peace in our food system is linked to this construct of nourishment: nourishing body, nourishing our environment, and ultimately our communities.
(4) New Understandings	New understandings of peacebuilding (primarily after peace continuum presentation) within the food system by participants in explicit statements	12	It's hard is because I never really thought of it. I think you're delving into an area that I never really thought much about. I think it depends on how you define peace, I think peace is the end result....there are all sorts of entry points into talking about food systems and peace is one that is very interesting and a good way of talking about it.

Table 4-4. Peacebuilding Pathways identified from qualitative semi-structured interviews (n=22). **Perceptions of Peace** categories and corresponding ***focused codes*** present in analysis. Codes represented as the number of transcripts that referenced the code and illustrative examples from transcripts.

<i>Peacebuilding Pathways</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(1) Applications		19	
	<i>Educational Methods</i>	9	In addition to that, certainly, there are educational programs. And as a dietitian, that's where I've come in with many of my colleagues with education on what vitamins and minerals help build your immune system. What are those healthy foods that you need to eat to build strong bones? So, health education.
	<i>Policy and Funding</i>	14	There are obvious policies like the farm bill, which could be used as the biggest piece of legislation in the United States that affects the food system. It has actually secured funding for programs from the governor's budget. They come together with a front in supporting double dollars or programs like that. And you've got all these different players coming together and so the governor just needs to put a stamp of approval on it, and it really has started to move some great things forward, too.
	<i>Programming</i>	14	I think one of the most obvious ones are food and nutrition assistance programs. Now, whether that may be your community-based operations, food pantries, food banks, food shelves, that type of thing or, the ones that I'm most closely knowledgeable of are the food nutrition assistance programs by USDA.

Table 4-4 continued			
<i>Peacebuilding Pathways</i>	<i>Focused Code</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(2) Groups		22	
	<i>Farmers</i>	13	Local markets, local farmland, preservation programs that provide opportunities for new producers to be market farmers.
	<i>Government:</i> federal and state	12	I think part of this is governmental and I think probably largely it needs to be that because that's where more similar taxes go.
	<i>Localities and Communities</i>	18	Connecting, if you're looking at the supply chain, local agriculture to its community instead of needing it to leave the community to be put into a usable form, and then purchase back into the to the community.
	<i>Organizations</i>	16	There are all sorts of organizations involved in doing that kind of thing. I think organizations that are working towards more food sovereignty and resilience are really the ones that are working towards positive peace.

Table 4-5. Implications of a Food Peacebuilding Framework identified from qualitative semi-structured interviews (n=22). **Perceptions of Peace** categories and corresponding ***focused codes*** present in analysis. Codes represented as the number of transcripts that referenced the code and illustrative examples from transcripts.

<i>Implications of a Food Peacebuilding Framework</i>	<i>Number of Transcripts that Referenced Code (n=22)</i>	<i>Illustrative Example</i>
(1) Education and Research Communities	17	The way that I teach and do research with food systems, I'm mostly thinking about the teaching, I don't do any explicit acknowledgment of peace and peacebuilding and what that looks like. I think it comes into my teaching in different ways through talking about food justice and food sovereignty, but I do think that thinking about peace is a useful framework because it does help connect the dots in thinking about the relationship between food-related peace, diplomacy, and governance and how that shapes the options that we have available to the U.S. and how decisions are made through the rest of the food system. I do think adding peace into that would help to broaden the lens through which we view the food system as a complex system.
(2) Nutrition and Healthcare Settings	12	I'm thinking about the relationships in there with food, medicine, healthcare; what it currently looks like versus moving along that spectrum, and how it could move towards that more idealized perspective. I'm also just thinking of other connections, like social determinants of health, or how do those types of things fit in with that or relating to other frameworks that are out there for a variety of reasons.
(3) Local Organizations and Programming	12	At the community level with my work, it would be also educating some of the community partners, food banks, food, pantries with this potential approach. I think they're kind of already doing it, as I said at the local level, but just naming that that's what they're doing might help move some things forward.
(4) Policy	13	Immediately when I think about a lot of the things that we work on right now related to policy, or creating policy, or informing policymakers, or informing policy period, it could be a good framework of setting the foundation for how to build policy. I think it'd be really great if people would, again using the terminology, come to the table with this grounding model of how to build a good food policy, good health policy, or good food system policy.

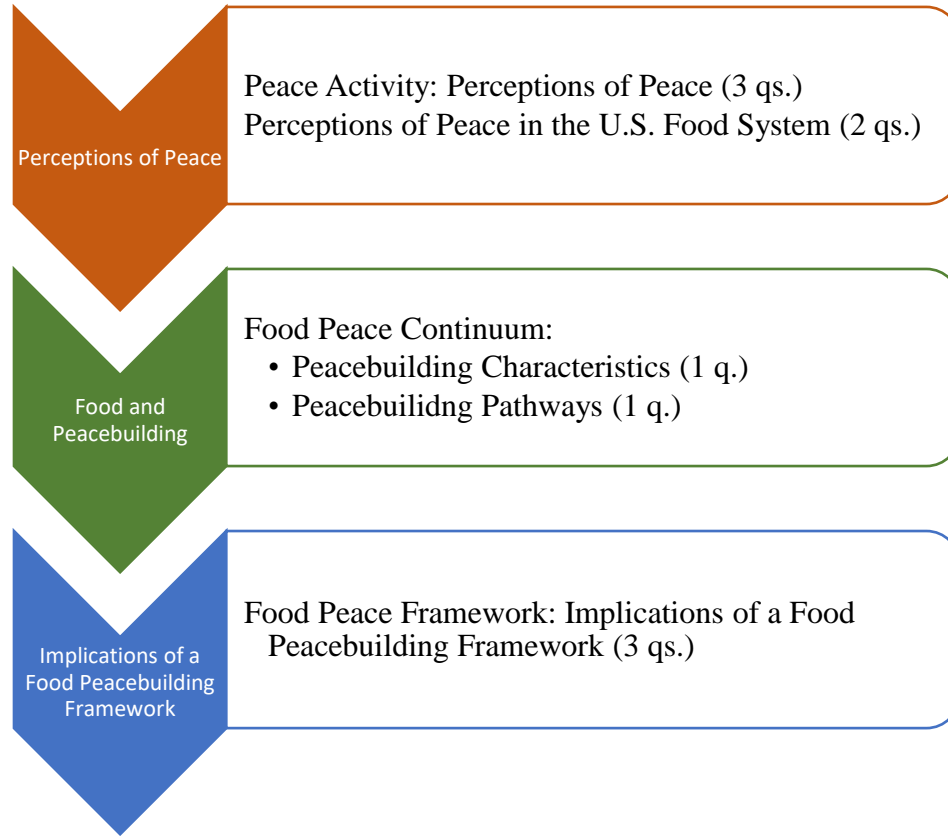


Figure 4-1. Semi-Structured Interview Guide. The Food Peace Continuum functioned as a discussion tool introducing and defining the relationship between food and peace considering the characteristics of conflict, negative peace, and positive peace on a peace continuum. The Food Peace Framework, developed by the primary researchers of this study, was presented as a draft framework including the determinants of peace, determinants of food peace, characteristics of food peace, and pathways for change.

Determinants of Peace
 Determinants of Food*Peace
 Characteristics of Food*Peace
 Pathways for Change

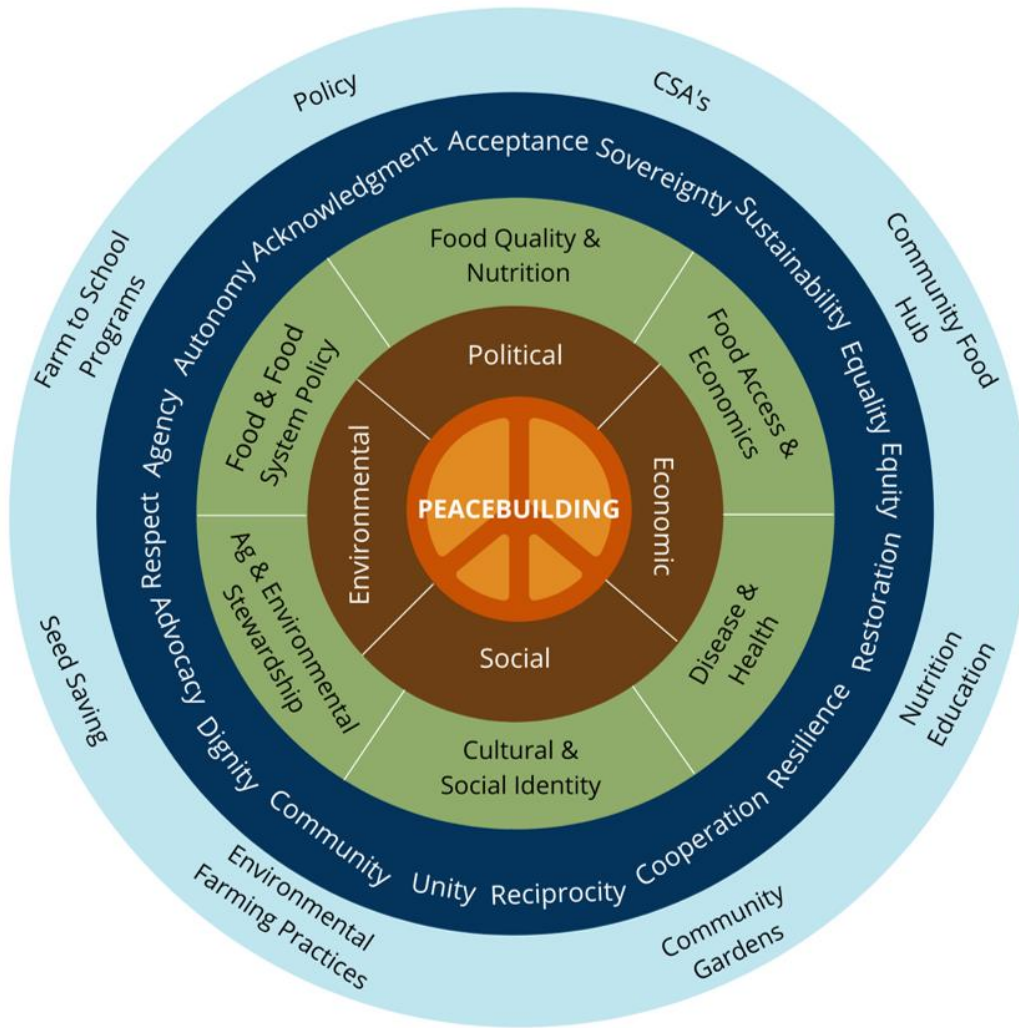


Figure 4-2. The Food Peace Framework. Draft food peacebuilding framework visualizing determinants of peace, determinants of food*peace, characteristics of food*peace (peacebuilding characteristics) and pathways for change (peacebuilding pathways).



Figure 4-3. Characteristics of Peacebuilding in the Food System Word Cloud. Visualization was created by a semantic test by NVivo comparing all word response to the item "What are specific words to characterize/describe what peacebuilding looks like in the context of food?" The total number of words were 84 with font sizes proportional to word frequencies.

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Appendix A. Institutional Review Board Approval

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Ethics
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 07/16/2021

To: Rebekah Akers Christina Campbell

From: Office of Research Ethics

Title: Food as Grounds for Peacebuilding

IRB ID: 21-264

Submission Type: Initial Submission **Review Type:** Expedited

Approval Date: 07/16/2021 **Approval Expiration Date:** N/A

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, including the **recruitment materials and informed consent documents that have the IRB approval stamp**.
- **Retain signed informed consent documents for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study or study materials.
- **Promptly inform the IRB of any addition of or change in federal funding for this study**. Approval of the protocol referenced above applies only to funding sources that are specifically identified in the corresponding IRB application.
- **Inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an [eligible PI](#) to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.**
- IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. **Approval from other entities may also be needed**. For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of

IRB 07/2020

those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **IRB approval in no way implies or guarantees that permission from these other entities will be granted.**

- Your research study may be subject to [post-approval monitoring](#) by Iowa State University's Office of Research Ethics. In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.
- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure to officially close the project. For information on instances when a study may be closed, please refer to the [IRB Study Closure Policy](#).

If your study requires continuing review, indicated by a specific Approval Expiration Date above, you should:

- **Stop all human subjects research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Human subjects research activity can resume once IRB approval is re-established.
- **Submit an application for Continuing Review** at least three to four weeks prior to the **Approval Expiration Date** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

Appendix B. Recruitment Materials

Recruitment Email Invitation

Subject Line: Food as Grounds for Peacebuilding Interview Invitation

Hello NAME,

My name is Rebekah Hanson and I am a Nutritional Sciences graduate student at Iowa State University in the Department of Food Science and Human Nutrition working with Dr. Christina Campbell, PhD, RDN.

We are currently exploring the intersection of food and peace with the purpose of building a theoretical framework to evaluate the role of food in the context of peace. Our long-term goal is to reframe conversations towards health and sustainability through the lens of food and peace. Further, to observe how food, nutrition, and health interact with social, economic, and environmental issues to build community food security and peace-minded food citizens utilizing a peacebuilding approach.

Based on your expertise as a professional working in the food system, we would like to invite you to take part in the next step of our research in gathering feedback on our current food*peace framework. This research, through a structured-interview process, will allow U.S. to further identify characteristics, determinants, and examples of negative and positive peace in the food system.

The interview will consist of approximately 10 questions lasting about 60 minutes in total. The interview will be conducted over Cisco Webex Meetings, involve written and verbal responses, and be video recorded to allow for transcription (video recordings will be deleted immediately after transcription).

Your input will be used to further refine the food*peace framework by gaining your perspective on the relationship between food and peace.

Interviews can be scheduled at your convenience, ideally in the coming month.

If you are interested in participating in this research project, please reply to this email and we will send an electronic informed consent form, a link to a short pre-interview survey using Qualtrics™, and identify a time for the Webex interview.

Sincerely,

Rebekah Akers, Nutritional Sciences and Sustainable Agriculture Graduate Student,
Department of Food Science and Human Nutrition, Iowa State University
Email: raakers@iastate.edu

Dr. Christina Gayer Campbell, PhD, RD, Associate Professor of Nutrition, Uelner Professor of Food Science and Human Nutrition, Department of Food Science and Human Nutrition, Iowa State University
Email: ccampbel@iastate.edu

Appendix C. Informed Consent

Electronic Informed Consent

Investigators: Rebekah Akers, Nutritional Sciences graduate student, Department of Food Science and Human Nutrition, Iowa State University and Christina Gayer Campbell, PhD, RD, Department of Food Science and Human Nutrition, Iowa State University

Invitation to be Part of a Research Study

You are invited to participate in a research study. This form has information to help you decide whether or not you wish to participate—please review it carefully. Research studies include only people who choose to take part—your participation is completely voluntary, and you can stop at any time. It is hoped that the information we gather will further enhance the development of a theoretical food peace framework. Please ask the project staff any questions you have about the study or about this form before deciding to participate.

Purpose of the Study

The purpose of this study is to build a food peace framework to evaluate the role of food in the context of peace. Our objectives of this research are to reframe conversations towards health and sustainability through the lens of food and peace. Further, to observe how food, nutrition, and health interact with social, economic, and environmental issues to build community food security and peace-minded food citizens through a peacebuilding approach.

You are being invited to participate because of your expertise as a professional working in the food system.

Description of Study Procedures

We would like to meet with you to conduct an interview via video conference that will last approximately one hour. During the interview, you would be asked questions along the following lines:

- How can food-related practices cultivate a peaceful world?
- Is there peace in our food systems?
- How would shifting to a peacebuilding systems approach impact your area of study/work?

You will receive a pre-interview survey via Qualtrics™ to collect background information before carrying out the structured interview. The survey should take about 5 minutes.

Description of Identifiable or Non-identifiable Consent

Attributing responses from structured interviews to specific experts in the food system field adds credibility to the food peace framework study results. We are asking to include the reputation of professionals as experts in their workplace and their involvement within the food system by identifying participants in study results. We do not anticipate any sensitive information to be collected. *However*, you will have the option to give consent for your participation to be either identifiable or non-identifiable.

Identifiable consent allows U.S. to identify you as a study participant, and attribute information you share to you when we report study results.

Non-identifiable consent means that you agree to participate in the study but want us to keep your identity confidential when we report study results.

Interviews will be conducted via Webex and will be video recorded. Following the transcription of the interview, the video recordings will be deleted. Some of the information you share with U.S. during the in-depth interviews will be included in study results as direct quotes. You may choose to have the quote directly attributed to you or to remain anonymous. Once we have analyzed the data from our interview with you and selected quotes, we will send you the selected quotes in a Word document by email to allow you to confirm review and edit your quotes prior to U.S. sharing them publicly in any way, written, verbal, or other means. Your information will *only* be used for the project described in this document. Again, you have the option to provide identifiable or non-identifiable consent. You may change your preference for “identifiable” or “non-identifiable” until results are published.

Participant’s Rights

Participating in this study is completely voluntary. You may choose to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Ethics, Iowa State University, Ames, Iowa 50011.

Risks, Discomforts, and Benefits

We do not anticipate that participating in our study will entail any risks or discomforts. Even if you choose to remain confidential, there is a small possibility those familiar with your field may infer your identity. We will take steps to prevent this, such as ensuring your workplace or other identifying information is not disclosed.

While you will not directly benefit from participating in this study, our research will help U.S. learn more about the relationship between food and peace.

Confidentiality

Research records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available without your permission. However, it is possible that other people and offices responsible for making sure research is done safely and responsibly will see your information. This includes federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy study records for quality assurance and data analysis. These records may contain private information.

To protect confidentiality of the study records and data, the following measures will be taken:

- v. Any printed data from interview responses will be locked in filing cabinets in the researcher's locked lab room. Only lab personnel have key access to the locked room and file cabinet.
- vi. If the results are published, unless consent is given for identification by name, the identity of participants will be regarded as privileged and remain confidential. Unless consent is given to be identified by name, the privacy will be maintained in any future analysis and/or presentation.
- vii. Interview responses will be video recorded via Webex, and data will be stored using the ISU CyBox system.
- viii. Upon completion of the interview process, email addresses and video recordings obtained from surveys will be discarded/deleted. Unless consent is given, names and transcribed video recordings will be de-identified. Names and transcribed video recordings will be de-identified depending on the level of consent given:
 - a. If a participant has not provided consent to use identifiable data, data will be de-identified. Data analyzed for presentation or publication will not be associated with any specific name. Data that includes specific workplace locations and/or identity will not be included in data presentation/publication.
 - b. If a participant has provided consent to use identifiable data, it will be included for presentation or publication.

Questions about the Research Project

If you have more questions about this research project, please contact Rebekah Akers at raakers@iastate.edu or Christina Gayer Campbell at ccampbel@iastate.edu.

Your Consent

By electronically signing this document, you are agreeing to participate in this study. If you have any questions about the study after you agree to participate, please contact the research team using the information provided above.

Electronic signature (Text entry)

Please select if you would like to give consent as identifiable or non-identifiable. You will be given an opportunity to edit any responses prior to using them in our analysis. You may change your preference for “identifiable” or “non-identifiable” until results are published. Again, there are no anticipated sensitive information to be collected, rather perspectives and opinions on the theoretical food peace framework are being sought. Please select one box.

Identifiable consent – your identity will be shared in reports of study results

Non-identifiable consent – your identity will be kept confidential in reports of study results

Verbal Informed Consent

Before we begin, we would like to obtain verbal informed consent.

Research studies include only people who choose to take part—your participation is completely voluntary, and you can stop at any time. It is hoped that the information we gather will further enhance the development of a theoretical food peace framework.

Participating in this study is completely voluntary. You may choose to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer.

You have the option to give consent for your participation to be either identifiable or non-identifiable.

- Identifiable consent includes data allows U.S. to identify you as a study participant, and attribute information you share to you when we report study results.
- Non-identifiable consent means that you agree to participate in the study, but want U.S. to keep your identity confidential when we report study results.

You will be given an opportunity to edit any responses prior to using them in our analysis. You may change your preference for “identifiable” or “non-identifiable” until results are published. Again, there are no anticipated sensitive information to be collected, rather perspectives and opinions on the theoretical food peace framework are being sought.

You previously indicated that you wish to be <insert their choice of identifiable or non-identifiable>. Are you still comfortable with that choice, or do you wish to change?

We do not anticipate that participating in our study will entail any risks or discomforts. However, even if you choose to remain confidential, there is a small possibility those familiar with your field may infer your identity. We will take steps to prevent this, such as ensuring your workplace or other identifying information is not disclosed. Do you have any questions?

Appendix D. Pre-Interview Background Information Survey

The purpose of this pre-interview survey is to collect background information prior to conducting the structured interview via Webex. We anticipate the survey will take approximately 5 minutes to complete.

Your participation is completely voluntary, and there are no risks in completing this survey. You may skip any questions that you do not feel comfortable answering.

Please do not share this survey link. If you have already completed this survey previously, please do not complete it again.

By agreeing to complete this survey, you give your consent for participating. Please answer each question by selecting the option(s) that best reflect your knowledge or opinion. To start the survey, click the arrow in the lower right-hand corner.

Sincerely,

Rebekah Akers, Nutritional Sciences Graduate Student
Christina Campbell, PhD, RD, Associate Professor of Nutrition
Department of Food Science and Human Nutrition
Iowa State University
Ames, IA

Background information

1. To which gender identity do you most identify?
 - a. Female
 - b. Male
 - c. Gender Variant/Non-Conforming
 - d. Not Listed _____ (Text entry)
 - e. Prefer not to answer

2. What is your age? _____ (years)

3. Are you Spanish, Hispanic or Latino?
 - a. Yes
 - b. No

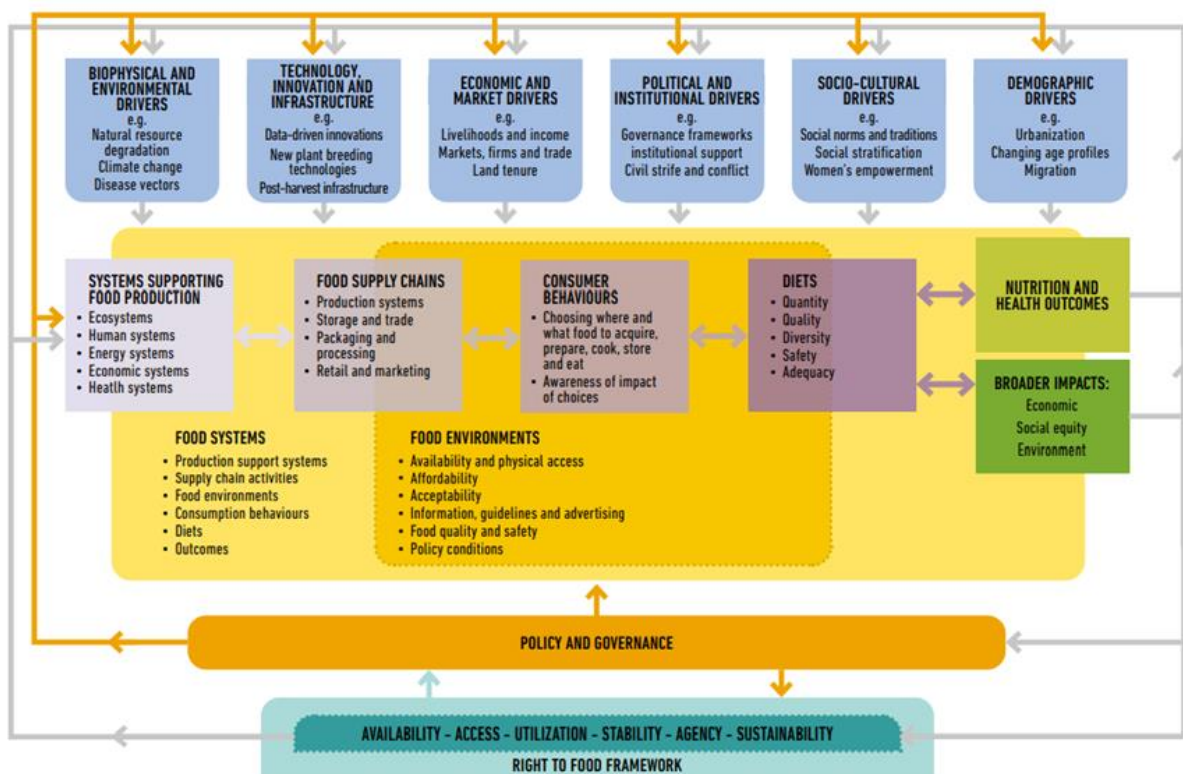
4. What is your race? (Mark all that apply)
 - a. American Indian or Alaskan Native
 - b. Asian
 - c. Black or African-American
 - d. White/Caucasian
 - e. Native Hawaiian/Other Pacific Islander
 - f. Other Race

5. What is the highest level of education you have completed?
 - a. Some high school
 - b. High school diploma or GED
 - c. Some college or technical training
 - d. Associates degree, technical certificate
 - e. Bachelor's degree (4-year)
 - f. Graduate degree

6. What is your place of employment/occupation? (Text entry)

7. What component of the food system do you represent? (Select all that apply)
- Food Production Systems and Input Supply
 - Storage and Distribution
 - Processing and Packaging
 - Retail and Marketing
 - Education and Programming
 - Nutrition and Health Outcomes
 - Other (text entry)

SUSTAINABLE FOOD SYSTEM FRAMEWORK



Source: HLPE. 2020. Food security and nutrition: Building a global narrative towards 2030, Rome. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>. Reproduced with permission.

8. How many professional years of experience do you have working with/in the food system? (0-100 toggle)
9. What professional certifications do you hold (MD/DO, RN, RD, etc.)?
- I hold a professional certification (Text entry)
 - I do not hold a professional certification

10. Part of this interview is focused on collecting information/opinions surrounding your expertise/area of work. Out of the following categories, please rank which areas/disciplines you most identify with (1 being the most and 6 being the least):

- a. Diet and Nutrition ____
- b. Food Access and Economics ____
- c. Disease and Health ____
- d. Agricultural/Environmental Stewardship/Sustainability ____
- e. Cultural or Social Identity ____
- f. Food & Food Systems Policy ____

Thank you for your participation in the pre-interview background information survey.

Reference

High Level Panel of Experts. Food security and nutrition: Building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. Food and Agriculture Organization of the United Nations. Published 2020. Accessed July 31, 2021. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>

Appendix E. Semi-Structured Interview Questionnaire

Food as Grounds for Peacebuilding

Food Peace Semi-Structured Structured Interview (Total time: 40 minutes)

Introduction/Overview (3 minutes)

**Italics indicates a script spoken to the participant.*

Welcome to the Food as Grounds for Peacebuilding structured interview. The goal of this interview is to explore the relationship between food and peace by gathering the opinions and expertise of professionals working in and with food systems to validate a theoretical food peace framework. Thus far, the researchers of this interview, have developed a theoretical food peace framework and now seek expert feedback and perspective on this framework through a structured interview process.

The structured interview will consist of approximately 10 questions and last about 60 minutes in total. The interview will involve written and verbal responses and be video recorded in Webex to allow for transcription. Participants will be given a set amount of time to write a response in the chat feature of Webex. Verbal responses to the discussion questions will be recorded on Webex and downloaded directly using the Webex transcription application for Webex recordings. Participant input will be used to further refine the food peace framework by gaining perspective on the relationship between food and peace.

Read Verbal Informed Consent Script and obtain verbal consent (see Appendix D).

Part 1. Peace Activity (Time: 7 minutes)

The following questions will involve written responses. Please write your responses in the Webex chat box. You will be given approximately 1-3 minutes for each question. You will be told how much time you have for each question and when you have one minute remaining.

Questions will be asked verbally and copied into the Webex chat box for participants.

1. In one word, what does peace mean to you? (Time: 1 minute)
2. What does a peaceful world look like to you? (Time: 3 minutes)
3. How can food-related practices cultivate a peaceful world? (Time: 3 minutes)

Part 2. The Peace Continuum/Framework (Time: 4 minutes)

Food Peace Continuum PowerPoint shown here as a visual.

This remainder of this interview will focus on how peace and food interact in regard to how the food system currently functions and how the food system has the potential to function.

The relationship between food and peace appears throughout history, including control over food during times of conflict, including famine, war, and terrorism. Food and peace also includes how food intertwines with social, economic, and environmental issues with opportunities to build community food security and peace-minded food citizens.

The goal of this study and this interview is to analyze this relationship between food and peace by developing a framework of food peace, considering the characteristics of conflict, negative peace, and positive peace on a peace continuum.

Before we move into the relationship between food and peace, we need to define the terms conflict, negative and positive peace and how they flow on a continuum of peace.

Conflict, in this context, is identified as violent conflict, such as war, terrorism, and genocide.

Negative Peace, as defined by the 2020 Global Peace Index, is the absence or fear of violence. This is also known as peacekeeping.

Positive Peace, as defined by the 2020 Global Peace Index and the Earth Charter, is the attitudes, institutions, and structures that create and sustain peaceful societies through relationships with self, others, and the Earth. This is also known as peacebuilding.

It is necessary to note here that negative does not refer to negative in the sense that it is bad, but rather that there is an absence of something (in this case violent conflict)

Within each of these parts of conflict, negative and positive peace, there is an opportunity to ask the questions of how food relates to each part of the peace continuum. (3 minutes)

For example, famine can be categorized as a result of conflict, or conflict can result in famine when food is used as a political tool of power leveraging or control.

Emergency relief, such as USAID, the World Food Program, or a local food pantry can be categorized as peacekeeping missions.

Food sovereignty movements can be categorized as peacebuilding to foster autonomous and self-sufficient structures within the food system.

Part 3. Interview Questions (Time: 12 minutes)

The remaining questions will involve verbal responses. You will be given approximately 1-3 minutes for each question.

Questions will be asked verbally and copied into the Webex chat box for participants.

The next few questions ask about peace at three different levels, in our local, regional and domestic food system.

4. Is there peace in our local, regional, and domestic food system? Please explain. (9 minutes)
5. Do we need peace in our food systems? Why? (3 minutes)
6. What are specific words to characterize/describe what peacebuilding looks like in the context of food? (3 minutes)
7. What specific examples (practices/programs/policies/organizations) of peacebuilding come to mind when it comes to food and the food system? (3 minutes)
8. Please share your thoughts/comments on our current draft of the food*peace framework. (3 minutes)

Food Peace Continuum Framework pdf shown here as visual (Figure 4-2).

*Shown here is our current version of the Food*Peace theoretical framework. The rings represent determinants of peace, determinants of food*peace, characteristics of peace, and pathways of change (as specific examples of peacebuilding in the food system).*

Part 4. Expertise-Focused Interview Questions (6 minutes)

Questions will be asked verbally and copied into the Webex chat box for participants.

9. How would shifting to a peacebuilding systems approach impact your area of study/work? (2 minutes)
10. How could this food peace framework be utilized in your workplace? (2 minutes)

References

Institute for Economics & Peace. Global Peace Index 2020: Measuring Peace in a Complex World. Vision of Humanity website. Published June 2020. Accessed June 3, 2021. <http://visionofhumanity.org/reports>

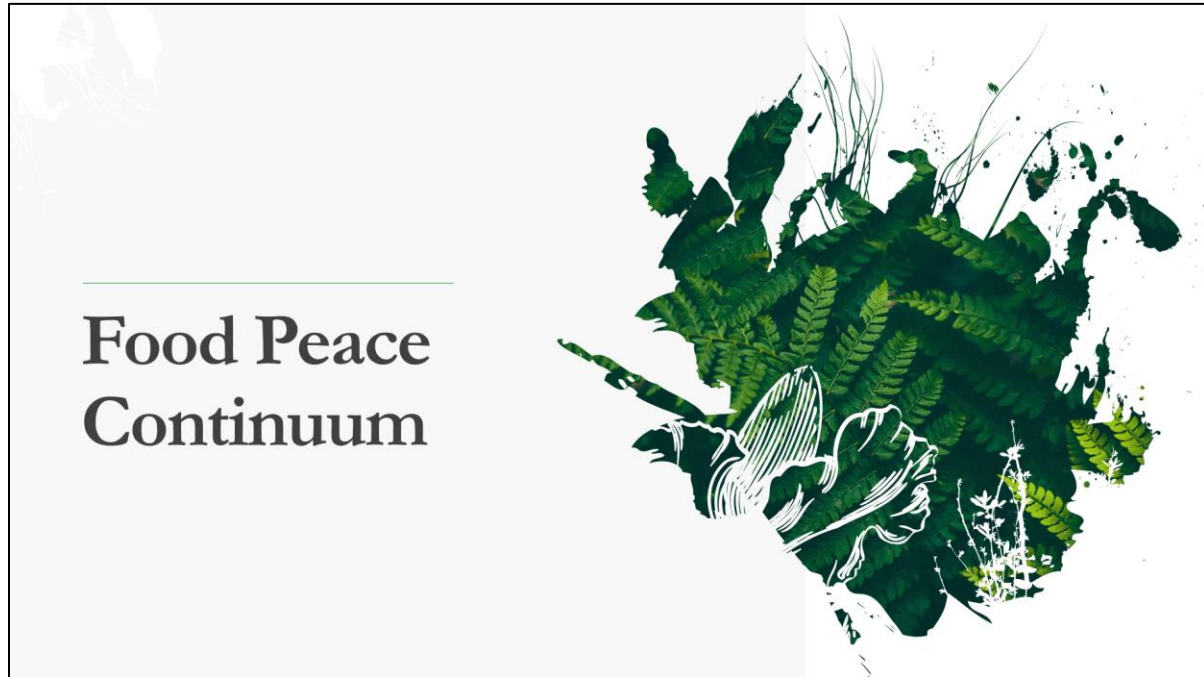
Earth Charter International. Read the Earth Charter. The Earth Charter. Published October 8, 2021. Accessed July 19, 2021. <https://earthcharter.org/read-the-earth-charter>

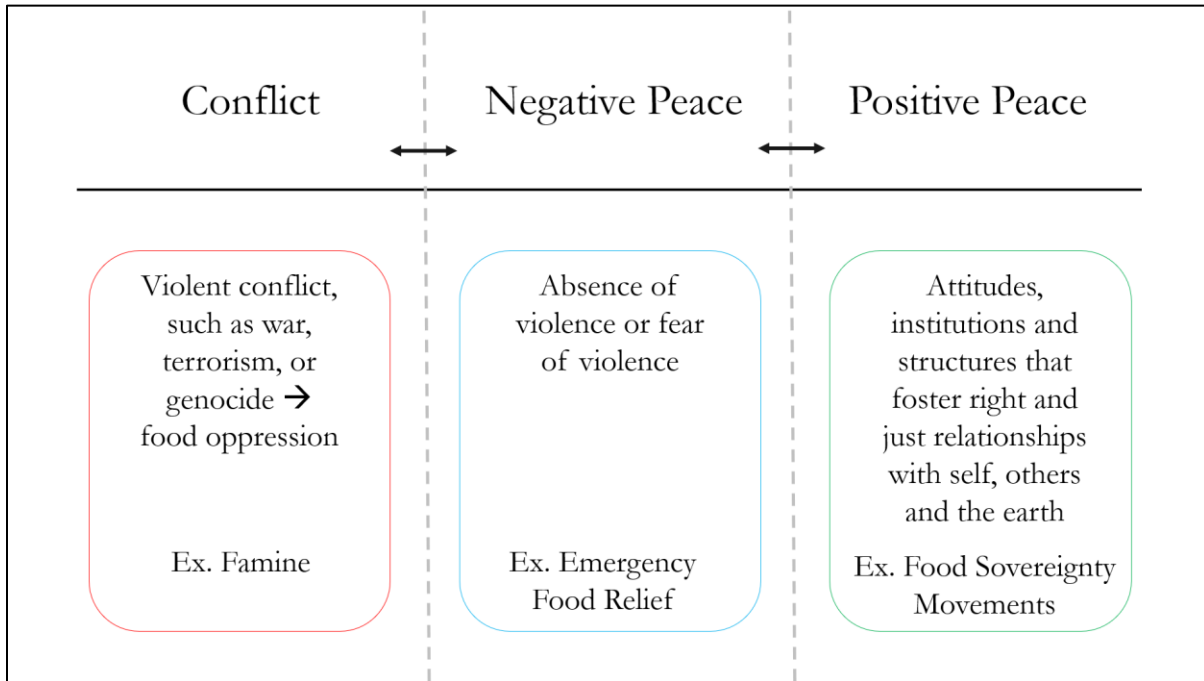
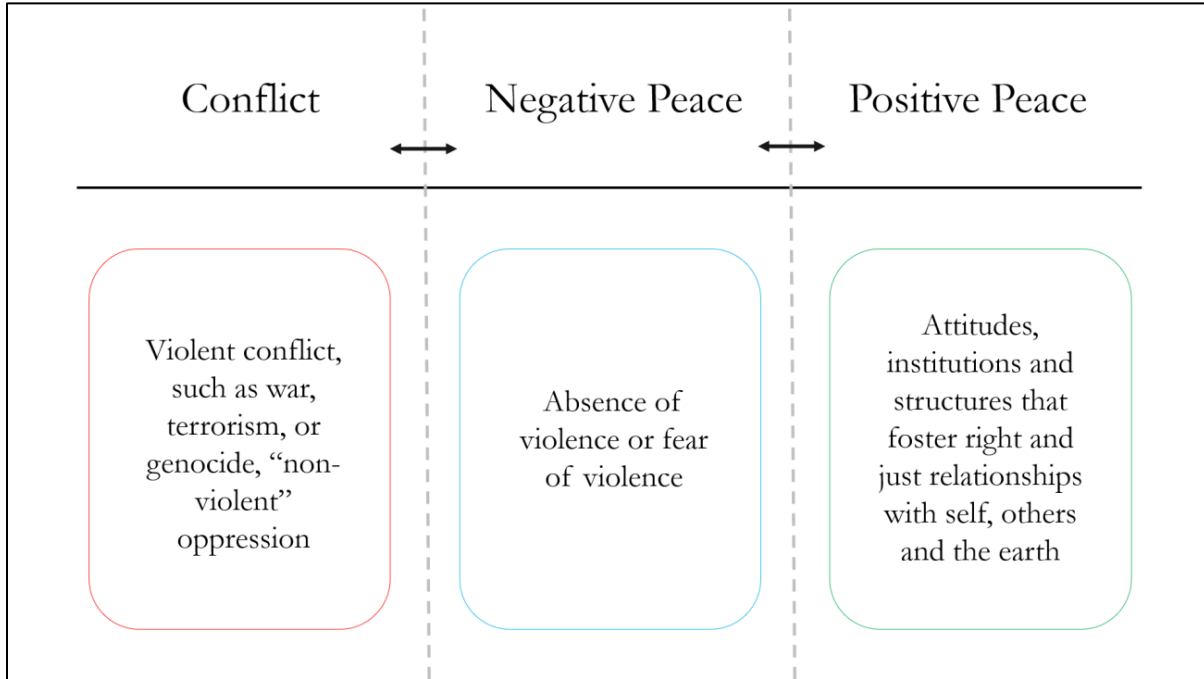
Part V. Post-Interview Question (1 minute)

Questions will be asked verbally and copied into the Webex chat box for participants.

Do you have other suggestions for contacts to interview in the future? (1 minute)

The Peace Continuum PowerPoint





Appendix F. Description of Interview Participant Professional Experience

Participant Pseudonym	Place of Employment ^a	Years of Experience ^b	States
Niaomi	University	10	Arizona, Iowa, Kansas, Maryland, Minnesota, Montana, Nebraska, New York, North Carolina, Virginia, Washington, and Washington D.C.
Michelle	Public Research Institution	4	
Nia	Farm LLC	62	
Nora	Professional Organization	46	
Felicity	University/Professional Organization	36	
Fabion	Professional Organization/Charitable Food Network	20	
Giselle	Public Health Network/Non-Profit	11	
Barbara	Nutrition and Dietetics Consulting	20	
Brianne	University	26	
Tiffany	Public Health Network	20	
Danielle	Nutrition and Dietetics Consulting/Charitable Food Network	25	
Tricia	Nutrition and Dietetics Consulting	35	
Dominique	Healthcare	15	
Klaus	University/Professional Organization	30	
Melody	University	8	
Nadya	University	8	
Isabel	University/Charitable Food Network	12	
Taylor	Professional Organization/Nutrition and Dietetics Consulting	20	
Karen	University	38	
Elizabeth	Professional Organization Extension	4	
Tamara	Professional Organization	7	
Thalia	Healthcare	10	

^aParticipant's primary place of employment is listed first and the minor employment second. An example of minor employment positions would be serving on a board or committee for an institution.

^bThese numbers are participants' self-reported answers. Participants were asked, how many professional years of experience do you have working within the food system? Because this question was included in the pre-interview survey, participants gave no reference to what they considered their starting point.

CHAPTER 5. GENERAL CONCLUSION

The relationship between food and peace appears throughout history yet has largely been defined as the presence or lack of violent conflict. Food insecurity and conflict co-exist through the lack of access, availability, utilization, and stability of food resources leading to a decrease in functionality or collapse of the food system.¹ Further, marginalization, exclusion, and control through power leveraging, exacerbate the violation of food as a human right and the ongoing oppression that results from food injustice.²⁻³ However, food and peace intertwine with social, economic, and environmental issues providing opportunities to build community food security and peace-minded food citizens. The food peacebuilding approach represents a paradigm shift that integrates food and peace to foster right and just relationships with self, others, and the earth for sustainable, resilient, and equitable food systems in the US.

Although theoretical frameworks provide a foundational approach for examining trends and posing critical thought for strategic direction of action to encourage cooperation and sustainable peace across political borders, human and ecological health sectors, and scales of leadership and governance,⁴ a framework for exploring food in the context of peace and peacebuilding does not exist. The research presented here focuses on understanding the perceptions on the relationship between food and peace in the U.S. food system from the perspective of RDNs as professional food and nutrition experts representing a common educational goal of delivering updated and encompassing information regarding food and nutrition to the public. Additionally, this research further conceptualized a food peace framework to evaluate the role of food in the context of peace for the fields of nutrition and dietetics.

This research identified key themes corresponding to 1) perceptions of peace, 2) food and peacebuilding, and 3) implications of a food peacebuilding framework. First, RDNs stated that

peace required access to resources and a food system that was culturally appropriate, healthy, and sustainable. They also acknowledged that conflict and control played a role in limiting peacefulness, which was represented as power imbalances and different ideologies of peace in the U.S. food system. Second, RDNs emphasized that access, relationships, and respect were core characteristics of peacebuilding in food systems. Further, they noted that these characteristics could be applied across all levels of governance, from local communities to federal policy. Third, RDNs noted that a peacebuilding approach could be used in health and nutrition settings through education, community programming, and policy creation. Finally, this study revealed that there was a gap in understanding peacebuilding in the context of food and that more education and research is needed in the future. These new understandings around food peace incentivize a call for greater awareness, education, and research on peacebuilding for the field of nutrition and dietetics.

References

1. Laborde D, Martin W, Swinnen J, Vos R. COVID-19 risks to global food security. *Science*. 2020;368(6503):500-502.
2. High Level Panel of Experts. Food security and nutrition: building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. Food and Agriculture Organization of the United Nations. Published 2020. Accessed July 31, 2021. <https://www.fao.org/right-to-food/resources/resources-detail/en/c/1295540/>.
3. Ayala A, Meier BM. A human rights approach to the health implications of food and nutrition insecurity. *Public Health Rev*. 2017;38:10.
4. Dresse A, Fischhendler I, Nielsen JØ, Zikos D. Environmental peacebuilding: Towards a theoretical framework. *Coop Confl*. 2019;54(1):99-119.