Full Issue

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Editor’s Note

Paula K. Baldwin, Western Oregon University

When pulling together a project like our PURE Insights undergraduate journal, the saying, “it takes a village,” is never more apt. Issue 7 is a PURE (pardon the pun) labor of love, from the authors, the faculty sponsors, the editors, the reviewers, and to the editorial staff. We have been overwhelmed with the generosity of everyone involved. We would like to particularly recognize our reviewers as the reviews they have done, to a one, have been thoughtful, in-depth, and on point for the authors. The authors, in turn, have demonstrated their commitment to their papers by really digging in and taking the reviews to heart in their revisions. The result of this amazing collaboration between the authors and the reviewers is some truly outstanding articles and we are thrilled to share them with you.

We would like to acknowledge the work of our previous Managing Editor, Camila Gabaldon, who had the expertise needed to pull each of our six previous issues together. It is a tribute to her tenacity and commitment that PURE Insights continues today, and we are thankful.

Issue 7 has a little something for everyone. Our offerings in this issue come from Communication, the Natural Sciences, Gerontology, Anthropology, English, and Spanish. We have a couple firsts in this issue: our Spanish article, by Robin Perkins, is the first ever Spanish paper published in PURE Insights and we couldn’t be prouder. And for the first time ever, we are including two of the Peter Sears Poetry Prize winners. Last, but not least, our intriguing cover design comes from our talented WOU 2018 graduate, Huang Zhiying, now a graduate student at the prestigious Pratt Institute’s School of Design in New York. Clearly, WOUvians rock! Enjoy!
“Brainstorming” - Cover Art Description

Zhiying Huang, Western Oregon University

Faculty Sponsor: Jennifer Bracy

It is my honor to design the latest issue of PURE Insights. The illustration, which I titled “Brainstorming,” is of an intelligent Japanese writer named Keigo Higashino, who is known for his mystery and detective novels. Higashino’s stories prompt the reader to think about humanity and society critically. The ending of his books always gives readers a surprise and leave an impression, just as PURE Insights readers will be impressed by the excellent articles.
My Dad Appreciates a Steens Lightning Storm

Nicole Caldwell, Western Oregon University  
Faculty Sponsor: Dr. Henry Hughes

2018 3rd place runner up for Peter Sears Poetry Prize

Keywords: Peter Sears Poetry Prize, poetry

I hear the crash before he does.  
Leaping to the window,  
flashing cracks in the night air,  
backlighting drifting clouds  
and bats stunned by their own visibility.

A mad rush to the dimly lit door,  
chipping paint flies  
into the onslaught of mosquitoes.  
He turns down his hearing aid,  
laughing.  
The next fissure washes the valley  
in swatches of twilight.

I stumble behind,  
phone flashlight on gopher holes, briars and dry grass.  
He leads surely, moon glare reflected in glasses,  
eager for a light show to crack  
the swampy air.

Rickety picnic table and crickets,  
talking about my dad,  
growing up in Lebanon with nothing  
to do but get drunk  
and jump off bridges.  
We count the growing seconds  
between flashes and crashes.

It’s behind the mountains now.  
No one else would be able to hear his disappointment.  
He turns to me and ruffles my frizzy hair,  
content as I have ever seen him.
Sailing Stones

Madeleine Hannah, Western Oregon University
Faculty Sponsor: Dr. Henry Hughes

2018 Winner of the Peter Sears Poetry Prize

Keywords: Peter Sears Poetry Prize, poetry

In secret, they creep
across the cracked earth
dark and bulky, jarring
against the flat bleached playa,
obvious, they glide unseen

a fleet of contradictions,
they sit sated and serene
in the valley of death

they voyage unaided,
untroubled by man
or beast

only the wise, wheeling stars
by which they navigate
witness their passage.

Sometimes I worry I’m icebound
or stuck in stagnant slime

but frost and mud
provide their own arcane
locomotion

even rocks
leave wake in the desert.

“Though no one has ever seen them actually move in person, the trails left behind the stones and periodic changes in their location make it clear that they do.”
-National Park Foundation
Understanding the Grandfather Role in Families

Bethany K. Jensen, Western Oregon University
Gillian Quaal, Western Oregon University
Dr. Margaret Manoogian, Western Oregon University
Faculty Sponsor: Dr. Margaret Manoogian

As adults continue to live longer and express satisfaction with grandparenting, an evaluation of the roles of grandfathers is warranted. Past research has focused on grandmothers, with little research explicitly investigating the experiences of grandfathers in families. This review assesses sociohistorical trends, demographic influences, gendered patterns, and changes that occur in grandfather-grandchild relationships throughout the lifespan. We describe the roles grandfathers maintain in their grandchildren’s negotiation of psychosocial and ecological life course tasks, the change and stability they experience relative to sociohistorical trends, and how grandfathers reconfirm masculine norms through generativity and provision of instrumental support. Findings indicate that future research investigating how grandfathers and grandchildren define and value their roles from a dyadic perspective is warranted. Implications include increasing awareness surrounding the significance of the grandfather role across generations.

Keywords: grandfathers, grandchildren, grandparenthood, intergenerational relationships, gender

Introduction

Due to the growth of the older population in the United States, with men and women living longer, older adults are increasingly likely to spend more than a third of their lives as grandparents (Hayslip & Page, 2012). When compared to grandparents of the past, today’s older adults are more likely to come to grandparenting with better health, more time, and additional economic resources (Uhlenberg, 2009). Their grandchildren also have the opportunity to extend their relationships with grandparents and great-grandparents over time (Connidis, 2009; Hayslip & Page, 2012). Much is known about the meaning, activities, and relationship outcomes for grandmothers, but grandfathers have frequently been overlooked in empirical literature in family gerontology (Bates & Taylor, 2013; Kelley, Whitley, & Campos, 2013; Roberto, Allen, & Blieszner, 2001).

In this examination of current literature on grandparenting, we focus on grandfathers. Our intent is to gain a deeper understanding of this often overlooked role in families and to better understand the gaps in current intergenerational research regarding grandfathers. This examination specifically focuses on demographics in grandparenting, gendered patterns relative to grandparent-grandchild relationships, expectations of the grandfather role, and the influence of contact frequency, geographic proximity, and life course transitions on intergenerational relationships. Our overall goal is to understand the relationships between grandfathers and their grandchildren as grandchildren transition into young adulthood.

Both grandfathers and their grandchildren view their roles, overall, as a crucial part of their personal identity (Sheehan & Petrovic, 2008). Grandchildren typically report viewing their grandparents as having significant impact on their lives (Wiscott & Kopera-Frye, 2000). Prior literature has also indicated that the unique nature of the grandfather-grandchild relationship serves the important purpose of facilitating resolution of psychosocial life course tasks such as those suggested in Erikson’s stage of generativity vs stagnation (Erikson, 1982; Sheehan & Petrovic, 2008; Thiele & Whelan, 2006). This stage refers to the need to lead a productive life, in part through nurturing younger generations and creating a legacy in midlife (Erikson, 1982). As grandparents are living longer and remaining in the middle stage for a greater temporal duration than in the past, this theory becomes especially relevant to the study of grandfathers’ perceptions of their intergenerational relationships (Thiele & Whelan, 2006).

The post-World War II Baby Boom reformed age structures across generations, and the demographic realities of grandparenting have progressively changed in tandem with this increased longevity (Connidis, 2009; Hayslip & Page, 2012; Olshansky, Goldman, Zheng, & Rowe, 2009). In effect, the United States has observed the emergence of verticalization, a growing number of generations within one family and fewer members within each generation cohort (Knipscheer, & van Tilburg, 2013; Connidis, 2009). Families have historically and culturally changed over time relative to decreasing mortality rates
amongst older adults (Connidis, 2009; Hayslip & Page, 2012; Knipscheer, & van Tilburg, 2013; Olshansky, Goldman, Zheng, & Rowe, 2009; Szinovacz, 2014). Family members are witnessing increasing generations within multigenerational family structures, more grandparents for fewer grandchildren, and fewer younger family members to provide care when needed (Connidis, 2009). As a consequence of these changes, grandparents have the unique opportunity to observe their grandchildren’s development over time and navigate new contexts for their relationship as both grandparents and grandchildren mature and negotiate psychosocial life course tasks (Hayslip & Page, 2012).

Demographic Influences on Grandparenting

From an examination of the current demographics of grandparenting, the path to grandparenting appears to differ based on cultural norms (Kelley, Whitley, & Campos, 2013; Silverstein & Marenco, 2001) and socioeconomic factors (Bol & Kalmijn, 2016; Silverstein & Marenco, 2001; Swartz, 2009). African American grandparents are more likely, in comparison to White grandparents, to fulfill functional roles such as raising grandchildren, offering financial assistance, and participating in religious activities (Kelley, Whitley, & Campos, 2013; Silverstein & Marenco, 2001). African American grandparents are 80% more likely to become custodial grandparents, offering comprehensive, traditionally parental care to grandchildren, relative to non-African Americans (Fuller-Thomson, Serbinski, & McCormack, 2014). Overall, 66.9% of custodial grandparents are White alone, 22% African American, 2.1% Asian, and 29.8% are Hispanic (Ellis & Simmons, 2014). African American grandparents are less companionate and maintain more traditionally parental style roles as grandparents (Silverstein & Marenco, 2001). Rural African American grandfathers tend to provide kinkeeping care even when resources are few and distress is present (Bullock, 2007). According to Bullock (2007), systemic oppression and discrimination have left older African American grandfathers in disadvantaged circumstances, yet their motivation for parenting demonstrates their distinct strengths and concern for family values.

Financial status and education influence grandparent roles and overall involvement with grandchildren (Bol & Kalmijn, 2016; Silverstein & Marenco, 2001; Swartz, 2009). Within intergenerational relationships, instrumental forms of support are frequently reported, and grandparents’ socioeconomic status affects the extent of this support (Swartz, 2009). Earning some form of income has been correlated with the provision of financial assistance to grandchildren, as well as with participation in recreational activities including travel (Silverstein & Marenco, 2001; Bol & Kalmijn, 2016). A grandparent’s socioeconomic status additionally influences their frequency of contact (Silverstein & Marenco, 2001). Wealthy grandparents cover the costs of travel to visit family or even pay for travel in events of geographic distance (Silverstein & Marenco, 2001).

College educated grandparents are more likely to offer child care and demonstrate involvement in recreational activities than less educated grandparents, but only if in close geographic proximity to their grandchildren (Silverstein & Marenco, 2001). Higher education delays parenthood. Consequently, as Americans have become more highly educated as a society in recent generations, a trend has emerged of men having children and grandchildren at older ages than in the past (Hayslip & Page, 2012; Silverstein & Marenco, 2001). Less educated grandparents report more attachment to the symbolism of their role. In contrast, college educated grandparents are found to define themselves more in the context of their careers and receive more validation from their occupations rather than family roles (Silverstein & Marenco, 2001).

Gendered Patterns of Grandparenting

A grandparent’s gender has been associated with distinct patterns related to communication (Barker, 2007; Reitzes & Mutran, 2004; Silverstein & Marenco, 2001), normative roles demonstrated with grandchildren (Bates & Goodsell, 2013; Horsfall & Dempsey, 2015; Lesperance, 2010; Mann, Tarrant, & Leeson, 2016; Mills, Wakeman, & Fea, 2001; Sheehan & Petrovic, 2008), marital status and level of involvement (Knudsen, 2012; Reitzes & Mutran, 2009), and quality of health (Reitzes & Mutran, 2009). A combination of cultural norms and gender highlights recurring themes amongst grandparents (Sheehan & Petrovic, 2008). Generally, both grandmothers and grandfathers actively participate in their grandchildren’s lives and indicate placing high value on their role as a grandparent (Silverstein & Marenco, 2001).

Regarding gendered differences in communication with grandchildren, grandmothers typically talk with grandchildren about personal concerns, family matters, and family history more often, and talk for longer durations when compared to grandfathers (Barker, 2007; Silverstein & Marenco, 2001). In contrast, grandfathers more often discuss health and youth experiences (Barker, 2007). As traditional kinkeepers, grandmothers have
greater frequency of contact and spend more time talking with their grandchildren (Mann, Khan, & Leeson, 2013; Reitzes & Mutran, 2004).

Some researchers have reported that grandmothers are more highly involved in the lives of their grandchildren when compared to grandfathers (Bates & Taylor, 2013; Cherlin & Furstenberg, 1986; Reitzes & Mutran, 2004; Silverstein & Marenco, 2001). For example, grandmothers are more likely to attend family events with grandchildren, and maintain a significant familial role as matriarchs (Mann, Khan, & Leeson, 2013; Reitzes & Mutran, 2004; Silverstein & Marenco, 2001). Grandmothers feel more entitled to the role of kinkeeper compared to men (Knudsen, 2012; Sheehan & Petrovic, 2008). Grandmothers also are more likely to provide childcare compared to grandfathers, and express greater dissatisfaction with their free time and quantity of domestic work in comparison to grandfathers (Horsfall & Dempsey, 2015). In addition, grandmothers have traditionally been considered nurturing familial roles of care for their grandchildren (Horsfall & Dempsey, 2015). Overall, grandmothers report feeling closer to their grandchildren than grandfathers (Bates & Goodsell, 2013; Bates & Taylor, 2013; Geurts, Poortman, Tilburg, & Dyksstra, 2009; Sheehan & Petrovic, 2008). However, perceived relational closeness on the part of grandparents is arguably dependent upon heterogeneous mediating factors such as geographic proximity (Roberto, Allen, & Blieszner, 2001; Tornello & Patterson, 2016), the level of gatekeeping provided by a grandchild’s parents (Barnett, et al., 2010; Hakoyama & Malonebeach, 2013; Monesrud, 2011; Xu, Silverstein, & Chi, 2014), if the grandparent is biologically related to the grandchild (Gray & Brogdon, 2017), the social-emotional intelligence of the grandparent (Akhtar, Malik, & Begeer, 2017; Ruiz & Silverstein, 2007), and the grandparent’s level of involvement (Hakoyama & Malonebeach, 2013; Knudsen, 2012; Roberto, Allen, & Blieszner, 2001).

Marital Status and Health Influences on Grandparenting

A grandparent’s marital status may have a strong positive influence on involvement in sharing activities, providing child care, demonstrating emotional cohesiveness, and experiencing greater meaning to the grandparent role. Marital status, however, may have a different effect on grandparent role satisfaction for women than for men and there are notable contradictions within current literature (Reitzes & Mutran, 2004). For older women, marriage is correlated with reported greater satisfaction as a grandmother. However, for older men, the opposite is true: being married produces less satisfaction as a grandparent (Reitzes & Mutran, 2004). As a married grandfather continues to grow older, their level of involvement subsequently increases, and they are more likely to have frequent contact with their grandchildren (Knudsen, 2012; Reitzes & Mutran, 2004). In cases of their own marital disruptions, grandfathers are inclined to communicate less frequently with their grandchildren (Knudsen 2012; Silverstein & Marenco, 2001). Grandfathers without a partner or spouse are associated with the lowest level of involvement with their grandchildren (Knudsen, 2012). Within events of remarriage and the addition to stepchildren or even step-grandchildren, grandfathers especially maintain their roles of providers and defenders of their family (Roberto, Allen, & Blieszner, 2001).

Finally, poor health on the part of grandparents is associated with increased contact frequency with intergenerational family members for grandmothers, but not for grandfathers (Hakoyama & Malonebeach, 2013; Reitzes & Mutran, 2009). This may be due to ailing grandfathers’ lessened ability to initiate communication with grandchildren, as it is likely grandchildren feel more compelled to contact ill grandmothers than ill grandfathers (Reitzes & Mutran, 2004). Nonetheless, a grandmother’s or grandfather’s quality of health will affect their level of involvement and closeness with grandchildren (Hakoyama & Malonebeach, 2013).

Grandfathers and their Relationships with Grandchildren

According to Lesperance (2010), when first learning of the upcoming birth of their first grandchild, men have reported initial ambivalence about undertaking the role of a grandparent. However, grandfathers felt rejuvenated and excited upon the birth of their grandchildren and subsequent interactions (Lesperance, 2010). Overall, many grandfathers view involvement in the transference of values, behaviors, and perspectives on fatherhood to their grandchildren as a duty inherent to their role (Bates & Goodsell, 2013). Additionally, grandfathers tend to highly value their roles in passing down cultural traditions, providing instrumental support, and as mentors who provide guidance to their grandchildren (Mann & Leeson, 2010). Spending quality time with grandchildren by creating fond memories for them is another role that grandfathers tend to emphasize as important (Lesperance, 2010).

As changing family norms juxtapose social variations, grandfather roles may represent greater emotional relationships out of choice rather than
normative pressures (Mann & Leeson, 2010). Younger grandfathers may have more emotional intelligence and recent experience caring as fathers. Many, however, are still employed full-time and must accommodate their grandchildren into their busy schedules (Mann & Leeson, 2010). In comparison, older grandfathers have been found to be more reflective on their role and enjoy enduring relationships with their grandchildren (Mann & Leeson, 2010).

Prior research related to grandfathers’ roles in families has indicated a desire to avoid traditional parenting roles, especially formal discipline (Lesperance, 2010). This may be due to a general desire to avoid overstepping what grandfathers view as the inherent boundaries of their responsibility. Despite this ambivalence to interfere with discipline and parenting duties, a large proportion of grandfathers report being dissatisfied with the way grandchildren are being raised (Lesperance, 2010; Mann, 2007; Mann, Tarrant, & Leeson, 2016). Similarly, as grandchildren form their own identities in young adulthood, many grandfathers express disapproval of their grandchildren’s behaviors and relationships, including homosexuality, lax parenting practices, and interracial relationships (Roberto, Allen, & Blieszner, 2001).

Grandfathers tend to value their role in the context of reconfirming masculine norms they fulfilled through careers and parenting in earlier life (Lesperance, 2010; Mann, Tarrant, & Leeson, 2016). As society equates retirement with relinquishing a portion of one’s masculinity, actively fulfilling patriarchal roles in the lives of grandchildren can increase feelings of generativity and dependability, traditionally masculine values, in the lives of older men. Grandfathers feel that maintaining a consistent and dependable presence in the lives of grandchildren constitutes a masculine role in their family (Mann, Tarrant, & Leeson, 2016). This commitment plays an important part in dictating grandfathers’ participation in activities with grandchildren throughout their lives (Bates & Taylor, 2013).

According to Lesperance (2010), older men have tended to be considered of lesser value in their familial roles in old age, relative to women who are traditionally considered a vital presence in families throughout the life course (Mann, Tarrant, & Leeson, 2016). This is due, in part, to the tendency for men to be considered primarily “breadwinners” within families, and for their identity to be strongly tied to their occupation. Despite this developmental role shift, men contribute to their families in later life through their role as grandfathers (Lesperance, 2010).

Regardless of the influence of gender constructs, grandchildren who feel that grandfathers have strongly influenced their values or character report more positive relationships with grandfathers overall, as do those who report that their grandparents’ personalities are similar to their own (Wiscott & Kopera-Frye, 2000). Finally, Sheehan and Petrovic (2008) indicated that grandfathers who expressed pride in their grandchildren’s accomplishments reported feeling more positively about their role overall. In particular, grandfathers emphasized pride and meaning in their role in relation to their grandchild’s pursuit and completion of a college degree (Sheehan & Petrovic, 2008).

Proximity and Contact Frequency

Overall, geographic proximity is positively correlated to both contact frequency and exchange of support between grandparents and grandchildren (Bates & Goodsell, 2013; Hayslip & Page, 2012). Proximity, however, does not necessarily improve perceived relational closeness (Roberto, Allen, & Blieszner, 2001). Living within a close distance to family members tends to increase opportunities for active involvement in the lives of grandchildren (Barnett, et al., 2010; Mann, Tarrant, & Leeson, 2016). Geographic distance has been associated with decreased communication frequency, particularly during childhood and adolescence (Hakoyama & Malonebeach, 2013). Grandfathers have adapted contact with grandchildren through e-mail and telephone conversations, when faced with geographic distance from their grandchildren. The wealth of opportunities for long distance communication in the 21st century, and its potential influence on intergenerational relationships, however, has yet to be explicitly addressed in research (Mann, Tarrant, & Leeson, 2016; Sheehan & Petrovic, 2008).

In general, contact frequency has been shown to be a better indicator of close relational ties between generations than geographic distance alone (Bates & Taylor, 2013; Silverstein & Marenco, 2001). Contact frequency is linked to factors such as age of grandchildren, with younger grandchildren having more contact with grandparents, and grandparent health (Sheehan & Petrovic, 2008). This is especially true for in-person contact, with grandfathers citing their adult grandchildren’s responsibilities and conflicting roles as preventing more frequent visitation (Roberto, Allen, & Blieszner, 2001). Contact frequency also has been shown to be significantly correlated with role satisfaction and relational closeness (Bates & Taylor, 2013). However, Bates and Taylor (2016) investigated the impact of
various dimensions of grandfatherhood on depressive symptoms, and contact frequency was found to be negatively associated with positive feelings. Researchers hypothesized that in families where significant relational conflict exists, too much communication with grandchildren may become harmful to grandfather’s well-being (Bates & Taylor, 2016).

**Life Course Transitions**

Intergenerational contact frequency fluctuates across the life course (Hakoyama & Malonebeach, 2013; Monserud, 2011; Sheehan & Petrovic, 2008). One explanation for this shift in contact frequency as grandchildren age is that a high level of grandparent involvement is often necessary to provide vital assistance to parents when grandchildren are very young (Barnett, et al., 2010). An additional reason for this decline in communication in young adulthood is the traditional role of the parent generation as “gatekeepers.” Namely, parents tend to either facilitate or hinder contact, typically the former, between their children and their own parents when children are living at home (Barnett, 2010; Hakoyama & Malonebeach, 2013; Monserud, 2011). This gives parents the power to potentially shape the nature of relationships between grandparents and their grandchildren for a lifetime (Monesrud, 2011). Such mediation, or “gatekeeping,” is typically absent or greatly diminished in young adulthood, as children move out of their parent’s home and take on new responsibilities inherent to young adulthood (Geurts, Poortman, Tilburg, & Dykstra, 2009; Monserud, 2011). These new roles and duties, including marriage, careers, and higher education, have been shown to be negatively correlated to not only frequency of contact, but also to perceived relational closeness between grandparents and their grandchildren (Sheehan & Petrovic, 2008). The sheer time commitment that undertaking these new roles requires on the part of grandchildren may lead to priorities shifting away from keeping in touch with intergenerational family members (Mills, 1999; Sheehan & Petrovic, 2008).

Divorce in families, whether present in the parent or grandparent generation, tends to negatively impact grandparent-grandchild cohesion (Mills, Wakeman, & Fea, 2001). This phenomenon, influenced by the inherent decrease in parental gatekeeping, may lead to a decrease in contact frequency. Intergenerational relationship quality additionally is influenced by the closeness of parent-grandparent connections (Monesrud, 2001). The intrinsic nature of divorce tends to negatively influence the coherence between the grandparent and parent generation, thus impacting grandparents’ relations with younger generations as well.

**Conclusion and Implications**

Although grandfathers in general are under researched in comparison to grandmothers across current literature (Bates & Taylor, 2013; Kelley, Whitley, & Campos, 2013; Roberto, Allen, & Blieszner, 2001), our investigation of the literature presents unique descriptions of the grandfather role across intergenerational relationships. The increase in longevity in Western society has allowed grandfathers to witness their grandchildren’s and great-grandchildren’s development into adulthood (Hayslip & Page, 2012; Lesperance, 2010). Grandfathers may significantly influence their grandchildren’s negotiation of psychosocial and ecological life course tasks (Hakoyama & Malonebeach, 2013; Hayslip & Page, 2012; Mills, Wakeman, & Fea, 2001; Monserud, 2011; Sheehan & Petrovic, 2008). Grandfathers, and grandmothers, are actively involved in their grandchildren’s lives, and typically designate significance to their role as a grandparent (Silverstein & Marenco, 2001). Grandfathers reconfirm masculine norms in older adulthood through their role as a grandparent, and exhibit generativity by participating in the transference of values, mentoring grandchildren, passing down cultural traditions, and providing instrumental support (Bates & Goodsell, 2013; Mann & Leeson, 2010; Mann & Leeson, 2016). Grandchildren who report that their grandfathers influence their own values and character, typically have more positive relationships with grandfathers (Wiscott & Koper-Frye, 2000). Though grandfathers tend to avoid assuming a parental role in the lives of their grandchildren, when possible, many are dissatisfied with their life choices or how they are being raised (Lesperance, 2010; Mann, Tarrant, & Leeson, 2016). Grandparents, and notably rural African-American grandfathers, are increasingly co-residing with grandchildren or are custodial grandparents due to socioeconomic necessity or familial turmoil (Fuller-Thomson, Serbinski, & McCormack, 2014). Over the life course, grandfathers’ level of contact with their grandchildren tends to decline during family events of divorce, and when grandchildren assume new adult roles and responsibilities (Hakoyama & Malonebeach, 2013; Monserud, 2011; Reitzes & Mutran, 2004; Roberto, Allen, & Blieszner, 2001; Sheehan & Petrovic, 2008). Overall, the grandfather-grandchild relationship is a complex one that
represents stability and change over sociohistorical contexts.

Research that explores the experience, expectations, and norms of grandfathering tends to focus on the perspective of the grandfather, leaving the outcomes of intergenerational ties experienced by grandchildren under-examined. Due to the complex and ever evolving nature of grandparent-grandchild relationships as both individuals mature over time, future studies from a dyadic perspective are warranted. Such research would increase public understanding of the ways in which both parties interact with one another throughout the life course, as well as how each family member defines their own roles and expectations of each other. Additionally, as grandchildren are increasingly growing up geographically distant from intergenerational family members, relative to prior generations, research examining how communication through technology affects relational outcomes is necessitated. In particular, the recent popularity of contact through means such as Facebook, text messaging, and video calling has changed the context in which many grandchildren interact with their grandparents.

References


The Gerudo Problem: The Ideology of The Legend of Zelda: Ocarina of Time

Byron J. Kimball, Western Oregon University
Faculty Sponsor: Dr. Emily Plec

This paper considers the ideological constructs of the 1998 Nintendo video game The Legend of Zelda: Ocarina of Time, wherein the various ideologies and beliefs, assumptions, and values expressed and espoused by the game through dialogue, gameplay, and setting/character construction, are discovered and analyzed by identifying presented and suggested elements. Through an ideological critique, I argue that through the game’s portrayal of a Western European-stylized colonist power as a benign imperial influence and of other cultures as impotent and/or evil others, Western colonialism is idealized as an acceptable norm. The use of racial stereotyping through fantasy race-based societies serves to designate acceptable and unacceptable others especially in regards to Eastern/Orient-stereotyped cultures.

Keywords: zelda, ocarina of time, the legend of zelda, ideological criticism, hegemony, race-based society, orientalism, otherness

Introduction

It would be an understatement to say that The Legend of Zelda: Ocarina of Time, Nintendo’s 1998 Nintendo 64 title, was well received upon release. Months before the game hit shelves in the United States and in Japan, expectations were high for the title. Half a million consumers in America pre-ordered the title before its November 23rd release, though the title would be released just days earlier in Japan, on November 21st (The Free Library, 2014). Over the course of the game’s life, millions of copies would be sold internationally (Nichols, 2014). To this day, critical and consumer acclaim for the title remains high.

All of this, of course, is to emphasize the level of impact Ocarina of Time had among players, many of whom may have very well been children around the time of the game’s initial release. Despite the game’s success, little has been written about the game’s impact upon audiences nor what messages players, especially children, may internalize from spending hours with the game. This, perhaps, may have much to do with perceptions of video games, as “toys for kids, rather than sophisticated vehicles inhabiting and disseminating racial, gender, or national meaning” (Leonard, 2003, p. 1).

It is Ocarina’s perceived status as a childhood toy, however, that provides precisely the best motivation for examining its ideological constructs in further detail. Of interest is how Ocarina, a Japanese-produced title marketed heavily towards Western audiences, expresses various ideas concerning race, culture, and colonialism. In this essay, I offer an ideological critique of Ocarina of Time. Through using Ocarina as an artifact for analysis, I argue that through its portrayal of Western colonialism as an accepted, idealized norm, “Ocarina of Time” furthers a colonialist hegemony wherein Western European culture is privileged and idealized at the expense of colonized cultures.

Literature Review

Though little has been written specifically about the Legend of Zelda franchise, the ideologies espoused by video games has been of some interest to scholars since video games first entered the public conscious. A literature review reveals a growing history of examining the ideologies presented and reproduced by video games across academia. As early as the 1980s, when the majority of video games were simplistic and often crudely rendered offerings on arcade machines or early home console systems, scholars considered their ideological impacts. Early research was often concerned less with racial and cultural themes present in games and moreso with whether video games could influence a child or player’s aggressive ideation. Graybill, Kirsch, and Esselman (1985) concluded that children may, at least in the short-term, adopt more aggressive ideation after playing video games with violent themes. Other scholars, such as Kaplan (1983) and Kiesler, Sproull, and Eccles (1983) concluded that depictions of female characters and female players in media and in games themselves often positioned women as “second class” citizens,
which one can identify as reproducing a hegemony that prioritizes the agency and societal power of men.

Examinations of the specific ideologies of video games, alongside the growing technical refinement of video games as a medium, expanded further in the 1990s. Much of this, perhaps, can be attributed to the growing sophistication of video games and of the improvements in home console technology that allowed for such leaps in complexity. As the 1990s continued, video games grew beyond their initial origins of 8-bit arcade games and simplistic renderings: video games with more colorful and advanced graphics, more nuanced characters, broader and more complex storylines, sophisticated soundtracks, and so on were beginning to emerge. By the end of the 1990s, around *Ocarina of Time*’s 1998 release, most popular video games featured three-dimensional, polygon graphics that allowed for more realistic renderings of people, animals, and settings. Scholars began to further consider video games as a site for reproducing ideologies, including Gottschalk (1995), who accused many video games of reproducing “decidedly violent, paranoid, individualistic, racist, sexist, militarized, and oversaturated” ideologies where players “brutally enforce a ‘zero-tolerance’ policy towards drug-smugglers and a great variety of others, while keeping women ‘in their place’” (p. 14).

Modern ideological criticism of video games often considers a variety of ideological implications, including perceptions of race and culture, the effects of violent imagery, and gender/sexuality. Monson (2012), when considering depictions of race and culture in the popular role-playing game *World of Warcraft*, concludes that *Warcraft*, along with many other fantasy games, perpetuates problematic ideologies of race as biological essentialism where “alliances, language, intellect, temperament, occupation, strength, and technological aptitude” and culture are influenced by the race of characters within the game, whether controlled by players or not. This, of course, is not a phenomenon exclusive to games such as *World of Warcraft*. As Leonard noted video games, regardless of genre, often feature troubling gender and race stereotypes. “Such stereotypes do not merely reflect ignorance or the flattening of characters through stock racial ideas but dominant ideas of race, thereby contributing to our commonsense ideas about race, acting as a compass for both daily and institutional relations” (pp. 85).

Little has been specifically written about the specific ideologies or racial/gender stereotypes present within *Ocarina of Time* or other entries in the *Legend of Zelda* franchise, despite the popularity of the series. Mallindine (2015) proposes that *Ocarina of Time*, through favoring masculine styles of interacting with a landscape, such as through combat or exploration, and through favoring the agency of male characters such as the game’s protagonist, Link, devalues feminine styles of interacting or doing, such as through relating to others, and portrays such gameplay styles as less important and female characters as less able to express their own agency without the intervention of a male. Previous literature has, for the most part, ignored the ideological implications of the *Legend of Zelda* franchise and of *Ocarina of Time*, leaving unexplored space to consider such implications.

**Method**

Ideological criticism concerns itself primarily with the concept of an ideology or “a system of ideas or a pattern of beliefs that determines a group’s interpretations of some aspects of the world” (Foss, 2018, p. 237). By adopting a theoretical lens that seeks to “look beyond the surface structure of an artifact to discover the beliefs, values, and assumptions it suggests” (Foss, 2018, p. 237), one can further consider what ideology the author(s) of a media artifact reproduce or perpetuate, whether consciously or unconsciously.

Ideological criticism, as a practice, concerns a variety of elements, including the formation of hegemonies, defined as ideologies so deeply embedded into the general cultural makeup of social groups or societies that such ideologies are “privileged over others,” resulting in a “dominant way of seeing the world” (Foss, 2018, p. 239). For instance, in mainstream American culture, one such hegemony may be the concept of individualism or self-reliance, as opposed to a hegemony that values collectivism. Hegemonies can become so deeply ingrained that they are normalized among the people of a particular culture or social group, to the extent where a member of such a group may perpetuate or uphold the ideas behind a particular hegemony without questioning such values. Such questions may be seen as abnormal or even offensive to others in the culture. For instance, members of society that favors a patriarchal hegemony may view someone who questions such a system or who suggests a more gender egalitarian structure in a highly negative or dismissive light.

Ideological criticism, as a theoretical lens, has its roots in a variety of critical methods, including semiotics, or the study of signs and symbols. Though studying semiotics may not lead one to necessarily focus specifically on the hegemonies or ideas put forth or perpetuated by a media
artifact, analyzing symbols and signs, which may include examining the use of color, references to other works, and other such elements of a work and what such elements are meant to inspire in the minds of readers (Berger, 2012), involves a deeper level of consideration that lends itself well to considering how such symbols may speak to a particular ideology or hegemony.

To begin to analyze or uncover the ideologies reproduced by a particular medium, scholars may draw upon a number of theoretical lenses, including that of Marxist analysis, where the social, political, and economic arrangements of a society and ideas perpetuated by the ruling class of such a society (often concerning such arrangements in a capitalistic society) that a given media artifact was produced in are considered through examining the values, attitudes, and culture perpetuated by the examined media artifact (Berger, 1982). The concept of “unmasking” ideas and ideologies reproduced by a media artifact is by no means unique to Marxism. Feminist theory, which often emphasizes a focus on gender roles and upon the nature of oppression in various media artifacts, can be said to be a very specific form of ideological criticism (Foss, 2018). While it is not necessary to draw upon either Marxist theory or feminist theory or other such lenses when performing an ideological analysis, such existing theoretical lenses speak to the potency of examining hegemonies and ideologies.

When we consider video games, a more than cursory examination belies stereotypes of video games being a mere toy. This is not to say that toys offer few avenues for ideological criticism. Quite the opposite. Toys may function to reinforce social norms through child’s play, including norms related to culture or economic class (Lima, 2012). Like toys, video games are rich in material with which to consider what values, beliefs, and ideas they communicate to players, whether subconsciously or overtly (Bogost, 2006). Through music, visuals, game mechanics, characters, and setting, one can examine the ideologies perpetuated through video games and their impact upon the worldviews and values expressed and internalized by players, many of whom, like a number of players who encountered Ocarina of Time back when it was first realized, may be young children who accept such ideologies in a more passive manner than, say, an adult player.

To perform an ideological critique, whether of a video game or of another media artifact, one conducts a number of steps to successfully unearth the ideologies buried within the artifact’s construction. First, after an artifact has been selected, a researcher must begin to examine the presented elements in a text, which may give hints as to what ideologies the media artifact adopts and presents. Such presented elements can take a number of forms, including allusions to other artifacts in the work, dialogue, characters, or particular, notable terms (Foss, 2018). After identifying the work’s presented elements, a researcher then further examines these presented elements to determine the artifact’s suggested elements, or what “references, themes, allusions, or concepts...are suggested by the presented elements” (Foss, 2018, p. 245). For instance, if a game requires that a male protagonist must save a princess who is unable to save herself, a researcher may determine that the artifact is suggesting that men are more competent than women and that women require a savior. After uncovering an artifact’s suggested elements, a researcher would then formulate a “coherent framework that constitutes the ideology [they] suggest is implicit in the artifact” (Foss, 2018, p. 245).

To identify the suggested and presented elements and to formulate an ideology present in Ocarina of Time, the author conducted multiple play-throughs of the game. Other titles in the Zelda series were excluded, with only Ocarina of Time considered. Through playing the game, notes and observations were taken, identifying presented elements in the title including dialogue, characters, various settings players have the ability to encounter in the game. Optional side-quests and interactions with side or non-playable characters were considered as well. Once present elements were identified through an extensive list, suggest elements were generated and proposed for each presented element. These suggested elements were then grouped into two broad categories: elements concerning race/culture and elements that considered societal structures. Examining these two broad categories allowed for formulating ideas and a broader ideology present in the identified suggested elements.

To introduce my personal motivations for pursuing this research, I had grown up playing Ocarina of Time regularly as a child. It remained a favorite video game among myself, my older sister, and various childhood friends for years after the game’s release, like many fans of the game. Such an early exposure to the title from a young age provided much interest to perform a detailed ideological criticism. My research considers how the ideas presented in the title might influence ideas and approaches to race and culture held by players who played Ocarina as children or who resonated with the game. It is not to say that such research is meant to accuse Ocarina of potentially encouraging problematic
ideas, rather that we may realize the ideologies often perpetuated unconsciously by a game beloved by people who accepted such ideas with little overt notice.

The Ideology of Ocarina of Time

Ocarina of Time, like other entries in the Legend of Zelda franchise, features protagonist Link, a young elf-like boy tasked with saving the magical land of Hyrule and the ever-periled Princess Zelda from Ganondorf, the villainous king of a desert tribe. Though most entries in the series feature Link, Zelda, Ganondorf, and Hyrule, little continuity is established between games in the series. Link is often merely just a reincarnation in a long line of Links, as are Zelda and Ganondorf reincarnations of their own respective lines (Stars, 2007).

As is typical, however, for most Zelda titles, Link (and the player) must conquer dungeons, battle monsters, and interact with various NPCs, or non-player characters, in order to advance through the game’s story. In Ocarina, Link is called upon to save the medieval-esque land of Hyrule after learning that the evil Ganondorf seeks a magical relic, the Triforce, that will allow Ganondorf to rule the Hyrule should he get his hands on the item and, thanks to the guidance of a prophecy, Link is the only thing that stands between Ganondorf’s rule of the land. Despite players’ attempts to stop him, Ganondorf obtains the Triforce and usurps the Hyrulian throne halfway through the game. Link then must battle Ganondorf with the aid of an array of magical items and through awakening the powers of six magically-gifted allies known as the Sages. Throughout, Link continually time-travels between the past and future with the use of a magical sword, in order to shift between the form of a child and of a young man (Bainbridge, 2013).

Within the first moments of the game, wherein Link finds himself called upon to save Hyrule, the player is centered upon Hyrule and the ruling family who reins over the collected provinces of the land. Like many fantasy settings in media, Hyrule, Ocarina’s setting, emulates a Western European-style kingdom. Store fronts and homes in two of the game’s main areas, Kakariko Village and the aptly named Castle Town, feature Germanic style façades and thatched roofs. Hyrule Castle is the very picture of a stereotypical medieval castle, complete with turrets and a draw bridge. Though Kakariko Village and Castle Town are far from the only areas in the game, they are among the few regions of Hyrule in which players must return to frequently in order to advance the plot and interact with important side-characters. Link must even continue revisiting Castle Town in order to access the Temple of Time, where he is able to travel between time. The Temple of Time, for that matter, even bears a strong resemblance towards a Gothic-style Catholic Church, with high steeples, sharply pointed spires, and ribbed vaults. As the main political hubs of Hyrule, it is Castle Town and Kakariko that players are meant to focus their attention upon saving. One may, of course, argue, that the game cannot truly emulate Western ideals due to having been produced in Japan and by a predominantly Japanese production team. Japanese culture, of course is not immune to the effects of Westernization. A long history of adopting and adapting Western ideals, since the Meiji period of the late 19th century, has existed in Japan (Wachutka, 2016). One cannot also discount the possibility of Nintendo tailoring the title for Western audiences.

Castle Town and Kakariko Village are, of course, the only areas of the game featuring distinct character models for each NPC, all of whom appear to be white-passing. Players do not encounter their first human character of color, not counting members of nonhuman races or the verdant-skinned Ganondorf, until they reach an area of the game known as the Gerudo Valley, where they meet the members of the predominantly female Gerudo tribe, over whom the villainous Ganondorf rules. Many players do not encounter the Gerudo until the end of the game. Only three character models are used for the entire Gerudo tribe, aligning the Gerudo more with Hyrule’s non-human fantasy races, including the rock-like Gorons and the mermaid-esque Zoras, who are, for the most part, nearly identical to other members of their own race. Despite the other races existing within Hyrule and under the jurisdiction of the Hyrulian royal family, only the elven and white townspeople of Kakariko and Castle Town are referred to throughout the game as Hyrulian. Through aligning Castle Town and Kakariko with the “real” Hyrule and aligning the aforementioned areas with Western Europe, Western European culture is cast as the superior culture in Ocarina of Time.

It is, of course, the imperial rule of Hyrule, portrayed as benign, and even beneficial to subordinate cultures, that players are asked to assist in enforcing. One must note the very name of the land Link is asked to save: Hyrule, which denotes a “higher rule” and connotes superiority, righteousness, and justice. A hegemonic structure is implied through both the name of Hyrule and through the very stratification of Hyrulian society in itself. Castle Town is ruled solely by the king and the royal family, with only the provincial townsfolk and an array of castle and town guards underneath them. There is no
nobility to shoulder the weight of carrying the upper echelons of Hyrulian society. Other areas in the game, including the lands in which the fantasy races of the Gorons, Zoras, and the Gerudo dwell, echo this hegemonic structure, with a single king/chief heading the clan and a crowd of underlings below, though each race remains under the thumb of the Hyrulian royal family. Each of these races, whom we will consider further, feature an arrangement of simplistic character traits, shared by all members of each race: the Gorons are a pacificistic cavern and mountain-dwelling people who resemble large, orange ogres; the Zoras, who exhibit humanoid and fish-like traits, prefer rivers and springs as their abode; while the pre-dominantly female Gerudo tribe dwells in Hyrule’s western desert. Like games such as World of Warcraft, race becomes synonymous with culture. We may consider the races of Hyrule to exist within race-based societies, where “race is central to the organization of their social structure” (Monson, 2012, p. 49). Though one can easily perceive the term “race” as being interchangeable with “species” when the races of Hyrule are considered, “the very use of the world race (rather than species) is significant as it simultaneously draws upon and reinforces the preconceived notions of a race-based society” (Monson, 2012, p. 53). Though it should be said that the races/species present within Hyrule, with the exception of the European-esque Hyrulians and the Gerudo, are fantastical and clearly intended to not be perceived as human races or species, note that such depictions are rooted in ideas of contemporary racial politics and ideologies and that the game’s use of the word race cannot allow such ideas to be ignored or dismissed.

Halfway through the game, protagonist, Link, learns of a war that forced his mother into hiding in the Kokiri Forest, where a soon-to-be orphaned Link would be raised. Players never see the events of the war. A side character informs Link that “Some time ago, before the King of Hyrule unified this country, there was a fierce war in our world.” The player learns nothing further about the history of Hyrule or of the war within Ocarina of Time but can, however, infer that this war resulted in the colonization of the other races and cultures existing within Hyrule, including the Gorons and the Zoras. The respective leaders of the Gorons and Zoras claim to have sworn fealty to the Hyrulian King. In the world of Ocarina of Time, their colonial subjugation is largely depicted as a necessary and positive concession to create a united Hyrule. Only through conceding to the hegemonic structure that compromises Hyrule do either race find peace. The other races are seemingly protected from outside threats. One may even miss that each race is under rule from a colonialist power— for the most part, the larger Hyrulian government seems to leave each territory alone, with minimal physical intrusion. But players are notably able to gain access to hidden areas, including the private chambers of one political leader, through demonstrating connections to the Hyrule Royal Family, often through playing a special song or by displaying a letter from a member of the family—in one instance, one area in the Goron’s city is denied to even members of the Goron race, though players are able to easily bypass the barrier through their connections to the Royal Family. In this sense, the claim of colonial power supersedes even the claim colonized regions once had to areas and resources created and inhabited by the colonized.

Both the Gorons and Zoras are depicted as impotent in the face of to resolving internal or external pressures threatening the safety of their cities and territories without outside intervention: Link’s first encounter with the Gorons involves needing to save them from monsters who have infested a cavern through which the Gorons typically harvest their main food supply: rocks, though the Gorons live in a mountainous region and series of caverns surrounded and built of stone. For this, players are made to understand that the Gorons simply “prefer” the higher-quality rocks present in the infested cavern and their own perceived laziness and/or snobbery prevents them from considering other options. The Zoras are nearly as impotent: Link must save their princess from the belly of a monstrous giant fish, which happens to be the Zoras’ deity, Lord Jabbu-Jabbu. Later in the game, after Link has traveled into the future in order to become an adult and fight Ganondorf directly, he finds that the entire Zora tribe has been placed under a sheet of ice, unable to save themselves.

In coming to the rescue of the Gorons and Zoras and, later, the Gerudo race, Link becomes something of a white savior, utilizing modern weaponry and savvy in order to save what the game paints as primitive tribes. Buescher and Ono (1996) describe how intertwined colonialist ideologies may become through Western media: “The ideology of colonialism was rewoven into the social fabric through popular cultural products such as movies, television, novels, radio, and consumer goods” (p. 130). Ocarina of Time participates in this colonialist social fabric through its depictions of settings but also, as suggested previously, through the representation of the characters. Link/the player can later, through an optional side-quest, obtain masks that allow him to adopt the faces of the other races: the Goron, the Zora, and the
Gerudo. In the case of the latter, reception to his disguise is often profoundly negative, with characters often reacting in either fear or disgust at the idea of encountering a Gerudo thief. That Link can pretend to be a woman of color, not to mention the implications of wearing the faces of other races beyond the Gerudo, and use her face as a feat of play-acting is a troubling notion in itself. There is no corresponding Hyrulian mask, for instance. The Gerudo, along with other races, become something that can be carnivalized and adopted as costume.

Link is aligned with the very land of Hyrule itself. Though he, as a child, was raised by the Kokiri tribe, a race of child-like forest people, he learns later that he truly holds Hyrulian parentage. Alignment with the forest, foretold both by his childhood spent within its boundaries and his penchant for wearing green, connects him with the natural landscape of Hyrule. Thus, only a true representative of Hyrule is capable of saving it. His heritage as a Hyrulian legitimizes both his quest and his destiny.

The Gerudo, described as an all-female race (excluding their patriarch, Ganondorf) of horse thieves, exist apart from the rest of Hyrule, though they appear to exist under the larger banner of Hyrule with minimal interference from outsiders. For this, the Gerudo are not received kindly by Hyrule at-large. Residents of Kakariko and Castle Town express, through dialogue, that the Gerudo are to be hated and feared. Stories are recounted of the Gerudo tribe riding through town and stealing away men, to serve as “boyfriends” to tribe members. Their sexuality, in this sense, becomes a weapon, through which the rest of Hyrule, and players by extension, are meant to reject and fear them for. The Gerudos, unlike the Hyruilians, seem to be visually associated with the Middle East. Their clothing suggests stereotypes of Arabian women, complete with veils and curled toe shoes. Though little is said about the culture of the Gerudo, other than their penchant for thieving and their society being comprised mostly of women (Ganondorf is the sole Gerudo male), their iconography aligns them with the Middle East as well. The Gerudo symbol appears frequently throughout Ocarina of Time, often appearing on blocks, hazards, and certain items in the game, including a special shield Link must obtain to advance through the game. This serves to distance the Gerudo from players and mark them as “Other.” In early editions of the game, before the symbol was updated in subsequent remakes, the Gerudo symbol was even a mirrored-image copy of the traditional Islamic crescent moon and star (Lee, 2014).

This was not the only change to iconography in Ocarina, as it relates to the use of Islamic/Arabic imagery. As well as updating the Gerudo symbol/insignia, Nintendo even removed Arabic chanting from one temple’s soundtrack (GameTrailers, 2012). A problem, of course, had been recognized and addressed. However, the Gerudo to this day, across Ocarina of Time rereleases and remakes, remain visually marked as Middle Eastern and Other in terms of dress and symbolism, and, in this sense, “foreign”.

The use of such iconography as quick, visual shorthand for the concept of ‘foreignness’ or to allude to a real-world culture, much like the use of Western European imagery and architecture as a visual shorthand for Hyrule and fantasy, would not be particularly notable, were it not for the use of such imagery to signify peril and evil. Players are soon meant to identify against such cultural trappings and against Ganondorf. The association of the very idea of foreignness, and of evil, with stereotypes of Middle Eastern and/or Islamic culture suggests something deeply problematic. The depiction of the Gerudo and of Ganondorf, who we will further consider, harkens back to traditions of Orientalism, or the appropriation of Middle Eastern and Asian cultural iconography (often through the continual use of stereotypes) by Western cultures.

One aspect of the electronic, postmodern world is that there has been a reinforcement of the stereotypes by which the Orient is viewed. Television, the films, and all the media’s resources have forced information into more and more standardized molds...standardization and cultural stereotyping have intensified the hold of the...imaginative demonology of ‘the mysterious Orient.’ (Said, 1978, p. 26)

Ganondorf serves an agent of the mysterious Orient, representing Western colonialist fears of non-White, "uncivilized" men harming women, both white and non-white, both of whom are depicted as in need of the interference of a white savior male; Link not only must save Princess Zelda from Ganondorf’s grasp but he is also tasked with, in one instance, rescuing a scantily-dressed Gerudo woman who has been imprisoned and enslaved by Ganondorf and his minions. This is achieved through foregrounding not only Ganondorf’s identity as an evil king but through his associations with the untamed Gerudo desert and the Gerudo tribe. It is Link, the white Westerner, who must ultimately conquer Ganondorf and maintain Hyrule and
its Western ideals. And it is players who are asked to align themselves with these Euro-Christian values to identify themselves implicitly with the character of Link and with the land of Hyrule.

**Discussion**

Is all this to say that *Ocarina of Time* is a racist or problematic game? To venture such a statement would be far too simplistic. When discussing hegemonies and ideology, one may assume that a researcher operates under the assumption that there exists an intentional, clandestine effort to perpetuate racist/problematic ideas to young players. Instead, one must consider that the developers and producers of videogames are occupants of the same hegemonic structures that the games they produce are influenced by and, whether consciously or not, may reproduce the ideologies behind such hegemonic structures in media artifacts that they have a hand in creating.

This, of course, implies another question. Though Nintendo is an international company with a significant reach in North America, the company originated in and maintains headquarters in Japan. Thus, we cannot critique or analyze the ideology of *Ocarina* through a purely Western perspective. In this, I admit a shortcoming: as *Ocarina* may be influenced by the ideologies of the surrounding cultures that the game was produced in, so my own views are influenced by the culture I was raised in. Though I have done my best to account for my limited experience and cultural lens, it remains important to consider such shortcomings. Racial/racist ideologies are certainly not a phenomenon that is, of course, unique to American culture. Whether the ideology perpetuated by *Ocarina* is a reflection moreso of Japanese culture or an attempt to emulate Western American culture and appeal to perceived international tastes is another question. That the setting in *Ocarina* is intended as one that emulates and references medieval European culture would imply that the perceived cultural constructs of such a culture were heavily drawn upon. The idea that the player character is asked to save and restore Hyrule takes such an idea one step further: Hyrule, as a Western European colonist power, is presented as an ideal within *Ocarina*.

Further ideological research could identify whether Nintendo has taken steps to address its depiction of race-based societies in post-*Ocarina* titles and whether depictions of characters such as the villainous Ganondorf are depicted in ways that avoid the same dependence of Middle Eastern or Orientalist iconography to designate non-European cultures as evil “Others”. With dozens of *Zelda* games released in the years since *Ocarina* premiered, one can only hope.

Video games prove especially ripe for ideological discussion, both due to the idea that gamers often spend hours absorbed in one particular game and due to the intricacy of the games in question. Though *Ocarina* itself, despite being over twenty-years-old, is a fairly sophisticated game for its age, it is my hope that further research will continue to explore the ideological constructs and hegemonies of video games as mass media artifacts through a variety of theoretical lenses.

**Conclusion**

The ideology of *Legend of Zelda: Ocarina of Time* presents a number of troubling notions concerning the alignment of Western culture with civility and goodness and the alignment of non-Western, especially those stereotyped as Orient, cultures as impotent at best and evil at worst. This ideology serves not only to utilize non-Western and Orient cultures as a visual shorthand for evilleness or Otherness but to position Western European culture as that of a civilized savior, acting to perpetuate its own interests and ideologies.

It is the nature of *Ocarina* as a video game that raises a number of questions concerning the ideological perceptions of players. Players must explicitly assume the role of Link, the savior of Hyrule. Doing so, they align themselves with *Ocarina*’s colonialist ideology, perpetuating it both within and possibly outside of the confines of the game. Scholar Simon Gottschalk (1995) writes that through utilizing white heroes and seemingly foreign villains, videogames like *Ocarina* “[imply] that whatever is not-self...is most probably hostile, dangerous, and involved in unacceptable activities” (p. 14). Video games, far from passive media, may impart worldviews that are often accepted unconsciously and unquestioningly by players, begging the question: with what ideologies are players asked to identify with or against? “As stimulating machines, video-games enable active participation...as socializing agents, they might offer more pleasure than television watching and might thus displace it as a site/practice of ideological communication” (Gottschalk, 1995, p. 15). Games such as *Ocarina* are certainly no exception. The ideas that players accept or are asked to identity against, unquestioned, from *Ocarina*, are worth consideration in the face of hegemonic structures endorsed by players, often unconsciously, later in life.
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Bacterial Abundance and Resistance in Ground Beef Varieties

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Faculty Sponsor: Dr. Sarah Boomer

Raw ground beef purchased at supermarkets across America have one thing in common: they harbor bacteria, some of which are drug resistant and can be detrimental to public health. To understand the impact of farming and processing practices on the quantity of bacteria and drug resistance, organic and regular beef were assessed using MacConkey media. Bacterial colonies were sorted according to lactose utilization, with positive colonies representing fecal E. coli. Lactose negative colonies were further characterized into one of two groups (fecal Hafnia-like or soil Pseudomonas) using a variety of metabolic tests (oxidase, sulfur, indole). Advanced metabolic testing showed that regular beef contained significantly more fecal E. coli-like bacteria, Hafnia-like bacteria and fecal Providencia-like bacteria than organic beef. Soil Pseudomonas was only isolated from regular beef. This procedure was repeated using MacConkey plates containing commonly used agricultural antibacterial drugs to assess the prevalence and types of drug-resistant bacteria. Bacteria resistant to penicillin, sulfamethazine, cefazolin, or ampicillin were found at significantly higher levels on regular beef than organic. Bacteria resistant to more than one of these drugs were only found on regular beef.

Keywords: Ground beef, antibiotic resistance, E. coli, Pseudomonas, food safety, MacConkey

Introduction

Ground beef makes up 60% of all retail beef sales (Close, 2014). With its versatile nature and low price point, it is no surprise that the average American consumes around 53 pounds of ground beef per year (Close, 2014). Although ground beef is popular, it is also problematic because it can harbor bacteria that may be pathogenic and antibiotic resistant (Landers et al., 2012, Rock, 2015).

Beef bacteria may originate from the soil (e.g. Pseudomonas) or from feces (e.g. E. coli, Hafnia, Providencia, or Salmonella). When ground beef is produced, the grinding process increases the surface area of the beef and exposes more of the beef to bacteria. These methods of production increase the ability for it to transmit bacteria to consumers.

Ground beef production in America adheres to Sanitation Standard Operating Procedures, which attempts to reduce the amount of bacteria on the beef (USDA, 2016). The United States Department of Agriculture (USDA) also mandates the testing of beef for the presence of E.coli. The number of tests required to be conducted by a facility increases as the volume of ground beef produced at that particular establishment increases (USDA, 2017).

Nevertheless, even when all precautions are followed, bacteria can still be found on both organic beef samples, which contain no added antibiotics or hormones, and regular beef samples which contain added antibiotics and hormones (Landers et al., 2012; USDA, 2015). Matters are further complicated by the use of antibiotics in conventional agricultural methods. A byproduct of this antibiotic use in agriculture is the presence of antibiotic resistant bacteria on agricultural products (Landers et al., 2012, Young & Hoffman, 2014). It has recently been demonstrated that foodborne bacteria like E.coli or Salmonella have the ability to transmit antibiotic resistant infections - such as urinary tract infections, pyelonephritis, bloodstream infections, and diarrheagenic gastrointestinal infections (Landers et al., 2012, Young & Hoffman, 2014, Nordstrom et al., 2013).

Pathogenic bacteria have been detected in beef for years, including E.coli, C. perfringens, S. aureus/MRSA, and Salmonella (Rock, 2015, Jackson et al., 2013). In 2008, antibiotic resistant E.coli was cultured from the feces of feedlot cattle using MacConkey agar amended with tetracycline or ampicillin; these studies concluded that the use of antibiotics increased the prevalence of resistant E.coli in the feedlot cattle (Alexander et al., 2008). E.coli isn’t the only bacteria of concern. In 2017, the CDC used DNA-based methods to link an outbreak of Salmonella to contaminated ground beef. This outbreak spread to 21 states and affected 106 people (Marshall et al., 2018). Researchers have also found greater levels of antibiotic resistant bacteria and multidrug resistant bacteria on conventionally raised beef compared to
sustainably raised beef that was either raised with no antibiotics or was organic or grass-fed (Rock, 2015).

With the danger of antibiotic resistant infections ever looming, it is important for modern consumers to understand the relationship between the overall abundance, antibiotic resistant qualities, and multidrug resistant qualities of bacteria present on regular and organic ground beef, so that they can make educated decisions about the products that they are consuming.

The goals of this study are to understand the impact that farming and processing practices have on the quantity and drug resistant nature of ground beef varieties via quantification and categorization of beef bacteria isolates. This study replicates and reflects some earlier work but expands understanding of multi-drug resistance using distinctive drug combinations, as well as examining contamination levels in local beef and grocery products from Oregon.

**Material and Methods**

**Sample Acquisition:**

Packages of regular ground beef and USDA certified organic ground beef, which came from cows who were not given added antibiotics or hormones (USDA, 2015), were purchased from local grocery stores in Monmouth, Oregon. In total, 4 different packages of regular beef and 4 different packages of organic beef were analyzed over a period of 2 years (Table 1).

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<td>Organic 2, Winter 2017</td>
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<td>Kumar</td>
<td>Lactose, Oxidase</td>
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<td>Organic 4, Winter 2018</td>
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<td>E. coli Pseudomonas Hafnia Providencia</td>
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<td>Regular 4, Winter 2018</td>
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¹ MacConkey plates contained no antibiotics.

² MacConkey plates contained a concentration of 50 µg/mL of a tetracycline.

³ MacConkey plates contained a concentration of 50 µg/mL of a single antibiotic (kanamycin, sulfamethazine, ampicillin, penicillin or cefazolin).

⁴ MacConkey plates contained a total concentration of 50 µg/mL of a combination of two antibiotics (penicillin/sulfamethazine or penicillin/cefazolin).
**Antibiotic MacConkey Plates:**

Bacterial media was prepared using 25 grams of Difco MacConkey agar (Difco, Sparks, MD), 3 grams of additional agar, and 500 mL water. This mixture was autoclaved for 20 minutes, cooled in a 55-60°C water bath for 1 hour and poured into petri dishes. MacConkey agar was used because it is both differential and selective. MacConkey agar is selective in that it only allows Gram negative bacteria to grow. The agar is differential because it turns bacterial colonies that ferment lactose (lac+) purple, and colonies that do not ferment lactose (lac-) white, allowing us to categorize the types of bacteria present on beef samples (Table 1, Figure 1).

For media containing antibiotics, a stock solution of 10 mg/ml was created using antibiotic dissolved in ethanol or water. The dissolved antibiotics were incorporated into the cooled, sterilized liquid MacConkey agar mixture to make a final concentration of 50 µg/mL. The drugs chosen to test for resistance were those used most commonly in agriculture, including kanamycin, tetracycline, sulfamethazine, ampicillin and penicillin. One more recent drug, cefazolin, was also included because of reported drug resistance in the poultry industry (Millman, 2013). All antibiotics were purchased from Sigma-Aldrich, MO. For assessment purposes, colonies that grew in the presence of the antibiotic were considered to be resistant. Multidrug resistance was assessed using two-drug combinations of penicillin and sulfamethazine (pen/sulf) and penicillin and cefazolin (pen/ceph).
**Bacterial Isolation and Testing:**

Bacteria were isolated from beef samples by placing 5 grams of thawed beef in water (100 mL). The mixture was then placed on a shaker table for one hour at room temperature. A small amount (0.1 mL) of the beef liquid was spread on MacConkey agar with or without antibiotics. These plates were then incubated at 37 degrees Celsius and checked for growth after 48 hours.

Following isolation, bacteria were categorized by their utilization of lactose. Purple lactose positive (lac+) colonies were defined as E. coli-like. White lactose negative (lac-) colonies were further categorized using oxidase testing (BD BBL™ Taxo™ N Discs, Becton and Dickinson and Company, Sparks, MD) to determine if the bacteria produces the enzyme cytochrome oxidase. In our initial assessments, which were carried out by students in General Microbiology, we defined the lac-/ox- colonies as uncertain but resembling Salmonella, and the lac-/ox+ colonies as Pseudomonas-like. We then performed more advanced testing of lac-/ox- colonies using sulfur indole media (SIM), which tests for the production of sulfide and formation of indole (BD BBL SIM Medium, Becton, Dickinson and Company, Sparks, MD). These tests determined that “uncertain/Salmonella-like” colonies were actually “Providence-like” or “Hafnia-like.” Testing and determination of which category a bacterial colony belonged to is summarized in Figure 1 and Table 1.

**Statistical Analysis:**

Regular vs. organic beef bacterial counts were compared using a Microsoft Excel two-tailed unpaired t-tests to assess if the difference in contamination levels and antibiotic resistant colony counts were significant. The initial testing from the spring and winter 2017 were combined into one dataset while antibiotic resistance was assessed using advanced testing and a combination of two datasets and multidrug resistance was assessed advanced testing and only one dataset.

For initial testing (lac/ox testing only) regarding overall bacterial abundance, 2 organic beef samples (organic 1 and 2, Table 1) were compared to 2 regular samples (regular 1 and 2, Table 1) – one set from the winter of 2017 (15 MacConkey plating replicates for each), the other from the spring of 2017 (36 MacConkey plating replicates for each). For the statistical assessments of regular and organic samples 1 and 2, all plating replicates (51 total) were combined for organic samples and compared with all plating replicates (51 total) for regular samples to determine reported significance as summarized in figure 2.

For advanced testing (lac/ox/sulf/indole) regarding overall bacterial abundance, 1 organic beef samples (organic 4, Table 1) was compared to 1 regular sample (regular 4, Table 1). The 6 organic sample replicates were compared to the 6 regular sample replicates to determine reported significance as summarized in figure 3.

For the antibiotic resistance testing using tetracycline, 1 organic beef sample (organic 3, Table 1) was compared to 1 regular beef sample (regular 3, Table 1). The 30 organic sample replicates were compared to the 30 regular sample replicates to determine reported significance as summarized in figure 4.

For the antibiotic resistance testing using kanamycin, sulfamethazine, ceftazolin ampicillin or penicillin, 1 organic beef sample (organic 4, Table 1) was compared to 1 regular beef sample (regular 4, Table 1). The 6 organic sample replicates were compared to the 6 regular sample replicates to determine reported significance for each antibiotic as summarized in figure 4.

For the assessment of multidrug resistance using combinations of penicillin/sulfamethazine (pen/sulf) or penicillin/ceftazolin (pen/ceph), 1 organic beef sample (organic 4, Table 1) was compared to 1 regular sample (regular 4, Table 1). The 5 organic sample replicates were compared to the 5 regular sample replicates to determine reported significance for each multidrug combination as summarized in figure 5.

**Results**

**Initial ID Testing Winter and Spring 2017-2018**

A portion of this project (winter 2017 through spring 2018) involved General Microbiology (BI 331) students counting and comparing E.coli-like, uncertain/Salmonella-like, or Pseudomonas-like bacteria from regular vs. organic beef using oxidase testing and lactose utilization results, as summarized in Figure 1 and Table 1.

Combined data from all classes showed that regular beef had significantly more E.coli-like bacteria (6667 colonies/gram) than organic beef (101 colonies/gram) ($p = 0.020$). Regular beef had significantly more uncertain lac-/ox- bacteria (23231 colonies/gram) than organic (626 colonies/gram) ($p < 0.0001$). Regular beef had significantly more Pseudomonas-like bacteria (5273 colonies/gram) than organic beef (670 colonies/gram) ($p = 0.0025$).
Figure 2: Initial Sample Assessments. Colonies were classified as E.coli-like (p < 0.05), Uncertain lac-/ox (p < 0.0001) or Pseudomonas-like (p < 0.0025) using the visual lactose phenotype displayed on the MacConkey agar and oxidase testing. Error bars represent standard error of the mean.

Figure 3: Advanced Sample Assessments. Colonies were classified as E.coli-like (p < 0.0001), Hafnia-like (p < 0.0001), or Pseudomonas-like (p < 0.0001), Providencia-like (p < 0.5379) using the visual lactose phenotype displayed on the MacConkey agar, oxidase testing, and sulfur-indole (SIM) testing. Error bars represent standard error of the mean.

Advanced ID Testing Spring 2018

In order to better characterize lac(-)/ox(-) colonies, we carried out advanced testing using sulfur-indole media (SIM) (Figure 1, Table 1). These results demonstrated that class-defined uncertain lac-/ox- colonies were Providencia-like or Hafnia-like. Regular beef contained significantly more E.coli-like bacteria (2333 colonies/gram) than organic beef (167 colonies/gram) (p < 0.0001; Figure 3). There were also significantly more Hafnia-like bacteria on regular beef (2523 colonies/gram) than organic beef (473 colonies/gram) (p < 0.0001; Figure 3). Regular beef also had significantly more resistant Pseudomonas-like bacteria (3042 colonies/gram) than organic beef (46 colonies/gram) (p < 0.0001). Regular beef had significantly more resistant Hafnia-like bacteria (435 colonies/gram) than organic beef (114 colonies/gram) (p < 0.0001). Regular beef had significantly more resistant E.coli-like bacteria (2482 colonies/gram) than organic beef (117 colonies/gram) (p < 0.0001). Only organic beef contained resistant Providencia-like bacteria (24 colonies/gram).

Bacteria exhibited sulfamethazine resistance in both regular and organic beef. Regular beef had significantly more resistant Pseudomonas-like bacteria (3042 colonies/gram) than organic beef (46 colonies/gram) (p < 0.0001). Regular beef also had significantly more resistant Hafnia-like bacteria (435 colonies/gram) than organic beef (114 colonies/gram) (p < 0.0001). Regular beef had significantly more resistant E.coli-like bacteria (2482 colonies/gram) than organic beef (117 colonies/gram) (p < 0.0001). Only organic beef contained resistant Providencia-like bacteria (24 colonies/gram).

Bacteria exhibited cefazolin resistance in both regular and organic beef. Regular beef had significantly more resistant E.coli-like bacteria (563 colonies/gram) than organic beef (113 colonies/gram) (p = 0.0017). Organic beef had resistant Pseudomonas-like bacteria (150 colonies/gram). Only regular beef had resistant Hafnia-like bacteria (2580 colonies/gram). No resistant Providencia-like bacteria were found in either regular or organic beef.

Bacteria exhibited penicillin resistance primarily in regular beef. Only regular beef contained resistant Hafnia-like bacteria (1675 colonies/gram), resistant
E.coli-like bacteria (316 colonies/gram), and resistant Providencia-like bacteria (240 colonies/gram). There were no resistant Pseudomonas-like bacteria in either regular or organic beef.

Bacteria exhibited ampicillin resistance in both regular and organic beef. Only regular beef had resistant Pseudomonas-like bacteria (1750 colonies/gram) and resistant E.coli-like bacteria (913 colonies/gram). Regular beef contained more resistant Hafnia-like bacteria (583 colonies/gram) than organic beef (300 colonies/gram) but the difference was not significant (p = 0.0559). No resistant Providencia-like bacteria were found in either regular or organic beef.

Of the antibiotics studied, only two drugs, kanamycin and tetracycline, inhibited all bacterial growth in all beef varieties. This suggests that the bacteria found on regular and organic beef samples have yet to develop resistance to kanamycin or tetracycline.

**Figure 4:** Antibiotic resistant colony counts in the presence of sulfamethazine (sulfa), cefazolin (ceph), ampicillin (amp) and penicillin (pen). Colonies were classified as *E.coli*-like, *Hafnia*-like (Haf-like), or *Pseudomonas*-like (Pseudo-like), *Providencia*-like (Prov-like). Error bars represent standard error of the mean. Kanamycin and tetracycline resistance was not recovered.

**Multidrug Resistance**

Significantly, no multidrug resistant colonies to combinations of pen/sulf and pen/ceph were found in any organic beef sample (Figure 5). In contrast, multidrug resistant colonies were found across most bacterial categories on regular beef (Figure 5): Regular beef harbored pen/sulf resistant Pseudomonas-like colonies (28 colonies/gram), Hafnia-like colonies (84 colonies/gram) and E.coli-like colonies (240 colonies/gram). Regular beef harbored pen/ceph resistant Hafnia-like colonies (94 colonies/gram) and E.coli-like colonies (100 colonies/gram).

**Figure 5:** Multidrug resistant colony counts in the presence of penicillin/sulfamethazine (pen/sulf) or penicillin/cefazolin (pen/ceph) combinations. Colonies were classified as *E.coli*-like with resistance to pen/ceph, *Hafnia*-like (Haf-like) with resistance to pen/ceph, *Pseudomonas*-like (Pseudo-like) with resistance to pen/ceph or pen/sulf, or *Providencia*-like (Prov-like) with resistance to pen/ceph or pen/sulf. Error bars represent standard error of the mean.
Discussion

Our study of the abundance and bacterial resistance qualities of beef bacteria show that regular beef contains more contamination overall (Figure 3), as well as more antibiotic resistance – both in terms of single drug (Figure 4) and multidrug resistance (Figure 5). Our findings are consistent with previous studies on ground beef that reported more antibiotic resistant bacteria, and overall bacterial contamination on beef samples from cows that were fed antibiotics and hormones (Rock, 2015).

Initial class findings suggested that there was a significant difference between the levels of all surveyed bacteria, with greater contamination found on regular beef (Figure 2). The presence of Pseudomonas-like bacteria and E.coli-like bacteria on packaged meats has been documented, with Pseudomonas most notably associated with meat spoilage (Ercolini et al., 2009) and E.coli most associated with pathogenic foodborne disease (Lim et al., 2010).

In 2018, we made further efforts to identify the lac-/ox- colonies using additional identification tests, and were able to categorize the colonies as Providencia-like or Hafnia-like (Table 1, Figures 1 and 3), as further confirmed by preliminary DNA-based studies (data not shown). These findings are supported by Consumer Reports studies, which only recovered Salmonella in 1% of their samples (Rock, 2015). The presence of Providencia-like bacteria on ground beef is supported by Shima et al., 2016, who reported that 68% of beef samples from Thailand contained Providencia species. The presence of Hafnia-like bacteria on ground beef samples has been supported by Kang et al., 2002, who recovered Hafnia from microbially gas-inflated beef packages.

Varying levels of antibiotic resistance were found to most common agricultural antibiotics - sulfamethazine, cefazolin, ampicillin, and penicillin (Figure 4). The general finding of antibiotic resistant bacteria in food-animal products is a well-documented threat to public health (Landers et al., 2012). While our study found no tetracycline resistance, past studies have recovered extensive tetracycline resistance in beef bacteria (Shin et al., 2015). The resistant qualities of E.coli-like bacteria is well documented, so it is no surprise that we consistently observed E.coli-like resistance to sulfamethazine, cefazolin, ampicillin, and penicillin (Klein et al., 1998). Our study found that regular beef harbored more antibiotic resistant bacteria than organic beef, consistent with the Consumer Reports study that showed that beef raised with hormones and antibiotics typically harbored more antibiotic resistant bacteria (Rock, 2015).

Multidrug resistance is most commonly associated with the Gram positive bacteria, Staphylococcus (Nikaido, 2009). However, pathogenic Gram negative bacteria like E.coli and Pseudomonas are also developing multidrug resistance and becoming a bigger threat to public health, with certain strains of Pseudomonas quickly becoming “pan-resistant,” meaning resistant to all commonly used antibiotics (Nikaido, 2009). Our study utilized 2 two-drug combinations (penicillin/cefazolin and penicillin/sulfamethazine) to assess the quantity of multidrug resistant bacteria. Multidrug resistant bacteria were only recovered from regular beef, suggesting a direct relationship between the use of antibiotics in the production of regular beef and the evolutionary selection of antibiotic resistant bacterial strains present in those cows and beef products (Figure 5). Our findings echo the results of the Consumer Reports study that showed that there was a greater amount of multidrug resistant bacteria on beef samples raised with antibiotics and hormones (Rock, 2015).

The goals of this study were to understand the impact of farming and processing practices on the quantity of bacteria and drug resistant qualities of organic and regular beef bacteria. Using differential and selective agar, metabolic tests and antibiotics, we have shown that regular beef contains overall greater levels of bacteria, antibiotic resistance, and multidrug resistance than organic beef. Future studies need to be done to determine the effectiveness of other multidrug combinations.

Acknowledgements

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References


Facilitators and Barriers: Older Adults' Fitness Engagement at an Independent Living Community

Elisa Moore, Western Oregon University
Faculty Sponsor: Dr. Margaret Manoogian

In order for a growing aging population to preserve autonomy, older adults need to maintain mobility levels through participating in physical activity (Costello, Kafchinski, Vrazel, & Sullivan, 2011). The importance of physical activity in older adult life is widely recognized, yet older adults are the least active age group in the United States (Bethancourt, Rosenberg, Beatty, & Arterburn, 2014). This qualitative study focused on physical activity through individual interviews with older men and women (N=10) residing in an independent living community. Understanding more about what contributes to engagement may help to improve wellness programs in independent living communities.

Keywords: Older Adults, Physical Activity, Independent Living

Introduction

To preserve independence in later years, older adults need to maintain their mobility levels largely through engaging in physical activity (Costello, Kafchinski, Vrazel, & Sullivan, 2011). Physical activity is widely recognized as important, yet older adults are the least active age group in the United States (Bethancourt, Rosenberg, Beatty, & Arterburn, 2014). This qualitative study focused on the facilitators and barriers regarding physical activity through individual interviews with older adults residing in an independent living community. Understanding more about what contributes to engagement in physical activities will help to inform how wellness programs can be structured among older adults within this type of residential community.

Understanding Barriers and Facilitators to Physical Exercise among Older Adults

Older adults typically view physical limitations as the main barrier to participating in physical activity (Bethancourt, Rosenberg, Beatty, & Arterburn, 2014). Specifically, chronic pain or ongoing injuries tend to be the top challenges that prevent older adults from attending fitness classes or engaging in individual fitness activities (Bethancourt et al., 2014; Burton et al., 2017; Haber, 2010; Petursdottir, Arnadottir, & Halldorsdottir, 2010). Fatigue also has been described by older adults as a major barrier to exercise (Petursdottir, Arnadottir, & Halldorsdottir, 2010). According to Bethancourt et al. (2014), older adults become more aware of their physical limitations as they age, which leads to reduced self-confidence, and in turn less physical activity. Fear of falling or injury while exercising are commonly cited as barriers to exercise in research studies focusing on older adults and physical engagement (Aldwin, Igarashi, Fox, & Levenson, 2018; Burton et al., 2017; Costello, Kafchinski, Vrazel, & Sullivan, 2011; Simmonds, Hannam, Fox, & Tobias, 2015). More specifically, older adults find potential joint injury as a concern for higher intensity exercise, such as running (Costello, Kafchinski, Vrazel, & Sullivan, 2011). In a study by Bethancourt et al. (2014), older adults who had physical limitations felt that they were more likely to have a fall and take longer to recover from a fall. Some older adults highlight lack of time as a barrier that prevents them from participating in exercise programs, noting that they are busy with commitments such as volunteering, social events, or community activities (Costello, Kafchinski, Vrazel, & Sullivan, 2011).

Despite barriers in place, older adults have noted some of the reasons that they stay engaged in physical activities. For instance, older adults use physical activity as a way to manage chronic conditions (Bethancourt, et al., 2014; Haber, 2010; Hardy & Grogan, 2009; Nelson et al., 2007). Older adults with osteoarthritis felt that physical activity was a part of the treatment for their chronic condition, which motivated them to exercise (Bethancourt et al., 2014). While older adults admit fear of falling is a barrier to engaging in physical activity, older adults also find that regular exercise may be a way to prevent falls (Aldwin, Igarashi, Fox, & Levenson, 2018; Barnett, Smith, Lord, Williams, & Baumand, 2003; Bherer, Erickson, & Liu-Ambrose, 2013; Burton et al., 2017; Costello, Kafchinski, Vrazel, & Sullivan, 2011; Haber, 2010). Older adults cite that they feel better physically when exercising and are motivated to participate in exercise activities in order to maintain their overall health...
(Bethancourt et al., 2014; Burton et al., 2017; Hardy & Grogan, 2009; Ip et al., 2013). Social support has been identified by older adults as one of the top motivations to participate in physical activity (Costello, Kafchinski, Vrazel, & Sullivan, 2011; Hardy & Grogan, 2009; Shin, 2016). Costello et al. (2011) found that older adults were motivated to exercise when they were with a spouse or in a group, and they felt social fitness groups were also support groups due to companionship. Also noted in related research studies, proximity and accessibility of the exercise equipment and exercise classes facilitate physical activity in retirement communities (Petursdottir, Arnadottir, & Halldorsdottir, 2010).

Method

This qualitative study was created by an undergraduate gerontology student employed as the Wellness Leader where the present study took place, along with a faculty mentor, to understand how older adults in independent living communities make choices and engage in physical activities. After Institutional Review Board (IRB) approval was received, data were collected in an independent living community within a larger non-profit, faith-based long-term care facility located in the Willamette Valley of Oregon. Criteria for this study included: (a) an older man or woman with a minimum age of 55 years; (b) current residence in an independent living community; (c) willingness to participate; and (d) availability for in-person interviews.

Sample

Participants in this study (N = 10) averaged 78.7 years of age (SD = 10.45). Of the 10 participants (female = 7), five were widowed, three were married, one was divorced, and one was single. All participants received a high school diploma, and seven participants completed college coursework. Participants rated their overall physical health on a scale of 1 (very poor) to 5 (very good) with ratings reported as moderate (n = 2), good (n = 6), and very good (n = 2). Participants identified walking (n = 9), exercise classes (n = 8), exercise equipment (n = 6) and other activities such as gardening and table tennis as their preferred types of exercise. Half of the sample engaged in some form of daily exercise (n = 5) with others indicating that they exercised five times/week (n = 2), three times/week (n = 2), and one time/week (n = 1).

Procedure

After approval was secured from the Executive Director of the long-term care community, participants were recruited through telephone calls or face-to-face communication. Interviews were conducted either in the participants’ homes or an office located within the community. After gathering basic demographic information, a semi-structured protocol was used for the interviews focusing on participants’ perceived importance of physical activity, self-rating of overall physical health, frequency and forms of physical activity, barriers and facilitators to participating in physical activity, and evaluation of current physical activity opportunities offered within their community. Participants were not monetarily compensated for their time, but they were given time to ask questions related to physical activity and the exercise options available at their community. Each interview was audiotaped and transcribed verbatim. Pseudonyms have been used in the presentation of the data.

Data Analysis and Coding

After data collection was complete, recordings and transcriptions were assessed to confirm accuracy. With multiple readings and discussion, a broad coding structure was developed as outlined by Berg (2011). In the first phase of data analysis, six major codes were identified including: a) barriers to participating in physical activity; b) facilitators to participating in physical activity; c) importance of physical activity; d) exercising alone or with others; e) excuses; and f) knowledge of available fitness opportunities.

In the second phase of data analysis, subcodes were determined resulting in 27 codes in total. For instance, barriers to participating in physical activity included subcodes such as: a) fear of falling; b) fear of injury; c) time conflicts; d) physical limitations; e) laziness; f) age-related mobility decline; g) lack of interest; h) lack of information or knowledge about the exercise options available, and i) location of exercise classes. Facilitators to participating in physical activity subcodes included: a) social support and accountability; b) continuation of early life experiences; c) proximity to equipment; d) bending to a garden; e) having pets; f) being an inspiration to others; g) maintaining health and mobility; h) enjoyment; i) losing or maintaining weight; j) maintaining flexibility and becoming limber; k) feeling of an addictive aspect; and l) managing chronic conditions. Excuses included: a) lack of motivation; b) busy schedules; c) beliefs that
exercising/coming to an exercise class was all or nothing; d) lack of knowledge of their abilities and the exercise classes; and e) misconceptions that age alone was a barrier to participating in physical activity.

Results

Participants offered rich descriptions of their daily engagement with physical activities. Four key themes emerged from their participation in interviews. The first theme, *attitudes towards exercise*, focused on participants’ descriptions of the importance of physical activity and their thoughts on why it was beneficial to them. The second theme, *social support*, included participants’ feelings on accountability and finding exercise more enjoyable in a group setting. The third theme, *physical limitations*, focused on participants’ own limitations but was also described as the top barrier to others in their community participating in physical activity. The fourth theme, *views on physical activity opportunities in their community*, included participants’ thoughts about current exercise classes and other physical activity opportunities available, as well as hopes for the future of the wellness program in their community.

“To Me, It’s Like Brushing Teeth”: Attitudes Toward Exercise

Participants felt that engaging in physical activity was a continuation of early life experiences from both parental guidance to the routines they held when they were younger. Janet, an 87-year-old participant who walks every day, commented: “I think it’s just a way of life. Growing up, we all walked because that’s just how you got somewhere.” When describing the reasons for continuing to exercise throughout her life, Susan, a 77-year-old retired teacher, noted, “My mother ran exercise studios, so we grew up with that mentality.” As said by a participant who recently moved into the independent living community: “I was raised in the country, and us kids were always out doing something. Mom didn’t want us in the house, so I had to keep busy” (Patricia, age 76).

Maintaining health and mobility were also reasons participants felt that exercise was important. As Aggie, a 90-year-old participant, explained: “I don’t have a cane, I don’t have a wheelchair or anything like that. I want to keep that up.” Even more critical for some participants was exercising to manage their chronic conditions. Art, an 89-year-old participant living with Parkinson’s Disease, admitted, “I think I’d be in a basket if I wasn’t staying active,” and on dealing with his Parkinson’s symptoms: “I just feel better, exercising. Staying active is the trick. If you don’t use it, you lose it.”

While participants did feel that exercise was important, they mentioned their own excuses for not participating in physical activity and the reasons they felt that others were not participating. When asked why she thought others in the community did not participate in the exercise classes, a participant who comes to a group exercise class three times a week felt that: “People use excuses. When I first came here, I was a little bit like, I don’t know if I can do what they’re doing. But then you get there, and you do what you can do” (Sandy, age 82).

Participants also noted that they believed other residents were not as active in the exercise classes because they discounted their ability to participate. Only two participants admitted that laziness was their excuse to not exercising. As said by Betty, an 87-year-old participant who exercises once a week, “But there again, I’ve got that laziness. It’s easy if you just say, I’ll do it tomorrow.” Many participants felt that laziness was the reason why group exercise class participation rate was low. When asked what she thought kept others from coming to class, Patricia commented: “Pure laziness. Some people just want to stay in their room and do nothing. Not me.”

“I’d Rather Be With a Group”: Social Support and Accountability

Some participants did feel that engaging in a group exercise class made them more likely to exercise because of the accountability they felt. When asked about the group exercise classes, Art thought: “That’s why the classes are really excellent. Because you think, they’re waiting for me, they’re expecting me. I better go there.” Two participants were previously involved in local weight loss groups, Curves and TOPS (Take Off Pounds Sensibly), and felt those were positive influences on their physical activity levels. With a laugh, Janet noted: “I enjoy the fellowship of the classes. It’s fun to come to class.” As said by Joan, a 71-year-old widow who is legally blind: “I like to be around people, that’s why I prefer the group exercise. If I do it on my own, I’m not going to do it.” Overall, participants described the social aspect of physical activity as “motivational,” “more fun,” and “inspirational.”
“I Do Have a Sore Knee, and It’s Hard to Keep Up”: Physical Limitations and Barriers

Participants believed that physical limitations were the top barrier that prevented themselves and others from engaging in physical activity. Some participants faced chronic symptoms: “Sometimes the Parkinson’s is a challenge. It depends. Sometimes I feel it and sometimes I don’t” (Roy, age 56). Janet commented, “Up until getting cancer, I was doing everything that I wanted to do”. Others faced long term injury barriers, such as Sandy, who noted, “I have a bad knee, and a torn rotator cuff, so there are some challenges.”

Another barrier was fear of falling and balance issues. Susan described her experience with walking outdoors: “I used to walk outside all the time. But last year, I started tripping on the uneven sidewalks. You can’t enjoy the scenery when you’re always having to look to make sure you aren’t going to fall.” Janet added: “Balance is one of my problems right now. I hang onto the chair (during exercise class).” When considering past exercise trials, Joan said: “Like when we did the yoga, it was just too difficult to do. I’m not as limber or agile as I used to be, I don’t have the balance.”

Yet another barrier mentioned was conflicting schedules and activities, or a lack of time. Roy thought: “For me, the reason I don’t do more exercise things, it’s just a matter of time. I can’t seem to get everything done.” Aggie also commented: “I hate to miss class. Once in a while I have to because of doctor's appointments. Or when my daughter wants to go out, I go when she can.” Specifically related to the activities offered at their community, Charles, (age 70) revealed that: “I’ve heard other people comment on the fact that we’ve got so many things, you can’t do them all. You have to pick and choose.”

“Of Course, We’re Hoping for More”: Evaluating Physical Activity Opportunities

Many participants appreciated the variety of classes offered at their community. As said by Roy, who was recently diagnosed with Parkinson’s Disease: “There’s a lot of classes that I don’t think would benefit me. But then again, in a couple of years, I may need that.” Joan felt, “I think they do a pretty good job, they’re always trying new things.” Patricia, who attends a variety of classes, thought, “I don’t know why more people don’t come, because it’s fun, it’s interesting, I love it.” Participants also enjoyed other forms of physical activity that are available to them, such as gardening in raised beds, table tennis, and Wii Bowling.

When asked how they would rate the opportunities to engage in physical activity at their facility, participants had positive responses. Art explained: “I think they’re excellent. There’s all sorts of classes.” Joan, a regular exerciser, commented: “It’s a good deal. I don’t know what else I would add.” Aggie, the oldest participant said: “I enjoy my garden, because it gets me up and about. Everything, I think is outstanding. I feel like I have been blessed.” However, offering more aerobic options for those with higher mobility levels was suggested.

When asked about their hopes for the future wellness plans for the facility, participants had many suggestions. These thoughts included: “Badminton and pickleball courts, and a pool;” “I’m looking forward to maybe a better equipment room, and a therapy pool;” “You need your own space, you need a gym. Because quite frankly, pickleball, racquetball, I’m sure some of that could happen.” While they were satisfied with the current opportunities available in their residential community, participants hoped that their thoughts would be considered when decisions are made for the future plans of the wellness program.

Discussion

This study revealed that participants felt that engaging in physical activity was highly important, and they believed that more residents could be participating in physical activity. However, they described some of their own barriers and excuses regarding exercise and could give multiple reasons as to why others may not exercise. Being in a group was a large motivator for participants to engage in exercise. Physical limitations were frequently mentioned as barriers, as well as conflicting activities. Participants were able to evaluate the current opportunities offered at their independent living community for physical activity and also gave suggestions as to what they would like to see in the future additions to the facility.

Participants had similar attitudes about exercise, especially that it was important to maintain their health and mobility and help manage their chronic conditions. They also found that their current exercise routine was a continuation of what they had done in early life. This specific finding supports the Continuity Theory of Aging, which states that older adults usually maintain the same activities as they did in earlier years of their lives (Atchley, 1989). Bethancourt et al. (2014) found similar results in a
focus group interview in which participants saw physical activity as a method to deal with their conditions. Petursdottir, Arnadottir, and Hallidorsdottir (2010) also found that hoping for less pain or at least having bearable pain because of exercise was a facilitator for older adults with chronic conditions. However, the finding from this study that a facilitator to participating in exercise was a continuation of early life experiences was not a major finding in the aforementioned studies.

Accountability and social support were frequently mentioned by participants in this study as motivators to exercise. Social support has been commonly found in the research as a motivator for older adults to engage in regular physical activity (Costello, Kafchinski, Vrael, & Sullivan, 2011; Hardy & Grogan, 2009; Shin, 2016). While participants in this study credited accountability as one of the motivators to exercise, it does not fit with the findings of existing literature.

While a number of barriers to participating in physical activity were mentioned in this study, physical limitations was one of the top barriers. This theme has often been found in relevant research studies (Bethencourt, Rosenberg, Beatty, & Arterburn, 2014; Burton et al., 2017; Haber, 2010; Petursdottir, Arnadottir, & Hallidorsdottir, 2010). Fear of falling was another barrier found in this study that also fits with the existing literature (Aldwin, Igarashi, Fox, & Levenson, 2018; Costello, Kafchinski, Vrael, & Sullivan, 2011; Simmonds, Hannam, Fox, & Tobias, 2015). Although specifically mentioned in this study due to the nature of the facility, lack of time and scheduling conflicts are not as commonly found in existing literature (Costello, Kafchinski, Vrael, & Sullivan, 2011).

Implications

This study provided insight into the thoughts of independent living residents on physical activity and the opportunities offered in their facility. These findings will help change the structure of the current wellness program within this specific facility and influence future wellness additions. Discovering what participants found to be facilitators and barriers to participating in exercise will provide greater knowledge and understanding to the wellness program staff when considering future physical activity opportunities for this independent living community. The results of this study have been shared with the Executive Director of this independent living community. The Wellness Leader plans to collaborate with the Executive Director to utilize these findings and provide a variety of additions to the wellness program at the residential community.

The main limitation of this study was the physical activity routines of the participants. Most participants exercised at least three days a week, meaning that this sample did not provide as much insight from those who exercised less frequently. The researcher may have influenced participant involvement in the study due to the fact that she is currently employed as the Wellness Leader. Residents may not have been completely honest with their answers in order to avoid hurting the researcher’s feelings or saying something that they would not want a staff member to know. Future research should consider increasing the variability of the sample in order to get more data that includes a variety of participants to ensure that those who exercise less frequently are involved, and possibly conducting the interviews by someone other than an employee of the facility.

Conclusion

While older adults may understand the importance of physical activity, many are not engaging in regular exercise. The results of this study contribute to the overall understanding of how to improve exercise classes and opportunities for physical activity in retirement communities. Understanding how to improve and expand exercise classes and opportunities for physical activity in retirement communities may help increase the number of residents who participate. Future research on this topic will provide for greater insight into the thoughts of older adults regarding motivators and barriers to participating in physical activity, allowing for more appropriate and higher quality opportunities.

References


Sustainable Tourism in Costa Rica: Aligning Tourists’ Interests with Local Development

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Sustainability in small communities preserves the natural environment while benefiting the lifestyles of community members by promoting human welfare. One quarter of Costa Rica’s export income comes from tourism, with ecotourism being the most prominent form of tourism. The field research of this study was conducted in the regions of Tárcoles, Carara National Park, and Jacó along the Pacific Coast in Costa Rica where tourists who visit other local attractions often bypass Tárcoles. It explored which services interest tourists, what activities tourists travel to Costa Rica for, and the sustainable services they are willing to pay for. Multiple surveys, semi-structured interviews, and participant observation were the methods for data collection. The analysis of the data suggests that there are opportunities in Tárcoles for the community to take advantage of the tourists visiting nearby attractions and develop sustainable services that preserve the environment and create economic benefits for locals.

Keywords: Ecotourism, Tárcoles, Carara National Park, Community-based tourism, Ethnography

Introduction

Imagine staying at a sustainable, eco-friendly lodge after a day of bird watching, after which you have multiple restaurant options nearby from which to choose that feature locally sourced, socially and environmentally sustainable meals. For the eco-tourist visiting the small South American country of Costa Rica, this is not just a typical daily experience but a commonplace sustainable and environmental practice. Since the 1980’s, Costa Rica has been successfully hosting about one million tourists per year to experience its ecotourism industry. While there are many examples of successful environmental management systems that are executed by tourism and other hospitality companies worldwide (Editorial 2001), the challenge for many communities is striking a balance between environmental sustainability, preserving ecosystems, and promoting human welfare through economic development. One example is the community of Tárcoles along Costa Rica’s Pacific Coastline: many tourists bypass this region for the surrounding attractions of Carara National Park and Jacó. How can local community members and businesses offer sustainable tourism attractions that align with tourists’ interests?

This paper examines the ways in which small business development, sustainable environmental practices, and the interests of tourists can be aligned to benefit communities in Costa Rica in its ecotourism sector. I draw on a four-week field experience with the School for Field Studies in Costa Rica to show that there can be a reduction in the negative impacts of tourism on environmental systems with an incorporation of sustainable attractions based on tourist interests. In what follows, I illustrate how an emphasis on environmental protection and sustainable practices for Costa Rica’s tourism industry can allow its citizens to adapt sustainable tourism strategies that would be advantageous in small communities.

Background

With easier communication and global transportation, the tourism industry has greatly increased. As a result, when tourists and locals come together through tourism they have a chance to view how others live and reflect on their own lives through the eyes of another. Because of globalization, it is hard to imagine a future where tourism isn’t expanding to every part of the world. In many cases, tourism is a healthy and productive manner of sharing culture, beliefs, community values, and natural environment. Furthermore, there is often a reliance on tourism in communities that receive a high volume of tourists every year. In the tourism industry, some locals may interact as guides, performers, artisans, or in hospitality (Stronza 2001).

It is important to note that there are also negative effects on local communities because of the large numbers of tourists impacting the environment on an annual basis. For example: In the city of Tárcoles, the beaches are completely covered in trash that is being dumped into the ocean from the Rio de Tárcoles, carried downstream from cities upriver. Much of this trash...
comes from large tourist resorts, where trash is carelessly dumped into the river. Because of situations like this, there is a need for alternate tactics to protect the environment. In a country such as Costa Rica, where most tourist visits target adventure or outdoor tourism, there is a need for alternative forms of tourism. Namely, sustainable tourism can prevent damage to beaches, the environment, and local communities.

In the same way, there are many benefits derived from ecotourism, such as increasing environmental education and consciousness, foreign exchange, jobs, and economic diversification (Koens et al. 2009). Ecotourism is defined here as a set of principles engaged in by the tourists such as traveling to natural destinations, minimizing impacts, increasing financial benefits for local people, respecting local culture, supporting human rights, and intentionally focusing on financial benefits for conservation (Honey 1999). Likewise, ecotourism can be very educational for tourists while increasing environmental awareness and cultural sensitivity (Stronza 2001). A surprising one quarter of Costa Rica’s export income comes from tourism, with ecotourism as its most prominent form (Braun et al. 2015).

Sustainable tourism requires a balance of interests between the host community, visitors, and the tourism industry (Erlet 1993). Additionally, depending on the type of tourist group, there is a difference in the type of facilities required, different levels of sustainable behaviors, and different required activities (Stoeckl 2008). For example, in order to benefit the community, tourism companies could purchase many of their required goods and services locally if those resources are available (Stoeckl 2008). Because of the variety of tourists’ expectations for travel, it is suggested that communities that want to attract visitors should focus on desired interest groups (Dinan and Sargeant 2000). Furthermore, if there is already a working tourist industry within the community, it would be beneficial for locals to take advantage of this existing industry and instead of competing, provide additional services to accompany this business to profit from the already-present flow of tourists (Stoeckl 2008).

There are some gaps in the anthropological literature with models and analytical frameworks that connect and eliminate problematic interactions between tourists and locals in the tourism environment. Stronza (2001) for example, suggests that we pose new questions in the anthropology of tourism that highlight the benefits associated with social, economic, and environmental profits of sustainable tourism. It is for this reason that there is a need to look at what motivates tourists to travel, where they choose to travel to, and how they are practicing tourism. The present article illustrates a study on tourists’ activities while traveling and their interests in sustainable tourism options in Tárcoles, Jacó, and Carara National Park, which are located along the Pacific coastline of Costa Rica. Carara Park is a frequently visited park and tourist attraction in Costa Rica. The park is about 12,950 acres and has many hiking trails and is an attraction for bird watchers (Carara National Park). South of the park along the coastal highway are the towns Tárcoles and the popular beach town, Jacó; Jacó has become a popular tourist destination because of its clean beaches, surfing, and shopping.

Method

My field study sought to discover whether a community’s interests in sustainability and tourism would align with tourists’ interests. To this end, the project was designed to discover if tourists would be willing to pay more for sustainable tourism. Would they participate in the sustainable strategies of local business owners or not? These questions led me to explore which services interest tourists, both local and foreign, within the Tárcoles, Jacó, and Carara Park area. I sought out which types of activities attract tourists to Costa Rica, types of services they will utilize while on vacation, and what sustainable services they’d be willing to pay for. My intention is to share with small communities, such as Tárcoles, what tourists are seeking regarding services and activities to determine which kinds of sustainable service options might be optimal for expanding community-based tourism.

I focused my primary research activities in Tárcoles and Jacó, and acquired additional survey and ethnographic data in Carara National Park, Manuel Antonio National Park, Quebrada Ganado, La Fortuna, and at the SFS Center in Atenas. The communities of Jacó and Tárcoles have popular tourist attractions, such as Jacó beach, local shops and restaurants, crocodile tours, birdwatching, and Carara Park (Figure 1). Tárcoles was my focus community because many tourists bypass the Tárcoles community to visit other attractions.

Since the research was conducted as part of the month-long student field school program I attended through the School for Field Studies (Figure 2), my research was confined to the Central Pacific Coast in Costa Rica. My data collection was constrained by my course research required by the field school and limited to a four-week timeframe and an already fully occupied schedule set up by the SFS program. Therefore, I was
unable to incorporate larger demographics, longer interviews, more specific surveys, and additional participant observation. My limited Spanish language skills meant that I had the ability to communicate in Spanish with tourists and Costa Rican locals at an intermediate level, and was able to collect survey data in Spanish and English. However, many of the lengthier interviews in Spanish had to be translated, and I could not conduct in-depth interviews.

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Results and Discussion

**Keep Costa Rica Green.** When asked about the primary reasons for traveling to Costa Rica, 90% of both locals and foreign tourists said it was because of natural beauty (Figure 3). During my month stay in Costa Rica,
where we visited many areas of the country, I took special notice of trash and recycling receptacles, signage posting conservation awareness for tourists, and restaurant and hotel strategies for sustainability. Initially, when I first arrived in San Jose and we took a large tour bus from the airport to the SFS Center in Atenas, I noticed trash littered along the roadside the entire way. Not only was there trash along the road, there was trash piled up in front of peoples’ driveways and spilling out of trash receptacles posted near the road waiting for pickup. I was shocked that Costa Rica was not the clean and green paradise I had always imagined it would be.

![Figure 3. Comparison of local versus foreign tourists' reasons for choosing vacations in Costa Rica. Carara National Park, Costa Rica. Collected in July 2016.](image)

Figure 3. Comparison of local versus foreign tourists’ reasons for choosing vacations in Costa Rica. Carara National Park, Costa Rica. Collected in July 2016.

However, as we traveled to various places in the country, I noticed trash receptacles were just as prominent as recycling receptacles in all the city parks, hotels, and national parks. I noticed recycling receptacles in both Manuel Antonio and Carara National Parks, at the Mono Azul hotel in Quepos, in the city parks in La Fortuna and in Atenas, at Rancho Margot Eco-Lodge outside of La Fortuna (circa the Volcano Arenal), at La Selva Color Eco-Lodge, and consistently in every building at the SFS Center. Nevertheless, for a country that emphasizes its ecotourism sector, Costa Rica has some areas that do not represent perfect harmony between tourism and sustainability. As previously stated, most tourists travel to Costa Rica because of its natural beauty; because of this, there must continue to be an emphasis on sustainable tourism practices to protect the environment and the tourism industry.

**Hiking and Bird Watching Tours.** In my observations at both Manuel Antonio and Carara National Parks, there were many locals acting as entrepreneur tour guides. In both parks, the main attractions are unique wildlife and remarkable flora. According to the survey results, about 60% of tourists selected hiking tour guide and boat tours as services they would use while on vacation (Figure 6). When asked about what types of sustainable services they would be willing to pay for, over 90% of both foreign and local tourists said they would pay more for wildlife sanctuaries (e.g. national parks) (Figure 4). Moreover, for both types of tourists, hiking was their number one activity while in Costa Rica (Figure 5). In Manuel Antonio, the park doesn’t hire tour guides, but instead they are self-employed and receive payment directly from tourists for their guiding services and telescope/binocular use throughout the park. There were many guides on the trails, and many of them had established specific locations where they knew to take advantage of guaranteed wildlife sightings to impress tourists. Conversely, in Carara National Park, vendors and guides weren’t technically allowed to solicit services at the park, but one park official said they allow a few tour guides on the premises because they help the tourists through the park and increase the overall wildlife attraction visibility. Though these services are technically prohibited, tour guides were generally there every morning to attend to large tour bus groups and individuals interested in bird sightings or lengthy tours of the park. As a result, there were familiar sites made “off trail” where tour guides would take tourists for increased wildlife sightings. Because tourists are willing to pay more for national park visits, and they want to learn about local plants and wildlife, there is opportunity for parks to employ local guides that are invested in protecting the natural habitat and preservation of parks.
In an interview with a park official at Carara National Park, he mentioned that tourists are commonly interested in wildlife and learning about unique plants and animals at the park (Park official, 2016). This accords in part with the findings from the survey; the top three activities that both local and foreign tourists suggested they would most likely do, were: waterfall visits, hiking, and bird watching (Figure 5). Furthermore, about 30% more foreign tourists over local tourists said they would choose bird watching as an activity while traveling in Costa Rica (Figure 5). Because of the high volume of bird watching tourists, there is an economic opportunity for wildlife tourism in and around Carara Park. Though wildlife tourism is a new addition to ecotourism, it is defined as tourism that is related to nature, adventure, culture, and includes wildlife observation (Fennell 2015). There is economic opportunity for different types of ecotourism and harnessing that opportunity can create an environment for small-scale entrepreneurs that could lead to larger economic growth (Miller 2012). Fortunately, there are plans to improve the park to attract more adventure tourists, make longer trails, and include mangrove trails for bird watching. The park official also mentioned that the park is aiming to develop an area for community outreach and to host classes for tourists and locals on sustainability and the importance of local development (Park official, 2016).

**Sustainable Tour Options.** In Costa Rica, there are a few local tourism companies in the region between Carara Park, Tárcoles and Jacó that focus on sustainability. Among these services are general tour services such as Green Path Costa Rica, where they support sustainable and eco-friendly tours in Costa Rica (Green Path founder, 2016). When the other students and I at SFS interviewed the owner of Green Path Costa Rica, she said their company focuses on environmentally conscious tourism, maintaining ecological friendliness, local sourcing, and wildlife protection. She said that Tárcoles became a popular tourist site twenty years ago because of the crocodiles in the Río de Tárcoles. She said that Tárcoles needs to find something more prominent than just the crocodile tours to attract tourists (Green Path founder, 2016). In the surrounding areas, Jacó began to grow because of surfing and the more attractive beaches. Carara National Park began attracting students and researchers, and Tárcoles expanded from fishing for production to fishing for tourism opportunities (Green Path founder, 2016). However, tourists that travel to Costa Rica to visit Carara National Park and Jacó do not always visit Tárcoles. For the time being, there are ideas to implement more attractions that encourage tourists to visit Tárcoles from Carara National Park, such as fishing and a butterfly/hummingbird garden.

In the same way, Tárcoles attracts tourists for their various crocodile tour options; there are at least four different crocodile tour companies that take tour groups along the Río de Tárcoles (Tour guide, 2016). In an interview with one of the Jungle Crocodile Safari tour guides in Tárcoles, he said that a large component of
their tours along the Rio de Tárcoles includes portions about nature preservation and a healthy habitat for the crocodiles. The guides are trained in protecting nature and the tours are aimed to teach tourists about the natural beauty and preservation efforts of the crocodile river. Their company purchases more expensive, but low impact, efficient boats for their crocodile tours. Similarly, the Jungle Crocodile Safari Company does not feed crocodiles, and they pick up trash in the river to assist in preserving the environment for the crocodiles. This coincides with laws to protect crocodiles; it is illegal to kill or feed crocodiles in Costa Rica. On the contrary, this is not necessarily the case with other crocodile tour companies, who often feed the crocodiles on tours to entertain their tourists (Tour guide, 2016). Protected areas are very important for companies that want to promote nature tourism; it is also how maximum biodiversity conservation is accomplished (Vaughan 200). When the tour guide spoke about the tourists, he said that they usually come to the Crocodile Safari in large tour buses, they take the tour up the Rio de Tárcoles, they visit the gift shop on site, and then following their agenda, they head to the next attraction outside of Tárcoles (Tour guide, 2016).

One of the reasons ecotourism is becoming one of the fastest growing area of tourism is because there is an increase in the number of travelers excited to take educational, nature and outdoor-based vacations (Wight 2001). According to the survey data, many tourists were interested in boat tours (Figure 6), and more than half of the total surveyed tourists said they would be willing to pay more for sustainable tours (Figure 4). Moreover, the 15-year tour guide for the Jungle Crocodile Safari, and lifetime resident of Tárcoles, believes that expanding on adventure fishing for young people would benefit the community (Tour guide, 2016). In Tárcoles, the cooperative of fishermen on the beach (Figure 7) spend part of their time fishing for export, and part on boat tours on the weekends with tourists (Fisherman, 2016). Fortunately, there are some working plans to develop a parking lot near the fishing cooperative to attract more tourists for fishing tours (Tour guide, 2016). There are tourists willing to pay more for sustainable tours, such as the eco-friendly Jungle Crocodile Safari. Additionally, there is an increase in the number of tourists interested in nature based tours, such as fishing at the cooperative in Tárcoles. Given these points, there is an alignment of interest between tourists and opportunity for the community of Tárcoles to offer nature-based, adventure tourism.

### Sustainable Restaurants

My survey analysis revealed that most tourists use restaurants while on vacation and day trips, and many of them would pay more for sustainable restaurant services. In support of this, nearly 100% of tourists selected that they would use restaurants while on vacation, while over 80% said they would pay more for a meal at a restaurant if it were socially or environmentally sustainable (Figures 4 and 6). In an informal interview with the owner of a hotel and bar near Manuel Antonio National Park, I discovered some sustainable agendas of a local business owner. He
informed me that they only employ Tico’s (Costa Rican locals) at their establishment. They source locally (for the bar and restaurant) as much as possible because it is generally cheaper. They are currently growing mango trees on site for consumption. Also, in an effort to protect wildlife (and his mango trees), the owner of the hotel has strict rules for his guests that prohibit them from interacting with monkeys and other wildlife while staying at his establishment. If they are caught feeding the animals, as many other establishments allow, they are asked to leave (Hotel owner, 2016).

Similarly, in an interview with a restaurant owner in Tárcoles, she stated that business has been increasing for her, and that her business is from both foreign and local large groups. She also sources local seafood and produce when possible as it provides the best ingredients and is economically more sustainable for her business (Restaurant owner, 2016). For these reasons, it only makes sense for businesses to offer sustainable restaurant accommodations whenever possible, because it easily profits both parties. Similarly, most tourists are willing to pay more for a sustainable and locally sourced meal. Sourcing local ingredients can benefit the environment, local industries, the tourism industry, and assist restaurant owners.

Gift Shops and Local Crafts. Many tourists utilize gift shops while on vacation, and an equal number of tourists would be willing to pay more for local craft items if they were made sustainably. In fact, 70% of tourists said they would pay more for local crafts if they were offered sustainably (Figures 4 and 6). There are some local crafts available in Tárcoles and Jacó, such as Tico Pod, Fruity Monkey Poop, and some locals have sold handmade crafts made from recycled paper collected on the beach and in their homes. The owner of Green Path Costa Rica said that local art classes in the community of Tárcoles are often a tourist attraction; her daughter makes paper out of recycled plantain and banana leaves to sell as local crafts to tourists (Green Path founder, 2016). Many tourists that visit the Jungle Crocodile Safari tours in Tárcoles go to the gift shop on site, and then promptly leave with their tour group to other attractions in Jacó, Quepos, or Carara Park (Tour guide, 2016). Overall, there is an opportunity here for locals to take advantage of the local craft tourism industry made available by tourists attracted to the crocodile tours in Tárcoles. If tourists are willing to pay more for locally made crafts items, and they are already in Tárcoles for the crocodile tours, there is prospect for growth in businesses that offer local items, especially if tourists are willing to pay more for them.

Sustainable Lodging. Fortunately, over the course of a month I stayed at three eco-lodges and the SFS Center that had objectives to be sustainable. Products that were included for guests’ use were sourced locally and organically at all of these locations. Seasonal and local foods were brought in for our enjoyment, and there were recycling receptacles everywhere. At La Selva Color, where we stayed for almost a week, we were advised to conserve our towel and water use. At the SFS Center and at La Selva Color, warm water was not available. At the Center, we composted all of our food waste and harvested mangos, starfruit, and oranges from the Center’s orchards, and vegetables from the gardens.

Eighty-eight percent of tourists said they would use hotel services while on vacation, and 68% would pay more for sustainable hotel accommodations (Figures 4 and 6). A new ecotourism development can be a successful business venture if it unites the desired experience of the eco-tourist and goals for environmental sustainability (Gardner 2001). In short, developing local ecotourism accommodations (e.g. eco-lodges) can provide an educational resource for community members and improve their quality of life because there is an investment in preserving the natural landscapes, environment, and culture of the community. There is a need for lodging accommodations in the Tárcoles area, and based on the survey results there is opportunity to make them sustainable in accordance with tourists’ interests.

Challenges in Costa Rica’s Sustainable Tourism Sector. During my visit to Manuel Antonio National Park, I was astounded by the way tourists and locals engaged with the wildlife (particularly monkeys and raccoons) while in the park. We were told during our visits to the park that food was prohibited beyond the gates of the entrance. However, as we had student research access past the line of tourists and locals waiting to enter the park, I noticed many park guests with coolers and bags of food freely entering without their goods being discarded. At Manuel Antonio National Park, there are popular beaches within the park that many of the locals like to visit on the weekends, and there they bring lunches and day bags for the beach. While in the park, during the busiest times (usually afternoons), monkeys and raccoons were stealing food from tourists and local beach-goers. After which, trash was everywhere because it had been stolen or given to the animals. This is the
reason food was “prohibited” in the park, because it unfairly gave the animals expectations of food outside of food attained in their natural habitat. This was obvious when at lunchtime, the beach was filled with monkey’s eager to present themselves and put on a display for tourists so that they could acquire food. Though there were always signs posted about the importance of preserving the environment and waste management, tourists seemed to completely disregard them. There was a disconnect between what was ideal for the preservation of the parks and what actually happened during park visits. That is, locals know of the importance of protecting the habitat of the wildlife, yet they allowed their food to be plundered by animals in the park and allowed trash to be strewn along its beaches.

In Costa Rica particularly, there is an emphasis on keeping the country green and encouraging sustainable tourism to protect the natural beauty it offers. Yet many foreign tourists had no idea what sustainable tourism meant or how to practice it; many tourists didn’t even know the difference between sustainable tourism and traditional tourism. According to the survey results, 60% of locals and 50% of foreign tourists take vacations in Costa Rica because of sustainable tourism (Figure 3). Often during the survey collection, once I explained sustainable tourism, I could then ask questions about what they would be interested in spending money on and if they were interested in sustainable options. Most tourists said they would be more eager to buy local crafts than non-local products; they were interested in purchasing locally sourced food from sustainable restaurants, and willing to pay more for sustainable accommodations. Likewise, it seemed there was a disconnect between a country representing sustainability and what was available for tourists to purchase. There were many shops that had only imported goods, or the exact same gifts as other shops, and then a few that had handcrafted items. It seemed it would be difficult as a tourist to know the difference between gift shops that had only imported, non-local items, and gift shops that had crafts made locally and represented resident communities. As an example, in Jacó, one survey interview led me to a very different response then I was expecting. The individuals were not interested in filling out a survey to assist in Costa Rica’s sustainability, and they proceeded to tell me that they didn’t care about sustainable tourism, and they were only in Jacó because “you can get anything you want in Jacó.” These interactions provide a contradiction to what should be a sustainable future for Costa Rica. All things considered, it would benefit Costa Rica’s environment and its tourism sector to better promote sustainable tourism and educate tourists before and during their travels.

Conclusion

The community of Tárcoles along the Costa Rican Pacific Coastline has a few sustainable options for tourists, and most tourists are willing to pay more for these sustainable options. However, most tourists typically bypass this area and target other large attractions such as the neighboring Carara National Park and Jacó beaches. There are few hotel options in Tárcoles, and nearly all tourists said they utilize hotels on vacation, while most said they would pay more for sustainable hotel accommodations. Additionally, there is great opportunity for sustainable development in Tárcoles that aligns with tourists’ interests where there are tourists willing to pay for services and activities. Many tourists that target other communities or attractions would use services if they were offered locally and would pay the extra cost for sustainable options. Tárcoles would flourish under the expansion of organized, sustainable, community-based tourism.

This paper has explored what sustainable options tourists would be interested in paying more for, and acknowledged a general understanding of sustainability from the tourists’ perspective. Also, we can see how community members in Tárcoles can expand on the already existing tourism industry. When the tourism industry excludes the community from the planning process, it is harmful to the individuals in the community, the tourists, and leads to a conflict of interest (Singh 2004). This is significant because tourism is globally inevitable, and there must be an effort to reduce cultural and environmental damage from the impacts of tourism. With the tourists’ need and desire for craft goods, there is opportunity for local and handmade crafts. Likewise, with the tourists’ requirement for lodging, restaurants, and nature based tourism, there is opportunity to provide sustainable accommodations. There are many ways that small communities can take advantage of the available sustainable tourism industry, especially in an area like Tárcoles, where it is located near Carara National Park and tourists are already drawn to adventure tourism activities.

However, there is a disconnection between the efforts of a green country, such as Costa Rica, the locals who act sustainably, what tourists know about sustainable tourism, and how they practice it. Though many tourists would like to purchase locally crafted items, local food options in restaurants, and support sustainable lodging.
accommodations, they often didn’t know what sustainable tourism was before they entered the country. Province and city officials, and restaurant and hotel owners know that they have an obligation to preserve the environment, because that is what draws tourists to Costa Rica in the first place. There is room for communities such as Tárcoles to develop sustainable options for tourists, but there is also room for education and global sustainability awareness.

Tourism is inevitably going to happen in small and large communities and countries everywhere due to the impacts of intensified globalization. In Costa Rica, tourism has become an essential income source, with most tourists visiting for natural beauty. Communities can make choices that impact tourism and their environment and how culture is shared. There are always going to be negative and positive effects from tourism, but reducing environmental harm and improving sustainable opportunities in local communities will have a beneficial impact. With the understanding that tourism is inevitable, choosing sustainable tourism should always be the obvious option.

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Violencia Sexual: Un Caso Para la Relajación de los Controles Frongerizos

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Este ensayo investigará la violencia sexual y el acoso sexual que experimentan los inmigrantes centroamericanos en sus viajes a través de México hasta los Estados Unidos. Investigará la manera en que las políticas contribuyen al nivel alto de violencia contra mujeres. Intentará establecer paralelismos con otros ejemplos de gran migración de personas en cuanto experimentan niveles altos de violencia sexual. Por fin, sugerirá que los gobiernos de México y los Estados Unidos tienen que relajar el control de las fronteras para disminuir el nivel de violencia sexual que ocurre en el proceso de inmigración de personas indocumentadas. Dada la complejidad del problema de violencia, es necesaria haya grandes cambios sociales y políticos para abordar la cuestión, pero los gobiernos mexicanos y estadounidenses tienen las primeras responsabilidades a reducir la violencia sexual dentro de sus fronteras y proveer recursos a las víctimas.

Keywords: Fronteras, Inmigración, Migración, Violencia Sexual, Fronteras Abiertas, Immigration, Borders, Sexual Violence, Central America

Dentro de las fronteras de México existe una “guerra sin nombre.” Este es el término que usa la periodista Sonia Nazario para describir el conflicto entre los inmigrantes centroamericanos y las policías, los pandilleros, los delincuentes, y los funcionarios del servicio de la inmigración de México. Desde sus patrias, los inmigrantes centroamericanos emprenden un viaje a través de México hasta los Estados Unidos. El viaje está lleno de peligros, incluso de los grupos ya mencionados que tratan de impedir a los inmigrantes, robando, atacando, deportando y matando a ellos. Entre todas las atrocidades horribles cometidas contra los inmigrantes, una de las más chocantes y frecuentes son las violaciones que se cometan a las mujeres. Además, algunos recientes hallazgos muestran que los inmigrantes experimentan más abuso sexual cuando son detenidos en los centros de internamiento de la Oficina de Inmigración y Aduanas (ICE). A través de un análisis de los factores que contribuyen al nivel alto de violencia sexual, este ensayo establece que los gobiernos de México y los Estados Unidos deben relajar el control de las fronteras para proteger a los inmigrantes de la violencia sexual.

Según Nazario, “cada año, unos 700,000 inmigrantes entran a los Estados Unidos de manera ilegal” (xii). La Organización Internacional para las Migraciones estipula que “entre 400,000 y 500,000 migrantes indocumentados transitan a través de México cada año que el 90 por ciento de ellos son centroamericanos” (Semple). Como reporta Amnistía Internacional, la mayoría de las mujeres experimentan alguna forma de violencia sexual en la travesía de México; se explica que: “Existe la extendida creencia –compartida por ONG locales e internacionales y profesionales de la salud que trabajan con mujeres migrantes– de que hasta seis de cada diez mujeres y niñas migrantes son violadas” (“Víctimas” 13). Este nivel de violencia significa más de una casualidad, sino una crisis humanitaria.

Sin duda, la violencia sexual cometida contra mujeres centroamericanas en México resulta de complejos factores sociales y políticos. Una raíz de la violencia de género es el machismo, un sentido de masculinidad exagerado que predomina en la cultura mexicana. La mayoría de las violaciones son perpetradas por hombres en contra de mujeres, lo cual es común en el resto del mundo. Sin embargo, factores políticos también han permitido que el problema se haya aumentado tanto. La política de inmigración de México y los Estados Unidos ha hecho que el viaje a través de México sea ilegal para las personas indocumentadas y, por lo tanto, los inmigrantes se han vuelto vulnerables. Wendy Vogt, una antropóloga de la Universidad de Indianápolis, explica: “Laws and policies that govern unauthorized migration from a perspective of national security rather than human rights coproduce vulnerability and violence. Such ‘legal violence’ funnels migrants into dangerous and clandestine routes” (765). Las leyes, promulgadas para desalentar la inmigración, han hecho que el viaje sea más peligroso para aquellos dispuestos a desafiarlos. Además, la política hace que los inmigrantes
la frecuencia de violencia sexual y reporta que, “Between Violence and Migration” la organización Médicos sin fronteras dice que, en África, “Sub-Saharan migrants to Europe. In a report titled “Sexual Violence and Migration” the organization Médicos sin Fronteras notes, “Currently the main perpetrators of violence against women are common criminals, smuggling and human trafficking networks... Few of the women dare to talk about the violence they have suffered and much less report them. Thus the numbers are most likely higher and constitute a problem of alarming proportions” (Sexual Violence and Migration). En el reportaje, la MSF atribuye el nivel de violencia sexual a las restricciones apretadas a la inmigración, las cuales fuerzan a las mujeres a conseguir contrabandistas para transportarlas a sus destinos. Lo anterior demuestra que la existencia de un mercado de contrabando aumenta el nivel de violencia sexual.

Los dos ejemplos contemporáneos de inmigración muestran que las políticas que impiden la migración segura de las personas indocumentadas conducen a mayores niveles de violencia sexual al crear más riesgos para los inmigrantes. Estos riesgos ocurren porque los inmigrantes se vuelven vulnerables por ser canalizados en rutas estrechas donde se les acercan bandados y funcionarios de inmigración. Como resultado confían en los contrabandistas. “Migrant smuggling emerges when and where borders are fixed, relatively impermeable, and protected by a border bureaucracy,” y este contrabando en su naturaleza criminal no regulado crea más peligro. Así que el contrabando, y el peligro resultante, surgen del elevado control de inmigración, y no al revés.

Como otro resultado negativo de la política de inmigración en México, las mujeres que experimentan violaciones no tienen acceso a los recursos necesarios debido a su estatus indocumentado. Un reportaje de Amnistía Internacional demuestra el dilema: “Las migrantes que han sido violadas tienen que hacer frente no sólo al estigma asociado con la violencia sexual, sino también al peligro de que si denuncian lo sucedido pueden ser expulsadas del país, o de que si buscan tratamiento perderán la oportunidad de llegar a Estados Unidos. A consecuencia de ello, rara vez informan de la violencia sexual, y es muy poco probable que presenten denuncias penales” (“Victimas” 14). Estas mujeres necesitan avanzar si quieren continuar su viaje. Las mujeres sufrirían de heridas, enfermedades de transmisión sexual, y podrían quedar embarazadas y no podrían conseguir atención médica. También, los

May 2009 and January 2010, one in three women treated by MSF in Rabat and Casablanca admitted having been subjected to one or more sexual attacks, either in their country of origin, during the journey and/or in Morocco. La MSF atribuye el nivel de violencia sexual a las restricciones apretadas a la inmigración, las cuales fuerzan a las mujeres a conseguir contrabandistas para transportarlas a sus destinos. Lo anterior demuestra que la existencia de un mercado de contrabando aumenta el nivel de violencia sexual.

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Los inmigrantes que llegan a los Estados Unidos enfrentan el riesgo adicional de sufrir violencia sexual si son detenidos por ICE. Según una periodista de The New York Times, “ICE has reported 1,310 claims of sexual abuse against detainees from fiscal years 2013 to 2017,” mientras “watchdog organizations estimate the occurrence of sexual abuse to be significantly higher” (Kassie). Los relatos de las víctimas demuestran que los inmigrantes son disuadidos de reportar abuso porque encuentran amenazas de deportación, amenazas de violencia, barreras del idioma, y una estructura poco confiable para reportar. Esto es motivación para preocupación, porque es probable que muchos casos de abuso no sean denunciados. Los casos de violaciones en los centros de ICE son un resultado directo de las policías para detener inmigrantes indocumentadas.

Para reducir la violencia sexual, los gobiernos de México y los Estados Unidos deben abrir las fronteras a los mexicanos y centroamericanos que quieren inmigrar. La reducción en control de las fronteras eliminaría la necesidad de funcionarios para detener a los inmigrantes, y a la vez, permitirían que a los inmigrantes se movieran libremente a través de México hasta los Estados Unidos. Los inmigrantes podrían elegir un camino, en lugar de ser canalizados en una ruta peligrosa. Además, “open borders would also in effect put an end to people smuggling and the perils it currently entails” (Casey 41). Sin la necesidad de moverse a través del país ilegalmente, la demanda de contrabandistas de personas desaparecería. Los inmigrantes se beneficiarían del poder de moverse a su propio ritmo en lugar de apresurarse para evadir el servicio de inmigración. Estarían menos vulnerables por viajar en rutas más seguras con menor presencia de bandidos.

Otro beneficio de las fronteras abiertas sería que los inmigrantes tendrían acceso a la asistencia médica y los recursos judiciales en caso de una violación. Sin miedo a la expulsión, las sobrevivientes podrían denunciar los delitos a la policía. También, podrían buscar tratamiento médico por sí mismas. El gobierno podría proveer servicios de información para ayudar a los migrantes mientras pasan por el país.

Por colocar a los inmigrantes centroamericanos en un estado de vulnerabilidad para experimentar niveles altos de violencia sexual, las políticas de inmigración en México y los Estados Unidos han contribuido a la creación de una crisis humanitaria. La reducción de control en la inmigración indocumentada reduciría el peligro asociado con moviéndose a través de México y eliminaría la posibilidad de abuso en un centro de detención. Para reducir el número de violaciones y proteger los derechos humanos de los inmigrantes, los gobiernos de México y los Estados Unidos deben relajar los controles de las fronteras y permitir el camino de migrantes a los Estados Unidos.

**Bibliografía Analítica**


The Gut Microbiota of Cornu aspersum

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The “Brown Garden Snail,” Cornu aspersum is a widely distributed land snail, whose consumption of soil to acquire calcium results in soil microbes colonizing their gut. While previous work has utilized culture-based approaches to analyze the gut microbiota of C. aspersum, no previous studies have used high throughput DNA sequencing, or examined the changes in the gut microbiota over time in response to antibiotics exposure. In this study, we use 16S amplicon sequencing and fecal plating to characterize the gut microbiota of C. aspersum, and to monitor changes in their microbiota over time after a short penicillin treatment. We found that the natural gut microbiota of C. aspersum is dominated by Gammaproteobacteria, and that a two day penicillin treatment reduces Gammaproteobacteria to one representative family, the Pseudomonadales. While the gut microbiota recovers some of its diversity following cessation of penicillin treatment, the incomplete recovery suggest that C. aspersa may depend on soil consumption, and potentially coprophagy, to exogenously maintain a diverse gut microbiota.

Keywords: Cornu aspersum, Helix aspersa, snail, gut microbiota, Buttiauxella, Pseudomonas

A more thorough and recent investigation can be found at [link coming soon].
Aging in Correctional Facilities: Challenges, Programs, and Service Adaptations

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As the aging American population grows, so does the aging population within the penal system. Historically, correctional institutions were designed for young, able-bodied inmates. Today, correctional institutions are finding the need to make accommodations for the unique physical and cognitive needs of those over age 55. Due to lack of health care and illicit behaviors, individuals who are incarcerated typically experience negative outcomes of aging earlier than those in the general population. With increased sentence lengths and a decline in physical and cognitive abilities, correctional facilities are finding it necessary to identify and create modifications. Some of the challenges correctional institutions are facing include structural changes to buildings, programs to aid with physical and cognitive decline, assistance with activities of daily living, as well as palliative and hospice care services. This literature review discusses the challenges and adaptations needed as inmates age in place and outlines some successful trainings to educate corrections employees on the unique needs of aging inmates.

Keywords: Aging, older adults, correctional institutions

Introduction

Inmates in the United States face many physical and cognitive challenges as they age in prison. Due to the dramatic increase in the number of older inmates in correctional facilities, aging in place for this population is a growing concern. The purpose of this review is to highlight the challenges that aging presents for older inmates and correctional institutions as well as the programs and adaptations that have been created to respond to these increased needs. The National Commission on Correctional Care defines “older” inmates to be 50 or 55 years of age (Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012). To be consistent with reporting by the Bureau of Justice Statistics, this review will define “older” inmate as a woman or man 55 years of age or older and serving time within a correctional institution (Carson & Sabol, 2016).

As the general population in the United States ages, the aging inmate population is also expected to rise. In 2003, there were approximately 36 million individuals age 65 or older in the United States (Abner, 2006). According to the Federal Interagency Forum on Related Statistics, that number grew to 46 million people age 65 and older living in the United States in 2016. According to Carson and Sabol (2016) of the Bureau of Justice Statistics, the number of inmates in the United States age 55 and older has increased from 26,300 to 131,500 over the past twenty years, with a median age increase from 30 to 36 years.

Inmates age 55 and older are the fastest growing population in correctional facilities, in part due to increasingly stringent laws (Abner, 2006; Carson & Sabol, 2016). Mandatory minimum and longer sentences, limitations on parole, and mandatory life sentences for third violent or other serious felony convictions have led to a significant increase in the inmate population in the United States (Loeb & AbuDagga, 2006; Nowotny, Cepeda, James-Hawkins, & Boardman, 2016). According to Carson and Sabol (2016), there has been an increase of 54 percent in arrests for drug offenses between 2003 and 2012 for individuals age 55 and older, whereas arrests for individuals younger than 54 years of age have decreased by 10 percent. The older inmate population, on average, is serving longer sentences than younger inmates due to the type of crimes committed. Specifically, there is a greater percentage of violent offenders in the 55 and older inmate population, and they have a higher mean sentence length than those in other age categories. In 2013, inmates aged 55 or older had a mean sentence length of 82 months, compared to 69 months for inmates aged 18 to 39, and 71 months for inmates aged 40 to 54 (Carson & Sabol, 2016). Inmates serving longer sentences for more violent crimes will naturally age into older cohorts in the correctional facility (Carson & Sabol, 2016).
Effects of Aging

Inmates are found to age faster, physically and mentally, than individuals in the general population (Abner, 2006; Williams, et al., 2012), and it is estimated that their physiological age is 10-15 years older than their chronological age (Abner, 2006; Aday, 1994; Grohs, 2015; Hoffman & Dickinson, 2011; Williams, et al., 2012; Williams, Lindquist, Sudore, Strupp, Willmott, & Walter, 2006; Williams, Stern, Mellow, Safer, & Greifinger, 2012). This trend can be attributed to years of poor personal healthcare, including inaccessibility to healthcare services, poor diet, and substance abuse (Abner, 2006; Hoffman & Dickinson, 2011; Rikard & Rosenberg, 2007; Williams, et al., 2006). Prior to incarceration, inmates typically are impoverished and exhibit high-risk illicit behaviors and often enter correctional institutions with chronic medical issues and untreated mental illnesses (Hoffman & Dickinson, 2011; Williams, et al., 2012).

Older adults typically experience reduced social support systems, and for the aging inmate population, this decrease of support is amplified. The friends and family members of inmates struggle with the shame and social stigma of having their loved ones incarcerated, finding it stressful to make continued visits to the institution and often ending visits altogether (Travis & Waul, 2003). Many incarcerated parents do not receive visits from their children, and many inmates do not want their children to visit them in a correctional facility, believing these visits may be too emotional for their children (Snyder, van Wormer, Chadha, & Jaggers, 2009). Additionally, family members of older inmates are aging, may be in poor health, and may be unable to provide any beneficial social support to their loved ones (Aday, 1994). This diminished support system brings additional stress to inmates, contributing to their developing age-related health issues earlier than those in the general population (Abner, 2006; Hoffman & Dickinson, 2011).

With the increase in older incarcerated adults, and the early aging that occurs with inmates, correctional facilities are challenged to develop and incorporate adaptations and programs that are necessary for aging inmates. Specific adaptations and programs needed fall within the following areas: a) cognitive changes and decline; b) physical changes and needs; c) housing modifications; d) socio-environmental concerns; and e) palliative care needs. Each of these challenges and related adaptations and programs that have been implemented are discussed below.

Cognitive Changes and Decline Among Inmates

Depression, mood disorders, and dementia are common among older inmates (Greifinger, 2006). In one study, researchers focused on mental health disorders among older men in a state prison nursing home (Meeks, Looney, Van Haitsma, & Teri, 2008). They found that inmates with mental illnesses were at a higher risk for injury, victimization, and longer prison stays than inmates not suffering from mental illnesses. The nursing home inmate population also has a higher risk for depressive disorders due to medical conditions than do older individuals in the general population (Meeks, Sublett, Kostiwa, Rodgers, & Haddix, 2008). These inmates are susceptible to inadequate services and opportunities within the institution and are likely to experience more disciplinary measures for failing to respond to orders sufficiently, potentially resulting in lengthier sentences and increased isolation (Greifinger, 2006; Meeks, et al., 2008). State and federal correctional facilities offer psychological and psychiatric services, yet only approximately 78 percent who have been diagnosed with major depression are treated with anti-depressants (Baillargeon, Black, Contreras, Grady, & Pulvino, 2001). Many inmates decline anti-depressants due to personal choice, and unpleasant side effects, or they hide the medication for non-therapeutic purposes (Baillargeon, Contreras, Grady, Black, & Murray, 2000).

In response, mental health programs have been developed to address these concerns. BE-ACTIV, a behavioral treatment program for depression is one example of an effective program developed by Meeks et al. (2008). After first implementing this 10-week behavioral, activities-based intervention for depression in a nursing home serving the general population, they intentionally focused on older male participants in the Kentucky state prison system nursing home. Participants were diagnosed with depression and treated with anti-depressants. As part of the intervention, a recreational therapist staff member was trained in the BE-ACTIV program and asked to implement pleasant events for participants. Specifically, the recreational therapist identified possible pleasant activities which could be integrated into the inmate’s daily routine, such as including a morning cup of coffee or receiving compliments. As part of the research design, participants rated their mood weekly during the course of the assessment. After the fifth or sixth session, 75 percent of participants reported stabilization of negative affect.

According to the researchers, inmates had more control over their activities, and consequently, they had more
control over their moods (Meeks, et al., 2008). However, the confines of a correctional facility limit the success of such a therapy, as the inmates have little control over pleasant activities. Meeks et al. (2008) also explained that therapists lacked time, money, and privacy to successfully implement the behavioral treatment program.

In 2011, a group of 29 professionals, including independent doctors, correctional health care providers, chief medical officers, psychology and psychiatry experts, inmate advocates, lawyers, and foundation officers convened to discuss specific concerns for appropriate physical and mental healthcare for aging inmates (Williams, et al., 2012). This group proposed nine areas of priority to be addressed in a new policy agenda, including defining functional impairment among inmates and screening for dementia. According to Morgan and Fellow (2017), as many as 26 percent of state prisoners have a mobility, hearing, or visual disability that limit their ability for self-care. When cognitive disabilities among prison inmates are included in those reports, this percentage increases to 32 percent. Morgan and Fellow (2017) report that it is not uncommon for inmates with physical disabilities to be neglected and denied mobility devices, forcing a reliance on other inmates to assist them in carrying out their daily activities. Inmates with physical disabilities are also found to be at risk for placement in solitary confinement as a solution to overcrowding.

Inmates are especially susceptible to dementia because of increased risk factors such as traumatic brain injury, drug and alcohol abuse, and low education attainment (Williams, et al., 2012). As suggested by the professionals concerned with appropriate healthcare for aging inmates (Williams, et al., 2012), one programmatic response to the increased risk for dementia among older adults in correctional facilities focused efforts in the California Men’s Colony (CMC) state prison (Hodel & Sanchez, 2012). In this effort, specialized programs were developed for inmates who have mental health symptoms (Hodel & Sanchez, 2012). Inmates with dementia also are housed together in one unit, which is shared with inmates who are at risk of victimization due to their physical disabilities. The Special Needs Program for Inmates with Dementia (SNPID) utilized by CMC focuses on making changes in the physical and social environment, as well as providing activities to the inmates with dementia, with the goal of reducing socially inappropriate behavior and agitation. Skill training is offered, which includes emotion management and health education. This long-term special-needs program has successfully reduced agitation and behavioral problems among inmates with dementia and allows them to have a reasonably good quality of life within the prison environment (Hodel & Sanchez, 2012).

Physical Changes and Needs Among Inmates

In addition to cognitive changes, many inmates face physical challenges during incarceration. Physiologically, inmates are older than their actual age and may experience significant physical ailments usually associated with much older individuals. Health issues such as hypertension, heart problems, diabetes, emphysema, arthritis, and cancer (Aday, 2005) are common in the older inmate population, are presented earlier than in the general population, and inmates are more likely to experience one or more chronic conditions than their non-incarcerated counterparts in the United States (Williams, et al. 2006). Comorbidity is common with older inmates, as they often experience an average of three chronic illnesses during incarceration, which may include arthritis, diabetes, heart disease, hypertension, prostate problems, cancer, Hepatitis B and C, HIV infection, AIDS, and tuberculosis (Abrner, 2006; Hoffman & Dickinson, 2011; Williams, et al., 2012). They may also suffer from diminished vision and hearing, which may result in falls, depression, and isolation (Greifinger, 2006). While the general population typically reports these age-related changes, most individuals outside of correctional institutions have access to some health care resources, nutrition, and appropriate services to aid in their well-being that encourage a healthier later life when compared to older adults who are incarcerated. Due to the Medicaid Inmate Exclusion Policy (MIEP), inmates can only receive federal Medicaid matching funds when they are hospitalized for at least 24 hours. Clinics and hospitals for the general population that receive Medicaid funding must meet standards set by Center for Medicaid and Medicare Services. Prisons and jails do not, often leading to lower standards of care (Winkelman, Young, & Zakerski, 2017). Increased age-related physical changes in the aging inmate population are requiring correctional institutions to evaluate how best to care for them. Studies and trainings are continually being conducted to better address inmates’ physical needs to provide adequate care.

Williams et al. (2006) conducted a study of 120 older female inmates to determine the frequency of functional impairment among this population and ways the prison environment could contribute to these impairments. Prisons were designed and built for young, able-bodied
inmates. As a result, they may require inmates to engage in physical activities such as climbing onto a top bunk that they would not normally encounter if they were living independently (Williams, et al., 2006). Focusing on a California prison site, researchers determined that the occurrence of functional impairment and comorbid conditions were high. Female inmates aged 55 years and older required assistance with activities of daily living (ADL) at twice the rate of women age 65 and older in the general population. The high functional impairment of these inmates is associated with a lower health status than older women who are not incarcerated (Williams, et al., 2006).

Some states are addressing the unique physical needs of the aging inmate population. Pennsylvania State Correctional Institution at Laurel Highlands is equipped for wheelchair users, and only houses older inmates and those who need assisted-living or long-term care. In another program in Pennsylvania, inmates are trained to assist older inmates as caregivers in the use of assistive devices such as wheelchairs (Williams, et al., 2006). Medical students in Florida have the opportunity to be trained in geriatrics so they may care for aging inmates (Mitka, 2004). It is believed by officials that housing those inmates who have age-related health challenges in a single location enables institutional staff members to provide better health care and save money. These facilities also experience fewer disciplinary incidents because the older inmates are prevented from being victimized by younger inmates (Abner, 2006).

**Housing Modifications**

Creating adequate housing for the aging inmate population also was recommended by roundtable participants in 2011 (Williams, et al., 2012). Specifically, many institutions were built with the younger offender in mind. Today, older inmates find challenges navigating stairs as well as long distances to the cafeteria and other parts of facilities. These challenges can cause older inmates to withdraw, heightening the social isolation of them already experience due to reduced contact with those living outside of the correctional institutions (Aday, 1994; Hoffman & Dickinson, 2011), and fear of victimization by younger inmates (Snyder, et al., 2009).

A nationwide survey focusing on institutional policies, services, and housing for the aging prison population found that most correctional institutions make housing and work assignments based on individual health, security level, and geographic location of family members (Aday, 1994). Older inmates who have several health problems were found to be given special treatment based on their health status. In Washington, inmates with age-related ailments may be transferred to the state penitentiary, which has cells designated for inmates with such conditions. Inmates requiring long-term inpatient care also may be sent to the state reformatory, which has a large inpatient unit (Aday, 1994).

In 1970, South Carolina prison officials began providing special facilities for older inmates (Aday, 1994). South Carolina is known for its long prison sentences, resulting in a large number of “long-termers.” Due to the need for increased housing for the older prison population, inmates were moved to State Park, a former tuberculosis hospital, in 1983. Currently, twenty-four-hour medical coverage is available here, and a doctor and 13 nurses are assigned to this facility. The medical staff provide educational programs specific to the institution population’s needs. Inmates needing chemotherapy and dialysis are transported daily to a nearby hospital (Aday, 1994).

**Socio-environmental Concerns**

Older inmates are vulnerable to victimization by younger, stronger inmates (United States Department of Justice, 2016). Many older inmates choose to limit their participation in activities and exercise to avoid interacting with those they fear (Krabill & Aday, 2007). This fear can cause a decline in the physical activities of older inmates and increase social isolation (Snyder, et al., 2009). Due to the Americans with Disabilities Act’s (ADA) requirement to prohibit discrimination against inmates with disabilities, correctional facilities are increasingly housing older inmates separately from younger inmates, demonstrating increasing awareness of the older inmates’ unique needs (Snyder, et al., 2009).

In addition to the stress that older inmates experience within the walls of the correctional facility, their relationships with friends and family members on the outside often become strained (Travis & Waul, 2003). Obstacles to maintaining social connections with family members include lack of financial resources, long-distance traveling to the institution for visitation, inconvenient visiting hours, and the social stigma of having an incarcerated family member (Snyder, et al., 2009).

These combined fears of victimization by younger inmates and lack of social support often lead to a decline in psychological health, which then contribute to declines in physical and social engagement (Krabill & Aday, 2007). With the recognition that many programs for inmates are...
designed for the young offender, Snyder et al. (2009) highlighted the need for recreational, educational, and rehabilitation programs designed specifically for older inmates, such as music, board games, shuffleboard, horseshoes, and movies. These programs allow for the slower pace and differing physical abilities among older inmates when compared to their younger peers. Program topics that focus on chronic illness, isolation, depression, and end-of-life issues also are important for this population (Snyder, et al., 2009).

The Hocking Correctional Facility in Ohio has implemented programs designed for older male inmates (Snyder, et al., 2009). The services and programs offered at this medium-custody housing unit include chair aerobics, a jogger/walker fitness program, adult basic education, job training, and GED classes. Inmates also may receive assistance with applying for Social Security benefits, Medicaid, and Medicare, as well as writing their wills (Snyder, et al., 2009).

Palliative Care Needs

The aging inmate population has increased the need for palliative medicine and care that focuses on controlling symptoms and providing comfort for individuals with serious illnesses (Williams, et al., 2012). Enhancing prison palliative care programs also was one of the resulting recommendations from the roundtable discussions in 2011 (Williams, et al., 2012). Terminally ill patients may encounter social abandonment when friends and acquaintances stop visiting them due in part to their uncertainty as to how to support inmates when dying. This abandonment is even greater within the prison population, as their social support has limited visiting opportunities. Hospice care attempts to fill the gap of decreased social support to these inmates (Hoffman & Dickinson, 2011). The hospice programs in prisons are very similar to the hospice programs found in communities. In community hospice programs, a patient agrees to forego further curative treatments, must have a prognosis of not more than six months to live, and must sign a do-not-resuscitate order. Prison hospice programs generally require patients to agree to waive treatments as a prerequisite for admission to the program. Just over half of the prison hospice programs also require the inmate to not have more than six months to live. However, 31 percent of prison hospice programs allow for up to 12 months to live to qualify (Hoffman & Dickinson, 2011). As of 2011, 75 state and federal prisons (approximately four percent of all state and federal U.S. prisons) offered formal hospice services (Hoffman & Dickinson, 2011).

Inmate hospice caregivers are trained to work long hours, providing comfort and companionship during the inmate patient’s final hours. As companions, caregivers often read to patients, feed them, and write letters to families. Many also bathe and dress patients, and some provide spiritual support if their spiritual views are consistent with patients’ views (Hoffman & Dickinson, 2011). These inmate hospice services provide emotional comfort and support during an inmate’s final days.

Training for Staff

As the prison population changes, institutions are finding it necessary to provide age-related training for their employees. One such training program, “Issues in Aging for Correctional Workers,” is a six-hour program developed at Northern Michigan University (Cianciolo & Zupan, 2004). This training is provided to correctional employees in several institutions in the region and includes units on perceptions of aging; normal and abnormal aging; prevalent chronic conditions related to aging; laws impacting the treatment of older adults in prison; and resources addressing health and social service needs for the older inmates (Cianciolo & Zupan, 2004). Correctional employees reported leaving the training better equipped to recognize age-related obstacles within the institution and were more able to manage resources necessary for the older population’s unique needs.

Using Cianciolo and Zupan’s (2004) training approach, the Nebraska Department of Correctional Services participated in a two-day training program led by the Department of Gerontology at the University of Nebraska Omaha and the Division of Geriatrics and Gerontology at the University of Nebraska Medical Center. This training was designed to educate corrections staff on the unique challenges and opportunities in the aging inmate population. The training provided an introduction to the cognitive, physical, and social aspects of aging, as well as an overview of Social Security, Medicare, and Medicaid, to the different levels of corrections staff in Nebraska (Masters, Magnuson, Bayer, Potter, & Falkowski, 2016). The 69 corrections participants left the training with a greater understanding of how the inmate population has changed, and will continue to change, in the coming decades. This training was filmed and DVDs were made available to correctional facilities in the Midwest (Masters, et al., 2016). In general, institutional managers have recognized the value of
ongoing training for their employees, and similar training is now found in prisons throughout the United States.

Conclusion

As the aging inmate population increases in the United States, correctional facilities are finding it necessary to make changes to both the physical buildings in which the inmates are housed and programs in which the inmates are involved, so that the unique needs of this population are appropriately met. Designed for a younger population, institutions that serve older inmates tend to increase their vulnerabilities rather than mitigate them. The older inmates are often harassed and injured by younger inmates, so separating these two populations better protects the older individuals. Lack of mental health services has contributed to increased vulnerabilities to inmates with depressive symptoms. Additionally, physical decline often makes it challenging for older inmates to navigate their living environments, and their diminished vision and hearing result in falls and isolation. Well-aware of the changing needs across the United States, correctional facilities are making structural changes to better accommodate the aging inmate.

Correctional facilities are successfully developing and providing training to their staff so they are better equipped to meet the needs of this population. As the aging inmate population is expected to continually grow, policies, trainings, and health care services within prisons will need to be continually evaluated and updated to continue to meet the needs of this population. Applying geriatric multimorbidity care models, which focus on prioritizing chronic medical conditions affecting quality of life, is well-suited for older incarcerated inmates. When applied to institutional settings, long-term care costs may be lowered, overall well-being may be improved, and rate of recidivism may decrease (Williams, et al., 2012). Further research on programs, trainings, and structural changes in correctional facilities in other countries would be beneficial.

References


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