

University of California, Santa Cruz

**Bridging Theory & Practice:  
A Critical Understanding of Sustainability at UCSC**

A Senior Thesis submitted in partial satisfaction  
of the requirements for the degree of

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in

ENVIRONMENTAL STUDIES

By

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Abstract: At UCSC, concerns about environmental sustainability are deeply embedded within the DNA of our institution. For example, the most recent 2017-2022 Campus Sustainability Plan was just launched, every year the Student Environmental Center drafts its Sustainability Blueprint, and Rachel Carson College has a Sustainability Minor. However, how different members of our university community define and understand “sustainability” has been largely unexplored. My research will ask the following questions: How do members of UCSC campus articulate, define, understand “sustainability”? How do these understandings vary by race/ethnicity, gender, and other aspects of positionality? My findings will provide insight and contribute to sustainability-related dialogue held throughout campus and will influence campus sustainability efforts. As elaborated above, “sustainability” is a concept and effort central to our campus identity and mission, and is largely perceived as an unqualified good. People’s definitions, understandings, and operationalization of this term are conceptual debates that center our values and work as a campus. This research is important as it examines a fundamental aspect of our campus through a unique lense shaped by a positionality that strays from the dominant narrative. As our campus continues to change and transform, it necessary to further develop a culture and understanding of sustainability that reflects the diverse campus community. As a leader in sustainability, UCSC as an institution provides an example for other UC’s to develop “inclusive sustainability” ideology and practices that moves beyond an ecocentric understanding. Furthermore, this research will contribute to literature regarding institutional sustainability within higher education. Very little research exists examining the positionality as it relates to understands of sustainability.

KEYWORDS: sustainability, higher education, institutional, positionality

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I would like to dedicate this thesis to my family. To the generations that came before me and to the generations who follow.

To my grandmother, Celina Bautista and to my cousin, Luz Adelina Bautista.  
*Chhashalhalla lhe, kat chwilla chanchhu lliya yiaba'a*  
Las extraño mucho, están en mi corazón.

## PREFACE

In the last few years, the UCSC campus sustainability movement has experienced a shift in rhetoric and approach. No longer representing a homogenous, mainstream understanding of sustainability, the movement seemingly embraces a multiplicity of approaches. As a fifth-year student, I can attest to the transformations that have occurred throughout the curricular, co-curricular, and administrative realms of the campus environmental movement. Although UCSC now boasts an “inclusive” sustainability framework, remnants of mainstream ideologies remain embedded in the foundation of the institution and within the student experience.

As a first-generation student coming from a low-income household, I was unfamiliar with mainstream sustainability culture. Outside of what I researched on my own, my exposure to notions of sustainability or environmentalism were limited, as these topics were not actively discussed in my home or taught at school. My high school did not offer environmental science courses or programs. Prior to coming to UCSC, the most influential experience I had relevant to sustainability was through a youth environmental leadership conference sponsored by the U.S Forest Service, made possible by a fellowship. Therefore, my understanding of sustainability was largely centered on the natural environment and resource management. I had no knowledge of concepts such as environmental justice or food sovereignty, let alone theoretical frameworks to consciously understand how these concepts directly related to my community.

I can still recall my initial impressions, as a first-year, with sustainability at UCSC. As an Oakes College affiliate, I quickly realized the stark contrast between different spaces on campus. Going from Oakes, a community composed of predominantly people of color, to my major classes, I found myself surrounded by majority white students and professors. Though perhaps a superficial observation, I began to notice a trend amongst my peers, not just within Environmental Studies, but throughout campus. Students, usually white, embraced a minimalist lifestyle yet were equipped with the most up to date Apple devices. This observation genuinely confused me as I felt it was disingenuous to have the privilege and luxury of owning expensive electronics while emulating a certain lifestyle. However, as I began exploring extra-curricular

opportunities related to environmentalism, I began to understand the meaning of sustainability at UCSC.

My initial attempts to become involved with student enviro-organizations left me feeling alienated within those spaces. Although perhaps sharing the same passion and interest in caring for the environment, I felt like an outsider because I did not seem to possess as much knowledge on topics related to sustainability as the people within these spaces, such as my carbon neutrality, energy efficiency, composting. I felt a sense of embarrassment and discomfort that eventually dissuaded further attempts to engage in such spaces. At the time, I did not have the tools or framework to identify the root of my discomfort as I was in the midst of a transitional period in my life.

In hindsight, I now realize that although these spaces were not as ethnically and racially homogenous as my classes, there was a lack of visibility and acknowledgement of varying perspectives. Instead, sustainability was understood as universal, reflecting values and priorities that supposedly embodied all. Yet, the conversations and dialogues happening within these spaces were not reflective of my background or experiences as a person of color. Organizational goals and objectives were centered on topics such as alternative transportation, energy, water conservation, and waste reduction. These are all important aspects of sustainability, but they were discussed in a way that felt detached from the experiences and reality of those outside the institution. Narratives were centered on traditional mainstream notions of environmental sustainability which have fundamentally failed to address the intersections of race, class, gender and other constructions of difference. I struggled to find a space that truly resonated with me, that nourished a sense of enthusiasm and passion for sustainability that emphasized an intersectional understanding.

As I began to explore different spaces outside of the sustainability movement, my knowledge and understanding of the world transformed. Through my involvement with student organizing and activist spaces, my knowledge evolved to include an understanding of sustainability founded on critical and intersectional discourse. Although I valued what I learned within the classroom, being able to have my thoughts heard and validated by people with whom I could relate to was refreshing. I was able to better understand my positionality in the world and

began to recognize the ways in which my life had been impacted by social and environmental inequality. I began to understand the influential factors that relegated my family and me to being disproportionately burdened by pollution and environmental degradation. The veil had been lifted from my eyes, giving me the ability to see and identify connections. I now had the tools to examine the locality and geographic makeup of my environment back home. It was no coincidence that the low-income housing complex where my family and I lived was located right off the busy main street, around the corner from a Superfund site, and right next to railroad tracks. It can be easy to overlook certain things, to see them as normal or just the way things are.

My story and anecdotes are part of a collective experience shared by students whose realities do not fully align with the experiences embodied by mainstream understandings of sustainability. Initiatives such as the People of Color Sustainability Collective or PoCSC represent a direct response to how sustainability influences the lives and experiences of underrepresented students. During a student forum organized by the Ethnic Resource Centers, ERC directors became aware of the negative experiences shared by students with the sustainability movement on campus. Students of color were feeling ostracized and excluded from a movement deeply embedded within the university. One student in particular shared an experience where they were confronted about not throwing an item away into the right waste receptacle. The manner in which the student was confronted, left them feeling embarrassed, angry, and contemplating transferring out of Santa Cruz due to its heavy emphasis on sustainability. The ERC directors and staff, realized that campus sustainability was an issue of student retention as it was not inclusive of all students. In 2014, PoCSC started as a social media campaign, #POCscsustainability, a platform for students to share their non-traditional sustainability stories and practices.

During my third year, I began working at the Ethnic Resource Centers as a front desk assistant. Through this connection, I was given the opportunity to work with the People of Color Sustainability Collective, an experience that deeply influenced my understanding of sustainability. With PoCSC, I finally found a sense of belonging for which I had yearned. I was able to explore ideas of intersectionality and environmental justice, reclaiming my voice and knowledge as an Indigenous, first-generation, womxn of color. As a collective, we challenged

mainstream rhetoric surrounding sustainability and environmentalism to move beyond an ecocentric understandings that have historically centered wealthy, white males. As an intern, I co-led workshops, presentations and discussions aimed at promoting critical discourse and acknowledgement of different cultural understandings. In the process of it all, a community was formed through the sharing of experiences and perspectives.

However, I still struggle to identify with the mainstream notions of sustainability exemplified by the enviro-sustainability movement on campus as well as within the ENVS department. My identity inextricably shapes my perspective and although it has been a challenge to exist within a predominantly white major, I know that my knowledge and voice are valuable. This thesis represents a step in my journey to self-empowerment. To produce knowledge is to challenge expectations and assumptions enacted upon me within the institution and to promote the visibility and recognition of people of color within predominantly white spaces. When minoritized students like me participate in the production of knowledge at a renowned research institution, we push back against the lack of representation of our experiences and expertise in academia. We do not and cannot undertake such important work alone.

I would like thank everyone who has supported me through the process. To my close friends and family who believed in me and gave me the strength and motivation to continue forward. I also want to give a special acknowledgement to everyone at the Ethnic Resource Centers, both directors and staff: Cameron de Leon, Jacob Velasquez, Liz Lee, Carlos Gutierrez, Shonte Thomas, Nancy Kim, Dr. Judith Estrada, and Dr. Rebecca Rosser. For so many students, the ERCs are the heart of UCSC, where nurturing, support and retention occur daily, despite a lack of space, resources, and recognition. I express my appreciation to all the mentors in my life: Adriana Renteria, former PoCSC program coordinator, who supported my endeavors and challenged me to move beyond my own expectations; to Dr. Elizabeth Gonzalez, for taking the time to sit down with me to discuss ideas and share their experience as another Indigenous woman of color in academia; and Dr. Flora Lu for her guidance, patience, and support through this journey. I would like to thank the students, faculty, and staff who participated in my research, from allowing me to interview them to taking time out of their class to fill out a survey.

Special thanks to Drs. Katie Monsen, Adam Millard-Ball, Andy Szasz and Jerry Zee for their generosity in assisting with student surveys.

## CHAPTER 1: INTRODUCTION

The concept of sustainability is simultaneously ambiguous and universal. As Tsing (2005) notes, universals are hybrid, transient, and constantly reformulated; they are never politically neutral, but are implicated in the establishment and maintenance of power as well as mobilizations for justice and change. As a hybrid, transient and constantly reformulated concept, sustainability—and how it is conceptualized—varies. Perhaps the most common operationalization of the term breaks it down to three components: ecology, economics, and equity, often referred to as the “three-legs” of sustainability (Newport, Chesnes & Lindner 2003). The “Report of the World Commission on Environment and Development: Our Common Future,” commonly called the Brundtland Report, stated that development is sustainable when “it meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 16). Alternatively, sustainability is defined as the ability to continue or the capacity to maintain (Arjen & Jickling, 2002), typically characterized in reference to the relationship between human need and resources or in the functionality of ecosystems and natural environments (Shearman 1990). Other definitions of sustainability attempt to bridge different paradigms in order to achieve a “just” conceptualization of sustainability in which a spectrum of issues is acknowledged (Agyeman 2008).

Despite the range of definitions articulated by scholars and different organizations, the importance of sustainability as a goal and outcome transcends difference; it is an unqualified good that no one purports to be against. The term sustainability has come to represent a marker for environmental enlightenment within institutional settings. It is strategically and frequently applied to a range of activities as a means of emphasizing a sense of moral commitment to the cause (Breen, 2010). However, because sustainability largely remains a concept contextually understood and articulated, different approaches may produce different aims. A mantle of sustainability can be employed to evade critique, mask divergent outcomes, or justify incommensurability between intent and impact.

The hybridity and transience of the term sustainability could therefore be understood as a ‘floating signifier’ (Mckenzie, Bieler & McNiel 2015), something that can move between being

discursively exclusive and vaguely open-ended, changing and transforming over time. As such, sustainability is susceptible to ‘greenwashing’ or being coopted and applied to a range of things as a means of presenting them as environmentally responsible. It is necessary to remain critical of how notions of sustainability are articulated and influential, particularly within institutional structures where policy and practices are developed. Depending on the context and purpose, sustainability can be used to leverage a range of initiatives and politics (Davidson 2010). For example, some definitions of sustainability are contextually depoliticized, which may result in the erasure of notions of equity and justice as it relates to sustainability (Mckenzie, Bieler & McNiel 2015). As a floating signifier, sustainability can hold multiple interpretations in order to fulfill a given purpose at a given time (Mckenzie, Bieler & McNiel, 2015). Therefore, sustainability can work to re(produce) both dominant ideologies as well as transformative understandings (Sylvestre, McNiel, Wright, 2013).

Thus, as some scholars would argue, without a clear definition, it is challenging to use sustainability as a basis for environmental policy; rather, the challenge does not necessarily lie in identifying a “meaning” of sustainability but in understanding the implications of such meanings (Shearman 1990). This is particularly apt within institutional settings where understandings of sustainability influence and inform practices.

### **Sustainability and Higher Education**

In recent decades, sustainability has gained momentum and traction as a priority within institutions of higher education, to a degree that an influx of positions and offices have been created to manage and coordinate the number of sustainability related initiatives (Breen 2010). In the most recent (2017) survey of higher education sustainability positions, the Association for the Advancement of Sustainability in Higher Education (AASHE) found a 71% increase in institutions reporting at least one office, center or institute with “sustainability” in its name. Institutions of higher education have become central in the development and implementation of sustainability centered rhetoric, curriculum, and infrastructure. However, although academic institutions have increasingly adopted sustainability, the scope in which the term is understood and defined remains somewhat narrow. For the most part, sustainability continues to be

operationalized through a facilities-based, functional lens focused on quantifiable measures such as carbon-neutrality and zero-waste (Breen 2010). Although these aspects are critical, social contexts should be included and acknowledged in the implementation and development of sustainable practices. Conversations acknowledging race, class, and gender are crucial in deconstructing dominant notions of sustainability and recognizing the inherently political nature of sustainability, which entails decision-making regarding what to sustain, at what cost, and for how long (Wright et al. 2002) and who gets to decide these factors and for what purpose (Dillard, Dujon & King 2008).

Finding an explicit definition of sustainability or an agreed upon understanding is a difficult challenge as people hold different worldviews, language, and understandings (Dillard, Dujon & King 2009). Some scholars argue that the necessity of sustainability can be accepted without having to apply a sense of universality (Davidson 2010). To approach sustainability through this lens allows for multiple perspectives and interpretations to exist within the different contexts that emerge (Davidson 2010). Regardless of how sustainability is defined, understandings should move beyond merely environmental issues to acknowledge the convergence of environmental, social, economic and political dilemmas. Environmental justice and critical theory frameworks allow dialogue to move beyond mainstream understandings of sustainability and towards examining structural issues of power, knowledge, and privilege.

A lack of ideological and theoretical analysis within the movement may be a result of the institutionalization of sustainability itself. Due to a shift towards institutional managerialism and neoliberalization of higher education, universities are increasingly adopting market-based performance indicators as measures of success (Sylvestre, McNiel & Wright 2013; Breen 2010). This also means that funding is increasingly targeted towards research as a means of driving innovation (Sylvestre, McNiel & Wright 2013). This is especially critical to examine as institutions of higher education, as some scholars argue, are sites in which sustainability, education, and policy interact with neoliberalism (McKenzie, Bieler & McNeil 2015), which seems counter to the implementation of transformative approaches to sustainability. If the viability and implementation of campus initiatives largely rely on funding, decisions about sustainability will tend to revolve around financial and operational incentives (Breen 2010)

rather than other measures of environmental justice and social equity. In other words, securing funding for projects that are able to produce quantifiable and tangible returns may take precedence over pedagogical, ethical, and even ecological concerns (Breen 2010), especially at institutions who are resource-constrained and prone to the neoliberalization of higher education.

Given the rise of sustainability driven initiatives and movements in institutions of higher education, it is necessary to examine and critically understand the implications of sustainability discourse. Universities—considered by some as microcosms of the societies in which they exist (Sylvestre, McNeil & Wright 2013)—are fundamental in setting sustainability related policies and practices. For example, if an innovation is developed and successfully integrated within an institution, this framework and or practice could then theoretically be transferred into society (Lozano et al. 2013). Especially as the role of academic institutions are increasingly viewed as instrumental in tackling global environmental concerns (Dillard, Dujon & King 2008), universities can be conceptualized as change agents through which socially transformative notions of sustainability can develop and emerge (Sylvestre, McNeil & Wright 2013). However, as addressed earlier, sustainability is a contested, political, and often shifting concept. Instead of challenging structures that perpetuate inequitable power dynamics and socio-ecological dilemmas, sustainability efforts may work to produce the very dynamics it aims to deconstruct (Breen 2010; Sylvestre, McNeil & Wright 2013).

Thus, it is necessary to examine how sustainability is being articulated and defined from a gamut of narrowness to innovative breadth, recognizing that these definitions circumscribe the range of priorities and possible actions. It is imperative to understand what the different definitions of sustainability uphold and perpetuate, and how such discourse interacts within institutional boundaries (Davidson 2010). Furthermore, as sustainability becomes increasingly part of the institution's DNA as manifested through declarations and documents, it is possible to ascertain the degree to which these texts represent dominant conceptualizations and how concepts such as sustainability shift over time.

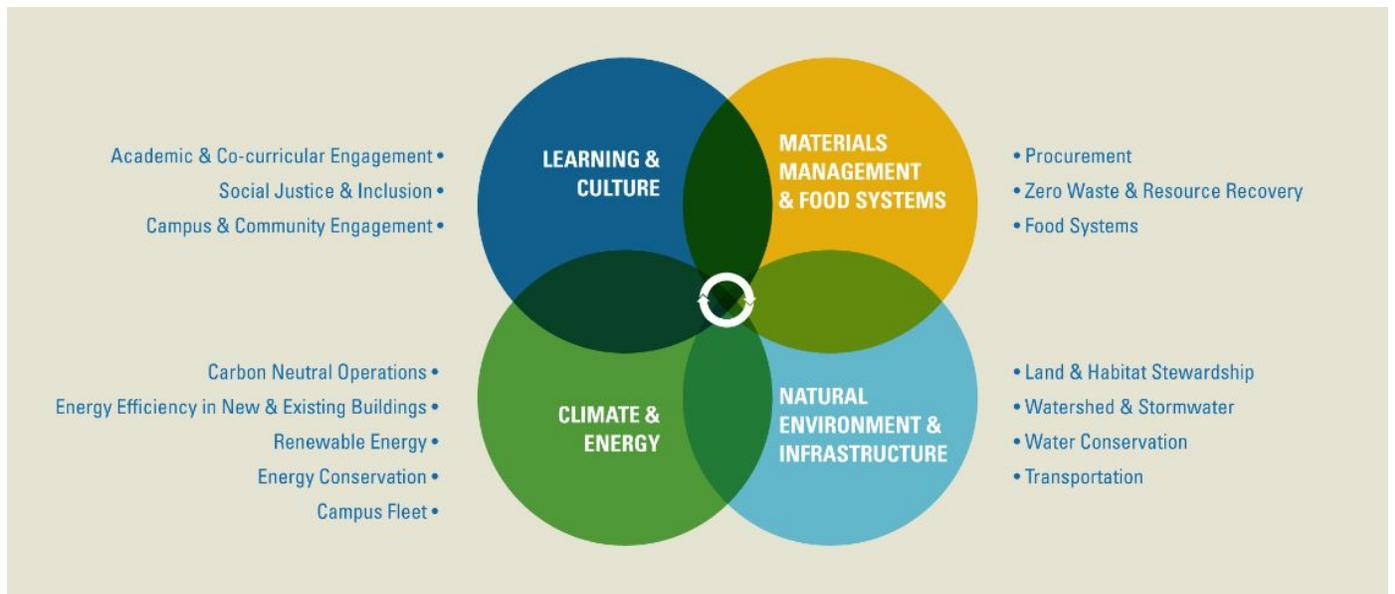
## **Sustainability at UCSC**

At UCSC, concerns about environmental sustainability are deeply embedded within the institution. Not only does UCSC have administrative units such as the Sustainability Office, but it encompasses countless student-led and staff-supported organizations such as the Student Environmental Center and the Education for Sustainable Living Program. There are even funding bodies specifically dedicated for supporting sustainability related projects and programs such as the Campus Sustainability Council and the Carbon Fund. UCSC is also home to a groundbreaking initiative, the People of Color Sustainability Collective (PoCSC), which represents a cross-campus collaboration between the Ethnic Resource Centers, the Sustainability Office, and Colleges Nine and Ten. In 2017, PoCSC was awarded the Best Practice Award for “Sustainability Innovations” by the California Higher Education Sustainability Conference. We even have a college named in honor of Rachel Carson which is home to the Minor in Sustainability Studies. Our 2017-2022 Campus Sustainability Plan and 2017-2018 Blueprint for a Sustainable Campus were recently launched, codifying how we “do” sustainability and become a more sustainable campus. Additionally, since 2008, our campus commitment to sustainability has been recognized by various green-school rankings and awards. Our commitment to sustainability extends throughout the layers of our institution, from academic, to co-curricular, to administrative.

As key texts, the Campus Sustainability Plan (CSP) and the Blueprint for a Sustainable Campus (BSC) reflect of how strongly embedded sustainability is to our institution. They are also useful in exploring the ways sustainability has been understood, conceptualized, and envisioned. The first CSP was drafted in 2010 and is updated every three years to ensure a plan that reflects current campus dynamics and circumstances. The most recent 2017-2022 CSP focuses on four topic areas: Learning & Culture, Materials Management & Food Systems, Natural Environment & Infrastructure, and Climate Change & Energy (Figure 1). It is important to note that this is the first year that Learning & Culture is included as a topic area. Although the structure and format of the CSP has changed since 2010, the inclusion of Learning & Culture reflects a shift towards greater acknowledgment of social aspects of sustainability. It signals UCSC’s strive towards connecting social justice and environmental sustainability into the culture of the institution and the prioritization of goals represented within this area. This shift is

especially interesting to see as the CSP represents the input of staff, faculty, and students throughout campus. To provide some context, the 2010 CSP highlighted eight different topic areas which mostly focused on operational and ecological concerns: Buildings & Facilities, Energy & Greenhouse Gases, Food, Land & Habitat, Watershed, Procurement & Business Contracts, Transportation, Waste & Recycling, and Water. Doing a simple word-search on these documents, I could see how language has shifted from the first documents to the most recent versions (Tables: 1a, 1b, 1c, 1d)

**Figure 1: 2017-2022 Campus Sustainability Plan Overview**



**Table 1a** : Frequency of different terms used in the CSP (2010-2013)

| <b>Term</b>    | <b>Frequency (# of times mentioned)</b> |
|----------------|---|
| Social Justice | 1                                       |
| Inclusive      | 0                                       |
| Learning       | 6                                       |
| Culture        | 1                                       |
| Social         | 9                                       |
| Economic       | 6                                       |
| Infrastructure | 5                                       |

**Table 1b** : Frequency of different terms used in the CSP (2017-2022)

| <b>Term</b>    | <b>Frequency (# of times mentioned)</b> |
|----------------|---|
| Social Justice | 6                                       |
| Inclusive      | 21                                      |
| Learning       | 19                                      |
| Culture        | 9                                       |
| Social         | 6                                       |
| Economic       | 0                                       |
| Infrastructure | 16                                      |

**Table 1c:** Frequency of different terms used in the BSC (2004)

| <b>Term</b>    | <b>Frequency (# of times mentioned)</b> |
|----------------|---|
| Social Justice | 1                                       |
| Inclusive      | 0                                       |
| Learning       | 6                                       |
| Culture        | 1                                       |
| Social         | 1                                       |
| Economic       | 4                                       |
| Infrastructure | 1                                       |

**Table 1d:** Frequency of different terms used in the BSC (2017-2018)

| <b>Term</b>    | <b>Frequency (# of times mentioned)</b> |
|----------------|---|
| Social Justice | 3                                       |
| Inclusive      | 4                                       |
| Learning       | 4                                       |
| Culture        | 10                                      |
| Social         | 20                                      |
| Economic       | 3                                       |
| Infrastructure | 4                                       |

Although the CSP envisions the goals and actions for our institution as a whole, the Blueprint for a Sustainable Campus highlights the student perspective and vision. As a student-led guide, the BSC approaches sustainability through the first-hand experiences and knowledges of students within the institution. It has the capacity to be critical and constructive in a way that perhaps other staff- and administrator-centered documents are more limited. For example, the BSC breaks down sustainability into ten subtopics: Academics, Energy, Food Systems, Green Building, Green Purchasing, Land, Habitat, and Watershed, Social & Environmental Justice, Transportation, Waste Prevention, and Water Conservation. This range of topics reflects the broad interpretations of sustainability as it pertains to our students and institution. Although the CSP and the Blueprint are separate documents, they are historically and presently tied to one another. These documents build off one another, developing and expanding either in response or in agreement to the goals and actions outlined within the other.

Furthermore, initiatives such as the People of Color Sustainability Collective, are critical to our understandings of sustainability as the ideologies and discourse reinforced through academic and co-curricular efforts influence the way campus life and culture are produced and experienced. PoCSC was created as a direct response to how sustainability influences student life and experiences. In 2014, PoCSC started as a social media hashtag #pocscsustainability. During a panel organized by the Ethnic Resource Center, ERC directors noticed students were sharing similar experiences with environmental sustainability on campus. Students were feeling ostracized and excluded from a movement deeply embedded within the university. One student in particular shared an experience where they were confronted because they had thrown an item away into the wrong waste receptacle. The manner in which the student was confronted, left them feeling embarrassed, angry, leading them to contemplate transferring out of Santa Cruz since sustainability is highly emphasized. The ERC directors and staff, realized that campus sustainability was becoming an issue of student retention as it was not inclusive of all students. From this, #pocsustainability was created as a platform for students to share their non-traditional sustainability stories and practices. Today, the mission of PoCSC is to make UCSC not only a leader in mainstream sustainability, but also environmental justice in a way that recognizes

changing demographics and pressing ecological challenges. By raising awareness about the contributions that people of color have made in the environmental sustainability movement in general and at UCSC, PoCSC promotes an inclusive narrative. PoCSC examines sustainability in a way that acknowledges the intersections of race, class, gender, and culture. This is done through interactive workshops, student discussion spaces, and speaker presentations that promote critical dialogue about environmental justice. Although sustainability is very present within our campus, differences in understandings continue to exist. There are still gaps to be filled and conversations to be had about how our institution embraces sustainability.

As our campus continues to pride itself as a leader in *environmental sustainability*, it is important to unpack the term as a floating signifier with diverse conceptualizations that to various degrees may demonstrate disparate positionalities, power and privilege. By identifying different perspectives, we disrupt dominant understandings that are taken as given. Our understandings reflect the ways in which lived experiences and aspects of identity shape the way we articulate and make sense of the world. If we can be more aware of the ways in which limited understandings close off discussion and dismiss certain identities and experiences, we can have more inclusive discussions that build a greater movement for social and environmental change. To this end, this thesis asks the following questions:

1. How do students, faculty, staff, of UCSC articulate, define, understand “sustainability”?
2. How do these understandings vary by race/ethnicity, gender, and other aspects of positionality?
3. What actions are considered to be sustainable, how are they prioritized, and how does this vary?

This research is exploratory, and to the best of my knowledge, the first study of its kind at UCSC that examines collective understandings of sustainability. I do this both in terms of open-ended question and the prioritization of specific aspects of sustainability. These aspects fell into five categories— Facilities, Social/Cultural, Political/Ideological, Economic, Natural Environment—informed by the broader literature as well as UCSC documents. It is a fascinating time to undertake this work: although there has been a shift in rhetoric concerning environmental

sustainability towards a more inclusive understanding, clearly mainstream notions and ideologies of sustainability are still reinforced and embedded in the way people think about sustainability.

As our campus continues to change demographically and otherwise, it necessary to further develop a culture and understanding of sustainability that reflects the diverse campus community. As a leader in sustainability, UCSC as an institution provides an example for other UC's to develop "inclusive sustainability" ideology and practices that moves beyond solely an eco-centric understanding. This thesis is intended to provide insight and promote dialogue to address the potential gaps that exist within our campus environmental sustainability movement and initiatives. In the following chapters I will discuss related literature, explain my methodology, share and interpret preliminary findings, and highlight areas for future work and inclusive sustainability. I hope this research provides an opportunity for different people to converge and connect, from student spaces to the upper echelons of administrative power. It is not my objective to find an explicit definition or come to an agreed understanding but to assess and represent different perspectives, to acknowledge the different perspectives and worldviews that shape our understandings. As Dillard et al. (2009: page ) reminds us, understanding sustainability and other universals "needs an approach marked by the kind of thoughtfulness and tentativeness necessary when building theory in an uncharted milieu where there is no common worldview, common language, and no common agreements."

### CHAPTER 3: METHODOLOGY

In order to assess how different members of our campus community understand and define “sustainability,” I used a mixed-method approach. Mixed-methods research allows for an interdisciplinary and complementary use of qualitative and quantitative methods (Johnson & Onwuegbuzie 2004) and acknowledges multiple ways of knowing and the manifold ways—social, political, cultural, and racial, etc.—that realities are constructed (Mertens 2007). Even within a research context, such values influence what realities are prioritized and privileged. In order to gauge how different groups of people on our campus (i.e., students, faculty, staff, and administration), thought about certain aspects of sustainability, I developed a research instrument (see Appendix A) that encompassed open ended questions and a pile sort activity from Cultural Domain Analysis (CDA). Given how sustainability at UCSC is deeply ingrained within campus culture and collective experiences, CDA is a useful research approach to highlight how a universal like sustainability can vary significantly in its conceptualization. For some of my informants, namely campus administrators and key staff members working in sustainability (see Table 1), the instruments were applied in an interview format, face to face. I interviewed fourteen administrators and staff-members from various units on campus including the Division of Student Success, Business & Administrative Services, the Sustainability Office, and the Center for Agroecology & Sustainable Farming Systems. For other participants, the questions and pile sort were implemented in paper form. Interviews provided more in-depth data for the questions and also assured that the pile sort activity was well understood. However, surveys are much easier to distribute among larger samples.

Table 1: Campus Administrators and Key Staff Interviewed in Person

| <b>Participant Name</b> | <b>Campus Position</b>                                   |
|-------------------------|--|
| George Blumenthal       | Chancellor   |
| Marlene Tromp           | Executive Vice Chancellor                                |
| Sue Matthews            | Associate Vice Chancellor,<br>CHES                       |
| Sarah Latham            | Vice Chancellor, Business &<br>Administrative Services   |
| Pablo Reguerin          | Assistant Vice Provost for<br>Student Success            |
| Liz Lee                 | People of Color Sustainability<br>Collective Coordinator |
| Kristen Lee             | Sustainability Office Programs<br>Manager                |
| Dr. Rebecca Rosser      | American Indian Resource<br>Center Director              |
| Tim Galarneau           | CASFS Community Engaged<br>Education Coordinator         |
| Elida Erickson          | Sustainability Office Director                           |
| Ronnie Lipschutz        | Provost of Rachel Carson<br>College                      |
| Shauna Casey            | Sustainability Office Programs<br>Coordinator            |

Cultural domain analysis (CDA) is a cognitive anthropological method which has been increasingly used within different fields of study such as... (Borgatti 1994). CDA studies how people within groups cognitively aggregate observable or conceptual things into groups or lists; indeed, cultural domains are defined as categories of things related to each other based on perception (Bernard 2006). The purpose of this approach is to gain insight into the way people in different groups and cultures interpret certain ideas and items differently (Borgatti 1993, 1994). CDA consists of various methods such as triad tests, rankings, and pile sorts. As Bernard describes, "Pile-sorting is a type of structured interviewing method that requires participants to sort items into piles based on similarity. This particular method uses physical media such as index cards or pictures to gather group data to study how information is organized" (Bernard 2006: 311). Items within a pile-sort are often generated through another CDA technique known as free-listing. This technique asks informants to list as many items within a domain in order to gauge perception of different topics and ideas. Free lists are helpful in defining domains and understanding what goes together whereas, pile-sorting is useful when examining the structure of domains and the features that distinguish items from one another (Bernard 2006).

The research instrument consisted of two parts. The first part was five open-ended questions that asked informants to share their definitions of sustainability, how they came to this understanding of the concept and how malleable this understanding has been over time, and how sustainability might vary depending upon characteristics like race, class and gender. For non-student informants, the survey instrument asked merely for the participant's name, while student-distributed surveys included a demographics section. The demographic information requested included UCSC ID, Gender Identity, Race/Ethnicity, College Affiliation, and whether the participant was an EOP Student or First-Generation Student. The second part was an unconstrained pile sorting activity that asked participants to rank 23 items (see Table 2) representing aspects of sustainability into groups ranging from most important/highest priority to least important/lowest priority. I used the free or unconstrained pile sort method which allows participants to use as many piles as possible. Individuals have the ability to group things as they see fit, as many or as few. According to Bernard (2006: 312), free pile sorts "provide insight into group cognition or how groups of people organize information." Participants were then asked to

share their reasoning behind their sorting, both in terms of items in each pile and number of piles.

The 23 items were partially generated through informal free-listing responses from undergraduate students. My faculty sponsor and I used these responses to create a list of items to be used in the pile-sorting activity. For coding purposes, the items were organized into five categories: Facilities, Social/Cultural, Political/Ideological, Economic, Natural Environment.

**Table 2:** Items Used in Pile Sort Activity, Grouped by Category

| <b>Item ID</b> | <b>Item</b>  | <b>Category</b>  | <b>Cat. #</b> |
|----------------|--|------------------|---------------|
| 1              | Housing Affordability                              | Economic         | 4             |
| 2              | Protection of watershed/coastal environment        | Nat. Environment | 5             |
| 3              | Equitable distribution of environmental goods      | Political        | 3             |
| 4              | Traditional Ecological Knowledge                   | Social/Cultural  | 2             |
| 5              | Recognition of indigenous land rights              | Political        | 3             |
| 6              | Nature-based learning and education                | Nat. Environment | 5             |
| 7              | Protection of endangered species                   | Nat. Environment | 5             |
| 8              | Reusable and minimalist purchasing                 | Economic         | 4             |
| 9              | Food Sovereignty                                   | Social/Cultural  | 2             |
| 10             | Grassroots action/mobilization for justice         | Political        | 3             |
| 11             | Multicultural notions of environmental stewardship | Social/Cultural  | 2             |
| 12             | Forest protection/habitat restoration              | Nat. Environment | 5             |
| 13             | Divestment from the fossil fuel industry           | Economic         | 4             |
| 14             | Efficient energy use                               | Facilities       | 1             |
| 15             | Green building                                     | Facilities       | 1             |
| 16             | Alternative transportation                         | Facilities       | 1             |
| 17             | Biodiversity conservation                          | Nat. Environment | 5             |
| 18             | Food security                                      | Economic         | 4             |
| 19             | Educational Equity                                 | Social/Cultural  | 2             |
| 20             | Community input & involvement in policy            | Political        | 3             |
| 21             | Water management/conservation                      | Facilities       | 1             |
| 22             | Waste reduction                                    | Facilities       | 1             |
| 23             | Buying local & organic                             | Economic         | 4             |

Furthermore, I distributed surveys to four undergraduate courses and to faculty members within the Environmental Studies Department during Winter Quarter 2017. I also asked attendees at the “Dig In: Cultivating Inclusive Approaches to Food Justice” conference organized by Colleges Nine and Ten on March 2, 2018 to complete the paper surveys. A total of 127 student surveys were collected and of those surveys 77 students completed the pile-sort activity portion. Of the surveys distributed to ENVIS faculty, 5 surveys were returned. Of the 5 only 2 faculty members completed the pile-sort activity. A total of 12 Administrators and professional staff members were interviewed and participated in the pile-sort activity during the interview process.

**Table 3:** Descriptive statistics of student demographics by educational background, gender identity, and race.

|                               |                         |                             |
|-------------------------------|-------------------------|-----------------------------|
| <b>Educational Background</b> | <b>EOP Student</b>      | <b>Non-EOP Student</b>      |
|                               | 31%                     | 69%                         |
|                               |                         |                             |
| <b>Educational Background</b> | <b>First Generation</b> | <b>Non-First Generation</b> |
|                               | 45%                     | 55%                         |
|                               |                         |                             |
| <b>Gender Identity</b>        | <b>Male</b>             | <b>Female</b>               |
|                               | 25%                     | 75%                         |
|                               |                         |                             |
| <b>Race</b>                   | <b>Person of Color</b>  | <b>White/Non-Hispanic</b>   |
|                               | 50%                     | 50%                         |

## **Human Subjects**

As my research includes working with human subjects, I was required to follow Institutional Review Board (IRB) protocol before collecting data. Due to the nature of my research, my project qualified for exemption under Category 2; this includes research involving educational tests, survey procedures, interview procedures, or observation of public behavior. In order to be granted exemption, it is required that the information collected be of low risk that it would not reasonably place subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation, if accidentally disclosed.

In my exemption request, I explain that people's definitions, understandings, and operationalization of "sustainability" is a conceptual debate that center our values and work as a campus. "Sustainability" is a concept and effort central to our campus identity and often understood as an unqualified good. As an institution known for our sustainable programming and initiatives, efforts should be made to create greater transparency of how faculty, administration and staff understand sustainability. Furthermore, the names of faculty, staff and administrators will be used only with their consent and student participants will only be referred to by demographic characteristics. Therefore, the questions asked through my research would not be expected to be sensitive, embarrassing, or otherwise potentially harmful. After a few minor revisions including the purpose of the pile sort activity, my project was approved for exemption on December 11, 2017 (IRB Protocol # 3027).

## **Data Analysis**

In undertaking the quantitative analysis of the pile sort data, I reached out to a graduate student consultant through the UCSC Center for Statistical Analysis in the Social Sciences (CSASS). The pile-sort responses were coded and organized into a google spreadsheet by form number, category number, number of piles, rank, and scale. For my preliminary data analysis, averages from the pile-sort rankings were taken from student, non-student, and from the overall sample as a whole. This data was extracted using pivot tables. Due to the sample-size discrepancy between students and non-students, a non-parametric test (Mann-Whitney U) was

used to determine significance between group data. Furthermore, interviews were manually transcribed and survey responses were recorded into a spreadsheet and organized by Survey ID, Race/Ethnicity, Gender Identity, EOP status, First Gen. Status, College, and by Survey Question.

### **Limitations**

It is important to note that my sample size is not randomly selected. I intentionally selected my population sample to fit the purpose of my research. This is a sampling technique known as purposive sampling in which the researcher selects the sample based on the specific purpose of the research objective. In order to get more informed responses, I selected key informants within the administrative level and chose to distribute surveys in environmental or sustainability related classes within the social science departments. Additionally, I chose to focus on gathering data from faculty within the Environmental Studies department as it represents dominant curricular understandings about sustainability.

The results of my research represent an initial effort to create transparency of understandings of “sustainability” within the organizational framework of our institution. In recent years, research has been conducted to explore student perceptions and experiences regarding the environmental sustainability movement; however, up until now no data had been collected for faculty, staff, and administrators. Furthermore, a major challenge to my study was adjusting the pile-sort activity to fit a survey format. This method is exclusively conducted as an in-person activity but for the purpose of gathering data from a large sample-set, I had to find a way to include it in the survey. This meant, I was limited to distributing paper surveys as I did not have the time or resources to create an online version of the survey that included the pile-sort. It was also harder to control for consistency and quality in responses as I could not personally explain instructions to student and faculty participants. Furthermore, the length of my survey required that I negotiate with the professors and instructors to accommodate class time. Two classes required that I announce and distribute the survey during one class time and pick up responses the following class time. My survey was completely voluntary and therefore, results varied depending on the time, energy, and willingness of student participants. This was also the case with collecting survey responses from ENVIS faculty members.

Future considerations include increasing the scope of the sample size to include faculty members outside of the ENVS department, more sustainability-related programming staff, and more classes outside of ENVS. Furthermore, to increase student response rates, participation should be incentivized. The cultural domain analysis component should be prioritized and further developed to best accommodate a larger sample size. Additionally, time constraints did not allow for further data analysis to be conducted. Interviews and survey responses are still in the process of being coded and categorized. Pile-sort data requires further analysis. Future findings will be analyzed through SPSS to determine whether race, class, and gender predicted ranking of items and categories.

## CHAPTER 4: FINDING

In this chapter, I will focus on analyzing the survey responses, interviews, and pile-sort results in order to address three principle questions: 1) How do students, faculty, administrators, and staff of UCSC articulate, define, and understand “sustainability”? 2) How do these understandings vary by race/ethnicity, gender, and other aspects of positionality? 3) What actions are considered to be sustainable, how are they prioritized, and how do this vary? Sections will be organized by question. In order to gauge the different ways in which members of our campus community understand sustainability in the first section, I will include an analysis and summary of the open-ended survey and interview responses provided by students and non-students (faculty, administrators, and staff). In the next section, I will specifically analyze student & non-student responses to the following survey/interview question: “Do you think that people’s understanding of sustainability vary by race, class, gender, culture, or educational background? If yes, how so?” In the last section, I will discuss the results of the pile-sort activity for students, non-students, and the entire sample.

**Section 1:** How do students, faculty, administrators, and staff articulate, define, and understand “sustainability”?

**Figure 2.** Definition world clouds generated for Student (*left*) & faculty, staff, and admin. (*right*)



Drawing upon the survey and interview responses we can begin to uncover the ways that sustainability is conceptualized and understood by members of our campus community. Of the questions asked, respondents were explicitly asked to define sustainability (Refer to Appendix A). Among students, more often than not, responses mirrored the Brundtland Report definition of sustainability. One student very closely defined sustainability as, “meeting the needs of the present generation without compromising the ability of future generations to meet their needs (J-14).” Most student definitions focused on mitigating impacts on the environment through efficient use and management of resources. Student definitions highlighted a concern for future generations and the longevity of environmental systems. Other definitions addressed environmental stewardship as means of conserving natural resources for future generations and the protection of biodiversity. Most definitions, articulated sustainability as being conscious of actions in terms of environmental and social well-being. As one student responded, “Sustainability is living without impact on the environment and finding ways to reduce impact so as not to negatively affect other parts of the environment or groups of people (J-7)”. Or as another student articulated, “Sustainability is the practice of intentionally structuring use of resources in a manner that is as cohesive as possible, preserving the natural environment and all its life forms (J-11).” Some responses, in addition to highlighting environmental aspects of sustainability, addressed a broader range of needs. For example, “Sustainability is meeting the intersectional (social, economic, political, cultural) needs of the current generation without infringing upon the ability for all future generations to meet their intersectional needs (A-8).” Most frequently used words used in responses include: resources, future, environment, generations, ability, needs. (See Figure 2a)

Administrators and staff tended to understand sustainability as a broad concept and practice. Generally, understandings acknowledged sustainability as holding various meanings and connotations. One administrator shared in their response the connection between life and resources, “When I think of sustainability, I think of a planet that can support life and continue supporting life indefinitely.” Some viewed sustainability as an evolving concept, changing with

their own personal experiences, “Now that I understand how important it is for sustainability to continuously evolve, I am hesitant to pin down a definition.” Other definitions seemed to mirror more of a three-legged approach, emphasizing the environmental, economic, and social aspects of sustainability. “Sustainability is social, political, and ecological and you can’t separate them. I do look to the three legs of the stool but I would add education as a fourth component to create a table.” Another staff member understood sustainability in terms of survival and reciprocity, “I think that sustainability is something very literal. The ability to continue doing what you are doing, the ability to survive. I think very broadly it is also a concept of reciprocity, if you are extracting you should also be providing some input.” One administrator, shared this understanding in their definition, “Just in the root word of sustain, it is something that is ongoing, that has life, that has continuous life. I think of sustainability as something that is a healing process and a consciousness of understanding the impact of exploitation.” Another administrator acknowledged the connection between consumption and waste on a day to day basis, “Sustainability is the everyday living of trying to use less disposable products and trying to be sensitive to ways that sustainability may not be obvious but is indeed a sustainable practice.” In general, most definitions outlined or acknowledged organizing social, economic, and environmental systems to promote some form of social justice and equity. In regards to Faculty responses, definitions seemed to reflect notions of sustainability aligned with natural environment and economic categories. Much like student responses, faculty members applied a definition that mirrored the Brundtland understanding of sustainability, even specifically citing it in their definition, “I typically use Brundtland report definition - but i think sustainability as a concept has lost its utility due to overuse, co-opting, etc.” Another faculty member echoed this sentiment in their definition, “Giving future generation the option to be as well off (in multiple senses) as we are but in general, I find the concept too vague to be useful in most contexts. It doesn’t lend itself to concrete action in my view.” Furthermore, most frequently used terms used in responses of admin, faculty, and staff include: future, systems, concept, resources social, and environment. (See Figure 2)

In order to further gauge the ways that people conceptualize sustainability, respondents were also asked to identify perceived barriers for achieving sustainability in terms campus

sustainability and society in general (Refer to Appendix 1). Responses were expected to vary depending on how people understand and define sustainability. Most student responses indicated education and affordability as barriers. Some student respondents placed more of an emphasis on individual responsibility as well as structural barriers such as capitalism and corporate greed, “There are many barriers to sustainability. The main one being economic as well as convenience. It is simpler to not be sustainable and easy to profit through unsustainable practices.” Other responses indicated a lack of representation and the marginalization of certain people as barriers, “I think a huge barrier is that specific groups dominate the conversation around sustainability, I want other voices to be amplified.” Another respondent stated, “There is a general lack of knowledge among older people regarding People of Color/Indigenous issues. People think of sustainability as a “white issue” but it pertains to all people. POC have as much of a role in sustainability as whites.” In regards to campus sustainability some respondents emphasized current issues impacting students such as food security and housing affordability. Overall, responses varied from individual responsibility to structural inequalities and representation.

In regards to administrators and staff, when prompted the same question, most responses included limited financial and structural resources. Another common theme looked at individualized impact and an ability to adapt personal habits and practices. Most respondents highlighted the connection between personal and systematic changes and acknowledged that education and awareness play a large role in this. A few responses also looked at investments and finding cost-models that support such initiatives. One respondent saw empowerment through representation of knowledge and identity within the movement and practice as a way of addressing barriers of exclusivity. Another respondent saw reductionist thinking as a barrier for sustainability as well as the disconnection between learning and practice. There was even mention of capitalism and individualism as being barriers to sustainability.

**Section 2:** How do these understandings vary by race/ethnicity, gender, and other aspects of positionality?

Respondents were asked to identify if different aspects of positionality influenced understandings of sustainability. This question asked respondents to think about how knowledge or understandings are shaped. Some student respondents felt understandings shouldn't vary either because they indicated that they had never thought about sustainability in that context or because they assumed sustainability is taught one way, "I don't think understanding is a huge issue. It has more to do with caring and sacrifice. Class does not matter because if someone wants to be green, they would be. However, it is easier for the educated and upper class to do so. (KM-10)" Most respondents agreed that experiences and environment influence the way we conceptualize things and that sustainability can hold different cultural interpretations and significance, "Different identities expose individuals to different things. what we are exposed to shapes our reality and our reality become baseline for understanding the world, it's a complete process. (A-8)" Another student indicated race and class as a factor, "Absolutely! a lot of wealthy and/or white folks don't think about environmental racism and classism & how that shapes institutional, policies & infrastructure."

All administrators, staff, and faculty agreed that understandings are influenced by different aspects of positionality. Most people pointed at age or generational gaps as differences in understandings. Life experiences were understood as informing understandings but issues of access and privilege were also brought up. One staff respondent highlighted that some people are able to forget their histories and therefore historical contexts of situations and systems of inequality. Another respondent acknowledged that people are comfortable with what they know and therefore tend to focus on what can be managed. Another point that was brought up was that class privilege prevents people from thinking about their impacts. This administrator explicitly noted that class is very influential in how people understand and approach issues of sustainability. Faculty respondents agreed that people have different priorities and needs over what needs to be sustained and people approach the movement with different lenses. One faculty member agreed that people's understandings vary but that they didn't think we should stereotype that understanding by specific categories.

**Section 3:** What actions are considered to be sustainable, how are they prioritized, and how does this vary?

This final question is best addressed using data from the pile-sort activity. Students, administrators, faculty, and staff were asked to rank 23 items representing aspects of sustainability into groups from those that they deemed most important priorities to sustainability to least important. Average rankings were taken from students, non-students (faculty, administrators, and staff), and from the overall sample size. Please refer to the tables below for the category and item (card) ranking summaries.

**Table 4:** (Highest to Lowest) Card Rankings for Administrators, Faculty & Staff

| <b>Rank</b> | <b>Card</b>  |
|-------------|--|
| 1           | Housing Affordability                                |
| 2           | Food Security  |
| 3           | Educational Equity                                   |
| 4           | Multi-cultural Notions of Env. Stewardship           |
| 5           | Grassroots action/mobilization                       |
| 6           | Community Input/Involvement in policy                |
| 7           | Water Management/Conservation                        |
| 8           | Nature-based Learning & Edu.                         |
| 9           | Food Sovereignty                                     |
| 10          | Recognition of Indigenous Land Rights                |
| 11          | Biodiversity Conservation                            |
| 12          | Equitable Distribution of Environmental Goods & Bads |
| 13          | Protection of watershed/coastal environment          |
| 14          | Waste Reduction                                      |
| 15          | Traditional Ecological Knowledge                     |
| 16          | Alternative Transportation                           |
| 17          | Protection of Endangered species                     |
| 18          | Forest Protection/Habitat Restoration                |
| 19          | Green Building                                       |
| 20          | Divestment from the Fossil Fuel Industry             |
| 21          | Reusable Minimalist Purchasing                       |
| 22          | Efficient Energy Use                                 |
| 23          | Buying local & organic                               |

**Table 5:** (Highest to Lowest) Card Rankings for Students

| <b>Rank</b> | <b>Card</b>  |
|-------------|--|
| 1           | Water Management/Conservation                        |
| 2           | Efficient Energy Use                                 |
| 3           | Forest Protection/Habitat Restoration                |
| 4           | Waste Reduction                                      |
| 5           | Food Security  |
| 6           | Biodiversity Conservation                            |
| 7           | Protection of Watershed/Coastal Env.                 |
| 8           | Community Input & Involvement in Policy              |
| 9           | Recognition of Indigenous Land Rights                |
| 10          | Divestment from the Fossil Fuel Industry             |
| 11          | Protection of Endangered Species                     |
| 12          | Educational Equity                                   |
| 13          | Equitable Distribution of Environmental Goods & Bads |
| 14          | Nature-based Learning & Education                    |
| 15          | Multicultural notions of Env. Stewardship            |
| 16          | Traditional Ecological Knowledge                     |
| 17          | Housing Affordability                                |
| 18          | Green Building                                       |
| 19          | Alternative Transportation                           |
| 20          | Food Sovereignty                                     |
| 21          | Grassroots action/mobilization for justice           |
| 22          | Reusable & Minimalist Purchasing                     |
| 23          | Buying Local & Organic                               |

**Table 6:** The Top Five Ranked Cards for Students & Non-Students

| <b>Highest Ranked Cards</b> |   |
|-----------------------------|---|
| <b>1</b>                    | Water Management/Conservation           |
| <b>2</b>                    | Food Security                           |
| <b>3</b>                    | Forest Protection                       |
| <b>4</b>                    | Waste Reduction                         |
| <b>5</b>                    | Community Input & Involvement in Policy |

**Table 7:** The Five Lowest Ranked Cards for Students & Non-Students

| <b>Lowest Ranked Card</b> |                                  |
|---------------------------|----------------------------------|
| <b>1</b>                  | Food Sovereignty                 |
| <b>2</b>                  | Alternative Transportation       |
| <b>3</b>                  | Green Building                   |
| <b>4</b>                  | Reusable & Minimalist Purchasing |
| <b>5</b>                  | Buying Local & Organic           |

**Table 8:** Category Rankings using a 1-5 scale (Low to High)

| <b>Rank (1-5)</b> | <b>Students</b>     | <b>Non-Students</b> | <b>All</b>          |
|-------------------|---------------------|---------------------|---------------------|
| 1                 | Economic            | Facilities          | Economic            |
| 2                 | Social/Cultural     | Economic            | Facilities          |
| 3                 | Political           | Natural Environment | Social/Cultural     |
| 4                 | Facilities          | Political           | Political           |
| 5                 | Natural Environment | Social/Cultural     | Natural Environment |

Due to the sample-size discrepancy between students and non-students, the Mann-Whitney U test was used to determine significance between group data. This is a non-parametric test that is widely used in qualitative analysis within the social sciences. No significance was found between Students & Non-Students (Administrators, Faculty, and Staff) for the following categories: Social/Cultural (1), Political (3), Economic (4). This indicated that Administrators, Faculty, and Staff did not rank any of these categories significantly higher or lower than Students. Statistically significant differences arose ( $p\text{-value} < 0.05$ ) for categories: Facilities (1) & Natural Environment (5). This means that Administrators, Faculty, and Staff ranked items within Facilities and Natural Environment significantly higher than students.

No race, class, or gender-based group analysis was taken for the non-student sample due to the relatively small sample-size. However, given the larger sample size, internal analysis was conducted for students. No statistically significant differences were found within students regarding category average rankings. Analysis was done between Students of Color & White students, between first generation & non-first generation students, between EOP & non-EOP students, and between Male identified & Female identified students.

## CHAPTER 5: DISCUSSION

In terms of the pile sort data, no other study regarding understandings of sustainability within higher education has asked members of an institution to sort aspects of sustainability. Many people found the task challenging as most people expressed that all aspects were deemed equally important. This sentiment can be interpreted in a number of ways. By asking participants to organize aspects based on levels of priority, we are gauging the ways that people organize and think about sustainability. What are issues and aspects of sustainability are being placed at the forefront? This information can be telling of factors influencing cultural group consensus.

The analysis limits the ways I am able to interpret the data. However, it should be noted that administrators, faculty, and staff prioritized more items from these categories. Prior to conducting my study, I assumed that key decision makers within the institution would prioritize more economic, environmentally based operational aspects of sustainability. I also expected students to place greater emphasis on political and cultural aspects of sustainability. However, it was found that students prioritized items in the Natural Environment category. Perhaps responses vary based on the exposure to social aspects of sustainability as it relates to academic curriculum and involvement with certain organizations and spaces on campus. Although conversations are happening revolving environmental justice and inclusivity, how does this reflect in the way we prioritize aspects of sustainability. Perhaps we are still experiencing a shift in collective understanding which will eventually permeate into the culture of our institution.

Although there was variability in how people articulated their definitions of sustainability, for the most part key themes that arose were issues of resource management, reciprocal input and output of ecological system, and concerns for inter-generational viability. Although some definitions mentioned cultural and socio-economic considerations, I found that most people understood sustainability as relating to the connection between human activity and the functioning of ecological systems. I would argue that the different articulations highlight the ways that sustainability is taught and echoed in the policies and practices of our institution. In general, responses seemed to denote align more with aspect associated with the categories of Natural Environment and Economic.

By prompting respondents to identify potential barriers to sustainability, we can see the implications of how sustainability is understood and defined. Barriers to sustainability will be shaped by the conceptualizations of the term. Although many people pointed to structural, financial, and educational dynamics as barriers for sustainability I found that many people continue to conceptualize sustainability through an individualized context. The individual is held accountable for shortcomings towards sustainability. By placing an emphasis on individual responsibility and lack of action we fail to acknowledge the influence of structural and institutional systems. I would argue that this is what I observed in seeing responses blame individual ignorance and inability to adapt. This also perpetuates “greenwashing” within the movement. It was very interesting to see this discourse represented in the survey responses.

It was interesting to see that most people agreed that different aspects of identity and positionality influence and situate the ways we think of sustainability. Although most students agreed that socio-economic standing and lived experiences shape how sustainability is defined, most administrators, staff, and faculty were less likely to explicitly address race, class, gender in their responses. I would argue that the hesitation to acknowledge differences is a result of the depoliticization of sustainability. Understanding sustainability as a universal good may create such barriers as definitions are stripped of social complexities. These findings were informative as other studies examining the perception and understandings of campus sustainability failed to explicitly look at aspects of positionality such as race, class, gender nor were these aspects included in the data analysis. Furthermore, student perceptions are typically not accessed as emphasis is placed on “key-informants” and “stakeholders” of the institution. This leads me to believe that even in the analysis of sustainability, there is a lack of critical inquiry which further perpetuates the notion of sustainability as a universal concept.

Additionally, the findings from the PoCSC research conducted in 2015 align with the survey and interview responses. It can be argued that there is no barrier in terms of identity construction and understandings of sustainability. The PoCSC research found that across sample groups, the majority of students strongly expressed the importance of environmental and environmental justice issues, “Results resoundingly attest to how POC and WNH students at UCSC feel the environmental sustainability issues are important, both to them personally and to

the institution (Lu, et al., 2015).” Although, a smaller sample size, this is definitely reflected in the survey responses. No statistical difference was noted among students which may suggest that across the board students are concerned and familiar with sustainability related concepts. Although positionality influences the ways we interact and understand the world, these results may provide insight on how discourse moves through an institutional setting and transferred through learning and academic curriculum. Student and faculty definitions of sustainability were pretty similar in context. Although a small number of faculty members participated in the survey, it was interesting to see both faculty and student definitions reiterated elements of sustainability as it relates to resource-use and intergenerational considerations and future implications of environmental practices. The results of the research reiterate findings from the campus-wide survey in the sense that there is a need for more curricular and co-curricular programming to further learn about different world-views and environmental sustainability and to expand the range of perspectives conveyed.

## CHAPTER 6: CONCLUSION

Universities are agents of change but at the same time they are increasingly sites in which neoliberal systems are at play. The way we understand and define concepts and discourse dictate what is prioritized and included in conversations, initiatives and policies. This leads to questions such as, what is being included and what is being left out? Although there are things that we are continuously attempting to include into our understandings we are still in the process of implementing effectively into practices and policy outcomes. In the recent addition of the Campus Sustainability Plan we saw an expansion of key areas such as Learning and Culture. Under this section we found action items mostly addressed at supporting and promoting efforts of PoCSC. In this sense, how do we ensure the follow through of all parties especially as the issue of funding and notions of operational markers of success come into play.

Furthermore, cultural domain analysis provides insight on how sustainability is understood among members of the institution. We can think about what that might mean in terms of what discourse is being produced by academic, programming, texts and declarations such as the CSP & BSC. How are these notions of sustainability transferred into group cognitive understandings of sustainability at our institution? In exploring this we can perhaps also understand the way knowledge, ideas, movements move, the mobility of ideologies and discourse. Even if ideas of inclusive sustainability are being introduced throughout the various aspects of our institution how can we continue to translate into actions and practices. As some scholars argue broadening an understanding can be beneficial as long as we take from the different interpretations of benefits and shortcomings, allows for reflection.

The conceptualization of sustainability on our campus warrants further examination as multiple factors and themes explored in the literature resonates with current and future processes occurring within our institution. We do not necessarily need to find a explicit definition of sustainability but rather understand that multiple definitions can exist and arise within different contexts. Through this acknowledgment we can begin to see multiple definitions as opportunities for exchange, critically analyzing both the strengths and shortcomings encapsulated by each meaning. This can provide further insight into the ways in which our university situates our

understandings of sustainability. As our campus communities continues to transform we must continue to strive for a broad understanding of sustainability which promotes the inclusion of difference discourses and perspectives. Although we have already begun transforming the way we conceptualize sustainability as indicated by the CPS and the establishment of initiatives such as the People of Color Sustainability Collective which promote inclusive understandings of sustainability, a change in cultural understandings must also be reflected in the ways we operationalize and develop our policies. Especially in the development of future projects and as we continue to move forward with current projects. Expanding our understandings of concepts such as sustainability which are deeply ingrained within our institution is a step towards fostering greater dialogue between students, administrators, faculty, and staff voices. Through this process we can ensure greater tangibility of institutional goals, commitments, and initiatives.

This study, only scratches the surface. Further analysis and research is needed to explore the ways that we understand sustainability and how it manifests in the many layers of our institution. Although my preliminary findings provide limited insight into the way discourse shapes and evolves through our collective understanding, we must continue unpacking what sustainability means on our campus. As a research focused institution, funding greatly influences where money is allocated and the viability of certain sustainable projects. In the coming years, our institution will continue facing budget cuts from the state. These are circumstances we will continue to deal with in the future and have long-lasting implications to the structure and integrity of our institution, especially given the significance of sustainability at UCSC.

## REFERENCES CITED

- Agyeman, J. (2008). Toward a 'just' sustainability?. *Continuum*, 22(6), 751-756.
- Arjen E.J. Wals Bob Jickling, (2002), "Sustainability" in higher education", *International Journal of Sustainability in Higher Education*, Vol. 3 Iss 3 pp. 221 - 232
- Breen SD (2010) The mixed political blessing of campus sustainability. *Political Science and Politics* 43(4): 685-690
- Davidson, M. (2010). Hacking away at sustainability. *Human Geography*, 3(2), 83-90.
- Dillard, J., Dujon, V., & King, M. C. (Eds.). (2008). *Understanding the social dimension of sustainability*. Routledge.
- Lozano, R., Lukman, R., Lozano, F. J., Huisingh, D., & Lambrechts, W. (2013). Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of Cleaner Production*, 48, 10-19.
- Marcia McKenzie, Andrew Bieler & Rebecca McNeil (2015) Education policy mobility: reimagining sustainability in neoliberal times, *Environmental Education Research*, 21:3, 319-337, DOI: 10.1080/13504622.2014.993934
- Newport, Dave, Thomas Chesnes, and Angela Lindner. 2003. "The 'Environmental Sustainability' Problem: Ensuring that Sustainability Stands on Three Legs." *International Journal of Sustainability in Higher Education* 4 (4): 357-63.
- Shearman, R. (1990). The meaning and ethics of sustainability. *Environmental Management*, 14(1), 1.
- Sylvestre, P., R. McNeil, and T. Wright. (2013). "From Talloires to Turin: A Critical Discourse Analysis of Declarations for Sustainability in Higher Education." *Sustainability* 5 (4): 1356-1371.
- The Association for the Advancement of Sustainability in Higher Education. (2017). *2017 AASHE Annual Report*.

Tsing, Anna Lowenhaupt. (2015). *The mushroom at the end of the world: On the possibility of life in capitalist ruins*. Princeton University Press.

Wright, T., & Horst, N. (2013). Exploring the ambiguity: what faculty leaders really think of sustainability in higher education. *International Journal of Sustainability in higher education*, 14(2), 209-227.

World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University Press.

## APPENDICES

### Appendix A: Research Instrument

|   |
|---|
| <p><b>1. What is your definition of “sustainability”?</b></p> <hr/> <hr/> <hr/>   |
| <p><b>2. How did you come to this understanding? (e.g. personal experiences, interactions with others, books, media).</b></p> <hr/> <hr/> <hr/>                                 |
| <p><b>3. How has your understanding of sustainability changed over time? If so, how and why?</b></p> <hr/> <hr/> <hr/>  |
| <p><b>4. What do you consider barriers for achieving sustainability? (On campus and/or in society)</b></p> <hr/> <hr/> <hr/>  |
| <p><b>5. Do you think that people’s understandings of sustainability vary by race, class, gender, culture, or educational background? If yes, how so?</b></p> <hr/> <hr/> <hr/> |

***Demographic Questions:***

**1. UCSC ID:** \_\_\_\_\_ **2. Gender Identity:** \_\_\_\_\_

**3. Race/Ethnicity:** \_\_\_\_\_ **4. College Affiliation:** \_\_\_\_\_

**5. EOP Student:** (Circle one)    Yes    No    N/A

**6. First Generation Student:** (Circle one)    Yes    No    N/A

Below are a series of 23 items representing different aspects of sustainability. For this activity, please rank these items into groups, from those that you deem **most important priorities** for sustainability, to **least important**. Please use the assigned numbers when organizing your groupings. There are no right or wrong answers, and you are free to make **as many or few groups as possible**.

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Housing affordability</li> <li>2. Protection of watershed/coastal environment</li> <li>3. Equitable distribution of environmental goods (e.g., greenspace) &amp; bads (e.g., polluting facilities)</li> <li>4. Traditional Ecological Knowledge (i.e., Indigenous ways of knowing and stewarding the environment)</li> <li>5. Recognition of indigenous land rights</li> <li>6. Nature-based learning and education</li> <li>7. Protection of endangered species</li> <li>8. Reusable and minimalist purchasing</li> <li>9. Food Sovereignty (i.e., a diet reflecting culturally important foodways)</li> </ol> | <ol style="list-style-type: none"> <li>10. Grassroots action/mobilization for justice</li> <li>11. Multicultural notions of environmental stewardship</li> <li>12. Forest protection/habitat restoration</li> <li>13. Divestment from the fossil fuel industry</li> <li>14. Efficient energy use</li> <li>15. Green building</li> <li>16. Alternative transportation</li> <li>17. Biodiversity conservation</li> <li>18. Food security</li> <li>19. Educational Equity</li> <li>20. Community input and involvement in policy</li> <li>21. Water management/conservation</li> <li>22. Waste reduction</li> <li>Buying local and organic</li> </ol> |
|---|--|

**Part 1. Please use the space below to organize your groupings. Please draw circles around the numbers to represent each group and clearly mark which group represents the highest, next highest, etc. to lowest priorities for sustainability. *Remember, you can have as many groups as you like.***

**Part 2. Please provide your reasoning behind the sorting, in terms of items in each group and number of groups:**

## Appendix B: Human Subjects Application

### REQUEST FOR AN EXEMPTION FROM IRB REVIEW

UCSC Institutional Review Board  
orca@ucsc.edu  
439 Clark Kerr Hall ~ Campus Mail Stop: Office of Research/IRB

#### PROJECT

**Title: UCSC Understandings of Sustainability**

Funding Agency: Pending

Project Start Date: December 11, 2017

Project End Date: June 30, 2018

#### PRINCIPAL INVESTIGATOR

Name (Last, First): Gonzalez, Cristal Phone: 408-796-8717  
E-mail: crsgonza@ucsc.edu Department: ENVS  
 Faculty  Staff  Post-doc  Graduate student  Undergraduate student

#### FACULTY SPONSOR

Name (Last, First): Lu, Flora Phone: 831-459-3214  
E-mail: floralu@ucsc.edu Department: ENVS

#### RESEARCH INFORMATION QUESTIONS

- Does this research involve interaction with prisoners or prisoner's private information?  
 No  Yes – If yes, the research does not qualify for an exemption. Please submit a full protocol.
- Specify the population(s) that will be included in the research: *check all that apply*.  
 Adults  Pregnant Women/Fetuses/Neonates  
 Adults unable to consent for themselves  Children (< 18 years)  
 Students  Non-English speaking
- If the research includes surveys, interviews, or questionnaires, do they seek information about possibly illegal activities or highly personal aspects of the subjects' behavior, experiences, or attitudes that may be painful or very embarrassing to reveal? (This might include sexual attitudes or practices; the use of alcohol or drugs; information that if released could reasonably be damaging to an individual's financial standing, employability, or reputation within the community; or information pertaining to an individual's psychological well-being or mental health.)  
 No  Yes  N/A
- Refer to the last page of this form to complete the following statement: I claim this research to be exempt from review by the Human Subject Institutional Review Board under Exemption Category(s):  1  2  3  4  5  6

#### HIPAA QUESTIONS

If you answer “Yes” to *any* of the questions, you do not qualify for an exemption and are subject to HIPPA requirements.

- 1 Will private health information (PHI) be obtained from a covered entity (a health care provider that bills health insurers such as the Santa Cruz Medical Clinic and the Student Health Center)? (PHI is individually identifiable health information that is transmitted by electronic media, maintained in electronic media, or transmitted or maintained in any other form or medium.)  
X No  Yes
2. Will the study involve the provision of healthcare in a covered entity?  
X No  Yes
- 3 If the study involves the provision of healthcare, will a health insurer or billing agency be contacted for billing or eligibility?  
X No  Yes

#### CONFLICT OF INTEREST

If your research is sponsored, do you have a relationship with the sponsor that might require conflict of interest disclosure? (e.g stock purchases, salary, royalty payments, patents, Board position, etc.)

X No  Yes

#### RESEARCH DESCRIPTION

Provide a **DESCRIPTION OF YOUR RESEARCH**: Include enough information to justify how your study qualifies for an exemption under the exemption category(s) that you are claiming.

For example, if you claim exemption #2, you must explain either how (a) the information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; or (b) describe the data obtained to demonstrate that any disclosure could not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

At UCSC, concerns about environmental sustainability are in our DNA as an institution. For example, the most recent 2017-2022 Campus Sustainability Plan was just launched, every year the Student Environmental Center drafts its Sustainability Blueprint, and Rachel Carson College has a Sustainability Minor. However, how different members of our university community define and understand “sustainability” has been largely unexplored. My research will ask the following questions: How do members of UCSC campus articulate, define, understand “sustainability”? How do these understandings vary by race/ethnicity, gender, and other aspects of positionality?

My methodology will be as follows:

- (1) Interview: I will ask informants what terms come first to mind when they hear the word “sustainability,” and how they define the term. (See some sample questions below).
- (2) Demographic information: I will ask informants to take a quick demographic survey asking for their gender, race/ethnicity, age, education, role on campus (e.g., faculty, administrator, staff, student), first gen status.
- (3) Pile sort: I will write down various actions (e.g., composting, recycling) on index cards and ask informants to sort these cards into piles that reflect how they rank these actions as important to achieving sustainability. *I will then ask the informant as to why they made the piles they did. The pile sort is a method designed to explore how people make sense of, organize, and categorize the world—I will make this purpose clear to the study participants. No forms of deception will be used, or information withheld.*

My findings will provide insight and contribute to sustainability-related dialogue held throughout campus and will influence campus sustainability efforts.

*This project qualifies as exemption Category 2 because the information that will be collected is of such low risk that it would not be reasonably place subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation, if accidentally disclosed. As elaborated above, “sustainability” is a concept and effort central to our campus identity and mission, and is largely perceived as an unqualified good. People’s definitions, understandings, and operationalization of this term are conceptual debates that center our values and work as a campus. Hence, asking folks questions such as:*

1. *How do you understand sustainability?*
2. *What are some actions you associate with being sustainable?*
3. *Please list some terms that first come to mind when you think of sustainability.*

*would not be expected to be sensitive, embarrassing, or otherwise potentially harmful. Rather, it can be argued that efforts to make clear how faculty, administration and staff explain sustainability—and the differences therein—should be made more transparent so that we are more effective as an institution renowned for our sustainability efforts. The names of faculty, staff and admin would be used with their consent, whereas students would only be referred to by demographic characteristics (not by name). Moreover, all research subjects will be adults, including staff, faculty, administration, and students (of at least 18 years of age).*

**Signature(s)**

The undersigned accept(s) responsibility for the study, including adherence to federal, state and UCSC policies regarding the rights and welfare of human participants participating in this study. In the case of student protocols, the faculty sponsor and the student share responsibility for adherence to policies.

**Cristal Gonzalez**

Signature of Principal Investigator

12/11/17

Date

**Flora Lu**

Signature of Faculty Sponsor

12/11/17

Date

## EXEMPTION CATEGORIES

|          |   |
|----------|---|
| <b>1</b> | <p>Research conducted in established or commonly accepted educational settings that involves normal educational practices, such as (i) research on regular and special education instructional strategies or (ii) research on the effectiveness of or the comparison among institutional techniques, curricula, or classroom management methods.</p>  |
| <b>2</b> | <p>Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless:</p> <ul style="list-style-type: none"> <li>a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and</li> <li>b) any disclosure (including accidental disclosure) of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.</li> </ul> <p>EXCEPTION: This exemption does not apply to research with children, except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.</p> |
| <b>3</b> | <p>Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under Exemption #2 if:</p> <ul style="list-style-type: none"> <li>a) the human subjects are elected or appointed public officials or candidates for public office; or</li> <li>b) federal statutes(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.</li> </ul>   |
| <b>4</b> | <p>Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, (a) if these sources are publicly available; or<br/>(b) if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.<br/>(Existing means existing before the research is proposed to an IRB).</p>  |
| <b>5</b> | <p>Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:</p> <ul style="list-style-type: none"> <li>(a) public benefit or service programs; (b) procedures for obtaining benefits or services under those programs; (c) possible changes in or alternative to those programs or procedures; or (d) possible changes in methods or levels of payment for benefits or services under those programs.</li> </ul>   |
| <b>6</b> | <p>Taste and food quality evaluation and consumer acceptance studies, if wholesome foods without additives are consumed or if a food is consumed that contains a food ingredient at or below the level, and for the use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.</p>   |

Please submit this form electronically to the UCSC IRB at [orca@ucsc.edu](mailto:orca@ucsc.edu)  
 Campus mail stop: Office of Research/IRB  
 439 Kerr Hall, 1156 High Street, Santa Cruz, CA 95064  
 Questions can be sent to [orca@ucsc.edu](mailto:orca@ucsc.edu) or you can call us at (831) 459-1473

## Appendix C: Human Subjects Approval

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

BERKELEY · DAVIS · IRVINE · LOS ANGELES · RIVERSIDE · SAN DIEGO · SAN FRANCISCO

SANTA BARBARA · SANTA CRUZ

OFFICE OF RESEARCH COMPLIANCE ADMINISTRATION  
TEL: (831) 459-1478  
orca@ucsc.edu

SANTA CRUZ, CALIFORNIA 95064

12/11/2017

RE: UCSC Understandings of Sustainability  
UCSC IRB Protocol # 3027  
UCSC Principal Investigator: Gonzalez, Cristal  
Exempt Determination Date: 12/10/2017

Dear Investigator:

The Office of Research Compliance Administration has reviewed the proposed use of human subjects in the project referenced above and has determined that the project is exempt from further IRB review.

This determination does not expire. However, only the research activity described in your protocol has been determined exempt. It is your responsibility to notify the Office of Research Compliance Administration of any proposed changes to your study to determine whether the study is still exempt. You must also immediately report any adverse events or unanticipated problems that occur during the research.

The UCSC IRB operates under a Federalwide Assurance approved by the DHHS Office for Human Research Protections, FWA00002797. Our DHHS IRB Registration Number is IRB00000266.

Sincerely,



Tani Prestage, Director  
Office of Research Compliance Administration