Knowing Your Place:

The Role of Environment in the Transition to College

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ABSTRACT

Though the implications of having a strong sense of place are complicated, many studies have focused on its resulting social and personal benefits. However, it has rarely been studied in conjunction with awareness of physical environment among college students. Current students at Lewis & Clark College in Portland, Oregon were surveyed about their sense of place and experience transitioning as a new student at the school. Students currently in their first year at the school reported feeling more uncomfortable than returning students remembered feeling during their first year. While students indicated that their transitions were most influenced by social, financial, and academic factors, a statistically significant correlation was found among new students between their level of discomfort and the differences in biophysical environment between their home and Portland. Thus, physical environment is an additional factor that seems to influence how some students experience these transitions. Additionally, internal factors such as race and gender, found to be important in studies surrounding other types of transitions, were not statistically significant in this study. Better understanding the factors that affect the development of sense of place can help schools, societies, and individuals alike adapt to changing environments, and can help us better understand our own communities.

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PREFACE

I spent the spring of my junior year of college studying abroad in Chile. My home base for the five months I was abroad was Viña del Mar, a coastal city shouldering the slightly larger and more eclectic Valparaíso. While I had a wonderful, impactful time, I was distracted much of the semester by an underlying sense of unease. At the time, I attributed it to the language barriers I was facing everyday combined with general culture shock, something we had been warned about and that I seemed to be experiencing fully.

This all changed four months into the program, when I took a weekend trip with some friends to Chiloé, an island in southern Chile near the northern end of the Patagonia region. Almost immediately after landing at the airport in Puerto Montt, I felt an unexpected and comforting sense of calmness. At that point, the only difference I could note between where I was and where I'd spent my last four months was the change in landscape. At 41.4º S, the types of vegetation that suddenly surrounded me were very reminiscent of what I grew up seeing in northern Minnesota, at around 47º N. The drive between the airport and the island was lined with conifers, lakes, and the same exposed rock found in northern Minnesota due to the region's thin soil. I was in awe of how happy I felt just seeing a landscape that made me feel at home. These feelings continued throughout the weekend: once on the island, we drove through rolling, green hills dotted with grazing cows and sheep, which immediately made me think of New England, especially Vermont, where I spent a couple of weeks nearly every summer growing up. One day we cut across to the western side of the island, bordered by the Pacific Ocean. There, we hiked through temperate rainforest that made me think of Oregon, another familiar place where my college is located.

All of this was a stark contrast from the landscape that had surrounded me until that point: desert, which was something I'd never lived in before and only visited once or twice in my life, and a Mediterranean climate that nourished the palm trees lining the Pacific coast six blocks from my house (the ocean being another thing I was unaccustomed to seeing every day). Every day I saw cacti and palm trees and dry mountains poking up behind the hills of Valparaíso, and I

realized that this may have played a more significant role in what I'd experienced regarding culture shock and homesickness than I had anticipated.

Until this point, I hadn't really thought about the physical environment as a contributing factor to what I had been feeling. The obvious contributing factors to me, when I sat down and thought about it, were the language differences, the unfamiliar ways people greeted each other, the different eating customs, differences in how people looked—I could have come up with a long list of what I believed contributed to any bumps in my transition, but I probably wouldn't have included the difference in landscape as one of them. Yet when I traveled to a part of the same country I'd been in since February, where the most noticeable difference from where I'd been was the this aspect of the physical environment, I felt a sense of relief, and of being home.

My experience in Chile suggests two interrelated questions: *Do people's surroundings matter? And why do some people transition better than others?* The way these questions relate can be complicated, and any attempt to answer them must be navigated carefully. I begin by providing background on and clarifying my understanding of each question, before detailing my own research on student transitions at Lewis & Clark College. I hope for this thesis to be as interesting to those reading it as it was for me to complete.

BEGINNING WITH OUR SURROUNDINGS

Although 'place' is a word people use frequently, there are multiple approaches to understanding and defining it. Geographers in the 1970s, such Relph (1974) and Tuan (1977), often attribute a place's meaning nearly entirely to the values ascribed to it by individuals. Tuan explains that "What begins as undifferentiated space becomes place as we get to know it better and endow it with value" (Tuan 1977, 6). More contemporary geographers, such as Casey (2013) and Cresswell (2013), explain that a place's meaning is influenced by multiple factors beyond simply the meaning one gives to it. Casey explains, "Place brings with it the very elements sheared off in the planiformity of site: identity, character, nuance, history" (Casey 2013, xiii). Social, historical, political, cultural, and a slew of other factors interact with individuals'

understandings of a place in order to complicate its meaning. It is with this latter understanding of place that I approached my research.

The discussion surrounding place is furthered by Massey (1991), who addresses the global nature of place meaning. She explains that globalization "does not entail simply homogenization," but rather, highlights "the uniqueness of place. There is the specificity of place which derives from the fact that each place is the focus of a distinct mixture of wider and more local social relations" (Massey 1991, 8). Especially as the world has become so interconnected, people in turn have become more connected to wherever they consider to be "their own" place. Although this is not necessarily a new phenomenon, the however-slight differences between places are highlighted by the global nature of our society, which helps encourage people to grab onto what they know and the places with which they are familiar.

Kudryavtsev et al. (2011, 231) define "sense of place" as a combination of "place attachment" ("a bond between people and places") and "place meaning" ("symbolic meanings ascribed to places"). Based on this definition, the next step is to understand how "place attachment" and "place meaning" respectfully develop. Riger and Lavrakas (1981) identify "social bonding and physical rootedness" as contributing factors to how people became attached to certain places, with "attributes such as age, income, number of children living at home, and educational level" also contributing. Gerson et al. (1977) observe that people feel a stronger sense of place when they come from ethnically homogenous areas, which Taylor et al. (1985, 527) attribute to "stronger local social involvement." Taylor et al. continue by explaining that,

> In a more diverse residential setting occupants may be less likely to agree on what is acceptable public behavior. Norms of how to treat or greet others, or of upkeep and beautification may be less widely known; or, if known, less widely followed. This lack of clarity emerging in dissonant contexts may be stress inducing. Through generalization of affect, attachment may consequently be dampened or prohibited from developing. Or diversity, by reducing consensual validation, may make that context less reinforcing, resulting in less likelihood of people becoming attached.

So, a contributing factor to the level of attachment a person develops towards a specific place may be related to how involved that person gets in the community surrounding that place, and, as Taylor et al. suggest, the racial diversity within the community. Other studies have found yet more attributes that influence the level of place-attachment developed by individuals; Stokols et al. (1983) positively correlate levels of "health and well-being" with levels of attachment.

"Place meaning" would seem to be related to these processes as well. Relph (1976, 47) attributes the root of place meaning to "the physical settings and objects and activities," then clarifies that "they are not a property of them—rather they are a property of human intentions and experiences." Place meaning is derived from the experiences had in a place. In the end, it seems to boil down to "a function of time passing and increasing familiarity with a location" (Taylor et al. 1985, 541).

Traditionally, having a strong sense of place has been seen positively. Kudryavtsev et al. discuss literature from as long ago as 1911, in which Liberty Hyde Bailey lamented that "'We are more likely to know the wonders of China and Brazil than of our own brooks and woods,'" pulling in iconic voices such as Rachel Carson (1965), who "emphasized that first-hand experiences with natural phenomena in various places may contribute to children's emotional connection to the world" (Kudryavtsev et al. 2011, 229). These beliefs echo current scholarship on environmental and place-based education, all of which is intended to foster a strong sense of place in people from a young age. There are many arguments in support of encouraging the growth of sense of place among people. Many studies focus on the positive aspects of strong place attachment, such as improvement in local economy (Ujang 2012), enhanced quality of life, (Neal 2015), better physical, mental, and emotional health (Cunsolo Willox et al. 2012), and improved environmental health (Hausmann et al. 2015) among people who experience a strong sense of place.

However, it is important to acknowledge the complex history of understanding sense of place, as well as the negative implications that come with it. First, and foremost, it should be acknowledged that a person's sense of place inherently includes both the positive and negative components of that place. A person may feel connected to a place even if it is not via a positive association. A person's sense of place, therefore, may not be something they think of positively if they come from an area with characteristics they see as undesirable (as an example, I talked to one student who described how they actively hate their hometown because they see it as racist and disagree with its political atmosphere, yet they also admitted that they love the town and identify strongly with it). This must be considered when thinking about building sense of place among residents within an area—are there any characteristics of the area that one may want to avoid becoming attached to? Also worth consideration is the idea of building place-attachment a

possible solution to fixing these undesirable problems—perhaps those who feel most connected to an area are most able to go about solving its problems.

Additionally, certain factors that contribute to building place-identity can have negative implications in society. Gerson et al. (1977) and Taylor et al.'s (1985) findings that correlate sense of place with ethnic homogeneity within a community are a prime example of this. There are some, such as Putnam (2007), who defend homogeneity within communities and describe how "in ethnically diverse neighbourhoods residents of all races tend to 'hunker down'. Trust (even of one's own race) is lower, altruism and community cooperation rarer, friends fewer." This is a finding that Monkovic (2016) argues might explain voter behavior during the 2016 Republican primaries. However, others explain why increased community diversity is important. Cutler et al. (2007, 761) describe how,

> While many of the benefits associated with residence in an enclave are immediate in nature, many of the hypothesized costs accrue over a longer period of time… Because of their tendency to be located in older neighborhoods, ethnic enclaves are disproportionately likely to be served by relatively strained central city or inner-ring suburb governments. Lower quality of local public goods, particularly primary and secondary education, may have a strong negative impact on family welfare, albeit one only observed with a significant time lag. Other local disamenities, such as crime, may impact immigrants more immediately.

Living in a segregated community has many unjust consequences beyond those described by Cutler et al. The United States has an ugly history full of blatant racism, manifesting in Jim Crow laws requiring racial segregation and actively ignoring the needs and rights of people of color. This continues to a certain extent today: for example, communities of color are disproportionately affected by environmental issues such as pollution (Brulle and Pellow 2006), and black people are more likely to be arrested than white people committing the same crime, in part due to higher police presence in black communities (Blumstein 1993). For this reason, it is imperative that the negative conditions that can foster sense of place are acknowledged.

Additionally, people coming from homogeneous areas may, at times, be more resistant to change. Webster and Leib (2001, 272) describe the ramifications of a battle surrounding the use of the Confederate flag in South Carolina; a debate they claim is centered around the preservation of sense of place in the state. They explain that,

> The debates have resulted in conflicts in the region's schools (Sack, 1997b), large public demonstrations (Stroud, 2000a,b), lawsuits (Forman, 1991; Martinez, 1997), heated

debates on the floor of the US Senate (Webster & Webster, 1994; Preston, 1999), and even murder (Horowitz, 1996).

While this is not always the case (take the fact that the famously liberal cities of San Francisco, Minneapolis, and Chicago also have relatively economically and racially segregated populations (Wilkinson 2014), for example), it is a potential consequence worth noting. Sense of place can, at times, have negative impacts on others. When sense of place is tied to a controversial history, such as that of the Confederate flag, it can lead to strong emotions and perhaps unreasonable actions aiming to defend the root of that sense of place.

Much of the scholarship surrounding sense of place implies that people's actions can be shaped by their connection to their surrounding physical environment, and describe how those with a strong sense of place are more likely to try and create social change in their community (Tani 2001), participate in certain ways that affect the economy (Ujang 2012), and otherwise subconsciously change their actions as a result of having that sense of place. Further, many of these studies propose that increased interaction with biophysical surroundings strengthens sense of place. While this is distinct from the notion of environmental determinism, or the idea that people themselves are shaped by their physical environment, it's necessary to acknowledge the similarities that exist between the two ideas. Environmental determinism is a contested belief. Distinct from social Darwinism, which claims that humans have physically and mentally evolved differently due to their environments and argues for "survival of the fittest" between racial groups, environmental determinism focuses on cultural evolution. Environmental determinism indicates an inherent connection to the biophysical environment not unlike that proposed by many scholars who study sense of place. A major point of contention is how big of a role the physical environment plays in how societies have formed.

Some, like Diamond (2016), claim that environmental (or as he calls it, geographical) determinism is one of many factors that have shaped societies, and must be considered when analyzing history. Others, like Eades (2012), argue that cultural and biological evolution are entirely separate, evidenced by completely different cultures arising in environmentally identical places. Many would argue not only that there is evidence that suggests that environmental determinism is untrue, but also that environmental determinism serves to excuse the atrocious acts that happened as Europeans colonized other parts of the world, and have perpetuated due to a continued racial power structure set up during colonization (Peet 1985).

Sarah Jaquette Ray (2013) summarizes this and other complications of sense of place and place-attachment in her book *The Ecological Other*. She writes,

> Place-attachment promotes other kinds of problematic inward-looking orientations. As Buell notes, 'devotees of place-attachment can easily fall into a sentimental environmental determinism' (*Future* 66). Place-attachment can lead to isolation, NIMBY-ism, environmental determinism, essentialism, and xenophobia, and often accompanies a nostalgia for 'the country,' a pastoral myth, or pure wilderness constructions of nature that fail to account for their dialectical relationship with other places… Even as environmental justice movements increasingly emphasize 'the local' and place-essentialism as a political strategy, attachment to place is just as often about blood-and-soil nativism, accompanied by denying other places and processes that constitute any given place. Although place-essentialism has been a necessary ethic in environmentalism and environmental literature, place-based environmental ethics are neither inherently liberatory nor inherently repressive" (26)

This all is not to imply that scholarship praising sense of place is wrong or unjust; rather, mentioning these issues surrounding sense of place serves to balance the overwhelmingly positive literature found when researching the topic. While it is impossible to fully address everything that has been written surrounding the concept, it is necessary to acknowledge multiple sides of it when discussing sense of place as I do in this paper. Moving forward, I look at the biophysical environment as one factor that may influence students' transitions to college; I do not mean to imply that it is the only factor that matters, and I seek to look at it alongside other factors that students mention as important in their transitions. Additionally, I approach my research with the understanding that sense of place is neither inherently good nor bad; instead, I simply attempt to gain a more thorough understanding of how it manifests for the students within my study.

AND WHAT ABOUT TRANSITIONS?

Many factors contribute to how people experience transitions in their lives. Wheaton (1990) studies a variety of life transitions, such as getting married, having a child, losing a job, and getting divorced. He found that people's experiences vary based on their previous involvement with similar transitions, and also depend greatly on the relative stress of the transition versus the stress felt prior to the change; for many, these transitions alleviate the stress put on by an earlier circumstance. Carlisle-Frank (1992) describes how transitions that involve

moving to another place are often difficult for people, stating that "as many as one-third of all moves typically do not go well" (835). She continues, claiming that

> relocation is a complex personal, social, and environmental transition which not only changes location of housing but also alters activities and domains… these changes associated with moving, it is argued, are neither short-term nor confined to the residential domain but are enduring and affect almost every aspect of the individual's life situation (837-838)

Stokols et al. (1983) expand upon some of the consequences that moving can have on people's livelihoods, citing a number of studies that

> have revealed a diversity of emotional and physical disorders that appear to be associated with moving, including the 'grief syndrome' of psychosomatic symptoms experienced by relocated blue-collar workers (Fried, 1963); the increased rate of coronary heart disease among male employees who have changed residence due to a job transfer (Syme et al., 1965) and the heightened incidence of depression among wives of transferred employees (Brett, 1980; Seidenberg, 1973); and the greater risk of mortality among relocated, institutionalized elderly persons (Pastalan, 1980; Rowland, 1977) (Stokols et al. 1983, 5-6)

Stokols et al. continue by acknowledging that "the majority of mobile Americans change residence voluntarily, without detrimental health consequences" (6), and that those who do experience these negative consequences make up a relatively small proportion of those who move, and tend to be "those constrained by poverty, racial discrimination and physical infirmity" (6). Berry (1997) explains that the difficulty of this type of transition is also dependent in part on the voluntary nature of the transition; refugees often experience more difficulty moving to a new place than voluntary immigrants.

Other studies have found that experiences relocating can be affected by gender: Moyle and Parkes (1999) followed employees who were transferred from one store of a supermarket chain to another, and found that women tended to experience more distress during the transition than their male coworkers. Beyond gender, they found that employees' experiences relocating were correlated with "neuroticism (high), social desirability (low), locus of control (external), job grade (managerial) and work demands (high)" (637).

These transitions can also be affected by the age of the person relocating: Dixon and Hayden (2008) found that for children, age, stage of development, and support provided by their new school during the transition all can impact how smoothly relocations transpire. Their study, which focused on recently relocated children at an international school in Thailand, also found

that children were most concerned about leaving their friends when relocating, and were generally nervous about not knowing how their lives would look in their new home. This suggests that strong support networks in the new location can be beneficial in aiding children in these transitions.

It is worthwhile to acknowledge the variety of situations in which one may find oneself relocating. The opportunity to move to a higher quality business environment (Chen and Stuart 2008), "personal, familial, social, or health reasons" (Carlisle-Frank 1992, 835) are just a few examples of circumstances that cause people to pick up and move to a new area. Others are forced to move due to war and political unrest. Additionally, with the effects of climate change becoming increasingly felt every year, many people are being forced to relocate (Williams 2008) or, at the very least, are watching their familiar surroundings become entirely new types of environments (Kelly and Goulden 2008). At times, these transitions are experienced suddenly, due to hurricanes, fires, earthquakes, and other natural disasters. Wapner (2000) mentions a number of factors found to influence how people described their "experience of the impact of the [1992 Hurricane Andrew] on the physical/ biological, psychological, and sociocultural aspects of experience and action" highlighting

> gender differences…; decrease in social support as time progressed; long-lasting psychological effects (e.g., nightmares; feeling victimized); an increase in familial bonds; a perceived failure of governmental support and a need for education about storm preparation, and taking storm warnings seriously (16)

Thus, people's experiences transitioning through and after these events are influenced by many factors, some of which are unavoidable internal factors (such as gender), and others of which are external factors that can potentially be changed in order to ease transitions (such as access to mental health care, increased transparency in governmental support, and increased education about storm preparation).

The development of sense of place comes into question as people move around and experience these new situations. As people move around, their experiences are often accompanied by culture shock, which Oberg (1954, 1) defines as being "precipitated by the anxiety that results from losing all our familiar signs and symbols of social intercourse." Zee and Oudenhoven (2013) studied the role of personality in individuals' abilities to adjust to new cultures, and found "five dimensions that are directly linked to success in an intercultural context: cultural empathy, open-mindedness, social initiative, emotional stability, and flexibility"

(929). Dixon and Hayden (2008) acknowledge that "Culture shock may not always, of course, be entirely negative in its effects: Allan (2002), for instance, argues that it is only when some degree of culture shock is evident that real intercultural learning takes place" (485-486). However, regardless of the additional effects of undergoing culture shock, it remains something that impacts how people experience relocating.

Oberg continues his discussion of culture shock by focusing on unfamiliar customs, explaining that culture shock is often felt alongside feelings of nostalgia for specific places. This ties back into sense of place: Massey would argue that people can feel senses of place in, and attachment to, multiple places. It is with this understanding that I seek to further understand how people experience relocations. Oberg's understanding of culture shock is supplemented by Mansfield (2009), who analyzes the portrayal of homesickness in works by Emily Brontë and Elizabeth Gaskell; two mid-nineteenth-century authors whose works touch on nostalgia. She relates the emersion of feelings of nostalgia to place attachment, explaining how "'[b]elonging,' 'being in-place,' and 'fitting in' are integral to a sense of nostalgia and place-identity" (72). This draws home the point that nostalgia is inherently related to a form of culture shock. Both arise from feelings of "outsideness" from a given situation; feelings evoked by an unfamiliarity with a certain place combined with a longing for the familiarity that one once knew. In other words, people's sense of place can greatly affect how they feel as they adapt to living in a new situation.

Churchman and Mitrani examined such a situation in their 1997 study on USSR emigrants living in Israel. They aimed to learn about the experience of the emigrants in Israel, in order to understand what factors most affected their experience transitioning to Israeli life, focusing on the idea of culture shock. Churchman and Mitrani (68) cite Lonner (1986), who

> [identified] six classes of predictor variables for the nature of the culture shock experienced:
> 1. Control factor–how much control one has over initiating the other culture experience.
> 2. Intrapersonal factors–such things as age, extent of previous travel, language skills, resourcefulness, independence, fortitude, capacity to tolerate ambiguity and frustrations, appearance, etc.
> 3. Organismic-biological factors–physical condition, medical or dietary needs, and ability to tolerate physically the demands of stressful disruption on tempo of familiar routine.
> 4. Interpersonal factors–the nature and extent of one's support group, mutual expectation of support from group.
> 5. Spatial-temporal factors–where one is and for how long.

6. Geopolitical factors–level of international, national, regional or local tension.

Churchman and Mitrani then add three more factors based on their study:

> 7. The degree and nature of the differences between one's original culture and the new one. Culture here is used in the broadest of senses to include all aspects of the context, including the physical environment.
> 8. The degree and quality of information one has about the new environment and through what communication means obtained.
> 9. The attitudes and policies toward immigrants in the host country.

Thus, they argue that many factors contribute to how one experiences a transition to living in a new place. While many of these factors are related to social systems and experiences, some account for a person's physical surroundings. Their inclusion of environmental factors was based on their thoughts that

> Attachment to a place usually develops through immediate experiences in it, and therefore it is influenced, among other things, by the physical environment. Changing one's country is very likely to have implications for one's attachment to both the old and the new environments (Churchman and Mitrani 1997, 65)

They argue that connection to a new place is, understandably, tied to how one adapts to living in that place. From Churchman and Mitrani's study, then, comes the understanding that one's physical environment is one of many factors that play an integral role in the amount of culture shock experienced and thus the sense of place developed by someone as they transition to living in a new place. While Churchman and Mitrani focus on aspects of what they refer to as the "physical environment" (which they break down into four "levels" of the city, neighborhood, building, and apartment), many of the individual elements about which they surveyed the emigrants were part of what could be distinguished as the "built environment." Respondents were asked about differences in city size, distance from societal and cultural centers such as movie theaters and bus stations, and population density. While they did ask about the presence and construction of parks as well as the climate, respondents were not asked about characteristics of the biophysical landscape such as biome/ecosystem, terrain, etc. It seems that few studies, if any, have focused on elements of the biophysical environment, especially details about the characteristics of the landscape and climate with which a person is familiar versus that of a new place in which one finds oneself. The lack of studies surrounding the role of biophysical landscape and climate in transitions is one of the motivating factors for my research.

THE TRANSITION TO COLLEGE

The transition to college offers a particularly unique situation to study. The stresses of adjusting to college (like increased workload, trying to understand academic systems, living away from home [often for the first time], making new friends etc.) (Thurber and Walton 2012) underlie students' attempts to adjust to living in a new place. Many students move from one part of the country to another (or even from another country completely) to attend college, and find themselves living at school for eight months out of the year, and returning home or to yet another location for the remaining four months. This is a transition that Chow and Healey (2008, 363) claim has "received scant attention," and one that they argue is distinct from many other situations in which people leave their home, saying that it

> is a context involving deliberate separation, sometimes extending over a period of several years, but which… may arguably involve lesser trauma and provide an opportunity for gradual adjustment, coping, adaptation and long-range planning.

These unique circumstances surrounding the college transition come with a variety of consequences that further affect students as they adjust to school. Many things impact how students experience their transitions to college. Parker et al. (2004) found that emotional intelligence was positively correlated with success in college, Wapner (2000) mentions the importance of first-year students' relationships with their roommates, and Lotkowski et al. (2004, 7) found that "academic-related skills, academic self-confidence, academic goals, institutional commitment, social support, certain contextual influences (institutional selectivity and financial support), and social involvement all had a positive relationship to retention." It is important to note that it is difficult to quantify this success. While many studies focus on GPAs and student retention rates, others look at indicators such as extracurricular involvement. Perhaps one way to quantify ease of transition is by measuring the level of homesickness experienced by students. Homesickness as a student at a new college is experienced by many, being most prevalent among students with

> young chronological age, little previous experience away from home, low perceived control, high perceived distance from home, high reliance on family members, insecure attachment to parents or unsupportive parenting… perceived discrimination… [and a] dependent personality and strong place attachment (Thurber and Walton 2012, 416)

Experiences with homesickness (and the related concept that Paul and Brier call "friendsickness," the "preoccupation with and concern for the loss of or change in precollege

friendships") can affect how students adjust to college (Paul and Brier 2011) as well as how younger students adjust to starting at new primary and secondary schools (Dixon and Hayden 2008). Students experiencing high levels of homesickness suffer from unpleasant side effects like "depression and anxiety, withdrawn behavior, and difficulty focusing on topics unrelated to home" (Thurber and Walton 2012, 415), and those especially lonely folks are more likely to drop out of school (Rotenberg and Morrison 1993).

It is important to note that a difficult transition isn't necessarily a bad thing. It is, like many components of college, a challenge, and that is not something to be seen as negative. A Macalester College junior said in Kuh et al.'s 2005 book *Student Success in College: Creating Conditions that Matter* that "There are many challenges here. You have to challenge yourself academically, challenge yourself to understand people from diverse backgrounds, and challenge yourself to understand the community and the world." This student was, in the next paragraph, described as "thriving in college. They describe experiences that challenged them to develop skills, awareness, and confidence" (Kuh et al. 2005, Introduction).

Other influential factors in the transition to life as a college student include the internal factors of race (Hurtado and Carter 1997), mental health (Gerdes and Mallinckrodt 1994), connection to hometown (Xu et al. 2015), and nationality (Kwon 2009). Tognoli (2003) also found a correlation between the homesickness experienced by a new student and the distance between their college and their parental home,

> probably because those living farthest from the campus are most restricted in their access to conditions and situations which would allow for transition from the old to the new setting to occur–namely easy access to parents and friends, and experiencing on a daily basis familiar environments such as one's bedroom, house, neighborhood and town. (Tognoli 2003, 46)

This prediction of the importance of the role that familiarity with physical environment plays in how students transition to college is one that merits further study. Xu et al. (2015, 95) suggest that "When geographical distance is involved [when transitioning to college], changes in the physical environment and the break with previous social networks make the transition more complicated." Relph (1976) writes that "[Home is] the central reference point of human existence," an idea that supports the need for a more thorough study on what attributes of a person's home are carried with that person as they move around. Beyond basic familiarity with the built environment mentioned by Tognoli and studied by Churchman and Mitrani, the

biophysical environment (including but not limited to factors of landscape and climate) may play a role itself in these transitions. This is the premise of the study in this paper.

SITUATED CONTEXT

While some studies have been done surrounding sense of place on college campuses, fewer have focused on the experience of students as they transition to life at a new college, and fewer still have been done on the role the physical environment plays in the development of sense of place at college. To my knowledge, none has been done specifically surrounding these experiences at small, liberal arts schools.

My research is situated at Lewis & Clark College in Portland, Oregon. Specific demographic data surrounding the school can be found in Appendix G of this paper. While I chose this school in part due to convenience, as it is the college I attend and the college at which I am writing this paper, I also hoped to better understand the community in which I am involved and to find information that could be useful for my peers. Additionally, the school is representative of many schools across the U.S. as well as worldwide. Lewis & Clark is a liberal arts college whose relevance is especially high today amidst global conversations surrounding the merits of this type of education. While some argue that we are in the midst of a global revival of liberal arts schools (Altbach 2016, Klebnikov 2015), others insist that despite growth abroad, liberal arts schools are disappearing in the U.S. due to "financial and social pressures" (Logan and Curry 2015).

In the middle of these conversations are debates about the broader role of college in a person's life. Some believe that schools should prepare people to get a job (Hoffman 2006), with others arguing that college should exist solely to provide a setting for students to learn for the sake of learning (O'Boyle 1983). Yet others, like Orr (1990, 208), explain how "[t]he mission of the liberal arts in our time is neither merely to inculcate a learned appreciation for the classics, nor to transmit 'marketable skills,' but rather to develop balanced, whole persons." Those who hold optimistic beliefs about the future of the liberal arts say that despite the recent trend of preference for specialized education, it is becoming accepted globally "that both the labor force and educated individuals require 'soft skills' as well as vocationally relevant content-based knowledge" (Altbach 2016, 21); skills that Altbach argues are best obtained through attending

liberal arts schools. Thus, studying how students experience their transitions starting at a liberal arts school is especially relevant in today's world.

Of the 2,039 undergraduate students at Lewis & Clark, 91% come from outside of Oregon, representing 47 states and 76 countries. As so many students come from areas physically distinct from Portland, Lewis & Clark offers an opportunity to study students who are both learning to adjust to life as a college student as well as learning to live in a place geographically different from their home.

METHODOLOGY

I decided to predominantly conduct my research via survey, because I wanted to quantitatively analyze experiences that I have traditionally thought of qualitatively. By exploring something that many people experience qualitatively in a quantitative manner, I was finding the interdisciplinarity of the topic. It created space for a qualitative analysis later, conducted through interviews and emails; these two types of analyses complement each other and serve to create more cohesive results. Additionally, a survey allowed me to collect a relatively large sample of data, and created a path for me sort through the responses to look for trends and patterns. It also eliminated any subconscious bias that may have arisen by purely sorting through and relying on qualitative data, like interviews and open-ended answers.

I began by surveying students using a survey created using Google Forms, through which I attempted to answer the question, *Is there a relationship between Lewis & Clark students' experiences transitioning to college and their familiarity with their surrounding environment?* Overall, I aimed to understand what factors influence students' transitions and, relatedly, their development of sense of place at Lewis & Clark. I distributed the survey predominantly via social media by posting links to the survey in Facebook groups for each class (graduating 2019, 2018, 2017, and 2016) at Lewis & Clark, as well as by advertising the survey on my personal page. The survey was also distributed by email to all students currently in ENVS 160, the introductory environmental studies class at Lewis & Clark. I attempted to entice students to participate by giving them an opportunity to enter a drawing for a $15 Amazon gift card upon completion of the survey. In total, the survey was open for responses for about one month at the

beginning of 2016. I received a total of 74 responses; 73 of which were analyzed in my results (the last of which was mistakenly deleted).

The survey was broken into six sections, and took approximately twenty minutes to complete. The sections were intentionally ordered so as to gather responses that were uninfluenced by ideas brought up in later questions. The first section gathered demographic information such as age, gender, and major. This information was necessary to collect in order to frame my analysis of the results, as well as to check for any correlations between their answers to the later questions and their demographic information.

The second section asked students about their college experience, in order to get a sense of various factors that may impact how a student transitioned to Lewis & Clark (such as whether or not they were a transfer student), as well as indications of their involvement in the Lewis & Clark community, such as their participation in extra-curricular activities.

The third section asked students to reflect on their experience as a new student at Lewis & Clark. This section was worded in two different ways, so that first-year students were asked about their current thoughts, and returning students were asked to reflect on their first year at the college. This section aimed to get a sense of how well students felt they had transitioned to life as a student at the school, as well as to give students an opportunity to share what factors they thought are important in regard to how they adjusted and to how students in general adjust to life at a new college.

The fourth section asked respondents about the place they consider to be their home (which, for students who felt they had more than one home, I defined as the place where they had spent the most time in the past five years). I asked students to compare and contrast their home with Lewis & Clark. Here, I aimed to understand what similarities and differences students noted on their own. I was especially curious whether students compared the climate and landscape of their home and Lewis & Clark without being prodded to do so.

The fifth section then asked specifically about similarities and differences between the climate and landscape of their home and Portland. I asked students to list the definitive characteristics of both the climates and landscapes of both places, in order to gain a sense of what characteristics were generally important to students. I then asked students whether they thought the climates and landscapes of their home and Portland were "less different" or "more

different" from each other, in order to quantify their descriptive answers. This section also included questions that asked students about their sense of place at the school.

The sixth and final section attempted to gain some context surrounding the circumstances in which the survey was taken. Due to racist incidents on the Lewis & Clark campus the semester before this survey was administered, which may have affected how students felt and saw themselves at Lewis & Clark, I asked students if they thought their answers would have been different had they taken the survey before those events occurred. I also asked students where they were taking the survey, and whether or not they thought it may have affected their answers, as I thought it possible that physically being in one place may affect how someone describes that and other places. This section ended with the opportunity to volunteer for a follow-up interview, and to enter the drawing for the gift card. A complete version of the survey is available in Appendix A of this paper.

I also sent a series of follow-up questions to students who indicated that they were open to a follow-up interview. The questions aimed to expand upon the results I found in my initial survey, and add a qualitative dynamic to my analysis. Students were sent six questions, and offered the option to respond via email or in person. The questions can be found in Appendix B of this paper.

Prior to any analysis, I created a variety of scales in order to score students' responses to my questions. The bulk of my analysis focused on the three questions about students' experiences transitioning to college, which asked them about their level of comfort at Lewis & Clark (scored one to five, with a higher score meaning high comfort), their experiences adjusting to the culture on the Lewis & Clark campus (with a score of five meaning a difficult adjustment), and their change in anxiety since starting at Lewis & Clark (with a score of five indicating they now feel more anxious). After I received the survey results, I realized that my analysis would be made easier if higher numbers signified a less-smooth transition for each of these questions. Because of this, I flipped the responses to the first question relating to comfort, so that students who rated their experience with a one now received a five, students who rated their experience as a two now received a four, and vice versa (scores of three stayed the same). I then added up each individual score to the three questions to create a larger "difficulty of transition score." Students could score anywhere from three (if they answered each individual question with a one) to fifteen (if they answered each individual question with a five).

I also created an "environmental difference score" by adding up students' ratings of the differences between the climates and landscapes of the place they considered to be their home, and Portland. Each individual question was answered on a scale of one (there are fewer differences between the climates/landscapes of Portland and your home) to five (there are more differences between the climates/landscapes of Portland and your home). These were added together to create a total score of between two and ten.

I utilized a variety of techniques in my analysis of the responses. Using SPSS, I created a correlations table in order to look for general trends between many of my variables. This table highlights r, p-values, and number of results for each comparison. Based on the correlations found in this table, I used Excel and Google Sheets to create scatterplots showing the distribution of students' responses to individual questions as well as showing the distribution of their overall scores, as defined above. I then analyzed my results using the XLMiner Analysis Toolpak; a plugin for Google Sheets. This allowed me to perform t-tests in order to see any significance in difference of means. I utilized this test in order to compare the responses of first-year students and returning students.

Based on the findings of these results, I created word clouds in order to illustrate patterns in the open-ended responses elaborating on the numerical data. This was only done for the questions whose answers revealed clear relationships with other variables, in order to search for trends in respondents' reasons for their answers. The word clouds integrated data from students' responses to the short answer sections of the survey. They were created using Voyant Tools, which counts the number of times each word is used as well as keeps track of patterns of context in which the word is used, besides providing a visual word cloud. I organized my data so that the website read the responses chronologically based on how long the respondent had been a student at Lewis & Clark. Voyant Tools also creates graphs showing the frequency of the word at different points in the text, so by arranging my data chronologically I was able to look for trends in word use among the varying class-years.

I also created bar graphs by hand-counting the frequency of certain terms and ideas in some of the responses, and then calculating the percentage of total respondents who used each term. I then input this data into meta-chart.com, which gave me a more legible bar graph than I was able to create solely on Google Sheets or Excel.

Finally, I interspersed segments of students' responses to the emailed questions, as well as short answers directly from the survey, throughout the analysis. The included quotes were chosen because I felt that they added another dimension to the results alongside which they appear. Not all responses are included.

RESULTS

The survey was open for about a month, during which time I received a total of 74 responses. Because one of the responses was mistakenly deleted during analysis, the following numbers come from the remaining 73 responses.

Figure 1 shows an initial correlation analysis:

		Year at LC	High School Class Size	Miles Btwn Home and LC	Hours/Week Spent in Extra-Curriculars	Anxiety Score	Cultural Adjustment Score	Discomfort Score	Difficulty of Transition Score	Landscape Difference Score	Climate Difference Score	Environmental Difference Score
Year at LC	Pearson Correlation	1										
	Sig. (2-tailed)											
	N	73										
High School Class Size	Pearson Correlation	0.03	1									
	Sig. (2-tailed)	0.80					correlation is significant at the 0.05 level (2-tailed)					
	N	73	73									
Miles Btwn Home and LC	Pearson Correlation	-0.24	-0.04	1								
	Sig. (2-tailed)	0.04	0.75				correlation is significant at the 0.01 level (2-tailed)					
	N	73	73	73								
Hours/Week Spent in Extra-Curriculars	Pearson Correlation	0.26	0.17	-0.16	1							
	Sig. (2-tailed)	0.03	0.15	0.18								
	N	73	73	73	73							
Anxiety Score	Pearson Correlation	-0.15	-0.26	-0.02	-0.19	1						
	Sig. (2-tailed)	0.21	0.02	0.85	0.11							
	N	73	73	73	73	73						
Cultural Adjustment Score	Pearson Correlation	-0.17	0.03	-0.05	-0.19	0.18	1					
	Sig. (2-tailed)	0.14	0.79	0.66	0.11	0.14						
	N	73	73	73	73	73	73					
Discomfort Score	Pearson Correlation	-0.24	0.08	0.02	-0.09	-0.07	0.3	1				
	Sig. (2-tailed)	0.04	0.51	0.871	0.44	0.58	0.01					
	N	73	73	73	73	73	73	73				
Difficulty of Transition Score	Pearson Correlation	-0.29	-0.08	-0.03	-0.24	0.57	0.75	0.64	1			
	Sig. (2-tailed)	0.01	0.51	0.82	0.04	0.00	0.00	0.00				
	N	73	73	73	73	73	73	73	73			
Landscape Difference Score	Pearson Correlation	-0.01	0.09	0.32	-0.11	-0.14	0.07	0.24	0.09	1		
	Sig. (2-tailed)	0.91	0.44	0.01	0.35	0.25	0.58	0.04	0.46			
	N	73	73	73	73	73	73	73	73	73		
Climate Difference Score	Pearson Correlation	-0.02	0.21	0.11	0.06	-0.05	0.08	0.16	0.1	0.68	1	
	Sig. (2-tailed)	0.87	0.07	0.36	0.62	0.70	0.50	0.17	0.39	0.00		
	N	73	73	73	73	73	73	73	73	73	73	
Environmental Difference Score	Pearson Correlation	-0.03	0.17	0.23	-0.02	-0.1	0.08	0.22	0.1	0.92	0.91	1
	Sig. (2-tailed)	0.83	0.15	0.05	0.84	0.38	0.51	0.06	0.39	0.00	0.00	
	N	73	73	73	73	73	73	73	73	73	73	73

Figure 1

This chart shows the correlation coefficient (r) for each major variable compared with each other major variable, as well as the statistical significance (p-value) of those correlations. Yellow boxes indicate statistical significance at the 0.05 level, and red boxes indicate statistical significance at the 0.01 level. A larger version of this chart can be found in Appendix C of this paper.

This initial analysis shows that there are stronger correlations among some variables than among others. Significant positive correlations included how long a student had been at Lewis & Clark and the hours per week spent in extra-curricular activities (r=0.26, p=0.04), the miles

between a person's home and Lewis & Clark and how differently they scored the places' landscapes (r=0.23, p=0.05), and how uncomfortable a student reported feeling and the scale of differences between their home and school biophysical environments (r=0.24, p=0.04). There was also a positive relationship between how students scored their difficulty adjusting to the culture on the Lewis & Clark campus, and how uncomfortable they reported feeling during their first year at the school (r=0.3, p=0.01).

Significant negative correlations included the relationship between the distance between a student's home location and Lewis & Clark and how long a student had been at the school (r=-0.24, p=0.04), how long a student had been at Lewis & Clark and how difficult they scored their transition as being (r=-0.29, p=0.01), how long the student had been at Lewis & Clark and how uncomfortable they reported feeling (r=-0.24, p=0.04), the size of a person's high school class and how anxious they described feeling (r=-0.26, p=0.02), and the hours per week a student spent in extra-curricular activities and their reported difficulty of transition (r=-0.24, p=0.04).

Other variables were significantly related, but that was due to how the scores were calculated. The environmental difference score was a combination of students' landscape and climate difference scores, and the difficulty of transition score is a combination of students' anxiety, cultural adjustment, and discomfort scores; for these reasons, these scores were all significantly tied together.

There were also a number of variables that were not statistically significantly correlated, including (but not limited to) high school class size and overall difficulty of transition, cultural adjustment and distance between home location and Lewis & Clark, physical environmental differences and level of anxiety, and physical environmental differences and overall difficulty of transition.

The following graphs illustrate some of the trends indicated in figure 1. Below, figure 2 combines the three questions I asked about difficulty adjusting to the culture at Lewis & Clark, change in anxiety, and feeling of comfort at the college, showing an overall "difficulty of transition score," and compares it with environmental differences between a student's home location and Lewis & Clark:
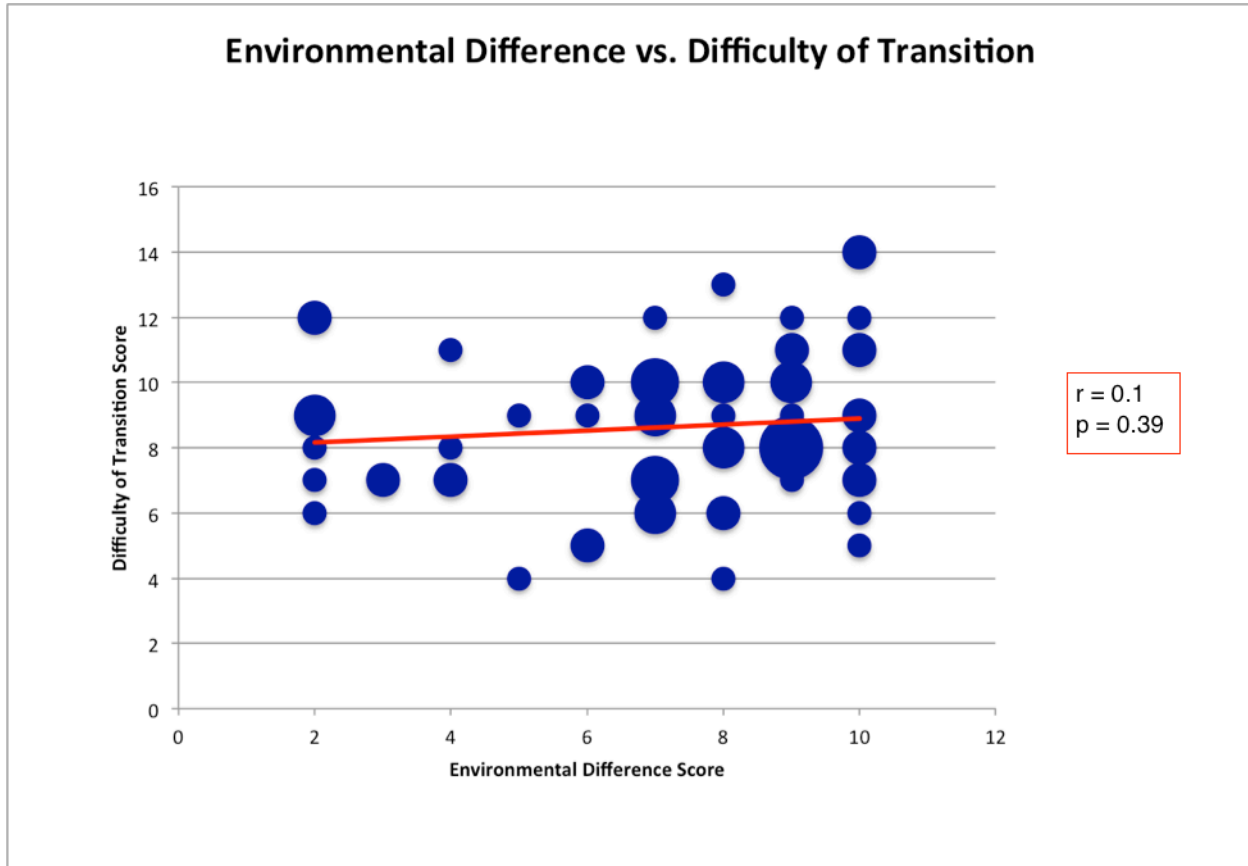
Figure 2

The y-axis shows the "difficulty of transition" score: respondents could score a total of between 3 and 15, with 15 signifying very difficult transition. The individual rankings describing differences in home and school climates/landscapes were combined to get a total "environmental difference score," on the x-axis; a higher number (maximum of 10) indicates a very different physical environment between their home and Lewis & Clark. Larger dot sizes indicate more responses with that combination of scores. Each axis is slightly longer than the maximum score in order to restrain the distribution of results to the middle of the graph.

There is essentially no correlation shown; r equals 0.1, indicating a very weak positive relationship between difference in the biophysical environment between home and Portland, and difficulty transitioning to life as a Lewis & Clark student. There is a p-value of 0.39, indicating insignificant results. However, a t-test revealed a significant difference of means between returning students (who answered a mean difficulty of transition score of 8.6) and new students (mean score of 9.3), with a p-value of 0.03. Students did not often mention physical environment as a contributing factor to how well they felt they transitioned as a new student. Instead, students attributed their experiences transitioning to a variety of other factors. One student claimed that her success adapting as a new student was due to her "sense of self-efficacy, work ethic, open-mindedness." Another listed "Race, personal practices and beliefs" as contributors. A third

mentioned "[College Outdoors] trips, rowing, having a few close friends, doing research at the school," and a fourth described her "amazing friends, the beautiful campus, and wonderful professors, as well as the city and family nearby."

The difficulty of transition score was correlated with students' current level of comfort in Portland, as suggested by students' indications of their plans after college. Across all class groups, students who indicated that they were not planning on staying in Portland after graduation averaged higher difficulty of transition scores than students who indicated that they were planning on staying in Portland after they graduate. Students who indicated that they were unsure whether they would remain in Portland averaged a score in between the other two groups, across all classes as well. This suggests that the difficulty of transition score is a good predictor of students' continued comfort at the school, among both new and returning students.

To further analyze students' experiences transitioning to Lewis & Clark, I broke up the difficulty of transition score into its three individual components. The correlations table indicates that there is not a strong relationship between environmental difference scores and their difficulty adjusting to the culture or level of anxiety experienced.

Students mentioned many factors as influencing how they adjusted to the culture of Portland. One student described how "There is a dominant liberal culture that has become increasingly toxic for me. I do not feel welcomed by this culture despite being a registered democrat." Another explained, "[Lewis & Clark] was more privileged community than I had generally experienced, and much more liberal. The people also seemed very urban/suburban and I was sure (still am) that for the most part they had no respect for other cultures if they weren't 'exotic' and 'foreign.'" A third student said, "I found the culture refreshing and was excited by the conversations that were taking place on campus- not something had I had experienced before. I was startled by the casual nature of everything, though- dress, demeanor, etc." Racial and economic demographics and political leanings of peers were all frequently mentioned.

Similarly, students did not mention physical environment when explaining what influenced their levels of anxiety. Instead, they explained that their anxiety was often influenced by social factors. One student, whose level of anxiety had decreased since starting school, explained, "I have made some great relationships and have left the negative relationships behind." Another, whose level of anxiety had increased, elaborated by saying that they felt a

"little bit more anxious while adapting to the change, not due to homesickness, more so due to depression and a lack of social activity."

A stronger correlation does exist between students' environmental difference scores and their level of discomfort experienced. Figure 3 illustrates this third transition-related question:
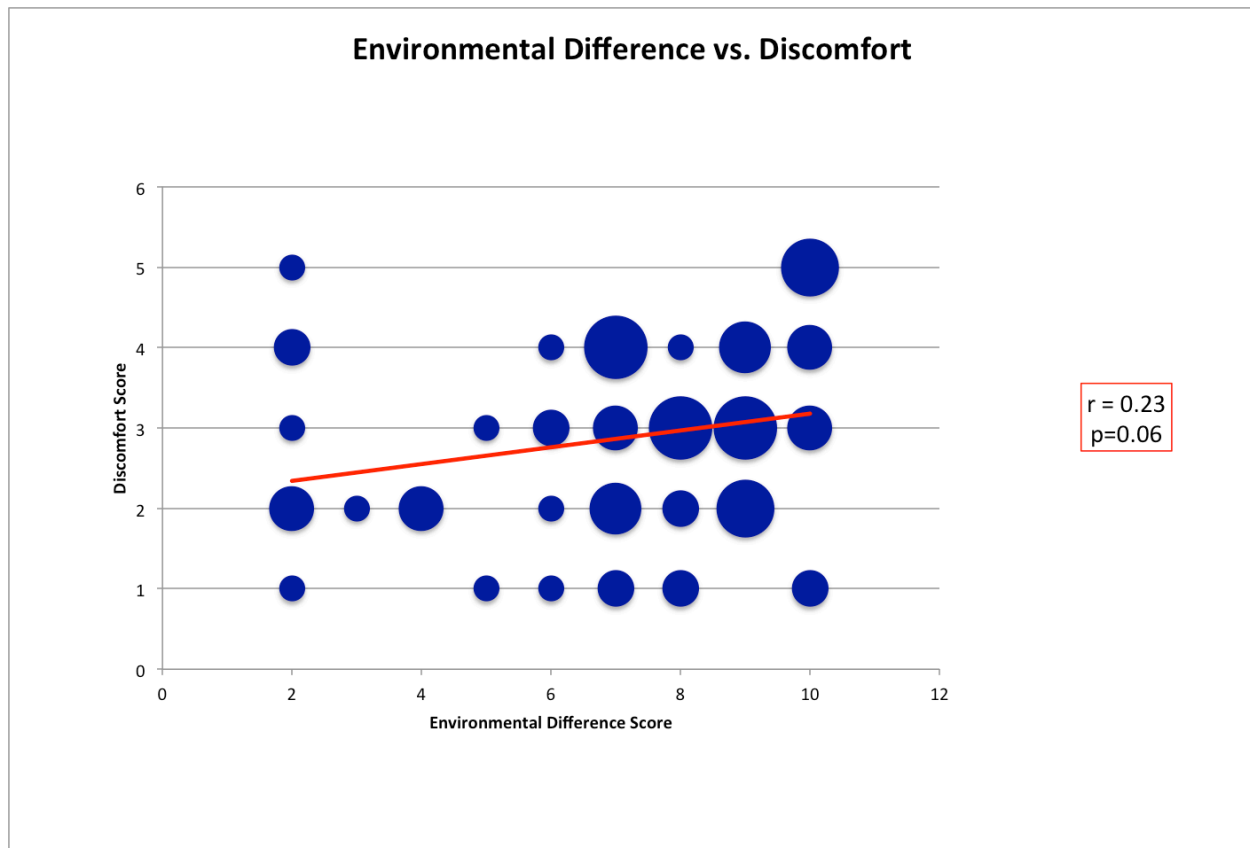
Figure 3

The x-axis shows the environmental difference score, and the y-axis shows the level of discomfort experienced by students, or their "discomfort score". A higher number (maximum of 5) indicates a higher level of discomfort felt by the students. A larger dot size indicates more responses with that combination of scores.

There is a slight positive correlation, with r equal to 0.23. This indicates a positive relationship between how familiar respondents are with their surrounding biophysical environment (landscape and climate) and how comfortable they feel at Lewis & Clark. A t-test revealed a significant difference of means between new students and returning students: new students answered with an average score of 3.3, and returning students answered with a mean

score of 2.7. The p-value was 0.02, meaning new students feel significantly less comfortable at Lewis & Clark than returning students remember feeling during their first year at the school.

Due to the significant difference of means in the responses to this question, I made individual graphs showing the above information, but broken down into that of returning students and that of new students. Figure 4 shows the responses from returning students:
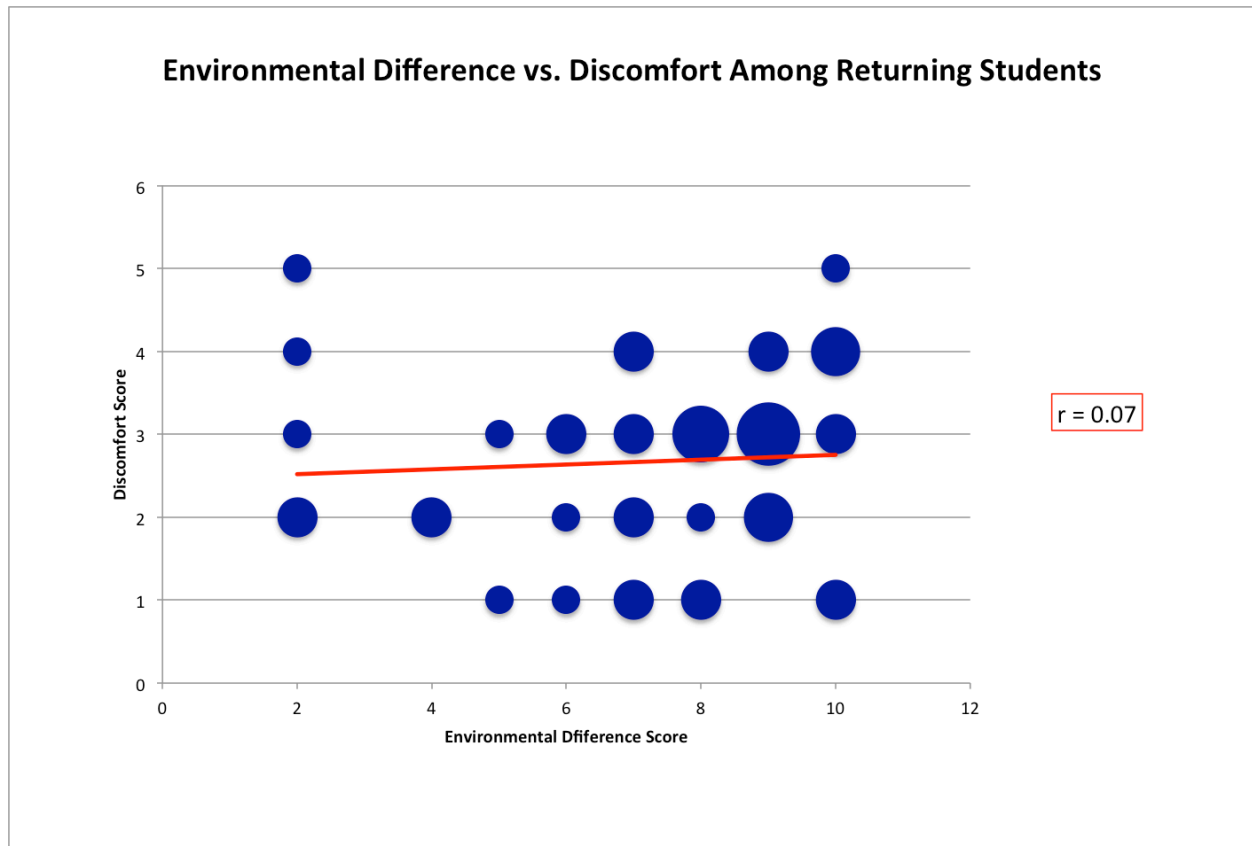
Figure 4

The x-axis shows returning students' environmental difference scores, and the y-axis shows their discomfort scores. A higher number (maximum of 5) indicates a higher level of discomfort felt by the students. Larger dot sizes indicate more responses with that combination of scores.

The correlation is weaker for returning students than it is for my respondents as a whole; no significant relationship exists between the physical environmental differences noted by returning students, and how comfortable they remember feeling during their first year at Lewis & Clark. r is 0.07.

Figure 5 shows the same information, except for new students instead of returning students:
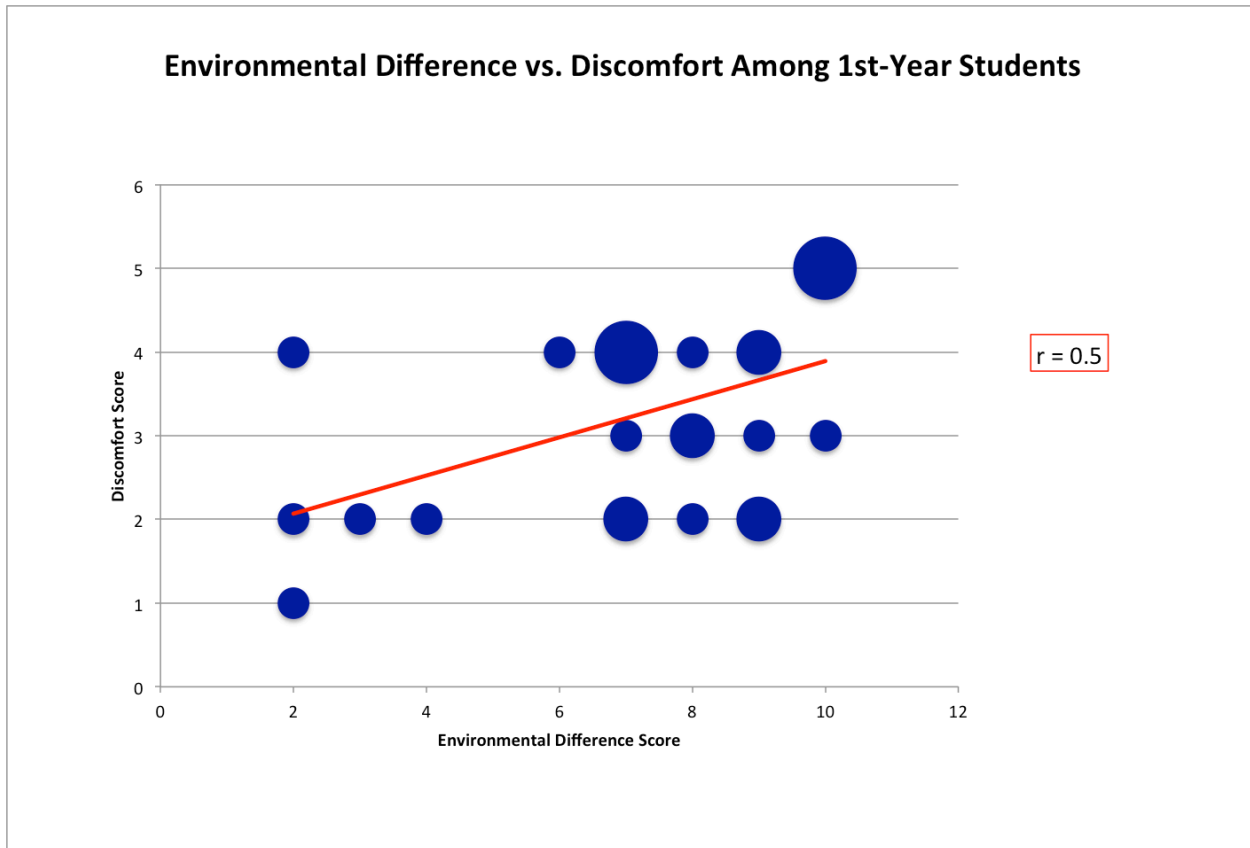
Figure 5

The x-axis shows new students' environmental difference score, and the y-axis shows their discomfort score. A higher number (maximum of 5) indicates a higher level of discomfort felt by the students. Larger dot sizes indicate more responses with that combination of scores.

Here, there is a clear positive correlation between the physical environmental difference noted and the level of discomfort felt; r equals 0.5. This indicates a substantial relationship between how comfortable new students feel and how similar the landscape and climate are in Portland to those of their home.

Figure 6 shows the frequency of words people used when asked to elaborate why they scored their comfort level as they did:

Figure 6

Students were asked to explain why they rated their level of comfort as they did. Frequency of word use is illustrated by size of word in the word cloud. Larger text indicates more mentions among my responses.

Beyond words like "feel," "felt," and "comfortable," the most common responses included the words "friends" (mentioned twenty-three times within seventy-three responses), and "people" (mentioned eighteen times). Words were rarely used evenly by all students; instead, patterns emerged aligning with how long the responding student had been at Lewis & Clark. Figures 7 and 8 illustrate the pattern of the above word use across my respondents, as broken up by how long they have been a Lewis & Clark student:

Figure 7

The graph was created using software (Voyant Tools) that searches for distribution of words throughout the text, which was sorted based on the class-year of my respondents, with new students first and fourth-year students last. Because I received more responses from first-year and senior students, their responses represent a greater proportion of this graph. The line then charts the frequency of the use of the word "friends" throughout all of my results, which the software divided into ten parts. First-year students' responses are found between 1 and 4 on the x-axis. Second-year students' are found between 4 and 5.5. Third-year students' are between 5.5 and 7.5, and fourth-year students are between 7.5 and 10.

New students mentioned the word "friends" four times throughout twenty-seven answers, and returning students mentioned it nineteen times among forty-nine answers. Assuming each mention can be attributed to its own response, mean mentions per group can be determined by dividing the number of mentions by the number of students in that group. "Friends" were mentioned by 14.8% of new students and 38.8% of returning students. A t-test revealed a p-value of 0.01; the word was used significantly more often by returning students. Students tended to imply that having friends resulted in higher levels of comfort; one returning student described how she felt "very uncomfortable until I made friends. Then everything got loads better."

Students also often mentioned the "people" as influencing their level of comfort. Similarly to "friends," the word "people" was used more frequently by returning students. 14.8% of new students mentioned "people" a total of four times. 28.6% of returning students mentioned it 14 times. The difference in frequency was insignificant, with a p-value of 0.06. One student, who said that she felt very comfortable during her first year, explained that she "liked the people

in my dorm, my classes were interesting, I felt like I was in a supportive learning environment," Another described that "It took me what felt like a long time to connect with new people and make new friends. However, I was almost immediately comfortable with the academic environment and living on my own in the dorms." For many of these students, people and friends were just two of many factors that they felt influenced their level of comfort during their first year at the school. Another word used more frequently by returning students was "community" (mentioned six times total, with all six mentions being made by returning students, and 12.2% of those students mentioning it). This higher usage among returning students was significant, with a p-value of 0.02. Feeling a part of the community was tied to stronger feelings of comfort; one student explained that she "felt comfortable with my classes and teachers, but I didn't feel integrated into the [Lewis & Clark] community or that I was participating in a traditional 'college experience.'"

Students were asked in a follow-up email if they had ever considered transferring from Lewis & Clark, and if so, why. About half of the students who responded indicated that they had considered transferring at some point. One student explained, "I have considered transferring from [Lewis & Clark]. I felt like I was not connecting very much to other students and that few opportunities were clear cut and accessible." Another said that "I feel that academically, I am not being challenged… yeah, I have homework, but it's not intellectually stimulating." A third expounded, "The tuition is something I look at frequently. I feel ashamed of being the biggest money sponge in my family and I've definitely considered moving schools." However, of all of the responses, only one was actually planning on going through with transferring from the school (citing lack academic challenge as her primary reason). For the rest, transferring was something that they had considered briefly, before forgetting it. One student described how,

> I considered transferring my first semester of college. The factor in that was not being able to find my place as quickly as I would have liked. But I realized that everyone else was also in the process of making new friends-close friends too. So it was only really a brief thought when I first started.

Almost everyone's answers focused on social and financial factors. Factors relating to the biophysical environment were never mentioned as reasons for considering transferring.

Students were asked in the same follow-up email explicitly whether they felt that physical environmental factors had affected their experience transitioning to Lewis & Clark. While most students answered "no," some claimed that it did. One student explained,

>Yes, I think the environment and climate affected my transition to college. They forced me to make more of a break from my old life because I had to think about new things, even if picking out rain boots is a relatively small act. I also feel like the seasons have helped me make a home here. I look forward to the turning leaves of the katsura trees in the fall and the blooming camellias in the spring.

Despite this student's response, however, the majority of students stated that physical environmental factors did not affect their transition to the college.

Looking at responses to the initial survey, there were some words that were used most frequently by new students to explain why they scored their level of discomfort as they did. The most-mentioned word that followed this pattern was "campus," which was mentioned fourteen times total:
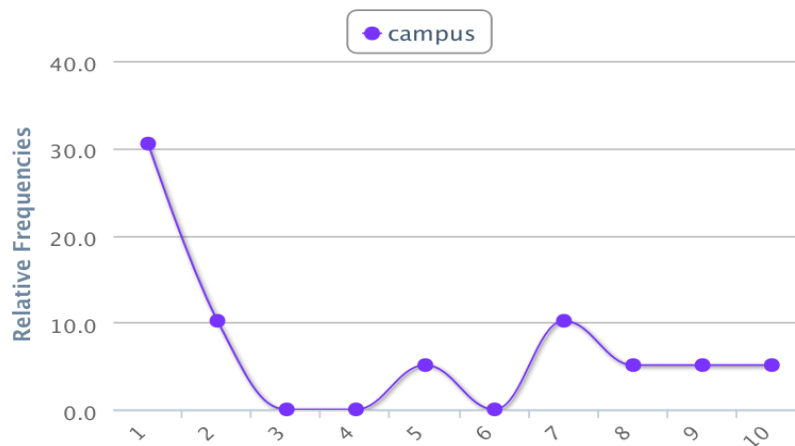
Figure 8

First-year students' responses are found between 1 and 4 on the x-axis. Second-year students' are found between 4 and 5.5. Third-year students' are between 5.5 and 7.5, and fourth-year students are between 7.5 and 10.

Figure 8 shows a sharp decrease in use of the word "campus" among returning students, indicating a higher use among new students. 29.6% of new students mentioned "campus" eight times, while 12.2% of returning students mentioned "campus" six times. This was not a significant difference, as the p-value was 0.19.

These results combined with the pattern of word use among students suggest a greater awareness of and focus on social factors among returning students, while new students describe their level of comfort as being more influenced by a variety of factors less frequently mentioned

by returning students, including social factors as well as some factors relating to physical environment (at tunes described by "campus").

The results were similar when looking at students' responses to the question "what factors do you think are important in regard to how one adjusts to starting at a new college/university?" The most frequently used words were again those indicating social importance: "people," "friends," "having" and "making" (often alongside "friends"), "community," and "students" were all among the most-mentioned. "People" was mentioned more than any other word, with thirty-four mentions consistently distributed across all years of students. In total, "people" was mentioned thirteen times among the twenty-seven new students (48.2% of the time), and twenty-one times among the forty-nine returning students (meaning 42.9% of returning students mentioned the term). The p-value was 0.43, indicating an insignificant difference between new and returning students. "Friends" was also popular, mentioned nine times by twenty-seven first-year students (33.3%), and twelve times by forty-nine returning students (24.5%). The relationship was again insignificant, with a p-value of 0.23. One student explained,

> The most important factor, I think, is whether a person 'finds their people.' You can adjust to a huge amount of change if someone you trust is beside you. Academic success, level of ties to high school friends and familial relationships, and attention to self-care are also important.

However, in opposition to students' descriptions of their own comfort at Lewis & Clark, in which returning students focused on the social aspects while new students focused on a smattering of factors, most terms here (both social and otherwise, including physical) were used more-or-less evenly among all students.

The focus of my survey was to understand the role of physical environment in these transitions; although it was not often mentioned and was only shown to be a significant factor towards new students' levels of comfort, it is important to understand how my respondents viewed their physical surroundings. Students were asked to describe the climate and landscapes of Portland, Oregon. There were certain characteristics more popularly used in these descriptions. These are illustrated in figures 9 and 10:

Portland Landscape Characteristics Mentioned by Respondents
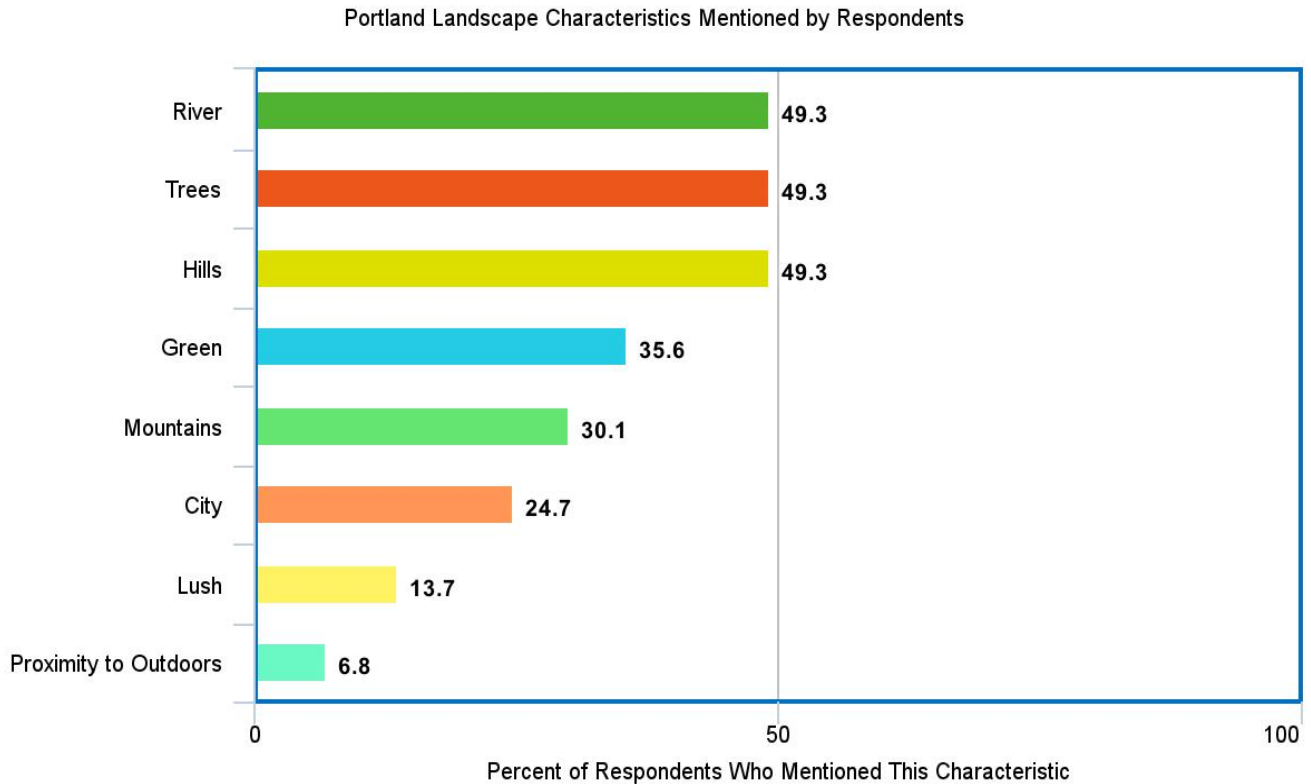
Figure 9

This bar graph shows what percentage of my respondents answered with certain terms when asked "Describe the characteristics that, to you, define the landscape of Portland, Oregon (e.g. it is hilly, it is by a river…)."

The three characteristics most often mentioned were the presence of the river, the trees, and the hills, all of which were mentioned by nearly half of the participants. After that, 35.6% of respondents mentioned the word "green," 30.1% mentioned either mentioned Mt. Hood or mountains in general, 24.7% mentioned characteristics pertaining to the city like skyscrapers, 13.7% used the word "lush," and 6.8 percent talked about the variety of landscapes surrounding Portland and the college's proximity to the outdoors. These responses were not mutually exclusive, meaning some respondents answered with more than one of these terms.

Portland Climate Characteristics Mentioned by Respondents
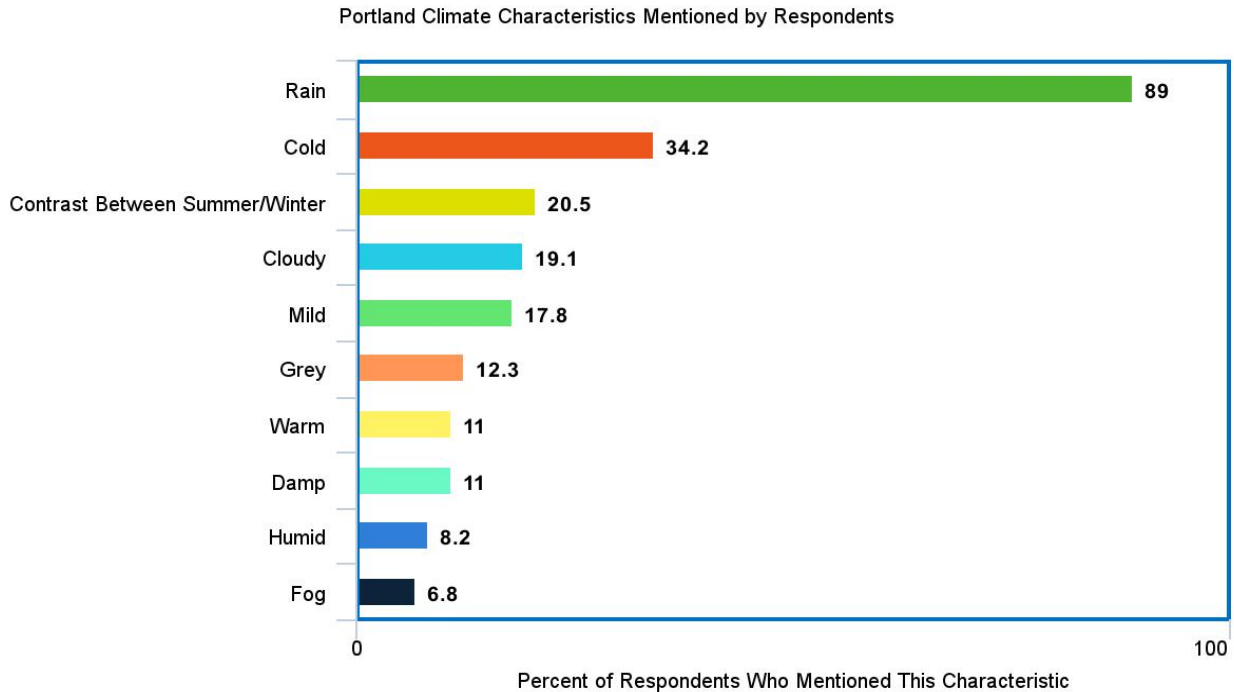
Figure 10

This bar graph shows what characteristics people mentioned when describing Portland's climate.

The vast majority (89%) of people mentioned rain. After rain, the next most mentioned characteristic was the cold at 34.2%, then the contrast between summer and winter at 20.5% of respondents. Following were mentions of the area being cloudy (19.1%), mild (17.8%), grey (12.3%), warm (11%), damp (11%), humid (8.2%), and having fog (6.8%). These results were also non-mutually exclusive.

Students also answered similar questions about the climates and landscapes of their home locations. When asked in the follow-up email whether they actively think about their surroundings when they're home, many responded affirmatively. One student described how,

> Now that I've had Portland to compare my home to, I notice and appreciate Tucson's environment much more. It is so sunny and when I go home it feels like heaven. I've come to appreciate the desert quite a bit and I always make a point of enjoying the arid mountains and cactus-dotted landscapes when I visit home.

Another explained,

> I think I am always aware of physical environment because I really enjoy being outside and get easily distracted. I grew up drawn to trees and plants and spent hours and hours of my youth playing with and exploring the natural landscape around me. I notice physical

environment now because I have lived in a variety of places and compare and contrast these landscapes as I travel.

People often related having experienced a "different" biophysical environment with increased awareness of their home's physical environments.

Students also described the similarities and differences that they saw between Portland and their home. Figure 11 highlights the words mentioned when describing similarities:

Figure 11

Students were asked to describe the similarities they saw between Portland and their home. Frequency of word use is illustrated by size of word in the word cloud. Larger text indicates more mentions among my responses.

The most common terms used to describe the similarities between the places had little to do with the physical environment. Words like "people," "liberal," "cities," and "community" were most common. However, hand-coding the responses found that 32.9% of students did mention some aspect specifically relating to the physical environment (types of vegetation, size of city, etc.). Results to the question about differences between the places were similar:

Figure 12

Students were asked to describe the differences they saw between Portland and their home. Frequency of word use is illustrated by size of word in the word cloud. Larger text indicates more mentions among my responses.

With differences, too, people focused on concepts like "people, "social," and "diversity." 28.8% of people commented on some aspect relating to diversity within the two areas, and 30.1% commented on some aspect relating to tolerance of different beliefs and difference in political leanings within the areas. When comparing her home to Lewis & Clark, one student describe how her

> Home is not concerned with social justice or liberal issues. I honestly didn't meet an atheist or agnostic person until I got to [Lewis & Clark] and I think the rest of the cultural differences come with that--drugs, drinking, being open about sexuality. The clothes that are cool here are completely different from home...I would never wear [a certain brand of shoes] at home.

Another focused on the racial demographics of their home and Portland, saying there is "[much] less diversity in Portland... I never felt like a person of any kind of color until coming to [Lewis & Clark] and being surrounded by so few people of color." Others mentioned physical environmental factors, at a similar rate as those who mentioned physical environmental factors as similarities, with 34.2% of people commenting on some physical environmental aspect. One student focused on the weather, describing how "Boston's weather is all over the place: too cold,

then too hot, crazy storm patterns, etc. Here the weather is pretty predictable. I also really like rain." Another described the physical landscape of the two places, saying that "There are no mountains that are close, and it doesn't snow at all" in Portland.

Overall, the biophysical environments of students' homes and Portland were rated as somewhat different from each other. Students scored a mean "environmental difference" score of 7.2 out of 10, meaning the average student saw the physical environments of their home and of Lewis & Clark as more different than similar. New students scored an average of 7.2, and returning students an average of 7.3. The p-value was 0.48; there was no significant difference between the responses from new versus returning students. Broken down, they rated their difference of physical climates an average of 3.8 out of 5, and their difference of physical landscapes an average of 3.5 out of 5. New students rated their climate difference a mean of 3.7, and returning students a mean of 3.8, with a p-value of 0.4. New students and returning students both rated their landscape difference an average of 3.5, with a p-value of 0.48 for the two groups. Neither of these individual differences was significant. All of this means that people generally noticed a greater difference in the physical climates than in the physical landscapes of their home and Lewis & Clark, that respondents generally rated both the physical landscapes and climates of their home as more different than similar to those of Portland, and that returning students and new students alike answered similarly.

Although only about a third of respondents acknowledged physical environment as either a similarity or difference between Portland and their home, their responses to the follow-up questions indicated that many were drawn to Portland at least in part due to its physical environment. These physical environmental factors were often mentioned alongside other characteristics of the school. One student described how she was "drawn to [Lewis & Clark] because the campus was beautiful, there is a strong study abroad program, and it seemed like a well rounded, West Coast liberal arts school." Another explained that she "chose to come to [Lewis & Clark] because I wanted a liberal arts school in Oregon (the perfect distance from my home in the Bay Area), with access to both a city and outdoor recreation space." A third responded that she came and stayed with a sports team as a prospective student, and "decided to come here because I loved the vibes on the team," before continuing that "The campus and its location to downtown Portland also influenced" her decision. Others mentioned other draws

completely, including small class size, financial aid, and as one student described, "it just felt like the right place for me to be."

Physical environmental factors were shown to be important in other types of transitions in these students' lives. Respondents, asked about influence of the physical environment when traveling, frequently claimed that biophysical environment impacted their experiences. One student originally from Arizona described how she "went to the Atacama desert in Chile after having spent time in the country's urban centers and it felt like a relief, like home. The dry air and the spindly plants were familiar to me." Another described how "When I was in Venice, the humidity and perpetual heat really got to me. I felt hot and sticky all the time and it really took away from my experience." A third from San Francisco mentioned her trip to New Zealand, saying,

> When I arrived in Christchurch… I was put off by how flat it is… I'm used to having little pockets of communities split up by hills like in San Francisco, and when that topographical variation was taken away I felt exposed and uneasy. When visiting Wellington, an extremely hilly city, I felt much more at ease.

At times, these anecdotes were based in feelings of familiarity; other times, they reflected on the physical effects of certain environments like altitude sickness and excessive sweating. Overall, respondents indicated that they felt more impacted by physical environmental factors during short visits to new places than during their transitions to Lewis & Clark.

DEMOGRAPHICS OF RESPONDENTS

Before interpreting the above results, it is important to have a sense of who exactly was providing this information. My respondents were generally representative of the greater Lewis & Clark student body, though there were some notable differences. The respondents spanned twenty-two majors (as well as some being undecided on their major), out of a total of twenty-nine majors offered by the college. 69.9% were female, 26% were male, and 4.1% identified as another gender; while Lewis & Clark's student body as a whole is 61% female and 39% male. 72.6% were single majors and 27.4% were double majors, and 35.6% had at least one minor; Lewis & Clark advertises that generally 10% of students at the school are double majors, and 26% have a single major and a minor. 65.8% of my respondents were White, 17.8% were mixed race, 6.8% were Latino/Hispanic, 5.5% were Asian, and the remaining 4.1% was evenly divided

between students who were Black, Jewish, and Middle Eastern; Lewis & Clark advertises that 62.6% of undergraduate students are White, 9.6% are Hispanic, 5.3% are of an unknown race, 5.2% are Asian, 3.7% are of two or more races, 2.2% are Black, and 0.6% are Native American. The school does not provide information about other racial identities. Additionally, 37% of respondents were first-year students, 30.1% were seniors, 17.8% were sophomores, and 15.1% were juniors; each class is about equally represented in the greater student body. Finally, 93.2% were non-transfer students, and 6.8% transferred to Lewis & Clark; 6.4% of this year's entering class was made up of transfer students. More information about the demographics of my respondents and of the Lewis & Clark student body can be found in Appendix G of this paper.

Many discrepancies between the demographics of my respondents and those of the general Lewis & Clark student body can be explained by differences in how information was gathered. For example, while I asked students to fill in a blank box to describe their racial/ethnic identity, Lewis & Clark may use a system that requires students to select a race or ethnicity from a list. I also gave students the opportunity to define their own gender, while the school might require them to choose from finite options. Additionally, I had a substantially higher percentage of double majors and minors than the greater student body; this could be due to personality: maybe students who take on a greater workload are more likely to voluntarily take a survey. Additionally, while I advertised the survey to all Lewis & Clark students who are active on their class' Facebook pages, I put more effort into advertising it to first-year and fourth-year students. The survey was distributed to all students currently in ENVS 160, the introductory environmental studies course. These students are almost all in their first-year at the school. I also advertised it on my personal Facebook page, and because I am a fourth-year student, the majority of my contacts who saw it are also fourth-year students. This explains the somewhat unrepresentative breakdown of the classes of my respondents, as I received more completed surveys from first- and fourth-year students than from the other two classes. Finally, it is important to note that most students denied that the recent racist incidents affected their answers to the survey, and also indicated that they believed they would have answered similarly regardless of where they took the survey. For this reason, I do not address those questions in my analysis.

Finally, figure 13 shows the geographical distribution of the home locations of my respondents. A detailed map of locations within the US as well as a larger version of this figure can be found in Appendix E of this paper.
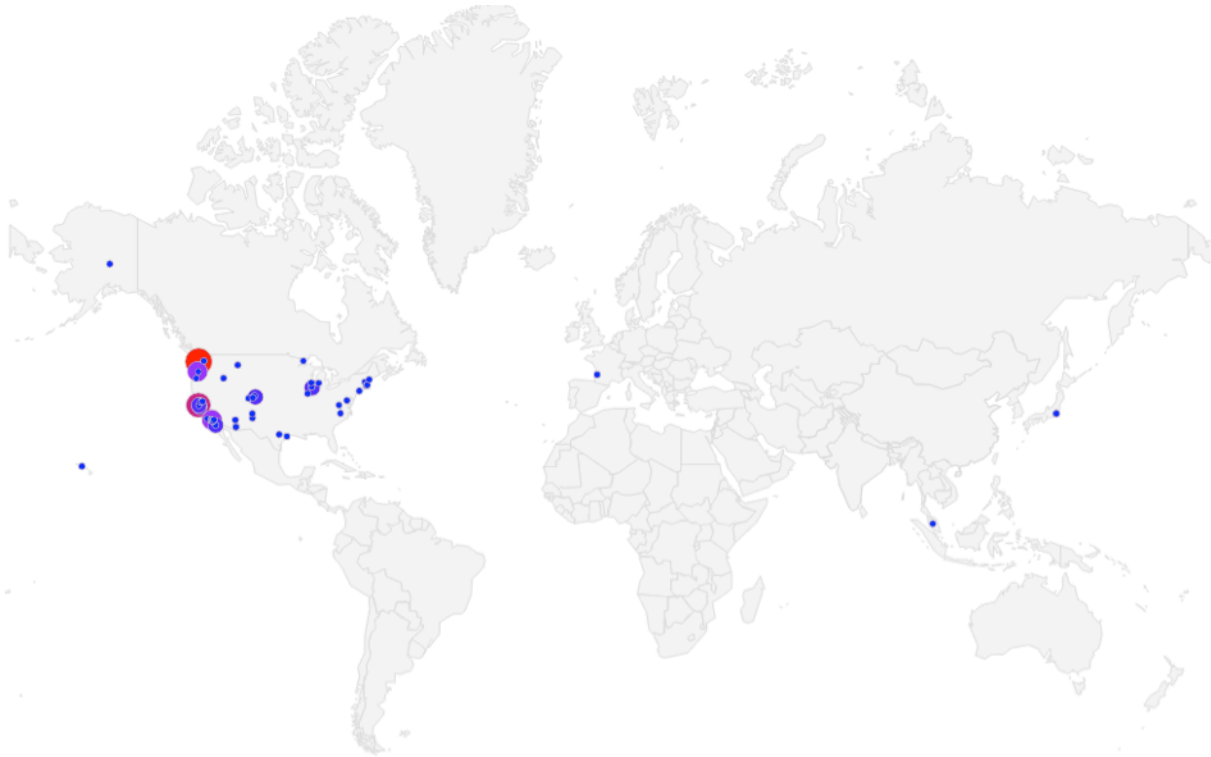
Figure 13

The placement of dots on the map illustrate the home locations of the respondents. Larger dot sizes indicate more respondents from those areas.

This information all serves to frame the results and the discussion that follows.

THE TRANSITION TO LEWIS & CLARK

Many factors previously found to influence how people experience transitions were not significant in my study. Perhaps surprisingly, I found that transfer students, who had experienced likely similar transitions earlier in their lives, scored significantly higher difficulty of transition scores than their first-time-student counterparts. This contradicts Wheaton's (1990) and Churchman and Mitrani's (1997) findings that transitions are generally easier for people who had

experienced similar transitions earlier in their lives. Scores also did not seem to be greatly influenced by race (as suggested by Hurtado and Carter (1997)); all racial groups scored an average of between 8.4 and 9, with the exception of the one black student who took the survey, who scored a 10 (though white students did score the lowest average, of 8.4). Similarly, difficulty of transition scores were not significantly dependent on gender (as suggested by Wapner (2000) and Moyle and Parkes (1999)); all genders scored an average of between 8.53 and 9.33, with women scoring the lowest and gender nonconforming students scoring the highest.

Overall, students' experiences transitioning to Lewis & Clark had little correlation with the differences in biophysical environment between their home and Portland. Difficulty of transition scores, as well as anxiety scores and cultural adjustment scores, had no significant correlation with environmental difference scores. Students occasionally mentioned physical environmental factors as affecting these individual scores; however, the majority of their descriptions focused on factors including (but not limited to) personality, academics, racial and economic demographics and political leanings of peers, and experiences with social interactions.

A notable difference occurs when looking at the comparison of environmental difference scores and students' responses to their level of comfort felt during their first year at Lewis & Clark. The r value tells us that 5.1% of students' increased levels of discomfort can be explained by differences in the biophysical environment. While this is not a large percentage of results, it is larger than the ~1% of differences explained by the biophysical environment when looking at the other questions about anxiety and culture-adjustment.

Additionally, unlike each of the other questions, there was a significant difference of means between new students and returning students. New students reported feeling more uncomfortable than returning students remembered feeling during their first year at the college. The most likely explanation for this difference of means is the role memory played in students' responses. Psychologists talk about "hindsight bias," in which "people's recalled judgments are typically closer to the outcome of the event than their original judgments were" (Hoffrage et al 2000, 566). In this context, that means that returning students may remember feeling a level of discomfort more similar to what they felt at the time of the survey than how they actually felt as new students, whereas currently new students may report a more accurate level of discomfort felt during their first year because they are currently experiencing it. However, because both new and

returning students' current indications of whether they plan on remaining in Portland after graduating from college reflect their difficulty of transition scores, these scores remain useful in measuring overall student comfort at the school.

It should be noted that an important population of students not surveyed were those who had attended Lewis & Clark in the past, and then transferred. This could explain why new students reported feeling more uncomfortable than returning students: many of those students who felt most uncomfortable have transferred and are no longer represented among older students (though second- and third-year students still may transfer in the future), while the population of new students includes both those who feel comfortable as well as those who may still transfer in the future. Because I did not survey students who have already transferred, I do not have their insight as to what led to them leaving the school. The follow-up email intended, in part, to understand what factors may lead to someone wanting to transfer. Most respondents who had thought of transferring at some point had done so mainly due to high tuition, too-challenging or too-easy academics, and/or social problems. None explicitly mentioned factors relating to the physical environment. I also asked students explicitly whether they felt physical environmental factors influenced how they transitioned to the school, and most claimed that they had no effect. Those that did tended to focus on what they saw as positive effects of the changes in their physical environments.

The biophysical environment did appear to be important to some people; the relationship between new students' levels of discomfort and their differences in physical environment was strong. 24.9% of new students' increased levels of discomfort can be explained by differences in those environments. While this indicates that 75.1% of their discomfort was caused by other factors, it is significant that nearly a quarter of their discomfort can be attributed to physical environmental factors. This is especially meaningful when compared with their descriptions, analyzed below. Few patterns were found among what words new students used to describe their transitions, meaning that the other 75.1% of their discomfort was caused by many things. To have nearly a quarter of their discomfort explained by differences in the physical environment thus implies that physical environment is an important factor. That said, it is important to note my small sample size here: this correlation exists among the 27 new students that took my survey. Thus, it is imperative that similar studies be repeated among larger sample sizes in order to see if the same trend is consistently present.

Because of the notable differences between new and returning students in response to this specific question, I am focusing the rest of my analysis on what each group claimed is important to the level of comfort they experienced, and the role that the physical environment plays in this experience. The results can be interpreted to suggest that returning students remember a few, social aspects (such as friends and community) as being the most prominent shaping factor toward their experience transitioning to Lewis & Clark. Alternatively, currently new students cite a wide variety of factors that influence their level of comfort; their results were diverse enough that there were not specific patterns to what words they did use; some of the factors mentioned could be categorized as "social landscape" and others as "physical landscape." The one word that was clearly used more by new students than returning students was "campus," although there was not a significant difference in its frequency of use. This may be explained by the fact that all first year students are required to live on campus, while returning students (specifically third- and fourth-year students) are allowed to live off campus. Their current living situations may mean that they currently feel less impacted by the campus itself, since they spend less time there than new students. This then could shape how they remember feeling during their first year. That said, it was used more by new students, which is a pattern worth noting.

Beyond students' mentions of the importance of social, financial, and academic factors, and the correlation found between biophysical environmental difference and level of discomfort, there was a correlation between the amount of time students spent in extra-curricular activities and how difficult their transition was (more time in activities correlated with easier transition scores). This supports Taylor et al.'s (1985) findings that greater community involvement can be found alongside greater place attachment; presumably, students who are more involved in activities outside of the classroom also feel more connected to the school. This is also supported by my findings that students who had been at the school longer also generally spent a larger percentage of their time each week in extra-curricular activities than their younger counterparts. Also, the fact that students' cultural adjustment scores were significantly correlated with their discomfort scores implies that culture shock plays a large role in how students feel during their transitions to college.

There did seem to be a disconnect between how new students saw their own college transitions and how they envision other new students generally transitioning to college. While returning students remembered a few important factors as influencing their own transitions and

suggested that similar factors affect most students, new students reported many factors as impacting their transitions, but imagined that only a few factors (often the same as those factors mentioned by returning students) affect most people. This contrast is interesting, especially in conjunction with the many conversations happening today surrounding "safe spaces" (Martin et al. 2016), and how (and whether) to make students feel as comfortable as possible on a college campus. This discrepancy between new and returning students and what each actually experiences, as well as what each thinks is important, should be further studied in order to best understand the factors that actually affect students' levels of comfort at a school.

The pattern that carried throughout the two questions was a generally stronger presence of physical environment throughout currently new students' survey responses. Although this was not a significant difference when looking at word use within students' short answers, it is prevalent in the trend seen in the correlation of their environmental difference scores and discomfort scores. Additionally, it provides an important context through which to look at the significant difference in student reports of comfort. Because of this, students' answers may be better understood by completing a further analysis of students' interpretations of their physical environments.

All students seemed to come to a consensus on what constitutes Portland's landscape. An equal number of students mentioned "river," "trees/forests," and/or "hills" in their descriptions of the landscape. While both the mentions of "river" and "hills" may have been sparked in part by the phrasing of my question (I gave both as examples in order to clarify what I meant by landscape), it does not negate the fact that they are characteristics that students independently listed as important to them in terms of defining the landscape. There was also a large consensus as to what were the most important characteristics of the climate. Nearly all (89%) of my respondents mentioned "rain," with all of the other descriptors being mentioned far less frequently.

Understanding how students see Portland's physical environment is an important first step to understanding their awareness of it. I also measured this by asking students to describe any similarities and differences they saw between Portland and the place they considered to be their home. While the most used words that were socially related ("people," "liberal," "community"), about a third of students did mention some aspect relating to physical environment (like type of vegetation or weather). The results were similar when describing

differences. This highlights the conclusion made above regarding how students interpret their own experience and their surroundings as they transition to Lewis & Clark. Overall, while biophysical environment is not a frequently mentioned component, it is also not infrequently mentioned. Students are somewhat consciously aware of changes in their physical surroundings, as evidenced by their average environmental difference ratings that indicate greater differences than similarities between their home physical environments and school physical environments. However, these differences have little impact on how students experience their transition to college. Instead, students seem to be more greatly impacted by social, financial, and academic factors.

The takeaway is this: many things influence students during their transitions to college, and physical environment is one factor that, although it is often ignored, does have an impact on some people. The second takeaway is that memory changes things: new students report being affected by different things than returning students remember influencing them. For this reason, it is important to actively include currently new students in discussions surrounding place and comfort on campus. This is especially relevant regarding discussions surrounding student retention, as they are the ones with the most insight as to what actually affects their transitions.

WHAT THIS MEANS FOR LEWIS & CLARK

Lewis & Clark puts a lot of effort into analyzing student retention and better understanding the factors that affect it. Their website is full of charts diagramming student retention among all sorts of demographics: race, gender, even athletic status. These cover the aspects relating to social landscape often mentioned by returning students, but ignores those relating to physical landscape. While the school has some relevant information (such as home states and countries of students), it is not publicly used in analyses of student retention.

So many factors contribute to how students experience their first year at a college that it is understandable that they are not all looked at or acknowledged by the school. However, Lewis & Clark puts such an emphasis on place and the biophysical environment that it is surprising that it is not more of a focus in their analyses of student retention. They advertise their beautiful campus and "green rankings" on the homepage of their website, as well as actively advertising the widespread nature of their students' origins in their magazines and admissions flyers. Many

of the students that I surveyed claimed that the physical attributes of the campus and the school's location relative to a variety of outdoor recreation hotspots were part of what drew them to the school. Despite this, few studies seem to have been done at Lewis & Clark about the role the campus itself plays in students' experiences at the school. Perhaps this is because it is inherently a difficult problem to address. While the school has various opportunities that encourage place attachment (such as the Center for Community Engagement and the College Outdoors program), there is only so much the college can do to further improve this connection to the physical environment among their students. Additionally, while my study suggests that it is important to further study students' relationships with the local physical environment, as it appears to considerably affect some students' levels of comfort, it is also important to consider all implications of building place-attachment to this specific place. Because many students who took my survey complained about lack of racial, political, and economic diversity on the campus, this must be considered when discussing how to build sense of place among students. Regardless, improving sense of place among new students is important, especially if the school's main goal is student retention: in 2012, 85.2% of students continued at Lewis & Clark after their first year, and 73.4% stayed for four years. The bulk of transferring occurs after the first year; a trend seen at schools beyond Lewis & Clark (Pinkerton 2016).

WHAT THIS MEANS FOR COLLEGES

Overall, it is important that students' experiences transitioning to college be viewed in their entirety, instead of simply focusing on the most-openly-talked-about aspects. This study showed that there is a wide variety of factors that students feel affect their transition, many of which are ignored by Lewis & Clark, at least so far as their public data on student retention shows. Chow and Healey (2008) paraphrase Fisher, Murray and Frazer (1985), saying,

> Academic and public discourse traditionally regard the transition to university as a positive experience, involving new opportunities and perhaps most notably the chance for personal and self-development. Nevertheless, the transition involves change for all students and for most it is frequently greeted with mixed emotions, especially where geographical relocation is involved. For students who leave home to take up residence at university the transition is additionally complicated by a more profound break; distancing themselves from existing social support networks produced by families and close friends.

Clearly, the social component of transitioning is important (Enyati (2012), for example, describes the importance of people feeling as if they belong socially for their mental and physical health). However, it is important that schools such as Lewis & Clark focus not only on making transitions a positive experience via attention to factors affecting social landscape, but also on supporting those who are having a difficult time due to factors relating to physical landscape. Specific focuses on supporting students coming from distant and/or very different physical environments may be especially beneficial. Although there is no easy way to do this, improving access to and awareness of programs and clubs like Lewis & Clark's College Outdoors program, encouraging and supporting professors in taking their students on field trips, and otherwise providing students with greater means to get themselves out and about in the area could all be places to start.

However, this is based on a college's goal to increase student retention as much as possible, and is assuming that this is best done by easing students' transitions. It is important to note that difficult transitions can at times be beneficial to students (Kuh et al. 2005), and that it may be in the school's best interest to allow students to struggle (at least in some ways), in order to aid them in growing as students and as citizens. That said, many would argue that it is extremely beneficial to aid colleges in retention in order to increase the number of students who have graduated college. Thurber and Walton (2012, 418) explain how "[p]ostsecondary education is now perceived as a prerequisite to being successful in an increasingly competitive workplace," and despite the arguments described earlier in this paper surrounding the relevance of a liberal arts education, there is a consensus that obtaining a college degree in general is an important and often necessary step in today's job market.

Understanding how students experience sense of place is useful beyond understanding how to better student retention. While this specific research is especially applicable to understanding students' senses of place on small, liberal arts campuses, a better understanding about the role physical environment plays in students' comfort is especially imperative for creating the "safe spaces" deemed essential today on college campuses across the U.S. In the midst of collegiate protests and debates surrounding ways to handle incidents like racist attacks and sexual assaults on college campuses, there's a general consensus of the importance of developing safe spaces for students on campus. However, the details about what constitutes a safe space are contested, as many different people have many different ideas about how best to

protect (and whether protection is even the best action to help) students (Martin et al 2016). My research suggests that physical environmental factors should be considered when adjusting for student comfort on a campus; it also highlights the fact that students are affected by many, many different things, and each student must be seen as an individual whose sense of place and level of comfort at school develop uniquely from those of anyone else.

WHAT ABOUT OTHER TRANSITIONS?

This research is applicable to many more situations, beyond simply being relevant in order to understand how students experience sense of place in college. It is relevant to any person who is experiencing a change in place. This ranges from those whose home environments are changing due to climate change (Cunsolo Willox et al. 2012), to those being forced to move due to conflict or violence or financial situations, to those who temporarily find themselves in a new place while studying abroad or traveling. The results from this survey add another dimension to the many studies that already exist about factors influencing how people transition during relocations. While many of those studies found that people's experiences transitioning were most influenced by internal factors (such as the gender, age, mental health state, or previous experiences of the individual experiencing the transition), my study focused on the external factors (physical and social landscapes) that impacted these transitions. Beyond my findings surrounding external factors, I also found that many internal factors found to be significant in previous studies were not significant in the results to this study.

That said, the external factors that I focused on undoubtedly act alongside the internal factors found to be important in other studies. Although previous experience, race, and gender were not independently correlated with the difficulty of my respondents' transitions, it is still possible that they played some role in how each student experienced their individual transition, especially when looked at intersectionally. A better understanding of both internal and external factors is necessary to understand why transitions transpire differently for different people. Additionally, while I found social factors to be the most important in terms of influencing individuals' transitions, it is still important to acknowledge the role that physical environment had for certain aspects of certain people's transitions. This is an important step in increasing

awareness of those whose environments are changing, and in learning to deal with change in our own lives.

Finally, it is important to remember that sense of place can relate to both the positive and negative components of a place. It should be acknowledged that people moving from one place to another likely already have at least some degree of sense of place in their home location, and that these senses of place may not be entirely positive. A refugee fleeing a war-torn country, for example, might have a sense of place surrounding their home country that is colored by the violence, poverty, or any number of other awful things they experienced before leaving. In any transition, a person's sense of place to their new location must develop alongside any previous connections to place that they have. These older senses of place must not be ignored, as they likely have influenced and will continue to influence those people who experience them. Additionally, attempts to aid new residents in the development of sense of place should not blindly try to recreate feelings of "home" for all people, as for some people this may evoke negative feelings tied to their home location.

SO, DO SURROUNDINGS MATTER?

This study also provided essential insight on the importance of people's surroundings. My findings surrounding students' experiences suggest larger patterns relating to general environmental awareness and importance. Although the biophysical environment was found to minimally impact students' transitions to college, the correlation between new students' discomfort scores and environmental difference scores suggests that it does impact certain aspects of some students' transitions. Students seemed to experience this subconsciously; although students generally shared an awareness as to what attributes made up Portland's physical environment, they also generally agreed that their individual transitions to college were not impacted by those attributes. While this does not necessarily mean that most students were not affected by their surroundings (students may still be affected by Seasonal Affective Disorder (Low and Feissner 2010), or by any number of other factors not brought up by the survey, for example), it does suggest that people's surroundings are not the most important factor in this situation. However, this does not mean that a person's physical surroundings are completely irrelevant. Beyond being significantly correlated with new students' reports of discomfort,

students also frequently described being affected by landscape and climate while traveling. Additionally, studies such as Churchman and Mitrani (1997) and Mayer and Franz (2004) suggest that the physical environment can impact people's mental well-beings during similar types of transitions. Finally, familiarity with the physical environment may explain why there was no relationship between level of discomfort reported by returning students and the scale of differences between their home and school's physical environments, but there was a relationship among new students. Perhaps returning students have gained a familiarity with the landscape and climate in Portland that has not yet been experienced by most new students. Because returning students' interpretations of their physical surroundings change with time, being in a "new" environment (which is no longer "new" to them) likely plays less of a role in the discomfort they remember feeling. Again, it is important not to ascribe too much significance to people's surroundings (see my discussion on environmental determinism earlier in this paper), but surroundings do seem to matter to some extent.

Relatedly, it becomes necessary to better understand why some people seemed to be more affected by environmental factors during their transition than others. Perhaps people's previous experiences interacting with their environments vary, which in turn impacts how important of a factor familiarity with environment is during their transitions to college. Further study would be beneficial to look at the importance of the physical environment during transitions over time: people are spending increasing amounts of time indoors (Evans and McCoy (1998) explain that people spend 90% of their time inside), watching television (which Meyrowitz (1985) believes leads to a stronger global sense of place, but which one may also argue could decrease connectedness to local environment), and on the computer and other electronic devices. In turn, how attached the average person feels to their biophysical surroundings may change, which could in turn affect how important of a factor physical environment is in people's experiences relocating and otherwise transitioning to a new place.

It is also important to think about the implications of one not having this attachment to their surrounding physical environment. Beyond the potential positive psychological, health, and community engagement benefits that have been found to be correlated with strong environmental connections, Mayer and Frantz (2004) suggest that a stronger feeling of connection to environment leads to people participating in more environmentally-friendly activities. At the same time, Ray's (2013, 26) descriptions of the negative effects of place-attachment ("isolation,

NIMBY-ism, environmental determinism, essentialism, and xenophobia") must be considered. If my results suggest that many people do not feel a strong tie to their surroundings, or at the very least are not greatly affected by changes within them, a conversation is merited surrounding whether or not effort should be invested in instilling a stronger connection to the physical environment among these students.

TO BE STUDIED FURTHER

As other studies have suggested a general importance of the physical location of a college in terms of how a new student transitions, this relationship definitely merits further study. Many have found correlations between distance traveled to college and the amount of homesickness experienced (Fisher et al. 1985, Tognoli 2003). Although I did not find this (see Appendix F), I did find a negative correlation between the distance between a student's home and Lewis & Clark, and how long they had been at the school. This means that students who had been at the school longer generally also had a smaller distance between their home and the school. This could mean that students who come from farther away are less likely to stay at the college as long as students who come from geographically closer places; students who transferred were not included in my study and thus this pattern is merely suggested by my data. Also important to note are my findings that there was no significant difference in the biophysical environmental differences noted between new students and returning students; this implies that although distance from home may play a role in whether or not students transfer, and although farther distances from home are correlated with greater biophysical environmental differences, these environmental differences themselves do not seem to be the reason for these students transferring.

Also meriting further study is the role of homesickness (something I did not explicitly ask about) in how students experience their transitions; a study surrounding homesickness at Lewis & Clark would further enhance the information in this paper. It would also be beneficial to complete further studies on the role of the biophysical environment in student transitions to college, both at Lewis & Clark and in broader communities. At Lewis & Clark, this could be done by surveying a wider array of students, and perhaps by focusing studies on students who actively participate in and engage with the physical environment (such as students involved with

College Outdoors or the Outdoor Pursuits living-learning community). Further studies could also focus more explicitly on currently new students, in order to look for patterns specifically among students currently going through the experience instead of those remembering an experience from up to three years ago, and could focus on other types of colleges besides small liberal arts colleges such as Lewis & Clark. Finally, studies should be completed surrounding the merits of creating a strong sense of place among students in a college. Many studies focus on the positive aspects of strong place attachment, but fewer acknowledge the negative components that might come with it.

FINAL NOTE

I conclude that each student has a unique experience transitioning to college, and generally are most impacted by social factors. While it's important to instill a sense of place among students in order to increase retention and to improve students' feelings of belonging, there is no magical component of sense of place that schools can focus on fostering that would lead to all students feeling a stronger attachment to the college, and some would suggest that place-attachment is not something colleges should aspire to instill in their students at all. When analyzing students' senses of place at the college, the school must look at both the social and physical environments and cater their efforts to each individual student's needs.

Above all else, this research is imperative to better understand my own community. Conducting this research gave me insight into the minds and experiences of my fellow students. My respondents talked openly and honestly about their experiences transitioning to this school; something that many admitted they would not have done without the mask of anonymity. While the information found in this study is undoubtedly useful to administrators, it is equally if not more useful to the greater student body. Sharing students' experiences transitioning is beneficial in terms of showing new students that they are not alone in how they feel, and in increasing students' senses of belonging, which Enyati (2016) argues can have important psychic benefits. Studies such as this are an important step in building community on any campus, and can be utilized in any type of place.

APPENDIX A: Survey Distributed to Students

First, I want to learn a little about who you are!
- What year are you? *
  - First-year
  - Sophomore
  - Junior
  - Senior
- What is your major? *
  - If you have more than one major, please list all. If undecided, put "undecided" below.
- Please list any minors you have.
  - If you do not have any minors, leave this question blank.
- How old are you? *
- What is your gender? *
  - Female
  - Male
  - Other:_____
- What is your race or ethnicity? *
- What is your first language?
  - If you have more than one, please list all.

Now, tell me about your college experience.
- Are you involved in non-academic extra-curriculars (sports, clubs, etc.)? *
  - Yes
  - No
- If so, how many hours a week do you dedicate to your non-academic extra-curriculars?
- If so, which non-academic extra-curriculars?
- Are you involved in academic extra-curriculars (symposium co-chair, academic internships, etc.)? *
  - Yes
  - No
- If so, how many hours a week do you dedicate to your academic extra-curriculars?
- If so, which academic extra-curriculars?
- What type of high school did you attend (public, private, boarding, home school, etc.)? *
- How many students were in your graduating class in high school? *
- Have you attended any other colleges before Lewis & Clark? *
  - If your answer is "yes," please respond to the three questions that follow.
    - Yes
    - No

- When were you there?
- Which college(s)?
  - If you've attended more than one college, please list all.
- For how long were you there?
  - If you've attended more than one college, please list all.
- How long have you been at Lewis & Clark? *
  - This is my first year at Lewis & Clark
  - This is my second year at Lewis & Clark
  - This is my third year at Lewis & Clark
  - This is my fourth year at Lewis & Clark
  - I have been at Lewis & Clark for longer than four years

After this question, students were directed to the following section if they selected "This is my first year," and to the section after that if they selected any of the other options:

Now I want you to tell me about your experience at Lewis & Clark.
- In general, how comfortable are you with your life at Lewis & Clark? *
  - 1= you don't feel comfortable, 5= you feel very comfortable
  - Please describe your answer to the previous question.
- In general, how difficult has it been for you to adjust to the culture on the Lewis & Clark campus? *
  - 1= it has not been difficult, 5= it has been very difficult
  - Please describe your response to the previous question.
- In general, how has your level of anxiety changed since you started at Lewis & Clark? *
  - 1= you feel less anxious, 3= it hasn't changed, 5= you feel more anxious
  - Please describe your answer to the previous question.
- How well do you think you're adapting to your life at Lewis & Clark?
- What are the factors that you think have and/or haven't affected how well you've adapted to going to Lewis & Clark? *
- What factors do you think are important in regards to how one adjusts to starting at a new college/university? *

Now I want you to tell me about your experience as a new student at Lewis & Clark.
- In general, how comfortable were you with your life at Lewis & Clark during your first year at the school? *
  - 1=you didn't feel comfortable, 5= you felt very comfortable
  - Please describe your answer to the previous question.

- In general, how difficult was it for you to adjust to the culture on the Lewis & Clark campus?*
  - 1= it was not difficult, 5= it was very difficult
  - Please describe your answer to the previous question.
- In general, how has your level of anxiety changed since you started at Lewis & Clark? *
  - 1= you feel less anxious, 3= it hasn't changed, 5= you feel more anxious
  - Please describe your answer to the previous question.
- Since starting, how well do you think you have adapted to your life at Lewis & Clark? *
- What are the factors that you think have affected how well you've adapted to going to Lewis & Clark? *
- What factors do you think are important in regards to how one adjusts to starting at a new college/university? *

Then, every respondent answered the remaining sections:

Now we are going to talk about your home and Lewis & Clark.
- Where is "home" for you? *
  - If you feel like you have more than one home, describe the place where you've spent the most time in the last five years. Please choose a specific location (e.g. Copenhagen, Detroit...)
- What similarities have you noticed between Lewis & Clark (and its location of Portland, Oregon) and the place you consider to be your home? *
  - If you feel like you have more than one home, describe the place where you've spent the most time in the last five years.
- What differences have you noticed between Lewis & Clark (and its location of Portland, Oregon) and the place you would consider to be your home? *
  - If you feel like you have more than one home, describe the place where you've spent the most time in the last five years.

I want to know what you think about the landscapes and climates of Lewis & Clark (and its location of Portland, Oregon) and your home.
- Describe the characteristics that, to you, define the landscape of Portland, Oregon (e.g. it is hilly, it is by a river...) *
- Describe the characteristics that, to you, define the climate of Portland, Oregon (e.g. it is rainy, it is warm...) *
- Describe the characteristics that, to you, define the landscape of your home. *
  - If you feel like you have more than one home, describe the place where you've spent the most time in the last five years.
- Describe the characteristics that, to you, define the climate of your home. *

- ○ If you feel like you have more than one home, describe the place where you've spent the most time in the last five years.
- Do you think there are fewer differences (1) or more differences (5) between the landscapes of Portland, Oregon and your home? *
- Do you think there are fewer differences (1) or more differences (5) between the climates of Portland, Oregon and your home? *
- Is there anything else you want to say about your sense of place at Lewis & Clark?
- Could you see yourself living in Portland after you graduate? *
  - ○ Yes
  - ○ No
  - ○ I don't know

Finally, I would like to know a bit about your experience taking this survey.
- It is important to acknowledge the recent events regarding race on the Lewis & Clark campus. Had you been given this survey prior to these events, do you believe you would have answered any of these questions differently?
- Where are you taking this survey?
  - ○ Are you on the Lewis & Clark campus? Are you "home"? How do you think this may (or may not) have influenced how you answered the questions?
- Would you be willing to be contacted for a follow-up interview? *
  - ○ If so, please write your email address below.
- Would you like to be entered in a drawing for a $15 Amazon gift card?
  - ○ If so, please write your email address below.

APPENDIX B: Follow-up Questions Emailed to Students

1) As a prospective student, what drew you to Lewis & Clark? Why did you decide to come here?

2) Did you consider the physical environment/climate of the LC campus when you were deciding whether to come here? If so, was it a positive or negative factor in your decision?

3) How aware/conscious are you of the physical environment/climate when you're at "home"? Is it something that you notice now? Is it something that you noticed when you were growing up?
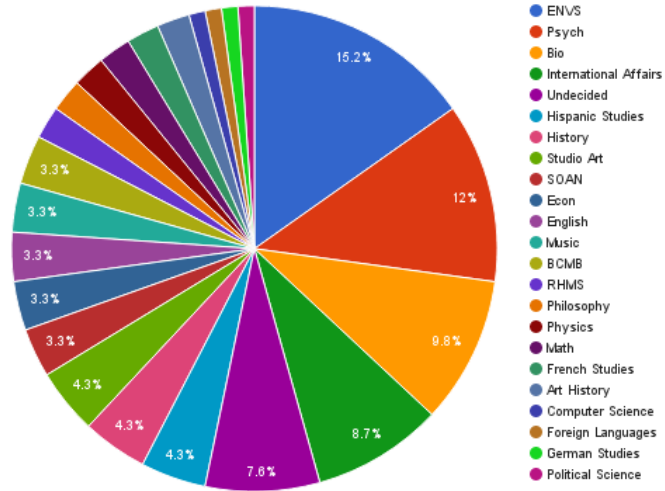
4) Do you feel that the physical environment and climate of Portland affected your transition to college?

5) Have you ever experienced a time where you traveled to a new place and felt affected by your physical surroundings upon arrival? If so, how?
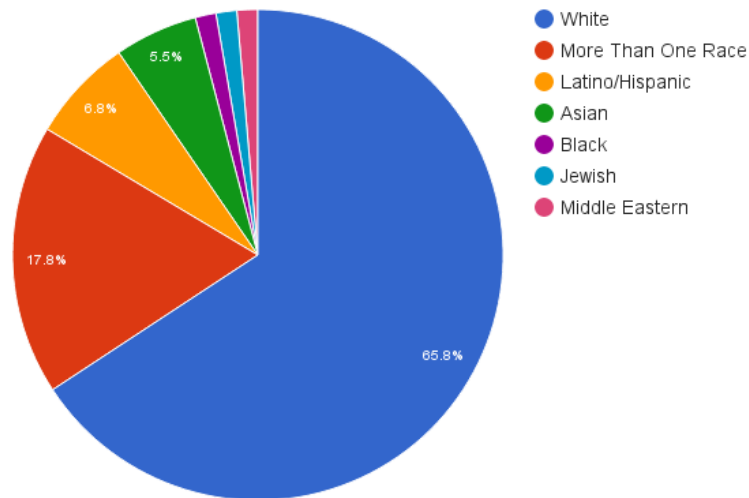
6) Have you considered transferring from LC? If so, what factors do you feel contributed to this?

APPENDIX C: Variable Correlation Table

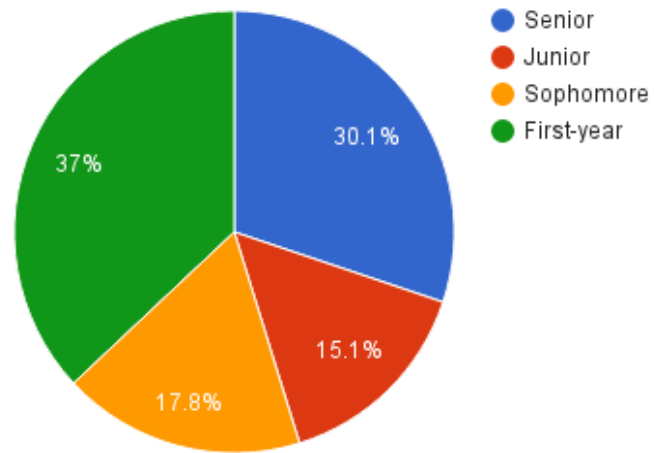correlation is significant at the 0.05 level (2-tailed)

correlation is significant at the 0.01 level (2-tailed)

		Year at LC	High School Class Size	Miles Btwn Home and LC	Hours/Week Spent in Extra-Curriculars	Anxiety Score	Cultural Adjustment Score	Discomfort Score	Difficulty of Transition Score	Landscape Difference Score	Climate Difference Score	Environmental Difference Score
Year at LC	Pearson Correlation	1										
	Sig. (2-tailed)											
	N	73										
High School Class Size	Pearson Correlation	0.03	1									
	Sig. (2-tailed)	0.80										
	N	73	73									
Miles Btwn Home and LC	Pearson Correlation	-0.24	-0.04	1								
	Sig. (2-tailed)	0.04	0.75									
	N	73	73	73								
Hours/Week Spent in Extra-Curriculars	Pearson Correlation	0.26	0.17	-0.16	1							
	Sig. (2-tailed)	0.03	0.15	0.18								
	N	73	73	73	73							
Anxiety Score	Pearson Correlation	-0.15	-0.26	-0.02	-0.19	1						
	Sig. (2-tailed)	0.21	0.02	0.85	0.11							
	N	73	73	73	73	73						
Cultural Adjustment Score	Pearson Correlation	-0.17	0.03	-0.05	-0.19	0.18	1					
	Sig. (2-tailed)	0.14	0.79	0.66	0.11	0.14						
	N	73	73	73	73	73	73					
Discomfort Score	Pearson Correlation	-0.24	0.08	0.02	-0.09	-0.07	0.3	1				
	Sig. (2-tailed)	0.04	0.51	0.871	0.44	0.58	0.01					
	N	73	73	73	73	73	73	73				
Difficulty of Transition Score	Pearson Correlation	-0.29	-0.08	-0.03	-0.24	0.57	0.75	0.64	1			
	Sig. (2-tailed)	0.01	0.51	0.82	0.04	0.00	0.00	0.00				
	N	73	73	73	73	73	73	73	73			
Landscape Difference Score	Pearson Correlation	-0.01	0.09	0.32	-0.11	-0.14	0.07	0.24	0.09	1		
	Sig. (2-tailed)	0.91	0.44	0.01	0.35	0.25	0.58	0.04	0.46			
	N	73	73	73	73	73	73	73	73	73		
Climate Difference Score	Pearson Correlation	-0.02	0.21	0.11	0.06	-0.05	0.08	0.16	0.1	0.68	1	
	Sig. (2-tailed)	0.87	0.07	0.36	0.62	0.70	0.50	0.17	0.39	0.00		
	N	73	73	73	73	73	73	73	73	73	73	
Environmental Difference Score	Pearson Correlation	-0.03	0.17	0.23	-0.02	-0.1	0.08	0.22	0.1	0.92	0.91	1
	Sig. (2-tailed)	0.83	0.15	0.05	0.84	0.38	0.51	0.06	0.39	0.00	0.00	
	N	73	73	73	73	73	73	73	73	73	73	73

APPENDIX D: Demographic Information of Respondents

Majors of Respondents

- ENVS
- Psych
- Bio
- International Affairs
- Undecided
- Hispanic Studies
- History
- Studio Art
- SOAN
- Econ
- English
- Music
- BCMB
- RHMS
- Philosophy
- Physics
- Math
- French Studies
- Art History
- Computer Science
- Foreign Languages
- German Studies
- Political Science

Racial Distribution of Respondents

- White
- More Than One Race
- Latino/Hispanic
- Asian
- Black
- Jewish
- Middle Eastern

Class of Respondents

- Senior 30.1%
- Junior 15.1%
- Sophomore 17.8%
- First-year 37%

Type of High School Attended by Respondents

- Public 58.9%
- Private 19.2%
- Magnet 8.2%
- Charter 5.5%
- Boarding 4.1%
- Combo
- Home School
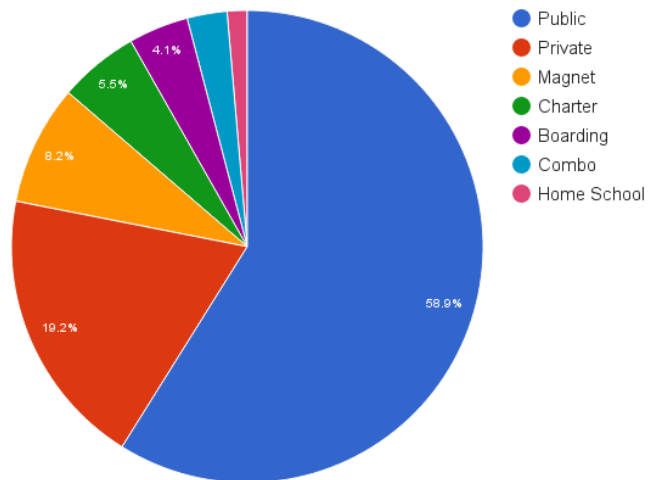
APPENDIX E: Home Locations of Respondents
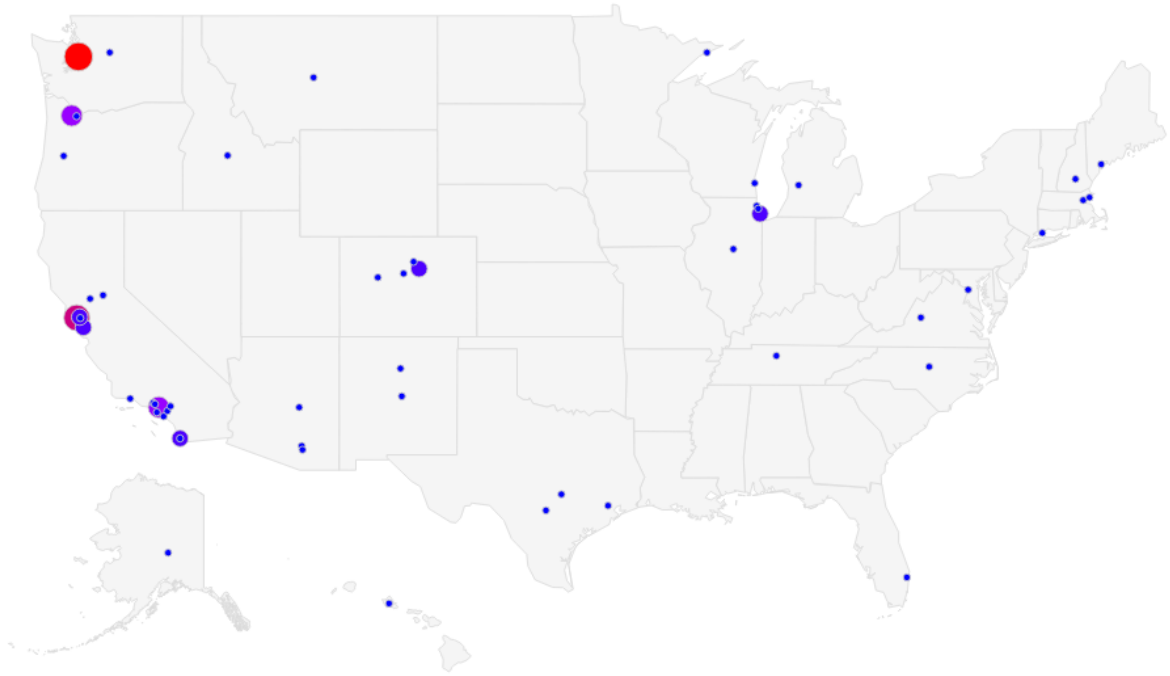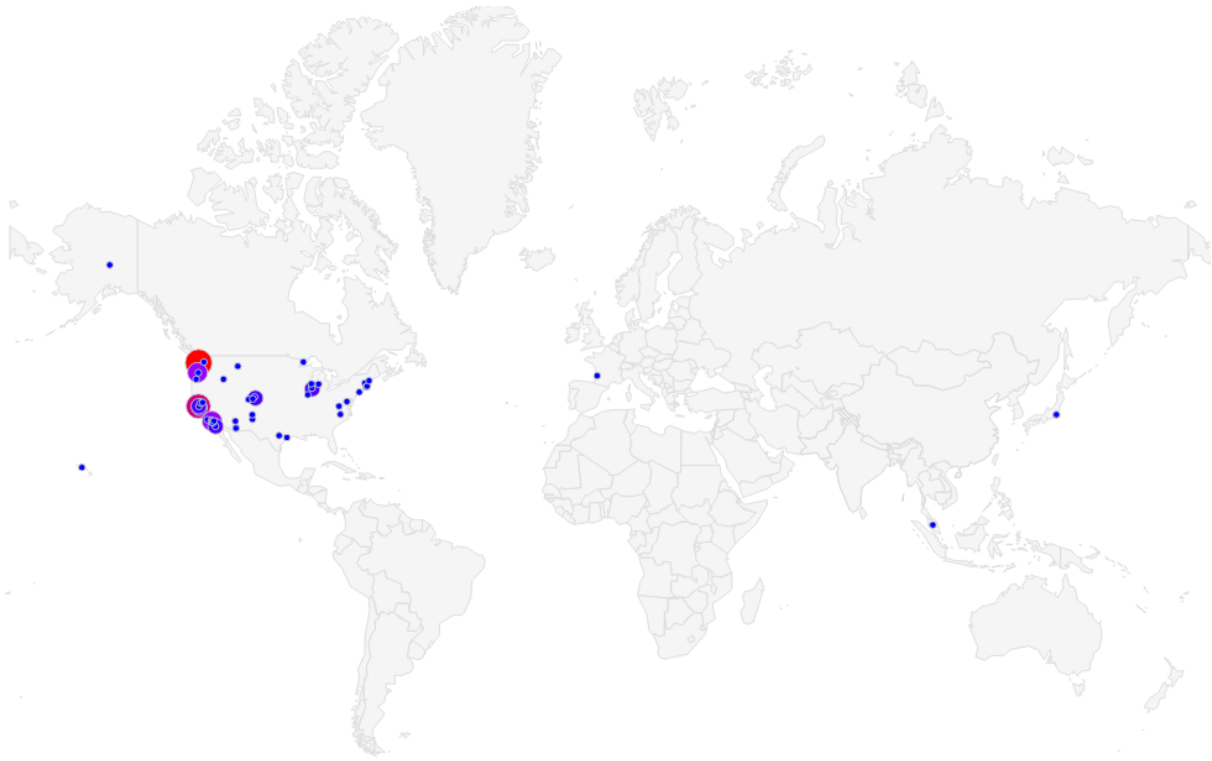
APPENDIX F: Distance From Home Location vs. Difficulty of Transition

Distance From "Home" Vs. Difficulty of Transition

$R^2 = 0.00$
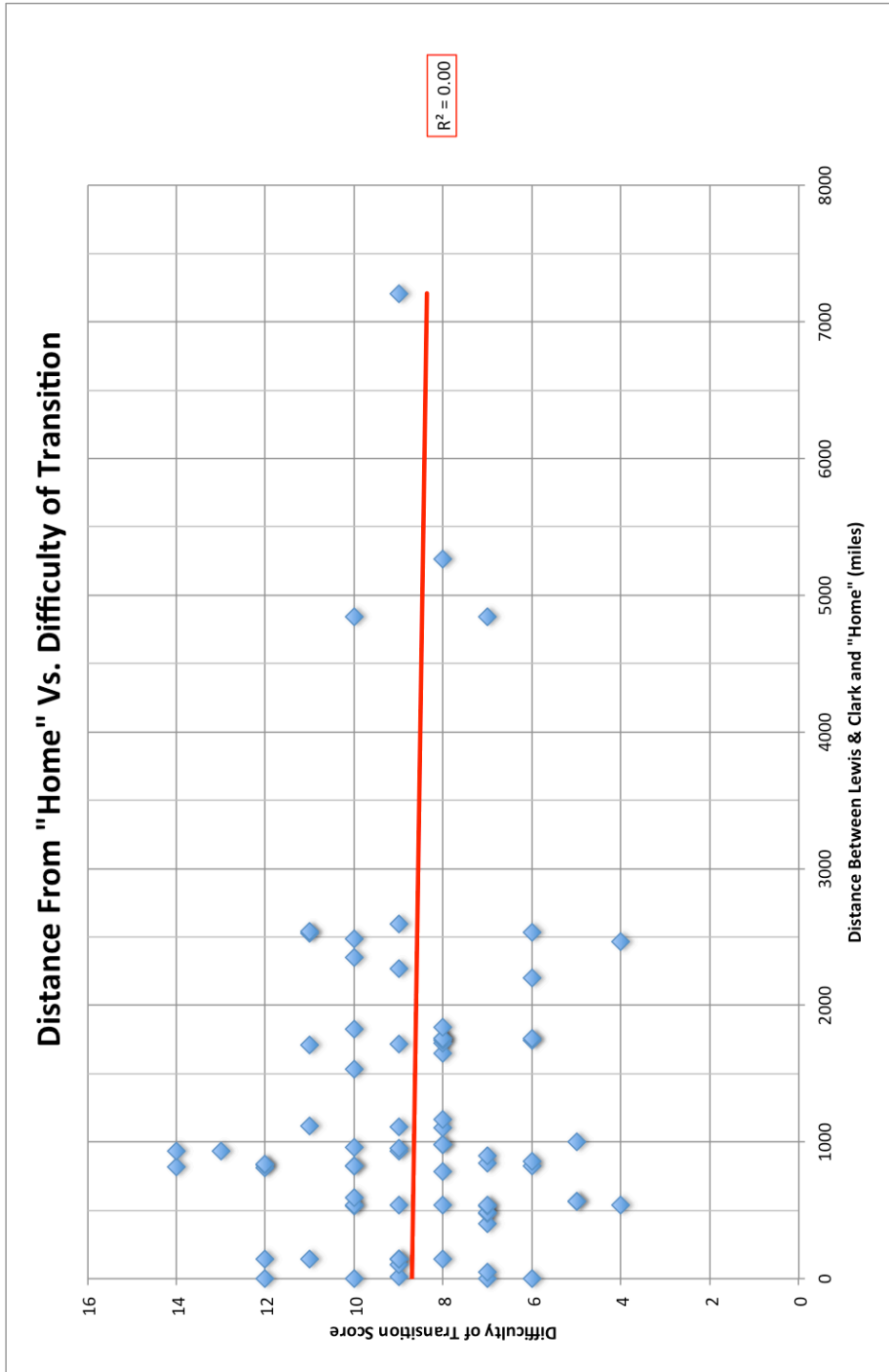
APPENDIX G: Demographic Data of Wider Lewis & Clark Student Body (Accessed Via Lewis & Clark College Website)
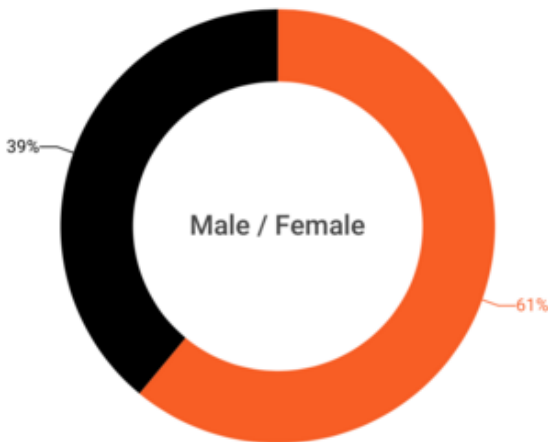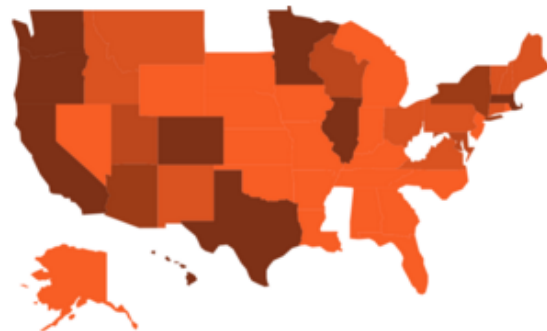
Diversity by Race & Ethnicity

American Indian/AK Native	14
Asian	115
Black or African American	49
Hispanic or Latino	212
Native Hawaiian/Pac. Isl.	7
White	1382
Two or more races	82
Non Resident Alien	108
Race/Ethnicity Unknown	118
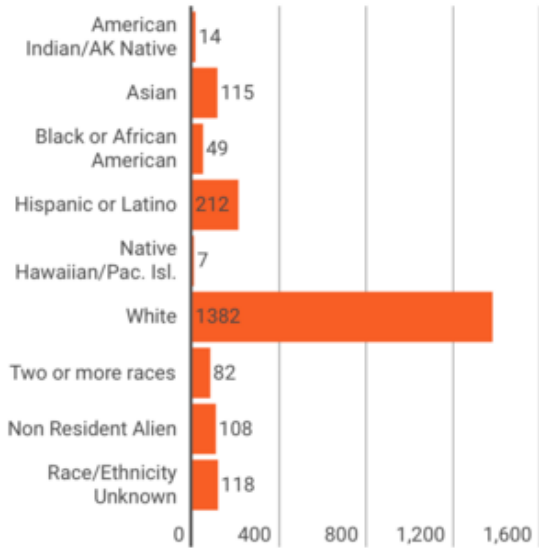
International Representation

74 countries outside the U.S.

Gender by Percentage

39%

Male / Female

61%

Representation by State

★ 46 States Represented

Top Four States: California, Oregon, Washington, Colorado

Enrollment

Undergraduate Enrollment: 2209 total, 2087 degree seeking; **Racial & Ethnicity breakdown:** Native Hawaiian/Pacific Islander 7; Two or more races 82; American Indian/AK Native 14; Black/African American 49; Race/Ethnicity Unknown 118; Asian 115; Hispanic/Latino 212; Non Resident Alien 108; White 1382. **Gender breakdown:** 61% female; 39% male. **First Generation Students:** 13%; **Federal Pell eligible:** 20%; **Varsity Athletics Participation:** 19%;

States Represented: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Lousiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, Wisconsin, Wyoming; and Washington D.C.

Countries Outside U.S. Represented: Australia, Austria, Belgium, Bhutan, Bolivia, Bosnia- Hercegovina, Brazil, Bulgaria, Byelarus, Cambodia, Canada, Chile, China, Colombia, Congo, Costa Rica, Denmark, Ecuador, Egypt, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Germany, Guatemala, Haiti, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Jamaica, Japan, Kenya, Macao, Malaysia, Mexico, Moldova, Myanmar, Nepal, Netherlands, New Zealand, Nigeria, Norway, Paraguay, Peru, Poland, Portugal, Russia, Rwanda, Saudi Arabia, Senegal, Singapore, Slovak Republic, South Korea, Spain, Sudan, Swaziland, Sweden, Switzerland, Taiwan ROC, Tajikistan, Tanzania, Thailand, Turkey, United Arab Emirates, United Kingdom, Venezuela, Vietnam, Zimbabwe;

Undergraduate Enrollment
2,209 Students

2,085 Degree Seeking

Varsity Athletics Participation
19%

Pell Grant Eligibility
20%

First Generation Students
13%

Students of Color
23%

Third Culture Kid (TCK)
6%

Related data surrounding student retention can be found online at:

http://www.lclark.edu/live/files/20516-full-10-year-trend-data-report

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